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Japan–World Bank Program
for Mainstreaming Disaster Risk
Management in Developing Countries
2015–16 Annual Report

This annual report covers activities of the Japan-World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries between April 2015 and March 2016. It was presented at the Third Program Steering Committee Meeting, held in Tokyo, Japan on February 26, 2016.

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executive summary

This report highlights results achieved by the Japan-World Bank Program for Mainstreaming Disaster Risk Management (the Program) from April 2015 to March 2016. It provides an overview of activities supported by the World Bank DRM Hub, Tokyo (Hub) through its two interdependent work streams: (i) the Country Program and (ii) the Knowledge Program.¹

Located strategically in Tokyo, the Hub has furthered its role as a focal point in Japan and Asia for DRM at the World Bank. In 2015-16, the Hub has played a central role helping foster cooperation and coordination between the World Bank's strategy and operations and Japanese government counterparts, including the Japan International Cooperation Agency (JICA), Japan's Ministry of Finance (MoF), and the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT). Additionally, the Hub has deepened its partnership with the Tokyo Development Learning Center (TDLC) through joint public and training events, and is developing activities with the Tokyo office of the Global Infrastructure Facility (GIF).

Since launching in 2014, the Hub has rapidly scaled up technical assistance (TA) and knowledge activities:

- 11 new country projects and nine knowledge projects began this year, finding new links between developing country demand and Japanese knowledge, particularly in resilient infrastructure;
- The Hub now has a total portfolio near \$45 million;
- The Hub is now supporting 32 countries through 31 TA and knowledge projects engaging seven World Bank Global Practices (GP).²
- In line with its goal of helping countries invest in resilience, the Hub has strengthened new and existing World Bank projects with targeted TA and knowledge.
- Hub grants are informing and influencing an active World Bank Group investment portfolio of 37 projects worth US\$8.4 billion.
- Staffed with DRM professionals, the Hub has convened nearly 1,300 experts and practitioners from

¹ Detailed reviews of the alignment of Hub activities with the Sendai Framework, individual Country and Knowledge Program profiles, financial information, and knowledge products and visibility are included in the Annexes of this Annual Report.

² Engaged GPs: Agriculture; Energy and Extractives; Finance and Markets; Social Protection and Labor (GSPDR); Social, Urban, Rural, and Resilience (GSURR); Transport and ICT (GTIDR); and, Water (GWADR), as well as the World Bank's Climate Change Group.

Japan and around the world through over 40 events.

- The Hub's engagements have included hosting events at the Third UN World Conference for Disaster Risk Reduction (WCDRR) in Sendai, Japan and at the 21st Conference of Parties (COP21) in Paris, France.
- More than 145 Japanese expert contributors from the public and private sectors, as well as academia and research institutes, have participated in Hub events or have been deployed to help developing countries address needs on-the-ground.

In its first two years of operations, the Hub has learned a number of important lessons. For example, the Hub is looking at ways to deepen and sustain initial partnerships developed with Japanese centers for excellence and developing countries.

Box 1: The Japan-World Bank Program: A Mission in Action

In October 2012, building on the recommendations of the Sendai Report, Japan's Minister of Finance and World Bank Group President Dr. Jim Yong Kim issued the Sendai Statement, emphasizing, "the importance of vulnerable developing countries for building resilience to disasters, including the usage of Japanese know-how and expertise, and extending knowledge and partnerships to support disaster risk management policies and programs."

In response to this call to action, in 2014, Japan's Ministry of Finance and the World Bank launched a US\$ 100 million program to improve the management of disaster risks in developing countries. The Program is managed by the Global Facility for Disaster Reduction and Recovery (GFDRR) under the oversight of a Steering Committee comprising representatives from the MoF, JICA, and the World Bank. Day-to-day operations are conducted by the Hub under the guidance of the World Bank's Special Representative, Japan. Funding is disbursed in annual installments over five years, of which \$50 million has been received to date.

context for hub activities in 2015-16

During 2015-16, the Hub's operations and engagements were shaped by supporting major international policy frameworks and helping countries manage a number of key issues, as described below:

International Policy Frameworks: This past year, the international community demonstrated deepened commitment to disaster and climate resilience, adopting the Sendai Framework for Disaster Risk Reduction 2015-2030 in March 2015 and the Sustainable Development Goals (SDGs) in September 2015. These give new weight for the role of the Hub, in particular the support it offers countries to deliver on commitments to resilience outlined in the agreements. For example, during 2015-16, the Hub provided TA aligned with at least seven of the 17 SDGs, supporting goals such as “eliminating poverty” (#1) and “reduced inequality” (#10) through its project *Disaster-Linked Social Assistance Delivery Support System Development in Nepal*, and “zero hunger” (#2) through the project, *Multi-hazard Early Warning System Including Drought in Egypt*. The Hub's technical assistance supports all of the Sendai Framework's four Priorities for Action, and Annex 1 provides a cross-portfolio review of this.

Tackling Climate Risks: Hydro-meteorological (hydromet) hazards, such as storms, floods, droughts, and heat and cold waves, cause the largest proportion of losses globally from adverse natural events, triggering almost 80 percent of disasters and over 50 percent of disaster-related deaths from 1980 to 2011. Climate change threatens to exacerbate these losses even further. As of February 2016, the Hub has a portfolio of nearly US\$24 million in TA projects to help vulnerable countries manage weather- and climate change-related challenges. The Hub supports countries to create an enabling environment for early warning systems through integrated data management and other investments, and is collecting and sharing lessons learned from Japan's experience, building a solid business case for service-oriented hydromet services.

This work is aligned with movements on the global policy front. In December, the international community adopted a new global climate agreement aiming to keep global warming to two degrees at COP21. JICA and the World Bank, facilitated by the Hub, jointly held a side event at COP21 with John Roome, the World Bank's Senior Director for Climate Change, on “Disaster Risk Finance and Insurance in the Asia-Pacific Region” to engage delegates on the importance of putting financial protection into practice for climate resilience.

Quality Infrastructure: Countries that ensure the quality of their infrastructure through both deliberate design and appropriate use and maintenance consistently demonstrate greater resilience to the shocks and stresses that disaster and climate risk pose. As of February 2016, the Hub has a portfolio of approximately US\$15 million in grant awards bolstering quality infrastructure. This funding backs the concepts raised by the Quality Infrastructure Initiative introduced by the Government of Japan and the Government of Australia at an international workshop held in conjunction with the G20 in September 2015. Among its activities in this area, the Hub implemented a knowledge project to help vulnerable countries plan, design, operate, and maintain disaster-resilient transport infrastructure, and is launching new projects to enhance the resilience of power, water, and wastewater infrastructure (See Box 3).

Urbanization: More than 50 percent of the world's population is concentrated in urban areas, which is expected to grow to 66 percent by 2050, with 90 percent of this growth expected in Africa and Asia. While urbanization offers economic opportunities, it can also concentrate risk on people and assets if not done in a risk-informed manner. To take on the challenges of resilient urban development, the Hub's active portfolio of over US\$10 million on TA projects is helping countries strengthen urban resilience.

Additionally, the Hub implemented knowledge projects to help enhance the resilience and competitiveness of cities. Significant damage from recent natural disasters like the 2016 Taiwan earthquake demonstrate the importance of strong and effective building regulatory frameworks. The *Building Regulation for Resilience* project, for example, shares Japan's evolution and experience in regulation covering administration, capacity development, and incentive mechanisms to make living and working environments safer and more resilient.

Fragility and Humanitarian Response: During 2015-16, political instability and a growing number of refugees and migrants impacted the global security situation, as well as some TA projects supported by the Hub. Aligning with GFDRR's work and position on humanitarian response and DRM, the Hub contributes to reducing fragility risks by building resilience and the adaptive capacity of countries and communities to external shocks that may trigger migration and long-term displacement. As of February 2016, the Hub has an active portfolio of TA grants totaling approximately US\$11 million to build disaster resilience in fragile and post-conflict states, including Myanmar and Nepal.

report on 2015–2016 activities

The Hub works through two interdependent work streams: (i) the **Country Program** and (ii) the **Knowledge Program**. Through the Country Program, the Hub provides grants to assist with preparing and implementing operations financed through the World Bank, as well as other multilateral development banks, bilateral donors, and other stakeholders. Through the Knowledge Program, the Hub implements activities to link Japanese knowledge, expertise, and technology with the World Bank’s developing country partners, particularly those supported through the Country Program.

The Hub implements a number of activities: (i) grant proposal appraisal; (ii) knowledge management and analytical work; (iii) capacity building; (iv) preparation of solution products; and (v) outreach and networking activities with internal World Bank audiences, the Japanese public and private sector, academic communities, and civil society.

Aligned with standard GFDRR resource prioritization practice, three criteria guide resource allocation across all activities.³ Supported activities must demonstrate that they:

- 1. Address the Drivers of Disaster Risk:** The Hub designs and supports activities that take on the key development challenges, such as inadequately designed and constructed infrastructure, that threaten to increase disaster risk;
- 2. Enable Partners:** The Hub develops and deepens collaboration that enhances the transfer of knowledge from Japanese centers of excellence to players on the ground and promotes operational and strategic coordination among partners; and
- 3. Catalyze Large-Scale Investment:** The Hub seeks to influence, inform, and leverage large-scale resilience investments supported by development partners, particularly the World Bank, as well as the public and private sectors.

The following two sections highlight the progress and achievements of activities conducted through the Country Program and Knowledge Program and explain how the Hub is meeting the above three criteria to achieve impact at scale.

³ See *Managing Disaster Risks for a Resilient Future: A Work Plan for the Global Facility for Disaster Reduction and Recovery, 2016-2018* www.gfdr.org/gfdr-work-plan-2016-2018

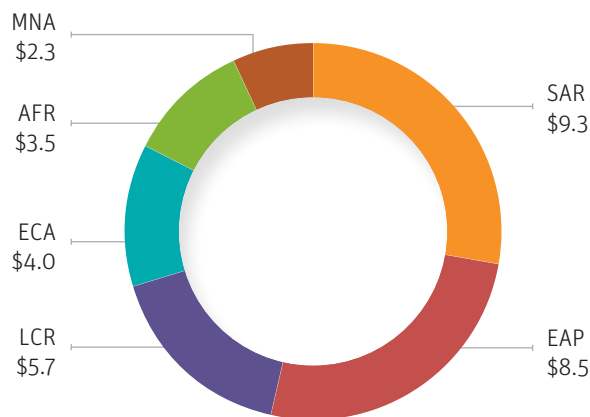
Country Program

During 2015-16, the Hub developed and launched eleven new projects, helping to expand its geographic reach to 32 countries across the World Bank's six operational regions. A profile of each project is included in Annex 2.

The total active Country Program project portfolio is US\$33.255 million. The current unallocated balance for the program is US\$5.845 million (as of January 31, 2016), which will be allocated to pipeline projects by the end of the reporting period (March 31, 2016).

Figure 1 shows the distribution of approved project allocations by region. The distribution follows the Work Program 2015, and reflects the continued global reach of the program, with approximately a 50 percent share of resources in the EAP and SAR regions. Against the indicative allocations presented in the work plan for the year, the key variance was in SAR, which experienced major earthquakes in Nepal during the year requiring additional support. Additionally, funding to MNA has slowed due to difficulties in the external operating environment.

Figure 1: Cumulative funding distribution by region (in US\$ million)



Addressing Drivers of Disaster Risk

Aligned with the resource prioritization criteria described above, the Hub channels the majority of its project funding to high risk, high vulnerability countries. Table 1 shows the risk ranking of countries participating in the program. Over half of grant resources target countries found in the top 60 most vulnerable countries in the world, taking into account not only their exposure to hazards, but also their capacity to respond and cope. While some countries feature lower on INFORM's global risk ranking, the Hub also weighs opportunities for partnership and large-scale investment in its engagements.

Key to the Hub's effort is a focus on avoiding risks created through poorly planned and executed infrastructure projects.

In South Asia, the program has made innovative steps to bridge the gap between resilience thinking and action in number of infrastructure projects. One example is improving infrastructure resilience through the Hub's grant, *Promotion of Resilient Infrastructure in South Asia*. The grant has supported concrete solutions to improve the resilience of critical infrastructure in the region, such as roads in Bhutan, irrigation in Afghanistan, waterworks in Bangladesh, and hydro-power dams in India

and Nepal, while the Hub's Knowledge Program has catalyzed knowledge exchange between peers and provided technical inputs from Japanese experience. The project has also delivered a Business Continuity Framework for the public water utility in Chittagong, Bangladesh, and an assessment to measure resilience of storm-water drainage investments in Dhaka, Bangladesh, as part of large-scale water and sanitation projects financed by the World Bank.

The Hub is also helping fragile and conflict-affected countries effectively manage risks and hazards that affect their most vulnerable citizens. In Nepal, a grant to support effective targeting and planning of housing reconstruction is helping to ensure approximately 55,000 households receive assistance required to rebuild after the 2015 earthquakes. In Afghanistan, a grant is supporting a revitalized role for the World Bank in informing major infrastructure programs funded through the Afghanistan reconstruction trust fund, notably to support the country's road and water management infrastructure. The grant has already provided strategic support to the newly-established National Reconstruction Authority, and two main technical counterpart ministries, the Ministry of Federal Affairs and Local Development and Ministry of Urban Development. This project is helping ensure greater domestic capacity to reach vulnerable communities often out of reach for assistance from the international community.

Table 1: Country Program Overview by Country Risk Ranking, World Bank DRM Investment, and Project Partners by Sector⁴

Country (Ranked by INFORM Risk Index)	INFORM World Ranking	World Bank DRM-related Commitments FY12-FY15 (US\$ Million)	Project Partners by Sector															
			Agriculture	Disaster Management	Economic Development	Education	Energy	Environment	Finance & Budget	Hydromet Services	Private Sector	Public Works	Statistics Office	Territorial Planning	Tourism	Transport	Urban Development	Water
Afghanistan	3	\$2																
DRC (Congo)	8	\$22																
Myanmar	9	\$82																
Bangladesh	21	\$1,485																
India	23	\$1,960																
Colombia	23	\$471																
Philippines	28	\$1,990																
Nepal	29	\$265																
Guatemala	29	n/a																
Lebanon	29	n/a																
Turkey	39	n/a																
Vanuatu	41	\$24																
Egypt	41	\$5																
Honduras	51	\$31																
Peru	55	\$415																
Marshall Islands	61	\$2																
Lao PDR	67	\$34																
Nicaragua	69	\$43																
Micronesia	69	\$4																
Cambodia	75	n/a																
Jordan	80	\$2																
Panama	83	\$109																
El Salvador	88	\$5																
Tonga	94	\$34																
Brazil	94	\$875																
Uzbekistan	94	\$237																
Costa Rica	94	n/a																
Armenia	100	n/a																
Fiji	100	\$13																
Ghana	110	\$28																
Bhutan	110	\$9																
Samoa	141	\$108																

⁴ The INFORM risk management index used in this table is a collaborative project of the Inter-Agency Standing Committee and the European Commission. The INFORM model is based on risk concepts published in scientific literature and envisages three dimensions of risk: hazards & exposure, vulnerability and lack of coping capacity dimensions. The full data and methodology are available at www.inform-index.org.

Enabling Operational Partnerships

The Hub's activities engage a spectrum of government counterparts across national and sub-national DRM activities. Table 1, above, provides an overview of sector engagement by country. Implementing partners, typically government ministries, also reflect the full range of actors in DRM, from finance and planning to national statistics offices.

Efforts by the Hub to connect Japanese knowledge and expertise with these actors has gained momentum during the year. In particular, there has been demand for experience in modernizing national meteorological and hydrological services for improved early warning and planning across climate-dependent sectors like energy and aviation. Through strategic engagement on hydro-meteorological services in Japan, key technical experts throughout the Japanese government are helping share lessons learned from the country's experience at building a solid business case for quality services, and adapt them to a developing world context. The growing portfolio of projects in this field has furthered triggered strong collaboration with JICA, particularly in Southeast Asia and the Pacific.

Working with the Tokyo Metropolitan Government's Bureau of Waterworks, the Hub facilitated a knowledge exchange session among Bangladesh's Chittagong Water Supply and Sewerage Authority (CWASA), which prepared a business continuity plan (BCP) through the *Promotion of Resilient Infrastructure in South Asia* project, and the Philippines' Manila Water Company. Drawing on Tokyo's experience, the session focused on the concrete steps, such as prioritizing core business functions, utilities can take to ensure that contingency planning adds operational value. The Hub is now planning to develop a comprehensive knowledge note on BCP for water utilities for wider use, building on the lessons learned from this BCP application by CWASA and the task team.

Floods and integrated water resource management is another area Japanese expertise is adding value to Hub projects. In India, groups of dam maintenance authorities have benefited from exchange visits from Japanese experts, resulting in maintenance manuals to safeguard infrastructure against seismic risk. The Hub is now planning to leverage this experience into a relevant manual for global use.

The Japan Water Agency have provided technical inputs, and hosted knowledge exchange events for water officials from India. In Ghana, a project is benefiting from a hydrological model for the Black Volta River developed by a research group from Kobe University and Kyoto University.

Catalyzing Large-Scale Investment

The Hub's support helps prepare developing countries to access larger investments in DRM from the World Bank and other development partners, while providing key entry points to enhanced resilience options in existing investments. The Hub's grants are linked to an active investment portfolio of 37 World Bank Group projects worth US\$8.4 billion.

For example, the Government of the Philippines recently secured a second Catastrophe Deferred Drawdown Option (CAT-DDO) for US\$500 million, allowing it to access immediate financing in the case of a qualifying natural disaster. A grant from the Hub is directly supporting the government to achieve its policy commitments under this loan, providing best practice solutions. In Peru, support to the Ministry of Education to conduct a nationwide seismic risk assessment of schools has led to a US\$24 million government investment in a multi-year program to retrofit 373 of the country's most vulnerable schools, benefitting 278,000 students. Using the analysis developed through the grant,

the government will retrofit a total of more than 12,000 schools. The Hub is supporting preparing of similar analyses in the El Salvador, Philippines, and Turkey, which are also expected to drive major investments in school safety.

The Hub coordinates closely with JICA, one of the largest bilateral supporters of DRM in development (see Box 2). The Hub has facilitated frequent exchange between JICA and World Bank teams in formulating technical assistance projects, providing an important entry point for ongoing operational collaboration.

Box 2: Collaboration with JICA

A number of examples demonstrate the deepening partnership between JICA and the World Bank, enabled by the Hub.

Bangladesh: In December 2015, the Hub supported a joint launch of JICA and World Bank parallel investments in urban resilience in Dhaka, Bangladesh. This event helped communicate to government partners and the public at large how the World Bank and JICA cooperate in a challenging and important field of reducing risk in a megacity.

Caribbean Countries: At the invitation of JICA, the World Bank participated in a study tour for Caribbean countries in Japan. This offered opportunity for both institutions to discuss strategic priorities for investments with governments from the islands, and review plans for scaling-up projects.

Central Asia: In October 2015, the Hub and World Bank's Europe and Central Asia team hosted a regional forum for seismic resilience in Almaty, Kazakhstan. JICA seismic risk experts presented alongside World Bank teams to discuss priorities for seismic risk reduction in the region with ministries of planning, finance, and public works.

EAP: In January 2016, the Hub facilitated a knowledge exchange among Japan Meteorological Agency (JMA) experts, headquarters and field staff from JICA, and the World Bank on the effects and outlook for the EAP region from the El Niño climate cycle.

India: In April 2015, JICA and the Hub coordinated Japanese participation in an international symposium on, "Tackling the Challenges of Slope Stabilization and Landslide Prevention" in Uttarakhand, India. About 65 participants from Colombia, Japan, India, Norway, and Switzerland gathered to discuss available slope stabilization technology.

Nepal: Building on strong partnership across South Asia, JICA, and World Bank DRM teams have worked jointly to support the Government of Nepal in designing and financing its housing recovery program after the devastating 2015 earthquakes. This strong collaboration has included ongoing discussions between the teams in Kathmandu, as well as the Hub and JICA in Tokyo, and the World Bank's DRM team based in Washington, D.C.

The Philippines: In the Philippines, where the Hub supports long-term technical assistance to the government, close dialogue among the World Bank, JICA, and government agencies—including the Department of Finance and the Ministry of Housing and Public Works—have united diverse constituents considering investments in risk reduction and risk financing.

Knowledge Program

Under its Knowledge Program, the Hub connects developing countries with the knowledge, expertise, and technology solutions needed to build resilience to disaster and climate risk. The Hub supports knowledge management, analytical work, capacity building, preparing and documenting solution products, and outreach and engagement in support of this goal.

The Hub's approach ensures the high-potential demand from developing countries for mainstreaming meets the high-quality supply of Japanese and global expertise. In engaging with the Government of Japan and other relevant technical experts, the Hub marries best practices and innovations from Japan with promising applications in developing countries. The products and knowledge exchanges are targeted at help developing country officials, World Bank Task Teams, and other development professionals understand options available and best apply them to development challenges faced.

The Hub's Knowledge Program is designed and implemented to address the drivers of disaster risk, engage opportunities to partner with Japan for development results, and leverage potential for large-scale investments. Table 2 provides an overview of Knowledge Projects under implementation, indicating key technical areas of focus, key outputs being delivered at the request of World Bank clients and development professionals, and the partners helping ensure products meet the technical standards and specifications needed.

Addressing Drivers of Disaster Risk

The Hub's Knowledge Program is designed around four strategic themes that help address critical drivers of disaster and climate risk for vulnerable countries. World Bank DRM professionals have identified these areas as priorities, and requested increased availability of knowledge products and support to design and implement relevant development projects. The themes are:

- (i) **Resilient Infrastructure:** To keep pace with global population growth, it is estimated nearly US\$5 trillion per year is required for infrastructure investment for the next 20 years.⁵ Supporting risk-informed and risk-reducing design, construction, operation, and maintenance of infrastructure, such as roads and schools, enhances the overall quality and resilience to the shocks and stresses disasters and climate risk pose (see Box 3).
- (ii) **Resilient Cities:** Rapid urbanization – 90 percent of which is expected to occur in Asia and Africa over the next 30 years – can concentrate risk on people and their economic activities if not done in a risk-informed manner. Advancing a series of innovative approaches, policies, and targeted investments and strategies can help cities prepare for, and adapt to, changing conditions, as well as withstand and recover rapidly from disruptions related to natural disasters and climate change.
- (iii) **Science and Technology for Resilience:** Faced with a host of challenges, developing countries have lower funding and technical capacity available to develop the science and technology solutions needed for disaster and climate resilience. Capturing how vulnerable countries can apply innovative practices using science and technology helps them take on DRM challenges, particularly in data collection and management. Countries also gain greater knowledge and competence in areas such as better weather and climate information and assessments of seismic risk.

⁵ <http://reports.weforum.org/green-investing-2013/required-infrastructure-needs/#read>

Table 2: List of Knowledge Projects under Implementation

Strategic Theme	Knowledge Project	Expected Outputs	World Bank Global Practices	Japanese Partners
Resilient Infrastructure	Mainstreaming DRM in the Transport Sector	Toolkits, Operational Guidance	GSURR, GTIDR	MLIT, International Sabo Association
	Integrating Japan's Experience into the Global Program for Safer Schools	Operational Guidance Roadmap, Risk Identification Platform	GSURR	MEXT, MLIT
Resilient Cities	Learning from and Operationalizing the Japanese Experience in Comprehensive Flood Management for Reducing Urban Flood Risk	Knowledge Notes, Knowledge Exchange	GSURR, GWADR, GCCDR	MLIT, JICA
	Japanese Experience in Building Regulation for Resilience	Knowledge Notes, Online Platform for Knowledge Exchange, Capacity Building Program	GSURR, GCCDR	MLIT, JICA
Science and Technology for Resilience	Modernized Hydromet Services	Knowledge Notes, Operational Guidance	GSURR, GCCDR	JMA, MLIT, JICA, Cabinet Office
	Seismic Risk Assessment	Operational Guidance	GSURR	MLIT
	Information and Communication Technology (ICT) for DRM	Toolkits, Knowledge Management and Notes	GTIDR, GSURR	MIC, JBP
Inclusive Resilience	Social Risk Management and Disaster Risk Management	Toolkits, Training and Knowledge Exchange	GSURR, GSPDR	Cabinet Office, MHLW, Japan National Council of Social Welfare
	Empowering Elderly, Women, and People with Disabilities for Resilience	Operational Toolkit, Impact Evaluation	GSURR	University of Tokyo, NGO

GSURR: Social, Urban, Rural, and Resilience Global Practice

GSPDR: Social Protection and Labor Global Practice

GWADR: Water Global Practice

GTIDR: Transport and ICT Global Practice

GCCDR: Climate Change Cross-Cutting Solution Area

- (iv) **Inclusive Resilience:** Natural disasters can push people, particularly those in vulnerable groups such as women, the elderly, and people with disabilities, into chronic poverty and undermine development gains. Promoting an inclusive and integrated vision of DRM, including bolstering social protection programs as a safety net, helps ensure societies engage and provide protection to all.

Enabling Knowledge Partnerships

Partnerships are essential to ensure the knowledge and solution products the Hub develops are effective, practical, applicable, and user-friendly, and can be shared with appropriate audiences. The Hub partners with Japanese centers of excellence, as well as teams from various technical sectors and regions that work directly in developing countries, to design and implement its projects. It also engages in capacity building and outreach to share Japanese and global knowledge and experiences across sectors to strengthen the capacity of developing countries in mainstreaming DRM.

Box 3: Quality Infrastructure through Resilience

Enabling quality infrastructure through resilience in developing countries is a driver of the Hub’s work, particularly related to capturing lessons learned and supporting good practice.

The Government of Japan has proven a leader in this area, launching the “Partnership for Quality Infrastructure” in May 2015⁶, an initiative that places disaster resilience at the core of a broader framework for quality infrastructure investment. The Hub’s activities are squarely in line with this framework, supporting technical assistance and knowledge activities in this area.

The World Bank and the Government of Japan jointly promote “Resilient Infrastructure” as one of the four key elements of the quality infrastructure concept. In keeping with this approach, the Hub is funding activities across several key sectors, notably transport, buildings, energy, and water, that are helping to inform approaches to disaster resilient infrastructure in practice.

- Through the Hub’s work on Building Regulation for Resilience, World Bank task teams, development partners, and developing countries officials are gaining a better understanding of Japan’s experience improving building code compliance through policy, enforcement, and financial mechanisms. The Hub is also supporting revamping the building code in the Philippines with technical support from Japanese experts.
- Safer schools programs in Peru and El Salvador are improving schools’ structural resilience by connecting governments with financial support, as well as technical inputs from a seismic research center built by JICA. The Hub is also sharing lessons from Japan’s effective school retrofitting program.
- Through knowledge notes, focused knowledge exchange sessions, manuals, and toolkits, the Hub is capturing Japan’s integrated management solutions for Roads and Landslides, and floods, showing how relevant quality infrastructure practices can be for countries facing similar challenges.

The Hub also helps share the views of thought-leaders on these issues. In January 2016, the World Bank, in partnership with the Government of Japan, hosted the “International Conference on Sustainable Development through Quality Infrastructure Investment,” the culmination of a number of events aligned with the Government of Japan’s “Partnership for Quality Infrastructure.” At the conference, the Hub organized an interactive panel on “Enhancing Resilience through Quality Infrastructure and Operations,” including experts from the World Bank, Japan’s Urban Renaissance (UR) Agency, New York’s Regional Plan Association, and Japanese broadcaster NHK, who agreed on the need for multi-disciplinary, comprehensive, and inclusive approaches to designing and operating quality infrastructure.

Additionally, aligned with recent analytical work showing the *Triple Dividend of Resilience*⁷, the Hub supports countries by combining ambitious but appropriate physical investments with proper operational practices to enhance resilience to shocks and stresses, maximize the full life-cycle value of investments, and drive far-reaching development gains.

⁶ http://www.mofa.go.jp/policy/oda/page18_000076.html

⁷ https://www.gfdr.org/sites/default/files/publication/unlocking_triple_dividend_resilience.pdf

More than 145 Japanese experts from the public sector, the private sector, and academia and research institutes participated as speakers, advisors, and commentators at knowledge exchange events organized by the Hub during 2015-16 (see Figure 2).

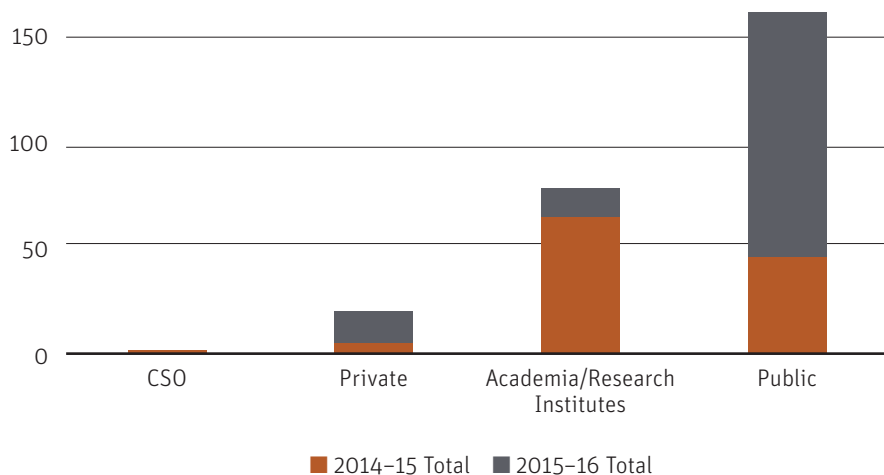
Networking with Japanese Centers of Excellence

The Hub has established strategic partnerships that help capture relevant and effective knowledge, expertise, and technologies to meet the demands of developing countries. Technical experts from the public and private sector in Japan provide guidance on the supply of solutions and best case studies.

The Hub has established numerous close collaborations and partnerships in Japan, including with the Cabinet Office; the Geospatial Information Authority of Japan; International Centre for Water Hazard (ICHARM); International Sabo Association of Japan; Japan Water Agency; JICA; JMA; Ministry of Education, Culture, Science, Sports and Technology (MEXT); Ministry of Health, Labour and Welfare (MHLW); the Ministry of Internal Affairs and Communication (MIC); and MLIT (see Box 4).

It also actively engages with academia, research institutes, and the private sector through platforms like the Japan Bosai Platform (JBP).

Figure 2: Japanese Expert Engagements by Organization Type



Connecting Across the World Bank Group

The Hub works across the World Bank Group to mainstream DRM and connects to key practices and business lines with Japanese and global experts. In September 2015, for example, the Hub organized a multi-sector public seminar in Tokyo on challenges in mainstreaming DRM into development, with a focus on infrastructure. World Bank experts shared how Hub support has helped with overcoming challenges, including increasing the climate resilience of infrastructure in Sri Lanka and integrating disaster and strengthening disaster recovery and risk reduction capacity in Pacific Island Countries (PIC) power utilities, providing case studies for other DRM actors who may be facing similar issues.

Communities of Practice (CoP) are the primary mechanism to connect World Bank staff across the GPs and solution areas for knowledge-sharing around a common area of expertise (see figure 3). They have provided a key entry point for Hub engagement, working with TDLC and other partners. For example, in January 2016, the Hub worked closely with the Safer Schools CoP to organize a technical roundtable with participation from JICA and MLIT experts that reviewed the Japanese national school retrofitting program and lessons for developing countries.

Box 4: Working with MLIT

Since the program's establishment in 2014, MLIT has been a central partner in its success, providing critical technical advice and strategic guidance. MLIT's key contributions include:

- Identifying technical areas and best case studies in which Japan excels in DRM;
- Systematically connecting the Hub with MLIT's technical experts in these areas; and
- Providing guidance on Hub's strategy and outreach.

These contributions have proven highly effective, enhancing the quality of the Hub's activities in *Roads, Landslides, and DRM, Hydromet, Flood Management, Building Regulation for Resilience, Seismic Risk Assessment, and Safer Schools*.

During the 2015-16 period, MLIT participated in six high-level events with the Hub. For example, MLIT's participation in the Central Asia Earthquake Risk Reduction Forum in Almaty, Kazakhstan in October helped several Central Asian countries begin formulating investment strategies to enhance their seismic resilience. MLIT's guidance and validation of findings this past year has also helped the Hub capture and share Japan's experience modernizing its hydromet services.

Figure 3: Working with CoPs



Catalyzing Large-Scale Investment

By developing knowledge products that draw on best practice, are integrated for operational needs, and demonstrate the value of resilient development, the Hub seeks to inform and catalyze investment in resilience in developing countries.

The Hub closely consults with the Japanese government and development professionals for guidance on developing and implementing knowledge investments that can help mainstream DRM in strategic sectoral investments. Additionally, final knowledge products, such as toolkits, manuals, or handbooks, are field tested by sector teams in their respective projects and countries.

In order to connect these professionals with Japanese knowledge and experience, the Hub organized 20 exchange events in 2015-16, including public seminars, technical roundtables, and international conferences. The events focused on the Hub's four strategic themes to ensure that knowledge captured is relevant for developing country counterparts and World Bank operations (see Figure 4).

The Hub also leaned on the wealth of knowledge within Japan to advance DRM during the reporting period. Japanese experts were primarily engaged on "Resilient Infrastructure," including roads, geo-hazard management, and safer schools, and "Science and Technology for Resilience," such as modernizing hydro-meteorological services (see Figure 5). For example, the Hub held a technical roundtable on *Roads, Landslides, and DRM* in August 2015 with MLIT, World Bank transport specialists, and Japanese engineering consultants to gain feedback on the toolkit's structure and contents. Additionally, through the project, *Building Regulation for Resilience*, Japan's lessons are being integrated into a larger body of work the World Bank is advancing.

Figure 4: Knowledge Exchange Events by Strategic Themes

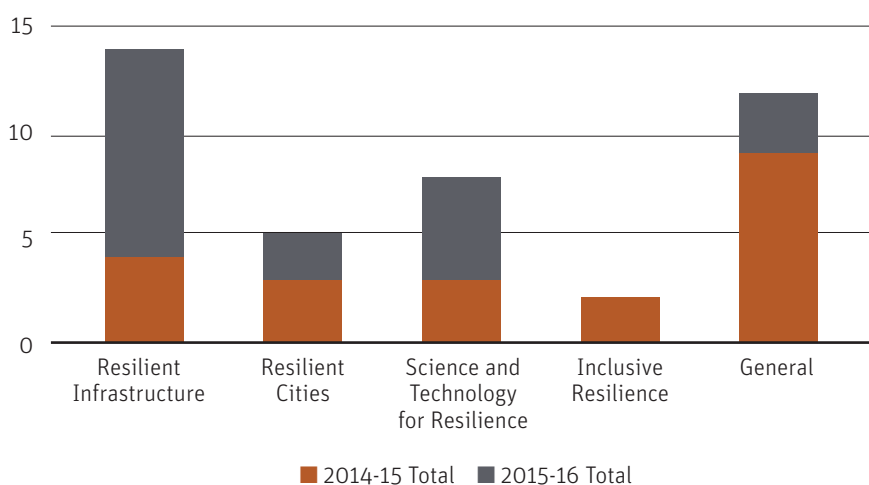
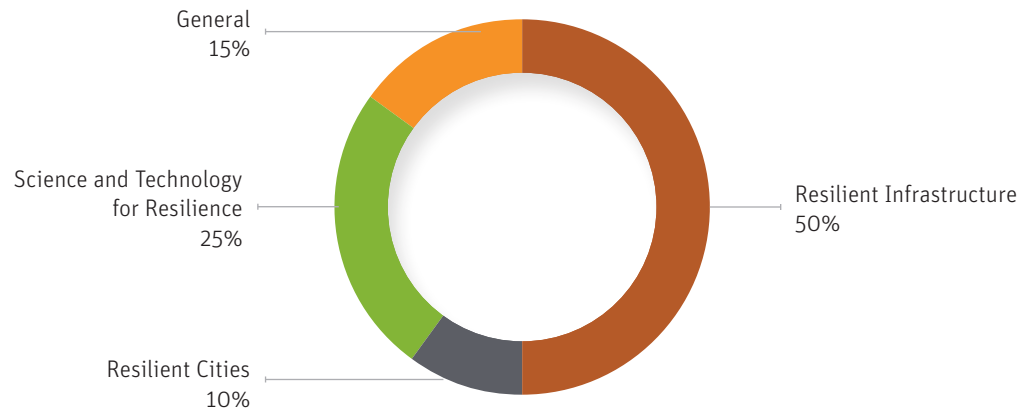


Figure 5: Japanese Expert Engagement by Strategic Theme (2015–16)

Box 5: Engaging Japan's Private Sector to Strengthen Resilience

The private sector plays an integral role in helping developing countries build resilience through providing technologies and innovative services. To facilitate effective partnerships between the public and private sector, the Hub has engaged a total of 85 Japanese companies including ICT solution providers, equipment manufacturers, civil contractors, architects, insurance providers, infrastructure asset owners or operators, and consulting firms. These companies have provided consultancy, as well as participated in public seminars, conferences, technical roundtables, and open discussion.

To help document and share Japan's lessons on DRM and resilience, the Hub procured six Japanese consulting firms to develop a knowledge product for *Roads and Landslides*, *Modernized Hydromet Services*, *Safer Schools*, *Seismic Risk Assessment*, and *Smart DRM*. The consulting firms provided important contributions to capture and exchange the relevant Japanese knowledge and expertise with developing countries and the World Bank staff through the Hub's technical workshops and public events.

The Hub also helps Japanese private sector and developing countries to accelerate transferring knowledge and technologies. For example, the Hub facilitated discussion between a Japanese ICT firm and Nicaragua's Institute for Telecommunications and Mail (TELCOR), leading TELCOR to invite the firm to submit an Expression of Interest on building an early warning cell broadcasting system in the country.

Additionally, the Hub regularly engages the JBP to exchange views and information on the needs of developing countries and available Japanese private sector technologies and innovations. As part of this exchange, the Hub has shared country risk profiles developed by GFDRR to help JBP better understand climate-related vulnerability and risks of developing countries.

To help strengthen the DRM capacity of vulnerable countries, the Hub develops trainings, targeted exchange programs, study tours, and public seminars. In 2015-16, over 700 participants from Japan and globally, including 135 from developing countries, partook in these events. A series of public seminars has also raised awareness within the Japanese public on World Bank activities to mainstream DRM.

Box 6: Visibility of the Hub

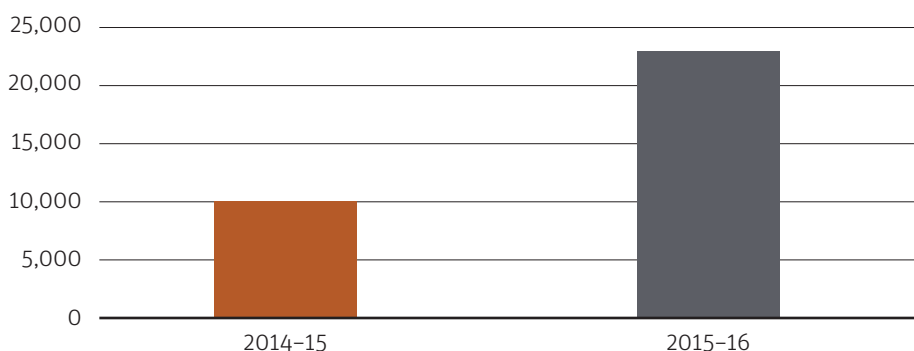
The Hub serves as a knowledge center to connect the wealth of Japanese experience, knowledge, and expertise in DRM with developing countries and development professionals through the Country Program and Knowledge Program. In 2015-16, it engaged DRM communities and other stakeholders through over 20 events. It also contributed to flagship publications, including *Building Regulation for Resilience*. The Hub has enhanced its visibility, as well as its activities and its partners through communication tools and outreach.

In 2015-16, the Hub's activities were featured on over 50 outlets in Japan and internationally, such as Japan's NHK, Prevention Web, and Bangladesh's Financial Express, as well as JICA and the World Bank's internal and external websites. For example, Nikkei—the world's largest financial newspaper with a daily circulation exceeding three million—published an op-ed by World Bank Group President Jim Yong Kim, highlighting the important role he sees the Hub plays in linking developing countries with the lessons learned in Japan on DRM.

Additionally, there has been a significant increase in traffic to the Hub's webpages, with the number of visitors doubling from last year (10,177 from February 2014-January 2015, to 23,396 from February 2015-January 2016; see Figure 6). The Hub launched its English-language webpage in September 2015, which has attracted strong traffic.

Annex 4 provides additional highlights.

Figure 6: Webpage Visitors



looking ahead

During a relatively short implementation period, the Hub has achieved rapid success in building a diverse portfolio of technical assistance projects, and establishing the foundations for a sustained strategic presence in Tokyo. Building visibility, gaining credibility with internal and external stakeholders, and implementing effective knowledge exchange programs that succeed in connecting Japanese technical communities with developing countries takes time. Reflecting on the first years of the Hub's operations, a number of key observations are emerging which will shape future planning:

1. **Visibility of the Hub's activities is increasing, particularly within Japanese technical audiences, and the Hub will continue to invest in attracting visibility among senior management across the World Bank and high-level Japanese officials.** The Hub has engaged a number of World Bank's senior directors travelling to Tokyo such as Ede Jorge Ijjasz-Vasquez, Senior Director for GSURR, and also at COP21 in Paris with John Roome, Senior Director for Climate Change. The Hub will increasingly focus on activities targeting:
 - a. Senior management across the World Bank Group and engagement of other GPs at a senior level to raise awareness of the value proposition of the Hub;
 - b. Senior representatives of the Government of Japan—high level events to engage interested groups at a senior level will be prioritized to increase visibility and accountability at a strategic level;
 - c. Press events and public awareness in partner countries—a number of launch events have proven successful in generating awareness around Japanese support and the role of the Hub; the hub team will work with task team leads (TTLs) to replicate this success in other countries.
2. **Evaluation of impact is a work-in-progress.** The Hub's grants will leverage large scale results over time. As the lag time between technical assistance and the delivery of results on the ground is at least two years, the Hub will continue to collect data and evidence around impact. As the portfolio of investments influenced by the Hub grows, it will:
 - a. Invest in targeted evaluation of downstream investments that lend themselves most naturally to impact evaluation;
 - b. Improve output monitoring and indicators through GFDRR's overall monitoring and evaluation framework.

3. **Operational teams are increasingly exposed to Japanese expertise; deepening and sustaining this engagement is key.** During the Hub's initial implementation phase, documenting Japan's wealth of knowledge and experience has been an important first step to build professional networks and understand its value proposition in specific fields. Customization and targeting for specific clients will be critical to applying Japanese knowledge on the ground and delivering documentation in a digestible format for World Bank teams and their clients. This will require investment and clear frameworks for knowledge management, for which a few key activities will be pursued:
 - a. Invest in increasing engagement with CoPs to utilize this key institutional mechanism for knowledge sharing and dissemination across the World Bank Group;
 - b. Deep dives with TTLs and clients—in partnership with TDLC, and along strategic thematic lines, the Hub will seek to increasingly engage clients and development professionals through structured knowledge exchange activities around planned events and deep dives—rather than through an ad-hoc basis;
 - c. Field testing of knowledge products with TTLs and clients on World Bank-supported projects to obtain feedback and enhance practicability and applicability of the knowledge products.
4. **The Hub has built a broad network with the Japanese private sector, and is developing an evidence base around optimal areas for technical engagement.** Its initiatives will continue focusing on exposing World Bank task teams and clients to substantive solution areas that increase impact. Sharing Japanese knowledge and expertise involves some stand-alone bilateral exchange, but often more effective is to 'crowd-in' Japanese knowledge and expertise to wider, multi-country knowledge development and exchange activities. To respond to this, the Hub will act as a facilitator to open up more strategic opportunities for engagement with firms in key solution areas, for example, through:
 - a. Thematic roundtables in Tokyo and capacity building programs in Japan to connect clients and the Japanese private sector for exchanging information on supply and demand;
 - b. In-country events in association with the Japanese private sector to showcase Japanese technologies and expertise to clients;
 - c. Develop knowledge products such as a knowledge library of Japanese and global expertise to facilitate invitations by clients to Japanese private sector and operation manuals, sample Terms of Reference (TOR), sample technical specifications on Quality Infrastructure, and ICT-enabled DRM that can be readily used by TTLs and clients on TA and lending projects;
 - d. Collaboration with the JBP to bridge the Japanese supply of expertise and technologies and the demands of developing countries.
5. **The Hub has played an important role in building a more frequent dialogue between World Bank and JICA operational teams, particularly at the project formulation stage; sustaining this effort through to project completion and beyond is necessary.** This will involve:
 - a. Sustained follow up with Bank task teams and proactive support from the Hub to identify and facilitate technical cooperation;
 - b. Monitoring missions by the Hub joining broader Bank missions to catalyze connections with JICA on the ground.

Annex 1: Alignment of Hub Activities with the Sendai Framework

	Priority 1. Understanding disaster risk	Priority 2. Strengthening disaster risk governance to manage disaster risk	Priority 3. Investing in disaster risk reduction for resilience	Priority 4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction
Afghanistan	✓	✓	✓	✓
Armenia	✓	✓	✓	✓
Bangladesh	✓	✓	✓	✓
Bhutan	✓	✓		✓
Brazil	✓	✓	✓	
Cambodia			✓	
Colombia	✓	✓	✓	✓
Costa Rica	✓		✓	
DRC	✓			✓
Egypt	✓	✓	✓	✓
El Salvador	✓		✓	
Fiji	✓		✓	
Ghana	✓			✓
Guatemala	✓		✓	
Honduras	✓	✓	✓	✓
India	✓	✓	✓	✓
Jordan	✓	✓	✓	✓
Lao PDR			✓	
Lebanon	✓	✓	✓	✓
Marshall Islands			✓	✓
Micronesia			✓	
Myanmar			✓	
Nepal				✓
Nicaragua	✓	✓	✓	✓
Panama	✓		✓	
Peru			✓	
Philippines	✓	✓	✓	✓
Samoa			✓	✓
Tonga	✓	✓	✓	✓
Turkey	✓	✓	✓	
Uzbekistan			✓	
Vanuatu			✓	✓

Annex 2: Country Program Profiles

Table A1: List of Approved Country Projects (As of January 2016)

Region	Country	Project name	Award amount (\$M)	Award year	Grants Addressing			
					Tackling Climate Risks	Quality Infrastructure	Urban Resilience	Resilience in Fragile and Post-Conflict States
AFR	Ghana	Strengthening Flood Management in Ghana	1.5	2014	✓			
	DRC	Improving DRC's Capacity to Manage, Monitor and Respond to Natural Hazards in the Region of Goma	2.0	2015			✓	✓
EAP	Philippines	Enabling Scaled Up Risk Reduction Investments in the Philippines Project	2.4	2014	✓	✓		
	Pacific Islands	Pacific Catastrophe Risk Insurance Pilot (Season 3)	1.0	2014	✓			✓
	Myanmar, Cambodia, Lao PDR	Developing Strategic Plans for Financial Protection Mechanisms in Southeast Asia	2.5	2015	✓			✓
	Pacific Islands	Scaling up Risk Reduction and Risk Financing in the PICs	2.4	2015				✓
	Pacific Islands	DRM component for Sustainable Energy Industry Development Project	0.3	2015	✓			✓
ECA	Turkey	Building Resilience in Turkey Project	1.5	2014	✓	✓	✓	
	Armenia	Armenia National Disaster Risk Management Program	1.3	2015	✓	✓		
	Uzbekistan	Strengthening Disaster Resilience in Uzbekistan	1.3	2016		✓		
LCR	Peru	Mainstreaming DRM in Peru's Education Sector Project	1.4	2014		✓		
	Brazil	Innovations in DRM Decision Making in Brazil	1.3	2014	✓	✓	✓	
	Nicaragua, Honduras	Strengthening Climate Information and Early Warning Systems to Support Climate-Resilient Development in Honduras and Nicaragua	1.0	2015	✓			
	Central America	Strengthening Disaster Risk Management and Resilience of Central American Municipalities Project	1.0	2015	✓		✓	
	El Salvador	Mainstreaming Disaster Risk Management in El Salvador's Education Sector	1.0	2015		✓		
MNA	Egypt	Strengthening DRM in Egypt Project	0.5	2014				
	MNA	Women for Resilience Program/Global Resilience Investment Fund	1.8	2016		✓		
SAR	South Asia	South Asia Promotion of Resilient Infrastructure	1.0	2014	✓	✓	✓	
	India	Improving Service Delivery of DRM in India	2.0	2014	✓	✓	✓	
	Afghanistan	Strengthening Early Warning and DRM Capacity in Afghanistan	2.5	2015	✓			✓
	Nepal	Disaster-Linked Social Assistance Delivery Support System Development in Nepal	1.5	2015			✓	
	Bhutan	Weather, Disaster and Climate Services Improvement Project	2.3	2015	✓			

AFRICA REGION

GHANA: Strengthening Flood Management in the Volta Basin

Total Grant Amount:	US\$ 1,500,000
Approval Date:	October 1, 2014
Duration:	2 years
Progress Status:	Unsatisfactory (see Table A2)
Direct Beneficiaries:	Water Resources Commission of Ghana National Disaster Management Organization Hydrological Services Department Ghana Meteorological Agency University of Ghana Volta Basin Authority

Highlights

- The project will improve preparedness and influence mitigation in the Oti River Basin by extending an existing forecasting system and improving communication of alerts.
- It aims to strengthen flood management through capacity building and partnerships, including with Japanese universities.
- Technical assistance to improve the accuracy and timeliness of forecasts is being provided for the White Volta Flood Early Warning System.

Project Overview

Following devastating flooding that hit Northern Ghana in 2010, the Government of Ghana escalated efforts to better manage and forecast flood events. Upon request from the government, the World Bank—with resources from GFDRR—financed developing a flood forecasting system on more than 800km of the White Volta River from the border with Burkina Faso to Lake Volta. This forecasting system has been operational since 2012.

Ghana now aims to extend flood forecasting capacity to other parts of the Volta Basin, notably the Oti River, with financial support from the Japan-World Bank Program for Mainstreaming Disaster Risk Management.

This grant will include support in three key areas: (i) sustaining and extending the Volta flood forecasting system to the Oti River; (ii) disseminating flood information and identifying new IT based applications for flood management; and, (iii) supporting university collaborations to reinforce Ghana's technical expertise and build the technical capacity of professionals, such as hydrologists, meteorologists, and climate experts.

Activities and Impact

- During this grant period, a TOR for the Oti River Flood Hazard Assessment covering Ghana and Togo was finalized, with the procurement process for an international consulting firm to be completed in February 2016. Once selected, this firm will undertake assessments covering the genesis of flooding on the Oti River; the exposures of various assets and communities to flooding; the effectiveness of structural and non-structural intervention measures; and the operational flood forecasting system for the Oti River;
- A regional consultation with delegates from Benin, Burkina Faso, Ghana, and Togo was conducted in November 2015 and outlined the approach to implement regional flood forecasting;
- TA to improve the accuracy and timeliness of forecasts (e.g. connecting automatic rainfall stations and water level recorders) is being provided to the Water Resources Commission of Ghana, the Hydrological Services Department, and the Ghana Meteorological Agency for the White Volta Flood Early Warning System (FEWS);
- The task team visited Kobe University and Kyoto University in March 2015. Both universities are supporting the development of a hydrological model for the Black Volta (another branch of the Volta) and the project has facilitated a closer collaboration of these universities with key actors responsible for flood management in Ghana. A learning exchange involving Ghana on flood management with Kyoto University, sponsored by the university, took place in February 2016. A peer review exchange is currently under way.

Coordination and Partnership

- As noted, a knowledge partnership with Kobe University and Kyoto University started in March 2015;
- There has been strengthened collaboration between relevant actors in Ghana and Togo, and enhanced synergies among projects related to flood management in the Volta basin, including those supported by JICA, the United Nations Development Programme (UNDP), GFDRR, and the World Bank, with the aim of arriving at a joint approach to protect communities and livelihoods;
- The task team maintains ongoing dialogue with JICA for possible added collaboration with its experts.
- As a result of Hub's proactive knowledge sharing on flood risk management practice in Japan, experienced Japanese firms were invited to the tender of the project.

Next Steps

- Regional consultations are planned for March 2016 with delegates from Ghana, Togo, Burkina Faso, and Benin, as well as the launch of the regional assessment for the Oti River;
- National consultations are planned in Togo and Ghana;
- A new, web-based server platform for FEWS Volta is planned to be operational in April 2016, and developing, testing and integrating FEWS will take place between March and October 2016.

DEMOCRATIC REPUBLIC OF THE CONGO (DRC): Improving DRC’s capacity to manage, monitor and respond to natural hazards in the region of Goma

Total Grant Amount:	US\$ 2,000,000
Approval Date:	November 3, 2015
Duration:	4 years
Progress Status:	Satisfactory
Direct Beneficiaries:	Cellule d’Exécution du Projet de Transport Multimodal (CEPTM), in DRC Ministry of Transport as fiduciary Implementing Unit Observatoire Volcanologique de Goma (OVG) as technical counterpart

Highlights

- The project will directly strengthen volcanic and limnic risk assessment and management in the Goma region and will enhance population preparedness, while volcanic activities of two mountains are getting active in recent years;
- The project will bring additional value in the humanitarian context. The expected beneficiaries are not only local inhabitants of Goma, but also internally displaced persons and UN peace keeping mission remained in the region due to long lasting conflicts and regional instability beyond borders.

Project Overview

Goma, the capital of the North Kivu Province in the eastern part of the Democratic Republic of Congo (DRC), is particularly exposed to natural disasters. Two volcanoes of the Virunga volcanic chain are among the most active volcanoes in the world and pose a direct threat to the more than 1 million inhabitants of Goma and its surroundings and to more than 100,000 additional internally displaced persons (IDPs) in the region.

Mount Nyiragongo, located 17 km north of the city is permanently active. It has erupted in 1977 and more recently in 2002 when it caused major damage to the Goma region, covering 13 percent of the city’s surface area and destroying 80 percent of the local economy. The second volcano, Mount Nyamulagira, located 30 km north-west of the city of Goma, is since July 2014 also permanently active. It has erupted 28 times since 1938, affecting an important access corridor in the region and the dwellings of IDPs.

It is estimated that there are 2.3 trillion cubic feet of methane gas, along with 60 cubic miles of carbon dioxide trapped beneath Lake Kivu under the pressure of the water. These toxic gases might surface through a limnic eruption or “lake overturn” caused by major natural events such as earthquakes, volcanic activity or explosions within the lake itself.

The project will directly strengthen volcanic and limnic risk assessment and management in the Goma region and will enhance population preparedness. The project is designed to integrate Disaster Risk Management (DRM) within the IDA-supported project, mainstream DRM at the provincial level, and leverage GFDRR expertise to strengthen the technical capacity at key institutions. The project will benefit more than 1 million people living in Goma and its surroundings, as well as the more than 100,000 of internally displaced persons (IDPs). In addition to social and economic infrastructure, the project will also benefit various institutions such as the OVG, Civil protection services, central, provincial, and local authorities in charge of defining Disaster Risk Management, civil society, local communities, humanitarian aid agencies, and the UN peace keeping mission in DRC.

Activities and Impact

- Planned activities and procurement plan is currently reviewed by the counterparts, subjected to be finalized prior to the project kick off planned in spring 2016;
- Task team reached out Japanese volcano researchers recommended by the Embassy of Japan. The task team will leverage these Japanese experts who have been studying volcanoes in DRC over 30 years.

Coordination and Partnership

- The project will help sustain the results achieved under past support to OVG and local communities by other development partners. UNDP initiated in 2005 a project related to Risk Mitigation in the area of Virunga, while from 2007 to 2013, the United Nations Operational Project Services (UNOPS), with funding from the European Union, the Luxembourg and Swiss Cooperation, continued this project to enhance the capacity of government institutions to analyze and assess a range of natural hazards, increase awareness on the risks associated with volcanic activity in schools, churches and market places, and finally, to build the capacity of the Goma Volcanic Observatory (OVG), to monitor and analyze volcanic activity and associated risks;
- Through the consultation with JICA, JICA offered to see the possibility of mobilizing JICA technical experts and JICA training program whereby Congolese experts can benefit from relevant trainings in Japan;
- The task team is in touch with Japanese volcano researcher from Hokkaido University and Tohoku University who have researched DRC volcanoes since the 1970's and still have contact with OVG, per kind introduction by the Embassy of Japan in DRC. Japanese counterparts will be invited to a stakeholder workshop in May 2016. OVG has made a specific request for Japanese expertise in the following areas: seismology; geo-dynamics (for lakes); vulcanology; GIS and remote sensing; water geochemistry (for Lake Kivu).

Next Steps

- The legal agreement between the client and the Bank to be completed by spring 2016;
- The project kick off is planned in May 2016.

EAST ASIA AND PACIFIC REGION

PACIFIC ISLANDS: Pacific Catastrophe Risk Insurance Pilot Project

Total Grant Amount:	US\$ 1,000,000
Approval Date:	July 5, 2014
Duration:	One year (completed)
Progress Status:	Satisfactory
Direct Beneficiary:	Secretariat of the Pacific Community (SOPAC)

Highlights

- This project aimed to determine the viability of market-based sovereign catastrophe risk transfer instruments in PICs through providing a third season of premium payments for participants in the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI).
- The project concluded when the catastrophe risk insurance coverage expired on October 31, 2015. All participating countries are now financing their own premiums as a mix of World Bank IDA funds and country contributions.

Project Overview

Pacific Island Countries (PICs) are highly vulnerable to natural disasters and climate-related hazards, and these countries suffer an average disaster damage of more than US\$280 million per year. To help strengthen financial resilience, the World Bank and GFDRR, with support from the Government of Japan, has developed innovative financial protection strategies, including PCRAFI, which provides participating PICs with quick access to funds after a qualifying disaster through a pooled insurance mechanism.

The grant enabled four PICs—the Marshall Islands, Samoa, Tonga, and Vanuatu - to participate in the third season (November 1, 2014–October 31, 2015) of the PCRAFI Pilot Program. The fifth participating country, the Cook Islands, paid the premium in full by itself. The Solomon Islands chose not to continue participating in the insurance pilot.

The PCRAFI Pilot entered its fourth season in November 2015. All participating PICs have graduated from the grant to use their IDA financing and national budgets to pay for premiums.

Activities and Impact

- The project provided financing to extend the pilot insurance program for an additional year and facilitate alignment with the Pacific Resilience Program (PREP). The TA grant provided US\$250,000 in premium financing to the Marshall Islands, Samoa, Tonga, and Vanuatu each to purchase tropical cyclone and/or earthquake/tsunami coverage.

- The Pilot program has proved effective in helping provide participating PICs immediate access to funding following a disaster caused by a natural hazard. During this grant period, Vanuatu received a cash injection (US\$1.9 million) from the scheme within 10 days of March 2015's Tropical Cyclone Pam, the strongest cyclone recorded in the Pacific. It is the second country to receive a payout, following Tonga in early 2014.

Coordination and Partnerships

- Five reinsurers—Mitsui Sumitomo, MunichRe, Sompo Japan Insurance, Swiss Re, and Tokio Marine—continue to provide insurance coverage for the fourth season. This amounts to an aggregate coverage of US\$43 million against tropical cyclones, earthquakes, and tsunamis.
- Additional PICs, such as Fiji, have expressed interest in joining the Program, which will be supported as part of the PREP grant.

Next Steps

- The Hub is supporting a co-financing grant to PREP to scale up the pilot insurance program, financed by a combination of IDA funding and other sources. It is also looking to develop a dedicated entity for the provision of disaster and climate related insurance.

PHILIPPINES: Enabling Scaled up Risk Reduction Investments in the Philippines

Total Grant Amount:	US\$ 2,350,000
Approval Date:	July 17, 2014
Duration:	36 months
Progress Status:	Satisfactory
Direct Beneficiaries:	National Economic Development Authority (NEDA), Department of Finance (DoF), Department of Public Works and Highways (DPWH), the Department of Education (DoE), Department of Tourism (DoT), National Commission for Culture and the Arts, University of the Philippines–National Engineering Center

Highlights

- The program aims to strengthen DRM institutional systems and sectoral agency capacity in the Philippines, enabling a phased implementation of risk reduction programs for key public buildings and infrastructure.
- A new contingent line of credit to the Government of the Philippines worth US\$500 million to support financial resilience was approved by the World Bank in December 2015. The Japan Program grant includes activities supporting result indicators in this Second Disaster Risk Management Development Policy Loan with a Catastrophe-Deferred Drawdown Option (CAT-DDO 2).

Project Overview

This project will help strengthen DRM institutional systems and sectoral agency capacity to allow phased implementation of risk reduction programs for key public buildings and infrastructure in the Philippines. It will do so through providing technical assistance in four areas: (i) strengthening institutional and legal frameworks for DRM; (ii) developing methodology and analytical tools for disaster and climate risk-informed socio-economic planning and public investment programming; (iii) technical support for revising the national building code (NBCP) to integrate and mainstream disaster risk reduction measures; and, (iv) technical support for resilient investments in priority sectors.

Activities and Impact

- As part of the grant's work, following discussions in October 2015, preliminary recommendations on mainstreaming DRM in planning and investment programming and disaster risk financing and insurance (DRFI) have been delivered to the Philippines' National Economic and Development Authority (NEDA) and the Department of Finance (DoF) as an input to the ongoing Sunset Review of the 2010 Philippines Disaster Risk Reduction and Management (DRRM) Act. These recommendations will help inform NEDA and DoF's inputs to a draft bill for amendments to this act;
- A draft concept paper on the planned Climate Adaptation and Disaster Resilience Fund has been submitted to the Government of Philippines for review and ToRs are under development;

- There has been ongoing TA support the Department of Public Works and Highways with: (i) reviewing the basic provisions of the NBCP; and, (ii) developing revisions that could fundamentally improve the national building regulations and strengthen risk reduction. To support collaboration with technical experts at the Architectural Institute of Japan is being developed through the Hub. The integration of disaster risk reduction measures in revisions to the National Building Code of the Philippines is a result indicator of the CAT-DDO 2;
- As part of the grant's focus on developing retrofitting solutions and cost estimates for priority school buildings in metro Manila, a mission engaged in discussion with the DoE on the need for assessments and recommendations for remedial actions on the existing school building stock located in multi-hazard high risk areas.

Coordination and Partnership

- Through the series of TAs, the project is expanding activities with new partners, including those with NEDA, the Department of Public Works and Highways, and the Department of Tourism and the National Commission for Culture and the Arts.
- JICA remains a critical partner, and effective coordination and cooperation has been key to achieving impact at scale. Partner activities include the *JICA-World Bank Seminar on Building Resiliency* (October 2014) and a joint seminar at WCDRR in Sendai, Japan (March 2015) titled, *Step Forward for Building Resilience in the Philippines: Emerging Strategies for Disaster Risk Reduction and Financing*.
- The Hub knowledge program on Building Regulations for Resilience will leverage the broader GFDRR Urban Resilience Thematic Program to provide technical assistance on implementation and enforcement issues to engage Japanese experience in the roll out of the component on building code review under the TA. Engagement will commence in September 2016 in light of June elections.

Next Steps

- Building-specific structural assessments of the most at-risk public school buildings will be conducted, and retrofitting solutions and cost estimates will be proposed to be included by the Department of Education in the 2017 General Appropriations Act (national budget).

SOUTHEAST ASIA: Developing Strategic Plans for Disaster Risk Financing, Risk Reduction and Hydromet Services in Southeast Asia

Total Grant Amount:	US\$ 2,500,000
Approval Date:	February 24, 2015
Duration:	18 months
Progress Status:	Unsatisfactory (see Table A2)
Direct Beneficiaries:	<p>Lao PDR: Ministry of Planning and Investment, Ministry of Finance, Ministry of Natural Resources and Environment.</p> <p>Cambodia: Ministry of Economy and Finance, Ministry of Public Works and Transport, Ministry of Water Resource and Meteorology, National Committee for Disaster Management.</p> <p>Myanmar: Ministry of Finance, Ministry of National Planning and Economic Development, Ministry of Social Welfare, Ministry of Construction, Ministry of Transport, Ministry of Agriculture and Irrigation</p>

Highlights

- This technical assistance will develop strategic plans for reducing the vulnerability of people and assets to natural hazards in vulnerable areas in Cambodia, Lao PDR, and Myanmar.
- It also seeks to promote regional DRM coordination among the three countries in two areas—disaster risk financing and hydromet systems—by identifying opportunities for harmonizing hydromet systems and regional risk pooling options.

Project Overview

Southeast Asian countries are vulnerable to the economic and fiscal shocks caused by natural disasters, yet often lack the tools and strategies to build financial resilience. Through this grant, TA will be provided to: (i) improve understanding in the region of disaster risk and risk financing solutions; (ii) prepare DRM investment strategies; and, (iii) develop a regional system design and investment plan for enhanced DRM services in Cambodia, Lao PDR, and Myanmar.

Activities and Impact

- A workshop in December 2015 convened 24 high-level officials from Japan's Ministry of Finance and relevant ministries in Cambodia, Lao PDR, Myanmar, and Thailand. The workshop's purpose was to: (i) introduce participants to DRFI principles, as well as experiences managing the financial impacts of disaster and climate risk among countries, including the use of risk pools in the Pacific; (ii) discuss approaches to national DRFI in participating countries; and, (iii) hold initial consultations on regional solutions to financial resilience in Cambodia, Lao PDR, and Myanmar. A representative from the Embassy of Japan delivered remarks on behalf of the Government of Japan;
- There has been movement on developing strategic plans to help prioritize DRM investments. A key step is to contract firms to conduct studies based on government consultations. In Cambodia, an expression of interest (EOI) was issued in 2015. In Lao PDR, the EOI will be issued in January 2016. In Myanmar, this area is on hold until after the new government is formed in February-April 2016;

- To support work on regional weather forecasting and early warning systems (EWS), in early 2015, in-depth county consultations were held in Cambodia, Lao PDR, and Japan with stakeholders, including JICA, on topics such as training provisions and potential investments. In Japan, consultations included a review of Japanese hydromet services and lessons learned for developing countries, as well as engaged Japanese practitioners, key institutions in hydromet services, private weather information providers, academic institutions, and JICA;
- In Myanmar, in October 2015, the World Bank and JICA jointly conducted a hydromet donor coordination meeting. The task team has had discussions with relevant stakeholders and is liaising with the World Bank team supporting the Ayeyarwaddy Integrated River Basin Management Project there, which includes hydromet investments.

Coordination and Partnerships

- A regional DRFI mechanism will enhance partnership and coordination among Cambodia, Lao PDR, and Myanmar, and has potential to extend to other Southeast Asian countries. The feasibility of a regional workshop in collaboration with ASEAN, potentially to take place in Japan, is currently under review.
- This project will contribute to regional coordination through a road map and investment plan for a regional hydromet and EWS. Development partners, including JICA, ADB, and the WMO, are collectively promoting integrated regional weather forecast and early warning efforts. The World Bank and JICA have initiated joint training and discussion of potential investments. Through the Hub, the task team has engaged Japanese practitioners and key institutions in hydromet services, private weather information providers, and academic institutions, as well as JICA.

Next Steps

- The project plans to complete flood risk assessments for Cambodia, Lao PDR, and Myanmar; develop strategic action plans; prepare proposed regional disaster insurance fund; strengthen capacity building and regional cooperation for improved disaster risk financial management;
- Strategic DRM investment plans will be prepared for all countries, and workshops will be conducted on investment planning for DRM;
- Conduct investment needs and socio-economic benefits assessments, as well as complete regional system design and investment plan.

PACIFIC ISLANDS: Pacific Resilience Program (PREP)

Total Grant Amount:	US\$ 2,350,000
Approval Date:	June 24, 2015
Duration:	5 years
Progress Status:	Satisfactory
Direct Beneficiaries:	The Ministry of Meteorology, Information, Energy, Disaster Management, Climate Change and Communications in Tonga (MEIDECC), and the Ministry of Finance and National Planning

Highlights

- The World Bank's Pacific Resilience Program (PREP) is a major new investment project supporting participating Pacific Island Countries (PICs).
- Through co-financing, TA in four areas will contribute to the overall objective of PREP's first phase, with a focus on activities in Tonga.
- It will also provide critical support to scale-up and expand the pilot program under PCRAFI, in close partnership with the Government of Japan.

Project Overview

Supported by the World Bank and GFDRR, the PREP will help strengthen disaster resilience, early warning and preparedness, and improve post-disaster response capacity of participating PICS.

Participating PICS will be supported by Japan in four areas: (i) strengthening early warning and preparedness; (ii) mainstreaming risk reduction and resilient investments; (iii) disaster risk financing; and, (iv) program management.

As PREP is a phased program, lessons learned from Phase I activities will inform the work for Phase II, which has the potential to expand to additional PICS.

Activities and Impact

- An implementation support mission took place in September 2015, during which the team worked on implementation arrangements with the client, and refined TORs on work to help strengthen early warning and preparedness. In particular, progress has been made on developing and finalizing TORs to support modernizing observation infrastructure (co-financed with GFDRR grant). A draft Project Operations Manual was also prepared;
- The grant, under the framework of PREP and PCRAFI, will contribute to a highly strategic program of activities that consolidate resources from a number of sources (such as IDA and the Climate Investment Fund), while also stimulating innovation and continued expansion of the flagship PCRAFI pilot program.

Coordination and Partnerships

- The Government of Solomon Islands is interested to build on previous JICA engagement on their capital flood plan, to be explored by the task team.
- PREP constitutes an interdependent and overlapping series of projects for multiple beneficiaries who are facing a common set of development issues and share common development goals. The Program includes a combination of activities and investments at the country level (such as a project in Tonga, but also in Samoa, Vanuatu, and the Marshall Islands) and activities at the regional level which are implemented by the Secretariat of the Pacific Community (SPC) and the Pacific Island Forum Secretariat (PIF), which will benefit the region as a whole. Each of the country projects are self-standing.

Next Steps

- An implementation support mission will take place in August/September 2016.
- The projects plans to undertake technical support missions on a 2-3 monthly basis, as needed, during calendar year (CY) 2016, particularly until the Project Management Unit is established.
- During CY2016, procurement activities are planned to strengthen early warning and preparedness capability for Tonga, including the procurement of: (i) marine and community communication infrastructure; (ii) radio transmitter and accessories for a national AM radio station (full coverage for Tonga), and a studio transmitter link and remote control unit between the Tonga Meteorological Division and the Tonga Broadcasting Corporation; and, (iii) dedicated fiber optic communication link between disaster response agencies.
- To strengthen disaster risk financing capacity, during 2016, a consultant will be recruited who will be housed in the Ministry of Finance and National Planning.

PACIFIC ISLANDS: Disaster Risk Management in the Sustainable Energy Industry in the Pacific

Total Grant Amount:	US\$ 300,000
Approval Date:	July 1, 2015
Duration:	3 years
Progress Status:	Satisfactory
Direct Beneficiary:	Pacific Power Association

Highlights

- This project will increase data availability and capacity in Pacific Island Countries (PICs) power utilities to enhance their readiness to accelerate adopting renewable power generation sources, manage renewable energy technologies, and strengthen planning capacity for disaster recovery and risk reduction.
- Technical assistance will support energy agencies in the region through the Pacific Power Association, a primary beneficiary.
- The resilient component of the objective will be measured by increased planning capacity for disaster recovery and risk reduction among PICs power utilities.

Project Overview

Recent natural events have had devastating impacts on Pacific Island Countries, including on their energy sectors. For example, the Category 5 Tropical Cyclone Pam that struck Vanuatu in March 2015 resulted in significant damage and losses to the island country's energy sector, wiping out electricity for days. The January 2014 Tropical Cyclone Ian resulted in major damage and loss to that country's electrical grid and other parts of the sector. These events have triggered a strong demand in improving the preparedness of utilities in PICS to respond to natural hazards and reduce economic losses when disasters occur. Mainstreaming climate and disaster resilience into sector planning and investments will help reduce some of the shocks PICs face from climate and disaster risk.

This project will increase the availability of data and capacity in PIC power utilities to enhance their readiness to accelerate adopting renewable power generation sources, manage renewable energy technologies, and strengthen planning capacity for disaster recovery and risk reduction. Resilience will be measured by the increased planning capacity for disaster recovery and risk reduction among PICs power utilities.

A new project, its potential beneficiaries are:

- All power sector utilities in PICs who can benefit from demand-driven training in renewable energy integration, grid stability modelling software, online resource mapping tools, online benchmarking tools, development of competency standards and guidelines for the sector
- All electricity customers in PICs, who will obtain improved service as a result of the improved utility capacity;
- Increased capacity within the Pacific Power Association (PPA) to provide advice as needed, including because of investments in staff training.

Activities

- This project was established during the reporting period. As it is still in initiation stage, no activities have yet been conducted on the ground.

Coordination and Partnerships

- The primary partner on this project is the PPA, an association seeking to provide access to sustainable and quality electricity services for the people of the Pacific Islands region, which consists of 25 active member corporations from 18 countries and territories;
- This TA will be aligned with the Hub's pipeline on Resilient Energy to share relevant Japanese experience in ex-ante planning of emergency response and business continuity management in the energy sector.

Next Steps

- Engage with the PPA on capacity building needs, and resulting opportunities for Hub engagement.

EUROPE AND CENTRAL ASIA REGION

TURKEY: Building Resilience in Turkey

Total Grant Amount:	US\$ 1,500,000
Approval Date:	October 01, 2014
Duration:	2 years
Progress Status:	Unsatisfactory (see Table A2)
Direct Beneficiaries:	Disaster and Emergency Management Presidency (AFAD), the Ministry of Development (MoD), the Ministry of National Education (MoNE), the Chambers of Industries and Commerce

Highlights

- Technical assistance will support the Government of Turkey to advance the DRM agenda, with a focus on risk identification and risk reduction activities.
- This objective will be achieved through four core areas: (i) scaling up the safer schools agenda at a national level; (ii) improving business continuity planning; (iii) building an enabling environment for disaster and climate risk informed decision-making across sectors; and, (iv) providing a platform to share experiences and lessons learned.
- During this grant period, TA activities have been modified to reflect changing on-the-ground realities, including the Syrian refugee crisis and political instability.

Project Overview

Through this grant, TA will support the Government of Turkey to advance the DRM agenda in four primary areas:

- Safer schools:** The project will scale up the safer schools agenda at a national level, building on the experience of the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP). The project will support the Ministry of National Education (MoNE), in coordination with the Prime Ministry Disaster and Emergency Management Presidency (AFAD), to develop and implement a national safer schools program that encompasses all pillars of the global Comprehensive School Safety Framework.

This project will focus on the first and second pillars of the framework (safer school facilities and school-based disaster risk management). Through the second phase of the JICA School-based Disaster Education Project, JICA will support the third pillar (risk reduction in formal and informal education).

- Improving business continuity planning:** The Istanbul Chamber of Industries is interested in building the resilience of businesses by developing a business continuity plan (BCP) for the Tuzla Organized Industrial Zone (OIZ) and integrating risk management into its next strategic plan. To this end, the project will support the Istanbul Chamber of Industries and the Tuzla

OIZ to improve its capacity for business continuity planning. The Tuzla experience can serve as an example for the other 280 OIZs across Turkey.

- (iii) **Building an analytical foundation for disaster and climate risk-informed decision-making across sectors:** The project will support one of Turkey's Regional Development Agencies (RDAs) to conduct a high-level risk assessment for selected critical infrastructure sectors in Çukurova, a major transportation hub in south-central Turkey. It will focus on the energy and logistic sectors, with the findings used to inform the RDA's investment planning for Çukurova. The project will also support the Istanbul Governorship to assess its lifeline utility systems to better understand to what extent its systems are at risk.
- (iv) **Providing a platform to share experiences and lessons learned:** The project will provide a platform to capture Turkey's DRM experience over the last decade, highlight lessons learned, and increase learning and knowledge sharing. Most activities will be directly linked to those financed under this project.

While the TA was initially designed to build a foundation for a National DRM Program, the Syrian refugee crisis and political instability within Turkey has complicated the grant's implementation and the reduced the likelihood of establishing a program in 2016. TA activities have been modified to work with stakeholders such as the MoNE, Development Agencies, and the Chambers of Industries and Commerce, instead of AFAD as the main counterpart.

Activities and Impact

Safer Schools: Support from the project arranged for MoNE officials to go on a technical site visit in Istanbul to enquire about risk assessment techniques for school buildings and see existing structural retrofitting techniques. A further meeting included a presentation from the World Bank on safer schools best practices around the world.

- Prepared a draft project concept note with a focus on safer schools that was shared with AFAD, MoNE, the Treasury, and circulated within the Bank;
- Produced a situation analysis document on safe schools;
- Business Continuity Planning:
 - Held preliminary meetings with the New York City Planning Authority, which is conducting a resilient industries project to exchange information and ideas on risk identification practices;
 - Produced a situation analysis on BCP;
- Understanding Risk and Critical Infrastructure:
 - Organized a workshop with local public and private stakeholders in meteorology, hydrology, DRM, energy, and logistics to exchange ideas and best practices on critical infrastructure risk assessment. One presentation to CDA management and one presentation to the university of Cukurova (to act as the technical committee) on the same topic;
- Helped inform development financing through analytical products and tools, including producing a situation analysis on critical infrastructure;
- Communications and Knowledge Sharing:
 - Held a workshop with the Istanbul Governorate, Istanbul AFAD, and ISMEP management on risk identification tools and ideas to move beyond schools and hospitals into urban resilience;
 - Deepened knowledge through trainings, workshops, and conferences, including a series of presentations by the task team to top AFAD management and technical teams on national DRM strategies, and risk reduction policies and practices;

- Helped produce the draft of Turkey’s DRM Strategy, which includes an aspect on improving and emphasizing risk identification.

Coordination and Partnership

- The revised TA will foster coordination and partnership with wider stakeholder group to advance the DRM agenda in Turkey. Stakeholders including AFAD, MoD, MoED, and Chambers of Commerce, were identified through a consultation process and have been engaged in activities.
- The Task Team and JICA’s Ankara office held regular meetings to discuss project ideas, and share contacts, and update on activities. They also discussed the project revision.
- Japanese expertise and collaboration is expected throughout the project. The project will organize knowledge sharing and peer to peer learning events on the topics of school safety and business continuity planning, in collaboration with Japanese experts.

Next Steps

- The tendering process for a consulting firm to conduct a pilot, “Lifeline Utility Business Continuity Planning” with the Istanbul Chamber of Industry has started. Work is expected to begin around mid-March following evaluating bids.
- The tendering process has also begun for a consulting firm to conduct the pilot, “Critical Infrastructure Risk Assessment,” with the Cukurova Development Agency. Work is expected to start mid-March following evaluating bids.
- The Understanding Risk Conference 2016 team will conduct another mission in March 2016 and the event will take place in mid-May 2016.
- The National DRM Strategy timeline is unknown due to its political nature. The public outreach product is expected to be finalized in February and will be disseminated to a larger audience.

ARMENIA: Armenia National Disaster Risk Management Program

Total Grant Amount:	US\$ 1,250,000
Approval Date:	March 31, 2015
Duration:	30 months
Progress Status:	Satisfactory
Direct Beneficiary:	Ministry of Territorial Administration and Emergency Situations

Highlights

- This program will help Armenia reduce existing and future risks; respond more efficiently to disasters; and develop strategies for financial resilience.
- The program will function as a platform to share results and outputs with donors and development partners to mainstream DRM in the country, and help Armenia make smarter and more 'disaster risk sensitive' investment decisions.
- A program launch event took place on January 19, 2016 with broad participation, including remarks from Japan's Ambassador to Armenia. At the event, the Government of Armenia showed strong commitment to the program and facilitating alignment of the National Strategy on Disaster Risk Management to the Sendai Framework for Disaster Risk Reduction (Sendai Framework) and the SDGs.

Program Overview

The objective of the program is to support the Government of Armenia to build a comprehensive DRM program through implementing foundational activities needed to advance disaster resilience. It will do so through five key areas that seek to: (i) support the Government of Armenia to strengthen the national DRM system and institutions to develop an action plan for a National DRM Strategy; (ii) strengthen the management and development of disaster risk information of Armenia; (iii) reduce disaster risks through selected structural and non-structural measures; (iv) strengthen disaster preparedness through improving emergency communication system and response capacity; and, (v) enhance fiscal resilience against natural disasters.

The program will support implementing related activities to advance the DRM agenda in Armenia and trigger investments using financial resources from the government, the World Bank, and other donors and development partners. Grant support is focused on technical assistance, capacity building, and studies and assessments.

Activities and Impact

- Developed methodology to incorporate the Sendai Framework and the SDGs into a framework for a Disaster Risk Reduction Capacity Assessment and conducted a workshop to introduce a related process. This has increased momentum to adjust the National Strategy for Disaster Risk Reduction to be in line with these international initiatives.
- Conducted a preliminary assessment of the status of geospatial data platforms and geospatial data for DRM decision-making; gathered all information on existing geospatial data used for DRM.

- Conducted preliminary consultation meetings with the Ministry of Urban Development for a potential review of the country's seismic code, utilizing results of the new seismic zoning map to be developed under this program.

Coordination and Partnerships

- This program will work in coordination with key stakeholders to support implementing activities needed to further expedite and advance the Armenia's DRM agenda and leverage public funds, including from the government, the World Bank, and other donors and development partners, and inform and shape the use of such funds to make smarter DRM investments.
- It will frequently meet with the JICA Expert Team on Landslide Mitigation to consider landslide maps in geospatial database, municipal urban plans, and World Bank investment projects.
- The Program employs Japanese expert on disaster drills to capture Japan's experience in planning, designing and implementing different levels of drills from national government till community levels. A tentative knowledge exchange visit is planned for Armenia and other Central Asian countries to Japan in September 2016.

Next Steps

- Consultancy firm contract will be signed in February 2016 to conduct the probabilistic seismic hazard assessment;
- The program will hold a launch event, inviting the Ambassador of Japan and other relevant stakeholders.

UZBEKISTAN: Strengthening Disaster Resilience in Uzbekistan

Total Grant Amount:	US\$ 1,250,000
Approval Date:	January 15, 2016
Duration:	30 months
Progress Status:	Satisfactory
Direct Beneficiaries:	Ministry of Emergency Situations (key coordinator). Other relevant counterparts include Ministry of Finance, Ministry of Public Education, Institute of Seismology of the Academy of Sciences, State Committee for Architecture and Construction, State Committee on Geology and Mineral Resources, State Committee for Land Resources, Geodesy, Cartography and State Cadastre, Uzhydromet.

Highlights

- This program will enhance the Government of Uzbekistan's capacity to identify, prioritize, and plan for implementing seismic risk reduction and emergency preparedness investments and activities.
- Technical assistance was newly approved at the beginning of 2016.
- Prior to finalizing the project concept, government counterparts participated in the Central Asia Earthquake Risk Reduction Forum in October 2015 to learn international and regional best practices for seismic risk reduction.

Project Overview

This program will enhance the capacity of the Government of Uzbekistan to identify, prioritize, and plan for implementing seismic risk reduction and emergency preparedness investments and activities. Approved in January 2016, the program has not yet launched activities.

The program will support implementing activities focused on capacity building, seismic risk assessments, disaster preparedness, and fiscal impact assessment. Technical assistance will focus in part on earthquakes, a significant hazard in the region and the cause of the greatest economic losses from natural disasters. The start of the program coincides with the 50th anniversary of the Tashkent earthquake that destroyed the capital city in 1966, serving as both a reminder of the potentially devastating consequences of earthquakes and as a motivator to implement the program and further invest in disaster risk reduction activities.

The program will work in four areas:

- (i) Institutional strengthening for DRM: provide support to the Government of Uzbekistan in guiding DRM activities and preparing for risk reduction investments;
- (ii) Support risk identification to strengthen public facilities: identify seismic vulnerabilities, quantify seismic risk, and provide an analytical basis to inform a strategy for risk reduction investments for public buildings and facilities in Uzbekistan, with a focus on Tashkent;

- (iii) Strengthen disaster preparedness: develop a conceptual design for establishing a countrywide Crisis Management Center (CMC). The CMC's main objectives will be to collect and process information on emergency situations, provide a platform to analyze this information, facilitate coordination with relevant agencies to prepare for and manage emergency situations, and host a system for centralized early warning, designed to communicate the warning information to alert authorities, response forces, and populations;
- (iv) Understand disaster fiscal impacts: conduct a fiscal risk assessment that will enhance understanding of Uzbekistan's fiscal vulnerabilities.

Prior to finalizing the project concept, Uzbek government counterparts were invited to a two-day Central Asia Earthquake Risk Reduction Forum in October 2015, organized by the task team with support from the Hub, to learn international and regional best practices for seismic risk reduction. At the forum, representatives from government and development partners in Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan engaged in dialogue on investment strategies and risk financing. The forum built on a May 2014 session, "Central Asia: Seismic Risk," which helped improve knowledge and understanding of these risks at a national and regional level.

Coordination and Partnerships

- This TA will enhance coordination and partnership among key stakeholders in the country: the Ministry of Emergency Situations, Ministry of Economy, Ministry of Finance, Ministry of Public Education, Institute of Seismology of the Academy of Sciences, State Committee for Architecture and Construction, State Committee on Geology and Mineral Resources, State Committee for Land Resources, Geodesy, Cartography and State Cadastre, Uzhydromet, and other governmental agencies and local authorities.
- The Task Team will look to coordinate and partner with other development partners in country, particularly JICA and UNDP.
- The TA will seek to benefit from the DRM Hub Tokyo's Knowledge Program on Seismic Risk Assessment which shares various scientific approaches with different objectives and cost ranges; the possible risk assessment approaches with limited data; and manual for hazard map development.

Next Steps

- The program will launch activities in 2016.

LATIN AMERICA AND CARIBBEAN REGION

BRAZIL: Innovation in DRM Decision Making in Brazil

Total Grant Amount:	US\$ 1,265,000
Approval Date:	October 1, 2014
Duration:	Two years
Progress Status:	Satisfactory
Direct Beneficiaries:	National Center for Disaster Alert (CENAD), Ministry of National Integration; Ministry of Cities; Ministry of Planning; Ministry of Finance, Santa Catarina (Secretariat of Economic Sustainable Development; Secretariat of Planning; Secretariat of Civil Defense; Environment Institute; and University of Santa Catarina Disaster Research Center), Recife Municipality (Institute of Cities, Civil Defense)

Highlights

- The project engages two states, Santa Catarina and Pernambuco, and as well as the Government of Brazil, to improve the country's analytical approach to investment planning for resilience, with a particular focus on flood risk.
- More than 50 high-level officials from the federal and state governments were sensitized on the economic and fiscal impact of disasters in Brazil, and informed about risk financing options.
- Based on the recommendation in the report, "Coping with Losses: Options for Disaster Risk Financing in Brazil," supported by GFDRR and the World Bank, the team is supporting two pilot states to design a disaster risk financing strategy in the country.

Project Overview

Brazil is exposed to a variety of natural hazards, with the most recurrent and disruptive events including drought, severe rainfall, and landslides. To support disaster resilience, one state from the country's north and another from the south were selected as pilots in a project to engage these states and the federal government in improving Brazil's analytical approach to investment planning for resilience. The project has a particular focus on flood risk, a natural hazard of significant risk in Brazil.

The project works through three focus areas: (i) improving disaster risk assessment and piloting catastrophic risk modelling, with a focus on developing a risk profile for both states; (ii) enhancing Brazil's disaster data management systems, and damage and loss assessment procedures, with support for designing a new damage and loss assessment system for the National Center for Disaster Alert (CENAD), and organizing a series of damage and loss (DaLA) training workshops in selected states; and, (iii) designing a disaster risk financing strategy for the two pilot states, as well as disseminating the study, "Coping with Losses: Options for Disaster Risk Financing in Brazil."

Activities and Impact

- More than 200 officials from the federal and state governments were sensitized in DRFI through workshops and presentations in Brasília, São Paulo, Florianópolis and Curitiba,
- Extensive distribution the study, “Coping with Losses: Options for Disaster Risk Financing in Brazil;”
- Capacity building for the Ministry of National Integration and CENAD, with relief distribution plan as well as damage and loss assessment in case of disaster
- A risk assessment is being conducted in Santa Catarina State to inform future DRM investment planning, including gathering and processing three terabytes of geospatial data, studying 20 years of reported disaster losses, initial flood and landslide modelling for the state, deriving CENSUS data to create an asset and economic exposure model, and assessing areas vulnerable to natural disaster;
- Two scoping missions were conducted in the Recife Metropolitan Region to gather local information and meet government authorities that will inform future potential TA.
- This TA is contributing to seven lending operations with a DRM component, helping to mainstream DRM in broader development in Brazil.

Coordination and Partnership

- Based on regular meetings between the task team and JICA, opportunities to collaborate have been identified between the task team and JICA’s project at the Ministry of Cities on a landslide study in Santa Catarina.

Next Steps

- Following on the scoping mission in Recife, the team is drafting a proposed approach for the Pilot Study, which will help to identify knowledge and financing gaps for future dialogue;
- There will be final delivery of the Santa Catarina TA in April and May 2016, including a workshop with State authorities;
- Full delivery of the DaLA module to CENAD in July 2016;
- Final delivery of Recife TA in December 2016.

PERU: Mainstreaming Disaster Risk Management in Peru's Education Sector

Total Grant Amount:	US\$ 1,400,000
Approval Date:	July 17, 2014
Duration:	Two years
Progress Status:	Satisfactory
Direct Beneficiary:	Ministry of Education (MoE)

Highlights

- The project will provide targeted analytical and capacity building support to Peru's Ministry of Education (MoE) as it embarks on a major long-term school facility retrofitting and replacement program, with an initial focus on 99 schools in three years.
- The World Bank/IMF's Annual Meetings in Lima, Peru in October 2015 offered opportunity to promote engagement and visibility at a high level.

Project Overview

Peru is affected by a large set of natural hazards, including earthquakes, which can severely damage critical infrastructure, such as schools, and threaten the lives of schoolchildren. This project aims to provide initial support to the Government of Peru, specifically the Office for School Infrastructure (OINFE) and the Secretariat for Strategic Planning at the Ministry of Education (MINEDU), to integrate DRM throughout the lifecycle of Peru's national school infrastructure in alignment with the government's strategic activities to address the structural failure risk of public school infrastructure during earthquakes.

The project addresses four needs: (i) diagnosing existing school infrastructure; (ii) designing a national plan for school infrastructure; (iii) designing a seismic retrofitting program; and, (iv) building the capacity of MINEDU.

Activities and Impact

- Drafted ToRs for a nationwide assessment of seismic risk for school infrastructure. The project team is evaluating to extend a study city-by-city or immediately nationwide;
- A partnership with the Urban Risk Lab at the Massachusetts Institute of Technology is under discussion. Potential links to Japanese researchers and experts are being explored in this context;
- The program will support the analytical foundation MoE needs to submit structural plans to a national 'Seismic Norm Committee.' The team is currently preparing a proposal for this activity;
- The team is providing advice for the technical component of a TOR for an open bid for temporary classrooms for Peru's rainforest region (temporary classrooms are used where high risk buildings require immediate replacement).

Coordination and Partnership

- The project team is engaging the Peru-Japan Center for Seismic and Disaster Mitigation Research (CISMID), with a focus on identifying suitable retrofitting alternatives;
- The MoE is interested in organizing an international meeting of experts to discuss safe schools issues in February 2015. As agreed with the MoE's vice minister, the event will give principal role to Japan through inviting Japanese experts, JICA, and the Japanese embassy, and will ensure visibility of the program;
- Participation by Peru at WCDRR in March 2015 in Sendai, Japan, and a technical workshop on safer schools in Tokyo, co-hosted by the Hub and GFDRR;
- The MIT Urban Risk Lab has been a partner of the World Bank's program in Peru since 2013, with the goal of bringing innovation to the Safe School Infrastructure Program.
- Opportunities for collaboration with Japan will be facilitated through the DRM Tokyo Hub and the World Bank's Global Program on Safer Schools.

Next Steps

- A detailed review of the structural characteristics of Peru's school infrastructure and the seismic model will commence by late-January 2015 in collaboration with the University of Los Andes (Colombia);
- The MoE's School Infrastructure Office has requested further consultation on updating the national seismic resistance standard to include an 'incremental retrofitting' approach;
- The procurement of all consulting services will be finalized in early 2015.

HONDURAS AND NICARAGUA: Strengthening Climate Information and Early Warning Systems to Support Climate-Resilient Development in Honduras and Nicaragua

Total Grant Amount: US\$ 950,000

Approval Date: March 30, 2015

Duration: 3 years

Progress Status: Satisfactory

Direct Beneficiaries: **Honduras:** Comisión Permanente de Contingencias (COPECO) (National DRM Agency), Servicio Nacional Meteorológico (SMN) (National Meteorological Service under the management of COPECO)

Nicaragua: Sistema Nacional para la Prevención Mitigación y Atención de Desastres (SINAPRED) (National DRM Agency), Instituto Nicaragüense de Estudios Territoriales (INETER) (National Meteorological Agency), Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR) (Telecommunications Regulator)

Highlights

- The project will strengthen institutional capacity in Honduras and Nicaragua for early warning systems at the national and sub-national levels.
- Project launched in mid-2015.

Project Overview

While earthquakes are associated with the highest probable maximum loss per event, adverse hydro-meteorological events are the most frequent disasters caused by natural hazards in Honduras and Nicaragua. From 1990 to 2012, it is estimated annual economic losses from weather-related disasters (e.g. hurricanes, tropical storms, floods, and landslides) were equivalent to nearly 3 percent and 2 percent of GDP for Honduras and Nicaragua, respectively. This project will strengthen institutional capacity at the national level to support EWS for meteorological, hydrological, and climate-related hazards in Honduras and Nicaragua. It will also work to strengthen institutional capacity at the sub-national level through pilot activities in the Nicaragua Caribbean coastal and Rio San Juan regions, and the Honduras Chamalecón and Ulúa River basins.

The project in three key areas:

- (i) Governance and institutional frameworks for EWS at the national level: evaluate current data collection and management capacities, identify opportunities for improvements, and strengthen the governance and institutional frameworks for EWS at the national level in Honduras and Nicaragua, with the goal of creating a structure in which regional, municipal, and local efforts can be aligned;

- (ii) National capacity development and operational procedures improvement for EWS: strengthen national capacity on essential aspects of EWS, dependent on recommendations generated in the country assessment reports to be developed; and,
- (iii) Implementing pilot activities in the Nicaragua Caribbean coastal and Rio San Juan regions and Honduras Chamalecón and Ulúa River basins: further provide opportunity for national-level entities to understand how to implement the standardization of operational procedures nationwide, even beyond the project close.

Activities and Impact

- To address government and institutional framework issues at a national level, a consulting firm was hired in December 2015 to deliver: (a) modernization plan (one per country); (b) institutional assessment of EWS (one per country); (b) project concept notes detailing potential investment scenarios (minimum 3 per country); and, (c) stakeholder workshops.

Coordination and Partnerships

- Regional Coordination: This TA will contribute to implementing a key element of the Comprehensive Central American Disaster Risk Management Policy (Política Centroamericana de Gestión Integral del Riesgo, PCGIR), which was approved by the Council of Presidents of the Central America Integration System (SICA) in June 2010. This ambitious program calls for integrating DRM and climate adaptation into an economic, social, and environmental regional policy framework. Among prioritized activities is technical assistance to improve country capabilities to analyze risk and better prepare for emergencies through enhanced EWS.
- This TA has a strong link with DRM Hub Tokyo's Knowledge Program on Hydromet which shares Japan's experience in modernization of Hydromet services for effective early warning. The task team will be invited to knowledge exchange session with Japanese experts. In addition, the Program is coordinating the JICA investments in landslides risks in Tegucigalpa I particular, and will seek to leverage the expertise under that program.

Next Steps

- Project launch events are planned in both Nicaragua and Honduras in early February 2016.
- Once activities to strengthen governance and institutional frameworks for EWS are completed, activities to support capacity development and operational procedures, as well as planned pilot activities, are expected to advance.
- In Nicaragua, once the capacity assessment is complete the team will share results with JICA to coordinate capacity building plans; JICA is planning to support the establishment of a tsunami early warning center.

CENTRAL AMERICA: Strengthening Disaster Risk Management and Resilience of Central American Municipalities

Total Grant Amount: US\$ 1,000,000

Approval Date: August 20, 2015

Duration: 3 years

Progress Status: Satisfactory

Direct Beneficiaries: **Costa Rica:** Ministerio de Planificación Nacional y Política Económica (MIDPLAN, National Planning Agency), Comisión Nacional de Prevención de Desastres y Manejo de Emergencias (CNE, National DRM Agency)

El Salvador: Secretaría Técnica y de Planificación de la Presidencia (STPP, National Planning Agency), Dirección de Protección Civil (Civil Protection Directorate), Ministerio de Ambiente y Recursos Naturales (MARN)

Guatemala: Secretaría General de Planificación y Programación de la Presidencia (SEGEPLAN, National Planning Agency), Coordinadora Nacional para la Reducción de Desastres (CONRED, National DRM Agency)

Honduras: Secretaría Técnica de Planificación y de Cooperación Externa (STPC, National Planning Agency), Comisión Permanente de Contingencias (COPECO, National DRM Agency)

Nicaragua: Sistema Nacional para la Prevención, Mitigación, y Atención de Desastres (SINAPRED, National DRM Agency), Instituto Nicaragüense de Estudios Territoriales (INETER)

Panama: Ministerio de Vivienda y Ordenamiento Territorial (MIVIOT, National Housing and Planning Agency), Sistema Nacional de Protección Civil (SINAPROC)

Regional Organizations: Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPRENAC, Coordination Center for the Prevention of Natural Disasters in Central America), Secretaría de la Integración Social Centroamericana (SISCA / CCVAH, Secretariat acting for the Central American Council for Housing and Human Settlements)

Highlights

- The project will contribute to a better understanding of the challenges in strengthening disaster resilience of urban systems in Central America.
- Activities will be formally launched in March/April 2016.

Project Overview

In Central America, disasters have had devastating effects across multiple sectors, including transport, water and sanitation, education, and health, threatening to reverse hard-won socio-economic development gains. Between 1990 and 2008, damage and loss associated with large-scale catastrophic events in the region have been estimated to total US\$21 billion.

New this reporting period, the program will support national and local governments in six Central American countries—Costa Rica, El Salvador, Honduras, Guatemala, Nicaragua, and Panama—to better understand climate change and disaster resilience in their urban systems across multiple sectors. It will also help identify policy actions and specific investment projects that can be implemented by cities with technical or financial support from the World Bank or other development partners to further enhance resilience at the local level.

This program will work in three areas:

- (i) Reviewing relevant policy, institutional, and regulatory frameworks to shed light on roles, responsibilities, and instruments for incorporating climate change and disaster resilience considerations into urban development processes in the six Central American countries;
- (ii) Carrying out case studies in selected cities in Central America to understand how national frameworks are translated into practice at the municipal level; and
- (iii) Providing technical assistance and capacity building to national and selected local governments to improve existing institutional frameworks and instruments to enhance urban resilience.

Activities and Impact

- Drafted a systematization report on urban resilience advances in Honduras and Nicaragua, which is currently under review;
- The task team has engaged in preliminary analytical work and is seeking a firm to conduct the analysis, “Understanding Urban Resilience and Identifying Priority Actions and Investments in Central America.”

Coordination and Partnerships

- Cross-country coordination: Given the regional approach, planned activities will be coordinated with a number of actors across the six countries, leveraging relevant existing regional fora and organizations for the proposed activities. The task team will also closely coordinate with other ongoing regional activities under the Programmatic Approach for Enhancing DRM in Central America and the Central America Urbanization Review.
- Inter-institutional and cross-sectoral collaboration: Given the multi-faceted nature of resilience building, TA will enhance collaboration among stakeholders from multiple institutions and sectors in these countries, including local communities and the private sector.
- To foster this, the team will incorporate workshops over the three years of project implementation to create a space for bringing together relevant stakeholders and engaging them in the activities. The team also plans to undertake extensive outreach efforts and approach key stakeholders individually to ensure their participation in the workshops.
- The team will engage with JICA colleagues in Central America on missions, as well as engage Japanese technical expertise, as appropriate.
- The TA aims to foster knowledge exchange partnerships among municipalities in Central America and Japan. Particularly, Japan’s experience on community based DRM, and communication and coordination mechanism across different stakeholder groups are core interests of the clients.

Next Steps

- Contract a firm for analysis on, “Understanding Urban Resilience and Identifying Priority Actions and Investments in Central America.”
- Implementation mission in February 2016, during which local JICA missions will be consulted;
- Formally launch the Central America urban resilience program in March/April 2016 with the

dissemination of the Central America Urbanization Review.

EL SALVADOR: Mainstreaming Disaster Risk Management in El Salvador's Education Sector

Total Grant Amount:	US\$ 1,040,000
Approval Date:	August 20, 2015
Duration:	1.5 years
Progress Status:	Satisfactory
Direct Beneficiaries:	Ministry of Education (MoE), Ministry of Environment and Natural Resources (MARN)

Highlights

- This project will support the Government of El Salvador in mainstreaming DRM in the regulation, planning, designing, construction, and management of school infrastructure, and support the national education sector development plan.
- The project was approved in August 2015 and has initiated its work planning, in partnership with the Ministry of Education and the Ministry of Environment and Natural Resources.

Project Overview

This project will support the Government of El Salvador in mainstreaming DRM in the regulation, planning, designing, construction, and management of school infrastructure, and support the national education sector development plan. Specifically, the project aims to:

- (i) Improve and complete the existing Census of School Infrastructure with structural and functional indicators to support the existing school infrastructure inventory nationwide;
- (ii) Conduct a diagnosis of school infrastructure regulations, planning, design, and construction framework to identify drawbacks and improvement needs;
- (iii) Conduct a diagnosis of the financial environments and drivers that determine the characteristics and construction quality of school facilities;
- (iv) Conduct a probabilistic seismic risk assessment of school facilities nationwide, and assess the risk of flooding and landslides in a pilot area;
- (v) Support formulating a risk mitigation program for school infrastructure in the short-, medium- and long-terms;
- (vi) Enhance the institutional capacity of the Ministry of Education (MoE) and the Ministry of Environment and Natural Resources (MARN) on DRM to enable them to generate, understand, and use risk information in decision-making.

Activities and Impact

- It has been agreed the MoE ministry will lead the school infrastructure component of the project, and technical teams will begin work as soon as baseline information is established;
- It has been agreed the MARN will lead the disaster risk assessment aspect of the project;
- Technical teams at the MoE and MARN have been established to analyze existing exposure data and plan the nationwide survey of school infrastructure. Draft TORS have been prepared for consultants who will provide technical support to the MoE and MARN;
- The project has held multiple trainings.

Coordination and Partnerships

- This TA builds on a previous cross-sectoral DRM project, financed by the World Bank and GFDRR, which was led by MARN with participation from the MoE and MoH. The project including many stakeholders and was a probabilistic seismic risk assessment of the education, health, and government building infrastructure in the San Salvador Metropolitan Area.
- This TA will enhance inter-agency coordination, in particular between MARN and the MoE. The task team will support the MoE in creating an inter-agency coordinating committee, working closely with MARN to facilitate access to geographic and natural hazard data and information, and supporting the MoE in the planning and coordination of the school infrastructure inventory.
- The TA would benefit from the DRM Hub Tokyo's Knowledge Program on Safer Schools that capture Japanese experience of nation-wide school retrofitting program against seismic risks. The task team is engaged in the review of the knowledge product that would be shared with the client later in 2016.

Next Steps

- MARN will begin preparing a short-term vulnerability reduction program based on the results of a previous Technical Assistance Project.
- For the school infrastructure baseline, there will be a revision of existing information; preparing survey methodology and tools, and a surveying of school infrastructure nationwide, completed by the end of October 2016.
- A firm will be hired to develop an app by the end of April 2016 that will contain an electronic version of the school infrastructure survey forms, allowing data gathered in the field by the survey teams using a mobile device to be uploaded to a platform established at the MoE and MARN.
- Trainings and analytical products will be developed and executed at a later stage of the project, according to the project work plan.
- Within the project area on school infrastructure planning, design, construction, retrofitting and maintenance framework, focus will be on diagnosing and identifying improvements needed in standards, technologies and practices, and management process. This includes:
 - Proposal for improving national regulations and MoE's provisions of school infrastructure management by the end of June 2016;
 - Proposal for improving construction technologies and practices by the end of October 2016
 - A diagnosis of the school infrastructure managing process in El Salvador by the end of June 2016
- To support disaster risk assessments work will include:
 - Conducting a probabilistic seismic risk assessment of school facilities nationwide (except 20 percent of the portfolio of the San Salvador Metropolitan Area assessed in 2012)
 - Assessing the risk of flooding and landslides of school infrastructure located in a pilot area,

serving as an example for future studies in another areas;

- By end of 2016, estimating damage and economic losses in school infrastructure nationwide from earthquake events;
- By end of 2016 Estimating damage and economic losses in school infrastructure located in a pilot area from floods and landslides;
- By end of 2016, identifying the most critical school facilities;
- To build the institutional capacity of the MoE and MARN, key steps will be to:
 - By the end of 2016, develop an integrated database for managing exposure and risk data to be available at both the MoE and MARN.
 - By September 2016, organize a workshop on the school management framework.

MIDDLE EAST AND NORTH AFRICA REGION

EGYPT: Strengthening Disaster Risk Management (DRM) in Egypt

Total Grant Amount:	US\$ 500,000
Approval Date:	October 01, 2014
Duration:	2 years
Progress Status:	Unsatisfactory (see Table A2)
Direct Beneficiaries:	Information and Decision Support Center of the Egyptian Cabinet of Ministers (IDSC)

Highlights

- The project will help Egypt build capacity for DRM, and establish critical foundations for an improved early warning system.
- The program is in progress to deliver an updated national DRM strategy, tsunami preparedness plan, multi-hazard early warning system design, and provide a series of training events to all DRM sector stakeholders.

Project Overview

A coastal nation, Egypt is vulnerable to significant hydromet and climatic events, particularly flooding and drought. Though a flash flood warning system is in place, the project will support strengthening institutional frameworks, infrastructure, and the capacity of national agencies and communities to respond to hazards.

This project is focused on five key areas:

- Review Egypt's Disaster Risk Reduction and Management Strategy: Support reviewing Egypt's DRM strategy by providing analysis of policy frameworks, legal provisions, and institutional structures;
- Development of a Multi-hazard Early Warning System (MHEWS): Support the design of a MHEWS that will be used to provide timely alerts and help trigger effective emergency response in case of an emergency;
- Provision of DRM, training: Primarily provide a DaLA training and EWS to national and local institutions. A national workshop on disaster risk financing will be convened to introduce the subject to the government as well;
- Support on tsunami preparedness for the Egyptian Mediterranean coastal areas: Develop a plan of action and basic framework to managed hazards resulting from possible tsunamis in the Mediterranean;
- Field Visits: Organize field visits for IDSC counterparts to strengthen their DRM capacity by learning from the Japan's experience in establishing and managing central operations units.

Activities and Impact

- The program has begun work on updating Egypt's National DRM Strategy. A mission was held in February 2015 and an international consultant was mobilized to develop the updated Strategy. Outcomes include an annotated outline of the National DRM Strategy that was presented and agreed with the counterpart. Progress has been slower than predicted due to numerous changes in leadership for the activity.

Coordination and Partnership

- The task team has reached out to a number of renowned Japanese experts to provide the program expertise for: (a) developing a tsunami preparedness plan; (b) design a MHEWS; and, (c) capacity building activities in conducting post-disaster needs assessments (PDNAs), DaLAs, DRFI etc. The activities planned for the coming months will continue to seek and use the expertise of the identified experts.

Next Steps

- The grant has recently been extended based on the request of the government. The team will develop a revised action plan by February 2016, with the main counterpart of the program, IDSC and the cabinet of ministers of the Government of Egypt.
- Outputs planned delivery this calendar year (CY) include:
 - A national DRM strategy
 - Capacity building program
 - Study tours to Japanese and Hawaiian emergency operations centers
- Drafting the tsunami preparedness plan and designing the MHEWS are expected to take place during CY2016.
- Implementation details, including deadlines and planned missions, will be determined with the IDSC as part of developing the revised action plan.

MIDDLE EAST AND NORTH AFRICA REGION: Women for Resilience (W4R)/ Global Resilience Investment Fund (GRIF)

Total Grant Amount:	US\$ 1,800,000
Approval Date:	January 15, 2016
Duration:	1 year
Progress Status:	Satisfactory (see Table A2)
Direct Beneficiaries:	Institutional investors, private foundations, fund managers, governments and IFIs for GRIF and Labor ministries, DRM centers, stakeholders (e.g. Beirut DRM Unit under PM office), municipalities in targeted cities, Center for Mediterranean Integration (CMI), Anima, IE Business School, Georgetown University for W4R

Highlights

- The Global Resilience Investment Fund (GRIF) was approved in early 2016.
- GRIF builds on the success of the Women for Resilience Program (W4R), which aims at empowering women to address urban risk and develop innovative resilience solutions in cities across the Middle East and North Africa (MNA) through a piloted startup competition in Beirut, Cairo, and Djibouti.
- GRIF will serve as a financing vehicle for W4R, as well as for other resilience solutions.

Project Overview

The Global Resilience Investment Fund (GRIF), a new project this implementing period, will contribute to increased climate and natural hazard resilience by mobilizing resources from global private equity and debt funds for financing resilience investments. It will support: i) small and medium enterprises (SMEs), including those resulting from business model competitions such as the Women for Resilience (W4R); and, ii) infrastructure Public Private Partnerships (PPPs) in emerging markets and developing economies.

This program will primarily focus in two areas: (a) building on the Women for Resilience (W4R) Program to fund and run SMEs in the resilience value chain; and (b) supporting a feasibility study focused on 10 cities in Japan, Lebanon, Jordan and Egypt that are exposed to climate disasters.

Launched by the World Bank in January 2015 with support from GFDRR and other partners, W4R piloted a startup competition in three cities in MNA—Beirut, Cairo, and Djibouti. More than two hundred teams, including women and men, presented start-up proposals, with three female-led teams awarded funding support September 2015, in Marseille, France during the Grand Finale event. The winners were a social venture that provides resilient and affordable housing units in Cairo; a digital health platform from Beirut; and a Cairo-based crowdsourcing public transportation mobile application.

Expanding on the success of the first phase (W4R) of this competition, phase II, GRIF, will be funded under this grant's technical assistance. It launched in February 2016 in more than five cities in the region.

Activities and Impact

- The planning phase of this newly approved project has been completed. See “Next Steps” for additional information.

Coordination and Partnerships

- This project engages a broad set of unique constituencies, including of female entrepreneurs, investors, private foundations, governments, DRM agencies, and regional institutions. Also technical supports will continued to be provided by academic institutions such as IE Business School and Georgetown University.
- The program will include at least three Japanese cities serving as case studies in strengthening resilience, with the goal of building ties between cities in MNA and Japan working on creative ways to respond to natural hazards (e.g. Sendai).
- The W4R competition is identifying Japanese women leaders from business and social enterprise with the goal of learning from and sharing their experiences.
- GRIF will be marketed to international private equity and debt funds, including infrastructure equity and debt funds, venture capital and private equity and debt funds, as well as international financial institutions, multilateral and bilateral donors and private foundations as limited partners (LPs).

Next Steps

- A new task team leader is in place and will submit an implementation plan shortly.
- A mission by the TTL to Tokyo in May 2016 will explore engagement opportunities with Japanese stakeholders.

SOUTH ASIA REGION

INDIA: Improving Service Delivery of DRM in India

Total Grant Amount:	US\$ 2,000,000
Approval Date:	December 08, 2014
Duration:	36 months
Progress Status:	Satisfactory
Direct Beneficiaries:	National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA) in Uttarakhand, Odisha, Tamil Nadu, Maharashtra, Kerala, Andhra Pradesh, and Gujarat

Highlights

- Through conducting a workshop, a study tour, and disseminating informational brochures, the project has already made significant progress across its three core priorities, helping to initiate activities that strengthen DRM capacity and awareness of India's National Disaster Management Authority (NDMA) and State Disaster Management Authorities (SDMAs), as well as improve DRM service delivery.
- Knowledge exchanges are spreading best practices and sharing new innovative approaches to DRM. These exchanges are informing new government risk reduction policies and strategies. In addition these activities are complement through the dissemination of knowledge products, which together are increasing client capacities.

Project Overview

This project will enhance resilience and improve DRM service delivery by building and expanding institutional capacity to assess and improve the quality of resilient infrastructure, enhance analytical understanding of risk, and develop investment long-term resilience plans. It will do so through developing technical assistance programs and investment plans at the state-level; capacity building activities targeting national, state, and local officials, and community leaders; and disseminating products and knowledge exchanges with Japanese experts and counterparts.

The project has three main priorities:

- (i) Assessing infrastructure resilience through undertaking an infrastructure design assessments in five critical areas in Uttarakhand where landslides are recurrent, and supporting development of a flood master plan for the Kosi River embankment system;
- (ii) Enhancing analytical understanding on multi-hazard risks, through strengthening the understanding of government officials on disaster risk and planning options, as well as integrating multi-hazard risk assessment considerations into state development planning; and,

- (iii) Raising awareness and building institutional capacity at the national, state, and local levels, by strengthening government DRM systems to produce necessary information, and improving community capacity of to respond effectively.

Activities and Impact

- The project conducted three study tours to Japan, and workshops with the Japan Water Authority have helped to pass along Japanese best practices directly to Indian DRM institutions and stakeholders, particularly on hydro-dam resilience. Furthermore, engagement and implementation support from the Hub continues to strengthen knowledge exchange between Japan and India.
- The “International Symposium on Tackling the Challenges of Slope Stabilization and Landslide Prevention,” held from April 27-29, 2015, was co-sponsored by the Hub and JICA. 36 experts from Bhutan, Colombia, India, Japan, and Switzerland participated and discussed appropriate approaches for slope stabilization and landslide prevention among various approaches.

Coordination and Partnerships

- The NDMA and SDMAs in the Indian states of Uttarakhand, Odisha, Tamil Nadu, Maharashtra, Kerala, Andhra Pradesh, and Gujarat are recipients of project activities and the beneficiaries of capacity development initiatives. They also play an active role in facilitating the assessment and analysis of multi-hazard risks in India. The International Centre for Water Hazard Risk Management will support the flood management departments at the state-level in developing flood controls and implementation to prepare flood risk management system for selected basins of India. The Japan Water Authority plays an advisory role in sharing expertise and knowledge of Japanese best practices.
- JICA and the Asian Development Bank are active development partners in the region and in India, and the project will engage both to coordinate activities, and leverage existing engagements and expertise on resilient housing policies and slope stabilization. The project will also benefit from the Hub’s ongoing activities to mainstreaming DRM into road sector.

Next Steps for 2016:

- An international workshop on slope stabilization will be organized in Uttarakhand jointly with GoI, ADB, JICA and the Bank in early 2015 to launch the project.
- A fifth and final exchange with Japan Water agency is scheduled to take place during the third week of May.

SOUTH ASIA REGION: Promotion of Resilient Infrastructure

Total Grant Amount:	US\$ 1,000,000
Approval Date:	October 1, 2014
Duration:	18 months
Progress Status:	Satisfactory
Direct Beneficiaries:	Bhutan Department of Roads; Dhaka Wasa Water and Sanitation Authority; Chittagong Water and Sewerage Authority, Afghanistan Ministry of Agriculture, and Nepal Ministry of Energy.

Highlights

- The project aims to help governments in South Asia enhance their DRM capacity by developing innovative approaches and solutions to resilient infrastructure, and informing DRM policy and strategy dialogues.
- Project implementation has supported improvement in understanding of how natural hazards can and must be taken into account across the lifetime of an infrastructure investment, meeting one of the outcome indicators: Improved generation or communication of disaster risk information.
- Progress on risk information has most significantly enhanced asset management systems in Bhutan. This has also been done in the region through supporting a sediment yield study in the Kosi River Basin to inform the design and decision-making for new dam development; improved construction of irrigation infrastructure in Afghanistan; and, in Bangladesh, business continuity plans for the public water utility authority in Chittagong and an assessment to measure resilience of storm-water drainage investments in Dhaka.

Project Overview

This project's primary goal is to help governments in South Asia reduce disaster risk in priority infrastructure sectors, with an initial focus on energy, agriculture, transport and water. The project will achieve this by undertaking a technical assistance program to support World Bank project managers and their clients in priority sectors to ensure that specific infrastructure investments incorporate measures to manage the impacts of natural hazard risk. The project works in five areas:

- (i) Improving location and design of new hydropower investments in Nepal and India by better understanding climate change and disaster risks, and supporting vulnerability assessments;
- (ii) Integrating DRM into agriculture and irrigation in Afghanistan by supporting the Ministry of Energy and Water (MEW) to improve its capacity to increase resilience to flood events through optimizing technical designs for irrigation facilities and addressing river bank erosion;
- (iii) Improving the resilience and affordability of roads and bridges in Bhutan through supporting the country's Department of Roads (DOR) to improve planning for maintenance investments that better manage transport infrastructure vulnerability;
- (iv) Improving the disaster resilience of water supply systems in Bangladesh, which will incrementally improve business continuity planning for Dhaka and Chittagong's public water utilities; and,

- (v) Providing training and technology transfer to share best practices for the integration of disaster risk into infrastructure development through the Hub and GFDRR to infrastructure teams in South Asia.

Activities and Impact

- The World Bank has recruited a team of flood management experts from both internationally and nationally who are in close liaison with Afghanistan's Ministry of Agriculture, Irrigation and Livestock, and the Ministry of Energy and Water. The team has collected detailed information on the damages from the 2014 floods to irrigation facilities and river bank erosion, and carried out its first analysis.
- In Bangladesh, the task team, in close collaboration with the Hub, conducted a knowledge sharing event among stakeholders from Tokyo, Manila, and Chittagong that took place in Manila related to business continuity planning in water utilities and covered risk management, contingency planning and incident management. The event also benefitted from JICA's participation, who assist Chittagong Water and Sewage Authority through institutional capacity building.

Coordination and Partnerships

- In Bhutan, two members of the DoR were seconded to Japan for a month-long training conducted by JICA to better understand road vulnerability assessments and maintenance systems. They have returned to Bhutan and are presenting what they learned to other DOR engineers. The DoR has also agreed with the Bank to implement at least one initiative using a new technology or methodological approach learned about through this exchange during the next year.
- In Afghanistan, the planned works will be carried out in close collaboration with the Afghanistan Civil Engineers' Association, as well as the concerned ministries to maximize impact and dissemination; upon completion of grant-funded activities, outputs will be transferred to the Bank-financed Irrigation Restoration and Development Project for implementation on the ground.

Next Steps

- In Tokyo, in September 2016, a planned event will showcase work in these four countries to improve infrastructure resilience across the lifetime of assets. It will also serve as the launch of a global program to improve the infrastructure resilience, based on these four case studies.
- In Afghanistan, project implementation was disrupted for about six months due to the security situation. Activities resumed in early 2016 and the following are expected to be completed by June 2016: (a) preparation of the conceptual engineering design and operational procedures to improve flood resilience for small and large irrigation schemes, (b) identification of the critical areas for river bank protection, and (c) development of a framework for the River Bank Protection Plan for Panju-Amu River.

AFGHANISTAN: Strengthening Early Warning and DRM Capacity in Afghanistan

Total Grant Amount:	US\$ 2,500,000
Approval Date:	March 27, 2015
Duration:	2.5 years
Progress Status:	Satisfactory
Direct Beneficiaries:	Ministry of Rural Rehabilitation and Development, Ministry of Education and Ministry of Energy and Water, Afghanistan National Disaster Management Authority (ANDMA)

Highlights

- The objective of this project is to provide technical assistance and training in the areas of risk assessment, early warning systems, and institutional capacity in priority ministries.
- The Bank agreed with the Afghanistan National Disaster Management Authority (ANDMA) to focus support on: a) developing a strategic framework for the ministry in close collaboration with donors and partners; b) providing capacity building support to the ministry; and, (c) implementing the Capacity Building for Results program.

Project Overview

Afghanistan is a highly vulnerable country, prone to a number of natural hazards, including earthquakes, flooding, drought, landslides, and avalanches. Analysis shows of events from 1970 to 2012, shows earthquakes caused the highest loss of life, while drought affected the most people, and flooding caused the most economic damage.

Through this project, technical assistance will help strengthen the Government of Afghanistan's basic disaster prevention-capacity to effectively plan for, and respond to, natural disasters. It will provide assistance and training in risk assessment, early warning systems, and institutional capacity in priority ministries. The project is focused on four primary areas:

- (i) Financing a comprehensive multi-peril risk assessment at the national level, including in depth assessments for selected areas;
- (ii) Strengthening EWS to address the existing gap in generating early warning information and disseminating it to the potentially affected communities in a timely manner;
- (iii) Institutional capacity building through: a) developing an institutional mapping and capacity assessment for DRM; b) defining a roadmap for institutional organization for DRM; and, c) training and capacity building activities; and,
- (iv) Pilot mainstreaming DRM in the World Bank's portfolio in Afghanistan to inform a framework to build resilience and reduce vulnerabilities in projects.

Activities and Impact

- Work on a multi-peril risk assessment started in the summer of 2015. A consortium led by Deltares has been awarded an 800k contract. The first draft is expected by April 2016. A local consultancy AIMS is the consortium's Afghan partner and is focusing on data collection and preparation the geo-node platform for data sharing;
- Work to strengthen EWS started with a scoping mission in November 2015; consultants will be hired in early of 2016;
- Support for institutional strengthening includes support to the new State Minister for DRM on institutional capacity building. A series of meetings have been held during the last two missions, and a TOR has been shared with partners (UNEP and UNOP). Collaboration on strengthening institutional capacities of ANDMA will start in the early 2016.

Coordination and Partnerships

- The team has been consulting all relevant partners and is very active in the DRM donor group chaired by Afghanistan's Minister of State for DRM. The project closely interacts with governmental line entities, UN agencies (most prominently with UNOPS and UNEP), and local and international NGOs. The team has also been consulting with development partners (e.g. JICA, USAID, and DFID) to enhance mutual understanding.
- In January, June, and November 2015, donors meetings were organized at the Bank on risk assessments and EWS. This includes a meeting in November to convene all donors working with ANDMA after the earthquake, and agree on a common strategy to support the government.
- A Hub mission to the project in November 2015 established a strong alignment between JICA support to the Ministry of Energy and Water and the Hub's own inputs for optimizing national hydrological and meteorological services in the country. The program will build on this complementarity and seek to leverage the significant efforts of JICA experts in modernizing the management of hydrological data in particular. In addition, the Embassy of Japan, Afghanistan requested the Hub-supported program to work hand-in-hand with Japanese support to IOM on the national risk assessment to be conducted under the Country Program. JICA and embassy supported experts will be invited to participate as possible in events and engagements on our program. Travel of Japanese staff/consultants is significantly restricted at this time.

Next Steps

- The program will define focus areas for in depth analysis and produce a first draft of the risk assessment by June 2016;
- The Bank team will finalize a ToR and select a consulting firm to develop a roadmap for strengthening EWS and hydromet services by May 2016;
- A TOR has been agreed upon with partners and clients to support institutional capacity within ANDMA. The Bank team will deliver a draft strategic framework by July 2016.

NEPAL: Disaster-Linked Social Assistance Delivery Support System Development in Nepal

Total Grant Amount:	US\$ 1,500,000
Approval Date:	August 20, 2015
Duration:	24 months
Progress Status:	Satisfactory
Direct Beneficiaries:	National Planning Commission (NPC), Ministry of Home Affairs (MoHA), Ministry of Urban Development (MoUD), Ministry of Federal Affairs and Local Development (MoFALD), Department of Urban Development Building Construction (DUDBC)

Highlights

- A new project developed in response to two high magnitude earthquakes in April and May 2015, technical assistance through this grant will develop a platform for a disaster-responsive safety net system needed to design and deliver a large-scale housing reconstruction project. Financed in parallel by JICA and the World Bank's Nepal Reconstruction multi-donor trust fund (MDTF), the system will perform as delivery platform for long-term social protection services in Nepal.
- The immediate beneficiaries of this project will be the households affected by the 2015 earthquake. Additionally, the entire population could benefit under regular social protection service delivery or future disaster recovery and reconstruction.

Project Overview

In April and May 2015, two high magnitude earthquakes rocked Nepal's Kathmandu Valley, claiming over 8,800 lives. According to a PDNA supported by GFDRR, the World Bank, JICA, and other partners, damages were US\$5.15 billion, losses at US\$1.9 billion, and recovery needs at US\$6.7 billion, with housing as the most significantly impacted sector.

As part of the earthquake reconstruction and recovery efforts, this project occurs during a unique window to strengthen the Government of Nepal's disaster preparedness and future capacity to deliver emergency assistance to vulnerable households. This project will work in two areas:

- (i) Reviewing existing management information systems (MIS), and develop a more robust system to support large-scale assistance delivery for ongoing recovery and reconstruction, as well as the foundation for a disaster-linked social protection system that could be triggered for more efficient future disaster responses;
- (ii) Launching an initial post-disaster Assistance Delivery System in prioritized districts to verify designed survey methodology and feed into the MIS to expedite beneficiary identification and the assistance delivery process.

Activities conducted

- Following preparatory activities, a survey to identify potential beneficiaries for post-disaster housing reconstruction assistance launched in 2015. UNOPS has been contracted to conduct the survey;
- As of early January 2016, 1,056 teams have been trained in executing the survey, and 95,992 households have been surveyed in the first district;
- Progress has been made on developing the MIS system.

Coordination and Partnerships

- The survey is being designed and executed in close partnership with JICA's offices in Tokyo and Kathmandu. The JICA program of housing reconstruction in Nepal is a parallel financing program to the Bank's housing program, and both programs, totaling US\$300 million combined, will use this survey and system as a foundation for the housing reconstruction program and disaster-responsive safety net system;
- Under the umbrella of a single platform guided by the Government of Nepal, this TA is closely coordinating with UNOPS, JICA, and USAID.

Next Steps

- In the next three months, 900,000 more households will be surveyed for building damage and socioeconomic status, with damage data defining eligibility for the housing reconstruction subsidy, and socioeconomic data serving as a foundation for the targeting system for a disaster-responsive safety net.
- The surveyed data will be updated in the MoFALD MIS. This efforts will build the disaster responsive safety net targeting platform.
- A joint project for housing reconstruction project with JICA, USAID, and other donors will be launched in 2016.

BHUTAN: Bhutan Weather, Disaster, and Climate Services Improvement project

Total Grant Amount:	US\$ 2,300,000
Approval Date:	July 1, 2015
Duration:	48 months
Progress Status:	Unsatisfactory (see Table A2)
Direct Beneficiaries:	Department of Hydromet Services and Department of Geology and Mines under the Ministry of Economic Affairs, Department of Disaster Management under the Ministry of Home & Cultural Affairs, Department of Agriculture under the Ministry of Agriculture and Forest

Highlights

- The project will strengthen the capacity of the Government of Bhutan to improve weather, DRM, and climate services.
- The project was approved in mid-2015, and activities will begin in early 2016.

Project Overview

The project will strengthen the capacity of the Government of Bhutan to improve weather, DRM, and climate services. It will work in four main areas:

- Fund gaps in Bhutan's existing monitoring, forecasting, and disaster-related early warning systems, as well as strengthen disaster-related early warning systems building on ongoing support provided by UNDP and JICA.
- Strengthen the dzongkhag service delivery by designing a hydromet decision support system, generating pilot agromet information products, and disseminating information to one dzongkhag (district);
- Support capacity strengthening and regional collaboration, including through funding training, long-term capacity building, and helping to identify priority areas Bhutan would benefit from regional collaboration; and,
- Prepare technical reports to support the DHMS, including preparing detailed design and implementation plans for strengthening government capacity for cryosphere monitoring in Bhutan, and designing a basin-level end-to-end multi-hazard early warning system.

Activities and Impact

- Project preparation activities are underway. The project concept review was completed in late December 2015. The Project Information Document and Integrated Safeguard Data sheet were subsequently disclosed.

Coordination and Partnerships

- The project will coordinate closely with stakeholders, including through its workshops and trainings.
- This TA will seek to benefit from the DRM Hub Tokyo's Knowledge Program on Hydromet which shares Japan's experience in modernization of Hydromet services for effective early warning. The task team will be invited to knowledge exchange session with Japanese experts.

Next Steps

- Upon the World Bank's approval of this project the Task Team will sign the grant agreement with the government to launch implementing the grant activities.

Table A2: Risk Mitigation in Project Portfolio

Eleven activate grants are flagged as low disbursing (disbursement rate of less than 20 percent).⁸ Of these, five are less than six months since the date of approval. The remaining six have been subject to a variety of internal and external limiting factors and performance review, described below. One grant to Yemen was cancelled as a result of restrictions on World Bank operations in light of the declining political and security situation in the country (not included below).

Project	Issue	Remedial Action
Strengthening DRM in Egypt Project –GFDRR	Government counterparts have reconsidered priorities.	Dialogue with the government re-started; renewed agreement to implement as originally planned.
Building Resilience in Turkey	Refugee crisis has taken full attention of previous counterpart (AFAD).	Project has been restructured to align with World Bank investment priorities, alongside readiness and wishes of government counterparts. Update shared and cleared with MoF Japan.
Improving service delivery of DRM in India	Support to investment portfolio is conducted in small disbursing contracts over a longer timeframe (largely specialist individuals working on mainstreaming in investment programs).	Pending scale up of support to the Government of Uttarakhand; technical assistance to the Bihar Kosi Flood Recovery Project will commence.
Strengthening Flood Management in White Volta Basin	Delays in identifying contractor for Oti River flood hazard assessment.	Procurement to complete in February.
Developing Strategic Plans for Disaster Risk Financing, Risk Reduction and Hydro-met Services in Southeast Asia	Good progress on risk financing component, but delays inactivating hydromet component.	Engaging a consultant before the end of 2015-16 to develop investment and procurement plans to be financed by upcoming World Bank loans in Myanmar, Cambodia, and Laos and will continue close coordination with JICA on this to ensure complementary engagements; Developing a Work Plan on promoting regional cooperation.
Bhutan Weather and Disaster Resilience	Delay in board approval of accompanying RE investment project.	The project is now approved by the Board and the grant is activated after a delay.

⁸ Disbursement rate is actual disbursements plus contractual commitments

Annex 3: Knowledge Program Profiles

Roads, Landslides, and DRM

Program Theme:	Resilient Infrastructure
Grant Amount:	US\$400,000
World Bank Counterparts:	Transport & ICT Global Practice (GTIDR), GSURR, GCCDR

Context

Though landslides occur naturally, they can also be influenced by human causes, such as ill-conceived development and settlement in high-risk areas. In many developing countries, road construction in river basins and mountainous areas can cause landslides and lead to erosion and sedimentation.

Mountainous areas make up 70 percent of the land in Japan, making the country highly susceptible to sediment-related disasters caused by typhoons, torrential rain, and earthquakes. Through centuries of managing these hazards, Japan has gained extensive expertise in this area and developed a series of technologies and practices, known as “*sabo*.” The term signifies an integrated approach to “erosion control work in upstream areas,” and was accepted at the General Assembly of International Association of Hydrological Sciences in 1951.

Project Overview

The Hub’s *Roads, Landslides, and DRM* engagement helps build a knowledge base on landslides and practical interventions in developing countries by taking stock of the hazards faced and solutions applied in Japan, and matching these approaches—while understanding their constraints—to local contexts.

Expected Outcome

Enhanced geohazard management for new and existing roads throughout the planning, design, construction, rehabilitation, operation, and maintenance stages.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> ■ Stock-take of structural and non-structural geohazard management practices adopted in Japan, including risk assessments, preparedness, early warning, engineering measures, and institutional frameworks; ■ Compile country-specific case studies to help implement these examples in developing countries; ■ Develop a “self-assessment” toolkit to determine suitable step-by-step options for structural and non-structural interventions (e.g., geohazard mapping and risk assessment, evacuation and early warning system, slope protection); ■ Develop an operational manual for designing both structural and non-structural risk reduction measures, including sample TORs for designing disaster-resilient road networks.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> ■ Conduct a capacity building workshop by hosting delegates from developing countries in Japan; ■ Produce a video to share and disseminate Japanese <i>sabo</i> technology and best practices; ■ Conduct a workshop that includes targeted developing countries and the World Bank’s practitioners to connect them with Japanese expertise.

Completed Activities

- Conducted a technical roundtable on *Roads, Landslides, and DRM* with MLIT, transport specialists from the World Bank, and engineering consultants to gain feedback on the toolkit's structure and contents in August 2015;
- Conducted a case study on Japanese experience and lessons learned, and developed a toolkit for road geohazard management, including operation manuals and sample TORs for engineering studies in March 2016;
- Produced a video on Japanese *sabo* technology and that was disseminated to practitioners in cooperation with MLIT, Hiroshima Prefecture, Yamanashi Prefecture, Hiroshima City, Minami-Alps City, Totsukawa Village of Nara Prefecture, West Nippon Expressway Company (NEXCO), and Obayashi Construction in August 2015.

Coordination and Partnerships

- MLIT
- International Sabo Association
- Sabo and Landslide Technical Center

Related Country Program Projects

- South Asia: Promotion of Resilient Infrastructure;
- Developing Strategic Plans for Financial Protection Mechanisms, Disaster Risk Management Investments and Hydro-Meteorological Services in Southeast Asia;
- Innovation in DRM Decision Making in Brazil;
- Strengthening disaster risk management and resilience of Central American municipalities;
- Establishing Critical Risk Information, a Roadmap for Early Warning and DRM Capacity in Key Sectors in Afghanistan.

Next Steps

- Field test a road geohazard management toolkit in projects supported by the World Bank;
- Develop an e-learning and training program on road geohazard management;
- Organize a South-South workshop, and launch the toolkit and e-learning program.

Integrating Japan's Experience into the Global Program for Safer Schools

Program Theme:	Resilient Infrastructure
Grant Amount:	US\$300,000
World Bank Counterpart:	GSURR, GCCDR

Context

Each year, natural disasters have devastating effects on children's education in developing countries. The 2015 earthquakes in Nepal caused the total or partial collapse of more than 2,000 schools and damaged over 5,000 schools, while another 7,400 schools in China were destroyed in the 2008 Wenchuan earthquake. The 2010 Port-au-Prince earthquake in Haiti devastated 1,350 schools.

These setbacks to educating children and keeping them safe while in school are not inevitable. Faced with significant seismic risk, over the last decade Japan has advanced on a large-scale public school facility retrofitting program. As a result, the country will have made nearly 100 percent of public school buildings seismic resilient by the end of 2016.

Project Overview

The Hub's Safer Schools engagement is helping connect Japan's experience and technical knowledge with the World Bank's Global Program for Safer Schools to make school facilities, and the communities they serve, more resilient to natural hazards. In particular, the program is documenting how Japan's Ministry of Finance and Ministry of Education have worked together to prioritize investments that protect children and the places they learn.

Expected Outcomes

Promote mainstreaming DRM into education investment projects financed by the World Bank, governments, and other development partners.

Component	Outputs
Knowledge Development	■ Document and share experiences and lessons learned on school safety in Japan
Knowledge Exchange and Dissemination	■ Organize a workshop or knowledge exchange event to highlight Japan, international experience, and lessons learned on safer schools (e.g. Peru, the Philippines, and El Salvador)

Completed Activities

- Organized a technical roundtable, "Review of Japanese National School Retrofitting Program and Lessons for Developing Countries," in January 2016 with participation from Japanese experts from MLIT and JICA;
- Hired a consultant to conduct a case study on Japan.

Coordination and Partnerships

- Ministry of Education, Culture, Sports, Science and Technology (MEXT)
- Ministry of Land, Infrastructure, Transport and Tourism (MLIT)
- Japan International Cooperation Agency (JICA)

Related Country Program Projects

- Mainstreaming Disaster Risk Management in Peru's Education Sector;
- Enabling Scaled up Risk Reduction Investments in the Philippines;
- Mainstreaming Disaster Risk Management in El Salvador's Education Sector ;
- Building Resilience in Turkey;

Next Steps

- A validation workshop with Japanese experts–April 2016;
- Complete a Japan case study–May 2016.

Building Regulation for Resilience

Program Theme: Resilient Cities

Grant Amount: US\$300,000

World Bank Counterparts: GCCDR, GSURR

Context

Urbanization is occurring at a rapid rate across the developing world, with 90 percent of urban growth through 2050 expected in Africa and Asia. However, building codes and regulations not well suited to risk from natural hazards and the materials and practices currently used, put expected development gains from urbanization at substantial risk.

Japan has an extensive history of devastating earthquakes, and one of the world's most compelling experiences over a century in developing effective building codes, land use planning, and governance systems that significantly help make it one of the most resilient in the world. The country first explicitly addressed seismic risk in 1919 with its Building Standard Law, which was quickly followed by ongoing innovations in creating, managing, and enforcing permitting systems. Nearly 100 years on, Japan continues to innovate in both design and regulatory approach, showing dynamic incremental improvements can help drive disaster risk reduction.

Project Overview

Building Regulation for Resilience is a new GFDRR knowledge initiative, building on a publication scheduled launch in April 2016, and soft-launch in Japan in March 2016. The publication suggests concrete steps for government officials and development partners to improve building resilience through regulatory frameworks and implementation mechanisms. These suggested steps will be implemented through the GFDRR MDTF and the Japan Program in selected countries.

The Hub's *Resilient Building Regulation* engagement will capture relevant Japanese expertise, particularly how the country improved building regulation compliance rates during its high economic growth period in the 1960-80s when its building supply increased sharply. This experience can inform urban resilience projects in countries facing similar challenges and help accelerate implementing building regulations for disaster risk reduction.

Expected Outcome

Enhanced ability of developing countries to assess and evaluate key gaps and opportunities for improving their building codes and regulatory frameworks.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> ■ Integrate Japanese expertise into GFDRR’s building regulations capacity assessment methodology; ■ Pilot testing the methodology in two countries in coordination with the country programs; ■ Develop knowledge notes on Japan’s historical evolution of building codes and regulatory frameworks.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> ■ Produce a short video on Japan’s experience and expertise; integrate this into GFDRR’s video featuring global best practices; ■ Organize a public event to disseminate GFDRR’s publication on a building regulations capacity assessment, which includes a brief case study on Japan.

Completed Activities

- Organized a technical roundtable, “Leveraging Japanese Experience in Building Regulation for Resilience,” in January 2016, which included Japanese experts, and aimed to: (i) provide networking opportunities with Japanese technical experts; (ii) discuss the structure and contents of a Japan case study; and, (iii) identify the best experts from Japan and globally for planned activities funded under both the MDTF and the Japan Program;

Coordination and Partnerships

- MLIT
- JICA
- National Graduate Institute for Policy Studies (GRIPS), Japan

Related Country Program Projects

- Armenia National Disaster Risk Management Program;
- Enabling Scaled up Risk Reduction Investments in the Philippines;

Next Steps

- Organize a soft launch session in Japan of GFDRR’s publication, *Building Regulation for Resilience*—March 2016;
- Develop knowledge notes on the historical improvement of compliance rates to Japan’s building codes and enabled policies—2016;
- Integrate Japanese expertise into the global building regulations capacity assessment methodology GFDRR is developing—2016;
- Pilot test the methodology in two countries in coordination with the Hub’s Country Program—2017.

Learning from and Operationalizing the Japanese Experience in Comprehensive Flood Management for Reducing Urban Flood Risk

Program Theme:	Resilient Cities
Grant Amount:	US\$300,000
World Bank Counterparts:	GWADR, GSURR, GCCDR

Context

Floods pose a serious challenge for cities around the world, affecting the lives and livelihoods of millions of urban dwellers. Cities worldwide are exposed to flooding which can include regular seasonal river swelling intense rainfall flash flooding, groundwater flooding, coastal storms, and coastal erosion and subsidence. Urban flooding is becoming increasingly costly and difficult to manage, as low- and middle-income countries transition to largely urban societies, with a greater concentration of people and assets in urban centers, which are important hubs for economic activity and development.

The Urban Flooding Community of Practice (UFCOP), the global community of practice launched in Tokyo in December 2014, is managed within the World Bank and is open globally to practitioners and policymakers working on DRM, urban development, and water resources management. It serves to share knowledge/solutions for managing flood risks.

Project Overview

Learning from and Operationalizing the Japanese Experience in Comprehensive Flood Management for Reducing Urban Flood Risk aims to capture high-value Japanese experience and expertise in flood management on specific topics of high-demand from UFCOP members and client countries and ensure practical dissemination of approaches and lessons from Japan. It will take advantage of the tremendous knowledge base and experience that Japan has developed in response to its prevalent flooding hazards, and connect this expertise with developing country contexts, where flooding regularly causes loss of life and damage to property, while disrupting economic activity.

The Hub's engagement seeks to engage relevant Japanese expertise and capture how Japan has adapted and currently applies river basin management approaches to reduce flood risk. Rapid urbanization, particularly in areas below known flood levels, and proximity to water hazards has necessitated innovative/evolving approaches that include both "hard"/"soft" measures, mark clear responsibilities between levels of government, and recognize importance of river basin systems.

Expected Outcome

- Enhanced ability of developing countries to identify and implement options for comprehensive flood risk management.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> ■ Develop 3-5 knowledge notes on Japan’s successful approaches to river-basin flood management approaches ■ Consider additional knowledge development, including river flood management manual adaptation, for future development
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> ■ Deliver “Deep Dive” knowledge exchange and capacity building event, jointly implemented by Tokyo Hub, TDLC, and UFCOP, which brings developing country officials to Japan to gain deep understanding of approaches and techniques to apply in their home countries ■ Showcase Japanese knowledge and connect identified experts to World Bank project teams and developing countries through targeted international forums (e.g., Singapore Sustainable Cities Week, Green Infrastructure–March 7-10, 2016, Understanding Risk–May 2016) ■ Integrate knowledge notes and lessons learned into UFCOP’s suite of tools for practitioners from the World Bank and developing countries.

Completed Activities

- Activities will commence in March

Coordination and Partnerships

- MLIT
- JICA

Related Country Program Projects

- Ghana - Strengthening Flood Management in the Volta Basin
- Developing Strategic Plans for Disaster Risk Financing, Risk Reduction and Hydromet Services in Southeast Asia
- Improving Service Delivery of DRM in India
- South Asia Promotion of Resilient Infrastructure

Next Steps

- Begin implementation

Modernized Hydro-Meteorological Services

Program Theme: Science & Technology for Resilience

Grant Amount: US\$400,000

World Bank Counterpart: GCCDR

Context

Hydromet hazards, including storms, floods, droughts, as well as heat and cold waves, have caused almost 80 percent of disaster events, and over 50 percent of disaster-related deaths, since 1980.

Japan is a global leader in identifying, predicting, and managing risks posed by hydromet hazards. Domestically, the MLIT's Water and Disaster Management Bureau and the JMA are among the most sophisticated agencies in the world in their field, providing critical services to the Japanese public and private industry. Internationally, JICA is a world leader in supporting investments to build the capacity of developing countries in this area, often coordinating with the World Bank.

Project Overview

The Hub's Hydromet engagement draws on lessons learned from Japan's experience in building modern services in this area, and connects developing countries with this applied knowledge. This work will help inform modernization efforts of countries such as Myanmar, Mozambique, and Bangladesh who are embarking on their own major hydromet upgrade programs with the financial and technical assistance of the World Bank.

Expected Outcomes

Improved hydromet services in three target areas (i.e. Myanmar, Pacific, Mozambique.)

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> Review and analyze Japan's evolution in hydromet services, and experience applying knowledge, expertise, and technology overseas.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> Integrate a Japan case study into the GFDRR Hydromet team's suite of tools for practitioners from the World Bank and developing countries; Deliver on-demand operational support to target project teams to apply Japanese lessons and broader thematic priorities, and build operational connectivity with Japanese financed operations, with a particular focus on Mozambique, Myanmar, and the Pacific.

Activities conducted

- Hired consultants to report on hydromet approaches and solutions in Japan;
- Organized a validation workshop in January 2016, including Japanese experts and partners, to achieve consensus on the key messages, main findings and recommendations from a case study on Japanese hydrological and meteorological services, and lessons for developing countries;
- Organized a public seminar on modernized hydromet services in Japan in March 2016

Coordination and Partnerships

- Cabinet Office, Government of Japan
- MLIT
- JMA
- JICA
- Japan Meteorological Business Support Center (JMBS)
- Foundation of River and Basin Integrated Communications (FRICS)
- Global Centre of Excellence for Water Hazard and Risk Management (ICHARM)

Related Country Program Projects

- Establishing Critical Risk Information, a Roadmap for Early Warning and DRM Capacity in Key Sectors in Afghanistan;
- Strengthening Climate Information and Early Warning Systems to Support Climate-Resilient Development in Honduras and Nicaragua;
- Developing Strategic Plans for Financial Protection Mechanisms, Disaster Risk Management Investments and Hydro-Meteorological Services in Southeast Asia Pacific (PREP).

Next Steps

- Present main findings and recommendations from a case study on Japanese hydromet services and lessons for developing countries at an international conference in Singapore;
- Integrate a case study on Japan into the GFDRR Hydromet team's suite of tools for practitioners from the World Bank and developing countries;
- Deliver on-demand operational support to target project teams to apply Japanese lessons and broader thematic priorities.

Seismic Risk Assessment

Program Theme: Science & Technology for Resilience

Grant Amount: US\$200,000

World Bank Counterparts: GFDRR, GCCDR, GSURR

Context

In many developing countries, natural disasters can take a major toll on economic growth, derailing years of development gains. Earthquakes present a particularly difficult problem for risk management, as they occur infrequently, reducing the public perception of the risks posed, and require a number of scientific, engineering, and public policy solutions to be addressed well.

Situated on the Pacific Ring of Fire, Japan is highly exposed to earthquakes. However, it has made preparedness a national priority, becoming perhaps the most seismically aware and technologically advanced country in the world.

Project Overview

The Hub's *Seismic Risk Assessment* engagement taps into Japan's expertise in this area. It develops guidance materials for developing countries on key technical methodologies for assessing earthquake risk, and also applies this information for public policy and management decision-making.

Expected Outcomes

Improved methodologies for earthquake risk identification and reduction in developing countries.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> ■ Develop a guidance note on how risks are identified, the purpose of doing so, risk modeling methodologies, and how results are being used in risk reduction policies; ■ Create a manual on developing hazard mapping to communicate assessed risks to the wider public.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> ■ Integrate Japan's experience into the GFDRR Innovation Lab team's suite of tools for practitioners from the World Bank and developing countries.

Completed Activities

- Hired a consultant to conduct a study on best practices in identifying earthquake risks in Japan.

Coordination and Partnerships

- Urban Bureau, MLIT
- Tokyo Metropolitan Government

Related Country Program Projects

- Armenia National Disaster Risk Management Program;
- Strengthening Disaster Resilience in Uzbekistan

Next Steps

- Develop knowledge notes on Japan's expertise and institutional frameworks on seismic risk assessment - 2016;
- Develop a manual on developing hazard maps–May 2016.

Social Risk Management & DRM

Program Theme:	Inclusive Resilience
Grant Amount:	US\$400,000
World Bank Counterpart:	Social Protection & Labor Global Practice (GSPDR)

Context

Natural disasters can push people into chronic poverty and force adaptation of negative coping strategies. Social protection programs play an important role in protecting the poor and vulnerable from these impacts, and help reduce their exposure to disaster risk. These programs complement the aims of broader social protection systems, which help safeguard livelihoods from economic shocks and structural poverty.

Japan has a history of innovatively adapting social protection mechanisms to DRM needs, with the 2011 Great East Japan Earthquake demonstrating the country's ability to use an array of instruments to support individuals adversely affected by the disaster. Authorities harnessed pre-existing pension programs to offer retirees low-interest loans, and provided unemployment insurance benefits to workers whose offices, factories, and stores were damaged and unable to reopen quickly. The government also sought effective recovery by reestablishing land titling for regions where records were destroyed, and ensuring children could attend school immediately after the disaster, among other steps.

Project Overview

The Hub's *Social Risk Management* (SRM) engagement builds and strengthens connections between social protection systems and DRM demands in vulnerable countries to reduce social risks from disasters. The project is developing an operational toolkit and training support to help social protection and DRM practitioners better integrate these aspects into development projects.

Expected Outcomes

Enhanced synergy between social protection and DRM to reduce disaster-related social risks and vulnerability in developing countries.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> ■ Produce a summary of Japan's SRM systems for DRM; ■ Develop system-wide country case studies.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> ■ Integrate the Japanese experience into the World Bank's systematic training program on SRM for DRM; ■ Develop online knowledge modules; ■ Produce a video to disseminate Japan's expertise and experience on SRM and DRM; ■ Contribute to the World Bank's thematic group on Responding to Disasters Together (R2D2).

Completed Activities

- Organized a technical roundtable on SRM and DRM in November 2015 with the Japan National Council of Social Welfare;
- Commenced a case study on Japan and selected developing countries;
- Produced a video on Japan’s social protection model for disaster victims in cooperation with Japan National Council of Social Welfare, Nishinomiya City of Hyogo Prefecture, Heguri Town of Nara Prefecture, Shinchi Town of Fukushima Prefecture, and ISFnetlife in August 2015.

Coordination and Partnerships

- Cabinet Office, the Government of Japan
- Japan National Council of Social Welfare
- University of Tokyo

Related Country Program Projects

- Disaster-Linked Social Assistance Delivery Support System Development in Nepal

Next Steps

- Complete a case study on Japan and selected developing countries;
- Develop and integrate a toolkit into the World Bank’s global training program on SRM for DRM.

Empowering the Elderly, Women, and People with Disabilities for Resilience

Program Theme: Inclusive Resilience

Grant Amount: US\$250,000

World Bank Counterpart: GSURR

Context

With the simultaneous global rise in the number of natural disasters and the number of elderly, societies increasingly face a critical question of, “How can we both care for and empower an unprecedented number of the elderly in our society, including reducing their vulnerability to natural hazards?” To create an effective response to both, smart policy making and practical solutions emerging from citizen engagement are needed on the ground.

More broadly, such a community-driven initiative will help strengthen inclusive resilience in communities, beneficial not only for DRM but also for building capacity to support a growing number of the elderly. Such elder-led community-driven initiatives are particularly important in developing countries where financial resources are limited, and services for the elderly are not well established.

Project Overview

The Hub’s work on *Empowering the Elderly, Women, and People with Disabilities for Resilience* aims to strengthen community-driven preparedness and longer-term resilience in developing countries where elders, women, and people with disabilities (PWD) play a leading role by leveraging Japanese expertise and experience in this area. The project will implement a series of activities using an innovative “Ibashi” model, named after an elder-led community pilot café initiative developed in Ofunato, Japan following the Great East Japan Earthquake in 2011. Japanese good practice on community-based DRM will be also utilized to enhance the resilience of local communities.

Expected Outcomes

Empower and enhance resilience of the elderly, women, and PWD through establishing Ibasho as a catalyst for developing social capital, and strengthening community-based DRM.

Component	Outputs
Technical Assistance	<ul style="list-style-type: none"> ■ Provide technical assistance to design or utilize existing community infrastructure to establish Ibasho in the Philippines and Nepal by procuring a Japanese architect and/or academic institution like Hokkaido University, and by engaging local communities, CSOs, and government representatives; ■ Operate two to four Ibasho cafés under a self-sustaining business model, which can also serve as evacuation shelters in the event of a disaster.
Knowledge Development	<ul style="list-style-type: none"> ■ Monitor and evaluate the impact of Ibasho pilots by the University of Tokyo; ■ Develop toolkits (methodologies) based on both quantitative and qualitative research finding analysis to replicate the Ibasho model in other countries or regions; ■ Develop a guideline on community preparedness plans (e.g. evacuation maps).
Capacity Building and Dissemination	<ul style="list-style-type: none"> ■ Train approximately 30 community leaders in the Philippines and Nepal on applying the toolkit; ■ Train communities on developing, implementing, maintaining, and updating community preparedness plans; ■ Publish and present a study on the impact evaluation at an international forum to disseminate knowledge products.

Completed Activities

- Conducted an initial field visit to Philippines and Nepal by the Ibasho NGO and the University of Tokyo in February 2016.

Coordination and Partnerships

- Ibasho NGO
- The elderly from Ofunato Ibasho Café
- The University of Tokyo

Related Country Program Projects

- Strengthening disaster risk management and resilience of Central American municipalities.

Next Steps

- Operate two to four Ibasho cafés under a self-sustaining business model;
- Monitor and evaluate the impact of Ibasho pilots on social capital;
- Develop toolkits (methodologies) based on both quantitative and qualitative analysis of research findings to replicate the Ibasho model in other countries or regions;
- Develop a guideline on community preparedness plans (e.g. evacuation maps).

Smart DRM: Information & Communications Technology (ICT) for DRM

Program Theme:	Science & Technology for Resilience
Grant Amount:	US\$300,000
World Bank Counterpart:	GTIDR

Context

Many countries have developed policies to begin managing their disaster risk. However, most seek additional support to access the information, tools, and technologies needed to implement these policies.

Japan is a global leader in ICT, and has applied this expertise for decades to manage its disaster risk. Using sensor networks and satellite imagery, among other tools, ICT-driven applications and data are the backbone of Japanese early warning systems and decision-making processes to address risks posed by tsunamis, flooding, and volcanos. ICT solutions also enhance coordination among Japanese institutions at various levels during disaster response, recovery, and reconstruction.

Project Overview

The DRM Hub's ICT for DRM engagement leverages Japanese and global best practices to pilot a toolkit for practitioners to identify, prepare, appraise, and implement solutions for specific disaster types and DRM needs. The toolkit will showcase empirical case studies of ICT use for DRM in Japan, particularly following the 2011 Great East Japan Earthquake.

Expected Outcomes

Enhanced application of ICTs for DRM in developing countries.

Component	Outputs
Knowledge Development	<ul style="list-style-type: none"> Identify technically and financially viable Japanese and global ICT applications in the context of developing countries; Complete a portfolio review of ICT in DRM financed by the World Bank; Develop and field-test an ICT for DRM toolkit, which provides guidelines for enabling a related institutional, legal, economic, and technological environment, sample ToRs, and a knowledge library.
Knowledge Exchange and Dissemination	<ul style="list-style-type: none"> Organize a global consultation event in Washington, DC, to ensure developing a demand-focused toolkit; Organize a capacity building event or public seminar to connect ICT and DRM practitioners from the World Bank, developing countries, and Japan.

Completed Activities

- Organized a technical roundtable on Japanese ICT technologies and lessons learned with Japanese experts in March 2016, together with MIC and the JBP;
- Hired a consultant to conduct a study on best practices in ICT for DRM in Japan.

Coordination and Partnerships

- MIC
- National ICT Institute
- JBP

Related Country Program Projects

- Strengthening Flood Management in Ghana;
- Improving DRC's capacity to manage, monitor and respond to natural hazards in the region of Goma;
- Innovation in DRM Decision Making in Brazil;
- Strengthening Climate Information and Early Warning Systems to Support Climate-Resilient Development in Honduras and Nicaragua;
- MNA Women for Resilience;
- Establishing Critical Risk Information, a Roadmap for Early Warning and DRM Capacity in Key Sectors in Afghanistan;
- Bhutan Weather, Disaster and Climate Services Improvement project;
- Disaster-Linked Social Assistance Delivery Support System Development in Nepal.

Next Steps

- Complete a Japan case study and global review of ICT in DRM;
- Develop and field test a pilot toolkit;
- Organize a global consultation and a capacity building event.

Annex 4: Knowledge Products and Communications Highlights

The Hub serves as a knowledge center to connect and share Japanese experience and expertise in DRM with developing countries and development professionals. In 2015-16, the Hub engaged DRM communities and other stakeholders through over 20 events and supporting two major publications.

During the 2015-16 period, the Hub continued to increase the visibility of the Program and its activities through innovative communication tools and outreach. Highlights include:

March 2015

■ **Featured Video—Learning from Japan: How to Prepare for Natural Disasters**

Speaking at WCDRR, World Bank President Kim highlighted the strong leadership shown by the Government of Japan in DRM. He expressed the expectation that Japan continue sharing relevant experience, knowledge, and expertise for DRM in developing countries.

Link: <https://www.youtube.com/watch?v=bBaoLuu2FVo>

■ **Program Brochure**

A new program brochure was distributed widely at the WCDRR in Sendai, Japan.

June 2015

■ **World Bank and GFDRR Feature Story - 3 Steps to Making Schools Resilient to Natural Disasters**

Featured on the World Bank and GFDRR homepages, this story outlines three steps to make schools more resilient to natural disasters, highlighting a technical workshop the Hub co-organized with GFDRR's Global Program on Safer Schools.

World Bank President Kim also promoted this story from his personal twitter account.

Link: <http://www.worldbank.org/en/news/feature/2015/06/15/making-schools-resilient-to-natural-disasters>

Tweet: https://twitter.com/jimkim_wbg/status/666572156613079040

August 2015

■ **Short Film—Disaster Resilience: Made In Japan**

This short film shares Japan's experience in mainstreaming DRM in road and river management for geological hazards, including landslides and floods.

Link: [http://www.kaltura.com/index.php/extwidget/preview/partner_id/1612911/uiconf_id/28487641/entry_id/O_73tkgnmp/embed/auto?&flashvars\[streamerType\]=auto](http://www.kaltura.com/index.php/extwidget/preview/partner_id/1612911/uiconf_id/28487641/entry_id/O_73tkgnmp/embed/auto?&flashvars[streamerType]=auto)

■ **Short Film—Proud to Help: Japan's Social Protection Model for Disaster Victims**

This short film captures the disaster-linked safety net Japan's social protection mechanism provides for disaster victims in the Tohoku region following the 2011 Great East Japan Earthquake.

Link: [http://www.kaltura.com/index.php/extwidget/preview/partner_id/1612911/uiconf_id/28487641/entry_id/O_216it6j7/embed/auto?&flashvars\[streamerType\]=auto](http://www.kaltura.com/index.php/extwidget/preview/partner_id/1612911/uiconf_id/28487641/entry_id/O_216it6j7/embed/auto?&flashvars[streamerType]=auto)

October 2015

- **World Bank and GFDRR Feature Story—Making Schools Safer to Disaster in Peru: Japan Delegation Visit**

This story, featured on the World Bank and GFDRR homepages, highlights the visit of a delegation from Japan to visit public schools in Lima, Peru to observe how TA, supported by the Hub, is helping make school infrastructure and the communities they serve more resilient to natural hazards.

Link: <http://www.worldbank.org/en/news/feature/2015/10/12/making-schools-safer-to-disaster-in-peru>

- **Video, Press Release, Blog, and Forum Proceedings—Central Asia Earthquake Risk Reduction Forum**

In October 2015 the Hub supported the two-day Central Asia Earthquake Risk Reduction Forum in Almaty, Kazakhstan. The Governor of Hyogo Prefecture sent a message to the forum audience, promoting the importance of “preparing for the next one,” as well as sharing seven lessons learned from the Great Hanshin Awaji Earthquake in 1995.

Following the forum, the Hub summarized the proceedings, including lessons learned from countries such as Bangladesh, Japan, and Turkey, and released a related blog post, “Shaken, not stirred,” on the World Bank’s “Eurasian Perspectives” channel.

Link: <http://www.worldbank.org/en/events/2015/09/23/central-asia-earthquake-risk-reduction-forum>

Press release link: <http://www.worldbank.org/en/news/press-release/2015/10/27/central-asia-moving-towards-earthquake-risk-reduction>

Video link: forthcoming with Japanese subtitles

Blog link: <http://blogs.worldbank.org/europeandcentralasia/shaken-not-stirred>

Proceedings link: <http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/1/451453873709673/Central-Asia-Earthquake-Risk-Reduction-Forum-Proceedings-2015-eng.pdf>

November 2015

- **World Bank and GFDRR Feature Story—Japan-World Bank Program Supporting Developing Countries’ Drive for Climate Resilience**

This story, featured on the World Bank’s homepage in coordination with COP21, describes how the Hub is contributing to climate change resilience.

Link: <http://www.worldbank.org/en/news/feature/2015/11/18/japan-world-bank-program-supporting-developing-countries-drive-for-climate-resilience>

Link: <https://www.gfdr.org/supporting-developing-countries%E2%80%99-drive-climate-resilience>

December 2015

■ **World Bank and GFDRR Feature Story: Laying the Building Blocks of Resilience in Afghanistan**

This story, featured on the World Bank and GFDRR homepages, shares the natural hazard risks in Afghanistan, and describes a Hub grant is helping the country shift toward resilience, in partnership with JICA.

Link: <http://www.worldbank.org/en/news/feature/2015/12/21/laying-the-building-blocks-of-resilience-in-afghanistan>

Link: <https://www.gfdr.org/laying-building-blocks-resilience-afghanistan>

January 2016

■ **Project Brochure: Disaster Risk Management in Armenia**

This project brochure outlines planned activities funded by the Hub and implemented by the World Bank to help the Government of Armenia to further advance disaster resilience.

Link to brochure: <http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/1/569651452899980234/ARM-NDRMP-Brochure-eng.pdf>

Link to program overview: <http://www.worldbank.org/en/country/armenia/brief/disaster-risk-management-in-armenia>

Link to launch event page: <http://www.worldbank.org/en/events/2016/01/19/launch-of-armenia-national-disaster-risk-management-program>

■ **Animation: Disaster Risk Financing and Insurance**

This animation story tells how DRFI can help better protect families, communities, and governments from the economic impacts of natural disasters.

Link: <http://www.worldbank.org/en/news/video/2016/01/13/disaster-risk-financing-and-insurance>

February 2016

■ **Blog Post: Sustainable Cities**

In a post on the World Bank's Sustainable Cities blog, Ede Ijjasz-Vasquez, World Bank Senior Director, interviews colleagues from DRM Hub and TDLC how they can contribute to making cities more resilient and sustainable.

Link: forthcoming

March 2016

- **Report: Building Regulation for Resilience** (Japanese summary)

This report aims serves as resource to help policymakers, governments, donors, and the private sector with good practices in building regulation that underpin effective risk reduction. The report highlights the historical evolution of Japanese building regulations as one of the most robust frameworks globally, as well as international assistance through JICA.

Link: Translation work in progress

- **Knowledge Note: Japanese Experience in Modernization of Hydrological and Meteorological Services**

This knowledge note shares Japan's experience in modernizing hydromet services and effective early warning, with concrete recommendation for counties facing challenges in improving legal and institutional arrangements, capacity buildings, and modernizing monitoring equipment and facilities.

Link: forthcoming, under Printing

Annex 5: Financial Review

Budget Allocations and Commitments to Date¹ (in US\$ millions)

	Indicative Budget Allocation (Tranches 1-2) (A)	Commitment to Date (B)	Percentage Committed (B/A)
Country Program	39.0	33.3	85%
AFR–Sub-Saharan Africa	3.5	3.5	100%
EAP–East Asia and the Pacific	11.7	8.5	73%
ECA–Europe and Central Asia	5.9	4.0	68%
LCR–Latin America and the Caribbean	6.3	5.7	90%
MNA–Middle East and North Africa	3.8	2.3	61%
SAR–South Asia	7.8	9.3	119%
Knowledge Program	4.0	4.6	114%
Resilient Infrastructure	0.5	0.7	140%
Resilient Cities	0.5	0.6	120%
Science and Technology for Resilience	1.0	1.1	110%
Inclusive Resilience	0.5	0.7	130%
Hub Program Support	1.5	1.5	100%
Japan's Membership Contribution to GFDRR	2.0	2.0	100%
Program Management and Administration²	4.5	4.5	100%
World Bank Fee³	0.5	0.5	100%
Total	50.0	44.8	90%

¹ Period from Program Commencement (February 2014) to Date (as of February 2016).

² Program Management and Administration funding supports Secretariat activities related to the management of this programmatic trust fund. Activities include: evaluating activity proposals and allocating funds to implementing units; work program planning, monitoring and evaluation; developing and implementing Program-specific management tools, procedures and systems; negotiating the replenishment / expansion of existing programs; program level resource related planning and budgeting; and donor relationship management activities.

³ The World Bank Fee supports enabling services provided by World Bank central units (e.g. Legal, Human Resources, and Trust Fund Accounting Services). These include: controls as transactions are processed, investing of funds, compliance checks and quality assurance, and accounting and financial reporting. The Fee also covers process-related activities undertaken by managing units and these activities include: issuing trust fund policies, including those addressing cost recovery and fees; clearance of trust fund and partnership proposals; preparation of legal agreements; advisory services; donor relations, including negotiating framework agreements; and trainings.

Annex 6: Acronyms

AFAD	Disaster and Emergency Management Presidency, Turkey
AFR	Sub-Saharan Africa region
BCP	Business Continuity Plan
CAT DDO	Catastrophe Deferred Drawdown Option
CoP	Communities of Practice
CoP21	2015 United Nations Climate Change Conference aka the 2015 Paris Climate Conference
CSS	Global Comprehensive School Safety Framework
CWASA	Chittagong Water Supply and Sewerage Authority
CY	Calendar Year
DFID	United Kingdom Department for International Development
DRFI	Disaster Risk Financing and Insurance
DRM	Disaster risk management
EAP	East Asia and Pacific region
ECA	Europe and Central Asia region
EOI	Expression of Interest
FEWS	Flood Early Warning System
GCCDR	World Bank Climate Change Cross-Cutting Solution Area
GDP	Gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
GIF	Global Infrastructure Fund
GP	World Bank Global Practice
GRIF	Global Resilience Investment Fund
GSPDR	World Bank Social Protection and Labor Global Practice
GSURR	World Bank Social, Urban, Rural, and Resilience Global Practice
GTIDR	World Bank Transport and ICT Global Practice
GWADR	World Bank Water Global Practice
ICR	Inclusive Community Resilience
ICT	Information and Communication Technology
JBP	Japan Bosai Platform
JICA	Japan International Cooperation Agency
JMA	Japan Meteorological Agency
Lao PDR	Lao People's Democratic Republic
LCR	Latin America and the Caribbean region
M&E	Monitoring & evaluation
MDTF	Multi-Donor Trust Fund
MNA	Middle East and North Africa region
MEXT	Ministry of Education, Culture, Science, Sports and Technology, Japan

MHEWS	Multi-hazard Early Warning System
MHLW	Ministry of Health, Labour and Welfare, Japan
MIC	Ministry of Internal Affairs and Communications, Japan
MILIT	Ministry of Land, Infrastructure, Transport and Tourism, Japan
MIS	Management information systems
MoF	Ministry of Finance, Japan
MoNE	Ministry of National Education, Turkey
NDMA	National Disaster Management Authority, India
NGO	Non-government organization
NMHS	National meteorological and hydrological services
OIZ	Organized Industrial Zone
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PDNA	Post-disaster needs assessment
PIC	Pacific Island Country
PPA	Pacific Power Association
PREP	Pacific Resilience Program
SAR	South Asia region
SDG	Sustainable Development Goals
SDMA	State Disaster Management Authority, India
TA	Technical assistance
TDLC	Tokyo Development Learning Center
TOR	Terms of Reference
TTL	Task Team Lead
UFCOP	Urban Flooding Community of Practice
UN	United Nations
UNDP	United Nations Development Programme
W4R	Women for Resilience
WCDRR	Third UN World Conference on Disaster Risk Reduction
WMO	World Meteorological Organization