Japan-World Bank Program

FOR MAINSTREAMING DISASTER RISK MANAGEMENT IN DEVELOPING COUNTRIES

ANNUAL REPORT











This Annual Report covers the period between July 1, 2021, and April 15, 2022. It will be submitted for review at the Ninth Program Steering Committee Meeting, which will be held in Japan on June 21, 2022.

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Abbreviations

AFR	Africa Region	JMA	Japan Meteorological Agency
APEC	Asia-Pacific Economic Cooperation	LAC	Latin America and Caribbean Region
ADSS	Agrometeorological Decision Support System	LDRRMPs	Local Disaster Risk and Reduction Plans
BRCA	Building Regulatory Capacity Assessment	M&E	Monitoring and Evaluation
BRR	Building Regulations for Resilience	MENA	Middle East and North Africa Region
Cat-DDO	Catastrophe-Deferred Drawdown Option	MINED	Nicaraguan Ministry of Education
CoP	Community of Practice	MLIT	Ministry of Land, Infrastructure, Transport and
CMP	Coastal Management Plan		Tourism
DRFI	Disaster Risk Financing and Insurance	MoEUCC	Ministry of Environment, Urbanization, and
DRM	Disaster Risk Management		Climate Change of Turkey
DRR	Disaster Risk Reduction	MoF	Ministry of Finance
EAP	East Asia and Pacific Region	MOFA	Ministry of Foreign Affairs
ECA	Europe and Central Asia Region	MSIP	Multi-sector Investment Plan
EOC	Emergency Operations Center	NCHM	National Center for Hydrology and Meteorology of Bhutan
EP&R	Emergency Preparedness and Response	0&M	
EWS	Early Warning System	PAD	Operations and Maintenance
FCI GP	Finance, Competitiveness and Innovation Global		Project Appraisal Document
	Practice	PBA	Philippine Building Act
FDMA	Fire and Disaster Management Agency	PPE	Public-Private Engagement Public Works Research Institute
FY	Fiscal Year	PWRI	
GEJE	Great East Japan Earthquake	R2R	Ready to Rebuild
GFDRR	Global Facility for Disaster Reduction and	RAMS	Road Asset Management System Resilient Infrastructure
	Recovery	RI	
GIF	Global Infrastructure Facility	RIR	Results in Resilience
GoJ	Government of Japan	RHS	Resilient Health Systems
GoN	Government of Nepal	QAQC	Quality Assurance and Quality Control
GP	Global Practice	QII	Quality Infrastructure Investment
GPRI	Global Program for Resilient Infrastructure	SIDS	Small Island Developing States
GPURL	Urban, Resilience and Land Global Practice	SAR	South Asia Region
GREZ	Green and Resilient Economic Zone	SEADRIF	South-East Asia Disaster Risk Insurance Facility
HEPR	Health Emergency Preparedness and Response	STC	Short Term Consultant
HNP	Health, Nutrition, and Population	TA	Technical Assistance
ICHARM	International Centre for Water Hazard	TDD	Technical Deep Dive
ICT	Information and Communications Technology	TDLC	Tokyo Development Learning Center
IDA	International Development Association	UNDRR	UN Office for Disaster Risk Reduction
IDI	Infrastructure Development Institute - Japan	UNESCO	United Nations Educational, Scientific and Cultural Organization
IDJ	International Development Journal	UR	Understanding Risk
IWT	Inland Water Transport (India)	WACA	West Africa Coastal Areas Management
IUFRM	Integrated Urban Flood Risk Management	VVACA	Program
JHF	Japan Housing Finance Agency	WBG	World Bank Group
JICA	Japan International Cooperation Agency	WSS	Water Supply and Sanitation
JIT	Just-in-Time		

All dollar amounts are US dollars unless otherwise indicated.



School children in El Salvador. © Global Program for Safer Schools / World Bank

EXECUTIVE SUMMARY

This Annual Report presents the progress and achievements made under the Japan-World Bank Program for Mainstreaming Disaster Risk Management (DRM) in Developing Countries (hereinafter referred as *the Program*) from the period between **July 1, 2021, and April 15, 2022.**¹

Progress was measured against the objectives of the Program and the targets stated in the Fiscal Year 22 (FY22) Work Plan submitted to the Ministry of Finance (MoF) Japan in June 2021.

Key Highlights of FY22

As natural disasters continue to impact people worldwide, the Program continues to play a critical role in preparing countries to be strategically prepared and mitigate and manage disaster risks.

When the Kingdom of Tonga was hit by a devastating volcanic eruption and tsunami this year on January 15, the Government was able to access emergency response funding through the Tonga Second Resilience Development Policy Operation with a Catastrophe-Deferred Drawdown Option (Cat-DDO). Leading up to the establishment of the Cat-DDO, the Japan Program supported the "Pacific Resilience Program (PREP) - Tonga - GFDRR Co-financing Grant (TFOA1232)", which helped Tonga to develop emergency operations centers for use when disasters like this strike, and to help prepare the Government for similar emergencies.

In the Philippines, the Japan Program grant "Building a Culture of Disaster Preparedness at the Local Level (TF0B3960)", helped the establishment of the Ready to Rebuild (R2R) Program, which helped build the capacity of governors, mayors, disaster risk management officers, planners, and budget officers to better design and implement predisaster recovery plans. Drawing from lessons learned from Typhoon Haiyan in 2013, the R2R Program also provides a framework on how to prepare people, communities, and local governments to be more resilient and ready to respond and recover from disasters better and faster. When Typhoon Rai hit the Philippines in 2021, the R2R Program helped ensure that the government was prepared. The government leveraged the program to quickly support provinces and cities in developing their recovery plans, implement reconstruction projects, and leverage funding support. This complements the \$200 million in disaster response and recovery support from the World Bank's Fourth DRM Development Policy Loan with a Catastrophe-Deferred Drawdown Option (CAT-DDO 4) standby loan facility.

Supporting Resilience Across Sectors through Program Phase 2 in Times of Compounding Risks

In FY22, MoF disbursed the third tranche of its contribution (\$20 million) as the Program commenced the fourth year of its renewed phase.

Key highlights of Program activities in FY22 include:

- By April 15, 2022, the Program approved 28 (including 7 Just-In-Time [JIT] grants) technical assistance (TA) grants amounting to \$10.39 million under the Country Program (Component 1) and \$0.75 million under the Tokyo DRM Hub (Component 2). An additional 21 grants amounting to \$9.29 million are in the pipeline for approval under the Country Program.
- Partnerships with the Japan International Cooperation Agency (JICA) and Ministry
 of Foreign Affairs of Japan (MOFA) remain of high importance to the Program. All 21
 submitted proposals, excluding JIT proposals benefited from technical inputs from
 JICA and MOFA counterparts.
- As of April 15, 2022, the Program's total portfolio including both components across the two trust funds (Phase 1 and 2) consisting of 224 TA grants, including both active and closed, with a total allocation of \$150,090,4701.
- Of the \$10.39 million Country Program financing committed thus far in FY22, 78 percent contribute to Resilient Infrastructure; 22 percent to Risk Identification, Risk Reduction, and Preparedness².
- 73 percent (\$5 million) of approved Country Program resources supported grants led by non-DRM World Bank Global Practices (GPs), such as Water (40 percent), Energy (16 percent), Transport (16 percent), and Digital Development (1 percent)³.
- Through grants approved in FY22, the Program is estimated to inform a portfolio of approximately \$2.21 billion⁴ of World Bank investment projects under implementation. Out of the \$2.21 billion, \$2.13 billion or 96 percent⁵ is anticipated to be in non-DRM sectors (Transport, Water, Energy, and Agriculture and Food GPs).

¹ This figure includes Country Program grants, Tokyo DRM Hub grants (Country Program Support and Knowledge Program Support), and other grants including the most recent Global Program for Resilient Health Systems (\$1 million out of the \$2 million contribution is included here) across both Phase 1 and Phase 2 (Trustees TF072129 and TF073236) Trust Funds.

 $^{^2}$ Although activities under Disaster Risk Finance and Insurance continued in FY22, there was no new allocation made to the grant.

³ This figure includes grants that were approved under FY22 Work Plan.

⁴ This figure is the total amount of World Bank (IBRD and IDA) investment projects informed by TA grants approved in FY22 under the FY22 Work Plan. The figures were taken from the grant proposals and are therefore anticipated.

⁵ Figures are based on leading Global Practice of investment projects.

- Grants approved in FY22 are anticipated to support the mainstreaming of resilience within 14 World Bank operations under preparation, which amounts to \$2.02 billion⁶ of planned new lending.
- The Program has influenced a total of \$28.28 billion in World Bank investments to date since its inception in 2014⁷.
- During FY22, the Program continued to expand and develop new engagements between
 client countries, Japanese experts, and World Bank Task Teams. The Program enabled
 the mobilization of 76 Japanese experts in FY22 to support knowledge exchanges
 between client countries, and the design and implementation of Japan Program TA
 activities and World Bank investment projects.
- This year, with a \$2 million contribution from MoF, the new Global Program for Climate and Disaster Risk Management for Health Systems (DRM4HS) was initiated by the Tokyo DRM Hub. The DRM4HS is creating a platform for two global practices, the Urban, Disaster Risk Management, Resilience and Land Global Practice and the Global Practice for Health, Nutrition and Population, to work together more operationally in client countries. The health team is proceeding to engage Japanese health experts to support the integration of Japanese knowledge in activities implemented by the DRM4HS.
- Based on Hub's work to integrate resilience into World Bank infrastructure investments during the first years of Phase 2, demand has increased significantly from task teams and country clients over the past few years. In FY22, the Hub started to partner with the Global Program for Resilient Infrastructure (GPRI), established within GFDRR, in order to expand technical capacity to respond to these demands, scale up support, and integrate further Japanese expertise in World Bank investment projects. In the first year, the GPRI together with the Tokyo DRM Hub, designed and implemented the Resilient Infrastructure Technical Deep Dive (TDD) through which technical inputs were provided to task teams. The objective of this TDD was to leverage Japanese and global expertise toward the development of resilient infrastructure against natural hazards and weather-related disasters across the world. The GPRI also provided additional technical support to several countries, including Cambodia, Morocco, Comoros, and Kyrgyzstan, through supported grants.
- In FY22, 51 out of 110 grants supported by the Program reported utilizing Program commissioned knowledge products⁸. For example, the Japanese approach to modernizing hydromet systems, captured in the report "Background on Hydrological

⁶ This figure is the total amount of World Bank (IBRD and IDA) investment projects informed by TA grants approved in FY22 under the FY22 Work Plan. The figures were taken from the grant proposals and are therefore anticipated.

⁷ The cumulative influencing amount for both project implementation and preparation (\$28.28 billion for overall Program) was based on the grant reporting in GFDRR's Monitoring and Evaluation platform (including all cycles since inception of the platform) reporting on already active grants approved in previous fiscal years and figures already reported in "2017-2018 Annual Report" and the Mid-term Review Report of Phase 1. The cumulative influencing amount including all sources of financing (i.e. IBRD, IDA, counterpart financing, co-financing by other MDBs, private sector funding) is \$40.66 billion.

⁸ This data was taken from the reporting cycles of FY21-B and FY22-A in GFDRR's M&E platform. The 110 grants is the number of grants which reported in M&E platform during these two cycles.

Services in Japan and Lessons for Developing Countries" informed activities for the grant, "River Basin Management for Resilient Water Security in the Dry Corridor (TF0B5395)".

 Sendai Framework priorities are critical principles and guidelines that inform all TA grants financed by the Program. The Program continues to monitor grant progress and results throughout implementation against the Sendai Framework's four priorities of action. All grants approved in FY22 contribute to one or more of the Framework's four priorities.

Structure of the Report

SECTION 1: Provides the overall progress of the Program's Phase 2 Trust Fund activities in FY22 for the Country Program and the Tokyo DRM Hub components.

SECTION 2: Provides details on the Program's results and achievements against its objectives, the Sendai Framework, and Program priority areas. It also includes FY22 results on Japanese expert engagement and total beneficiaries of Japan Program TA grants approved in FY22.

SECTION 3: Highlights key stories of impact and results from the Program-financed grants.

Finally, the Annexes include detailed data from the Program, which supports the information and analysis provided in the three sections mentioned above.

SECTION 1

PROGRESS OF PROGRAM ACTIVITIES IN FY22

1.1 Program Overview

This section provides an overview of the Program's grants and finances along its two components, which are defined below in Box 1.

Box 1: Program Components

As of April 15, 2022, in FY22 the Program approved 28 (21 Country Program and 7 JIT) new grants under the Country Program across the two priority areas of Resilient Infrastructure and Risk Identification, Risk Reduction, and Preparedness. These grants totaled \$10.39 million. An additional \$9.29 million are in the pipeline for approval under the Country Program by end of June 2022. The Program contributed 93 percent (\$10.39 million) toward Component 1, the Country Program, and 7 percent (\$0.75 million) toward Component 2, the Tokyo DRM Hub.

In FY22, newly approved grants were provided to a total of **25**° **countries**. The breakdown is as follows: 7 in Africa (AFR) (Ghana, Kenya, Liberia, Mali, Nigeria, Rwanda, Tanzania); 4 in East Asia and Pacific (EAP) (Cambodia, Thailand, Timor-Leste, Vietnam); 2 in Europe and Central Asia (ECA) (Tajikistan, Turkey); 4 in Latin America and Caribbean (LAC) (Brazil, Dominican Republic, Mexico, Nicaragua); 4 in Middle East and North Africa (MENA) (Iraq, Jordan, Morocco, Tunisia); and 4 in South Asia (SAR) (Bangladesh, India, Pakistan, Sri Lanka). The total number of countries supported by the Program since its inception in 2014 is 100.



Buses go by in the Central Business District, Kigali, Rwanda. © Kelley Lynch / World Bank

1.2 Component 1 – Country Program

*Note: Figures under Section 1.2 Component 1 – Country Program include data for grants that were approved during the reporting period but were planned under FY21 Work Plan.

1.2.1 Portfolio Overview

Program-funded activities continue to serve as catalysts towards the strengthening of resilience in client countries, increasing the World Bank's capacity to support developing

⁹ Duplicated countries are not included in this total figure.

countries in mainstreaming DRM into national development planning and investment programs.

The Program continued to scale up activities in FY22 to meet country and sector demands to enhance the resilience of infrastructure assets and systems; strengthen DRM and the preparedness capacities of institutions and governance processes; and develop and apply disaster risk financing and insurance solutions to help governments enhance financial resilience.

In FY22, out of **28 new Country Program grants** amounting to \$10.39 million, **78** percent contributed to Resilient Infrastructure; **22** percent to Risk Identification, Risk Reduction, and Preparedness, as of April 15, 2022 (figure 1).

The Hub has been responding to increasing demands from task teams as client countries focus on the post-COVID-19 recovery. Seen as vital for economic and social progress, investments in basic infrastructure (Transport, Water and Energy) have been prioritized by the World Bank with the design of the Green, Inclusive and Resilient Development (GRID) initiative. Both Resilient Infrastructure grant windows (i.e., annual Call for Proposals and JIT) have been in high demand by task teams with the submission of 44 and 24 proposals during FY22, respectively.

Figure 1 FY22 Allocation by Priority Area for Component 1, Country Program (calculated by US\$ amount)

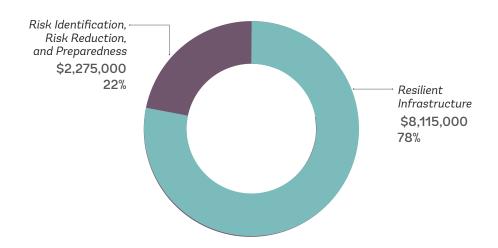


Table 1 Grants Approved in FY22 under the Country Program (as of April 15, 2022)

			Value in US\$,	
#	TA Grants	Country	millions	
Resilient Infrastructure				
1	Ghana Resilient Power Infrastructure	Ghana	0.45	
2	Nigeria: Supporting the Storage Agenda for a More Resilient Development	Nigeria	0.60	
3	Strengthening the Integration of Disaster Risk Management and Resilience into the Public Transport System in Kigali	Rwanda	0.50	
4	Mekong River Basin 3D Program: Resilient Dams, Development and Downstream Communities	Cambodia, Thailand and Vietnam	0.25*	
5	Improving Resilience of Water Supply Services in Timor-Leste	Timor-Leste	0.45	
6	Increasing the Climate Adaptation and Resilience of the Power Transmission System: Wind and Ice Load Mapping	Turkey	0.60	
7	Turkey - Strengthening Seismic Resilience and Energy Efficiency in Public Buildings	Turkey	0.825*	
8	Strengthening Disaster Risk Management and Resilience of Urban Water and Sanitation Services, and Dam Safety in the Dominican Republic	Dominican Republic	0.57	
9	Improving Adaptability and Readiness of Housing Programs to Disasters and Climate Change Related Events in Mexico			
10	Building Resilient Infrastructure and Housing in Iraq	Iraq	0.50*	
11	Disaster Resilient Amman Bus Rapid Transit Phase 2 Public Private Partnership			
12	Strengthening Resilient Infrastructure in Morocco and Tunisia	Morocco and Tunisia	0.50*	
13	Scale-up and Consolidation of Urban Resilience Institutions in Bangladesh	Bangladesh	0.50*	
14	Building Resilience in Assam India: Integrated Water and Flood Risk Management	India	0.44	
15	PUNJAB (Pakistan): Improving Disaster Risk Management Capacity in Punjab	Pakistan	0.56	
		Total amount	7.645	
	Just-In-Time	e		
16	Risk Resilient Network Infrastructure for Last-mile Connectivity	Ghana	0.07	
17	Mali – Resilient and Inclusive Power Sector Development	Mali	0.07	
18	Water Resilience and Disaster Risk Preparedness for Dar es Salaam	Ταηζαηία	0.05	
19	Strengthening Resilience and Safety of Road Infrastructure in Tajikistan	ad Infrastructure Tajikistan		
20	Brazil: Support Pernambuco State Government in the Development of Resiliency towards Water-scarcity Challenges and Rural Sanitation	ment of Resiliency towards Water-scarcity Brazil		
21	Mainstreaming Disaster and Climate Resilience in Critical Infrastructure after Hurricanes Eta and Iota in Nicaragua	Nicaragua	0.07	
22	Enhancing Resilient Urban Infrastructure Investments and Flood Risk Management in Surat, India	India	0.07	

#	TA Grants	Country	Value in US\$, millions
		Total amount	0.47
	on, and Preparedness		
23	Kenya Resilient Urban Areas	Kenya	0.40
24	Liberia Urban Resilience Technical Assistance	Liberia	0.40
25	Building Disaster Resilience of the Angkor World Heritage Site	Cambodia	0.225*
26	DRM Institutional Strengthening and Resilience Investment Options for the rural sector in the Tonle Sap region, Cambodia	Cambodia	0.50
27	Resilient Industries to Enhance Competitiveness in Vietnam	Vietnam	0.50*
28	Climate Resilient Flood Risk Management in Priority Basins and Cities	Sri Lanka	0.25*
	2.275		
		Total of all Program Priority Areas	10.39

Note: The asterisks next to grant amounts indicate the grants that were approved during the reporting period, but were initially allocated under FY21 Work Plan, and used roll-over budget.

1.2.2 Sectoral Distribution

The Program is continuing to actively expand TA activities to a wider range of sectors and partner GPs across the World Bank, to further advance DRM mainstreaming across sectors. Overall, the Program allocated 55 percent (\$5.75 million) of approved Country Program resources to grants led by non-DRM World Bank GPs such as Water (29 percent), Energy (11 percent), Transport (10 percent), FCI (5 percent), and Digital Development (1 percent)¹⁰.

¹⁰ The detailed breakdown totaling 55 percent is: Water (28.78 percent, \$2,990,000), Energy (10.78 percent, \$1,120,000), Transport (10.30 percent, \$1,070,000), FCI (4.81 percent, \$500,000), and Digital Development (0.67 percent, \$70,000).

Box 2. The Three Priorities for Grants

Priority 1: Resilient Infrastructure finances grant activities that help integrate disaster risk management (DRM) principles and processes into infrastructure investments. Activities foster: (i) a life cycle approach to infrastructure resilience; (ii) the adoption of risk-informed solutions in the planning, design, management, and emergency contingency preparedness of infrastructure investments; and (iii) the strengthening of the institutional and regulatory capacities of implementing entities. To ensure support across all quality infrastructure principles, the Hub also actively coordinates with the Quality Infrastructure Investment (QII) Partnership Trust Fund to plan upstream engagements and share TA requests for all activities not linked to resilient infrastructure.

Priority 2: Risk Identification, Risk Reduction, and Preparedness finances grant activities that help strengthen the comprehensive approaches to enhance risk identification, risk reduction, and preparedness in developing countries, including capacities of communities, governments and national DRM agencies on: (i) risk information, (ii) hydromet services and early warning systems (EWS), (iii) resilient social protection and inclusion, and (v) emergency preparedness and prompt response (EP&R) post disaster.

Priority 3: Disaster Risk Finance and Insurance (DRFI) finances grant activities that help advance policy in global and regional forums, as well as the application of DRFI in the country, particularly through designing and implementing financial solutions for countries and regions to better manage disaster risks and safeguard critical infrastructure and public/private assets.

Workers maintain thermal power station in Ghana © Jonathan Ernst / World Bank

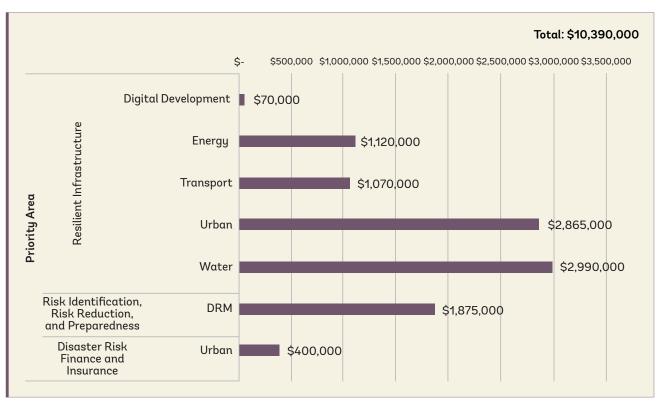
Under Priority 1, the grants contributing to resilient water under the Water GP were allocated the most funding, at 29 percent (\$2.99 million), followed by 28 percent (\$2.865 million) to urban infrastructure, and then to energy at 11 percent (\$1.12 million). This was followed by transport at 10 percent (\$1.07 million), and digital development at 1 percent (\$0.07 million). Under Priority Area 2, 18 percent (\$1.875 million) of the funds were allocated to DRM, followed by 4 percent to urban (\$0.4 million).

The full FY22 envelope under resilient infrastructure (Priority 1) has been committed. The Resilient Infrastructure window has been addressing incoming demands from infrastructure related Global Practices (GP). Close to 30 percent of the allocation was awarded to the Water GP as many World Bank operations address extreme water-triggered events (i.e. floods, flashfloods, landslides, etc.). With Transport and Energy GPs allocated an average of 10 percent of grant resources each, the Japan Program endeavors to bridge technical gaps and increase interest for all infrastructure GPs at the WBG. This will potentially contribute to promoting enhanced cross-GP collaboration as well as break potential remaining siloed approaches. In addition, the Program aims

at improving its technical evaluation of grant proposals and implementation support for grants with the goal of building local capacity to address climate and disaster risks from a multi-hazard perspective. Such an approach is key for the Program to address compounding extreme event impacts as well as the urgency posed by the climate agenda.

A final example of innovation in the Resilient Infrastructure window is the award of an experimental digital development grant under the JIT window to allow the development of resilient communication infrastructure, which can contribute to the operation of energy, water, and transport systems.

Figure 2 FY22 Sectoral Funding Distribution (calculated by US\$ amount)



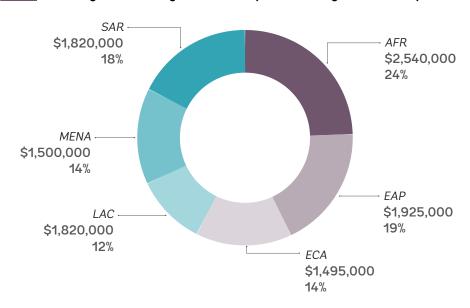
*Note: The detailed figures for the graph above are: Digital Development (0.67 percent), Energy (10.78 percent); Transport (10.3 percent); Urban (27.57 percent); Water (28.78 percent); DRM (18.05 percent); and Urban (3.85 percent).

1.2.3 Regional Distribution of Financing

Across World Bank regions, the order of financial distribution in FY22 was Africa Region (AFR, 24 percent), followed by East Asia and Pacific Region (EAP, 19 percent), South Asia Region (SAR, 18 percent), Middle East and North Africa Region (MENA, 14 percent), Europe and Central Asia Region (ECA, 14 percent), and Latin America and the Caribbean Region (LAC, 11 percent), as shown in Figure 3.

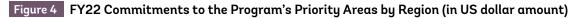
In FY22, the AFR region was the greatest recipient of Country Program funding, representing nearly one-fourth of contributions, which was the case last year as well. In comparison to FY21, the MENA region saw a 10 percent increase in allocation mainly because of the increase in demand for projects focusing on hydromet, resilient infrastructure, and the nexus of disaster risk with social stresses and conflicts¹¹.

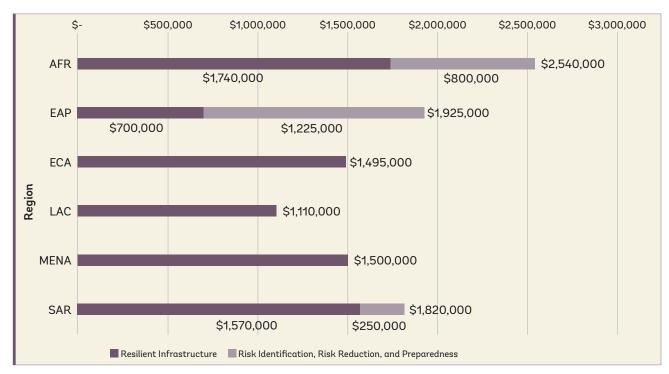
Figure 3 FY22 Regional Funding Distribution (calculated by US\$ amount)



Funding for grants that contribute to Priorities 1 and 2 were allocated across all six regions; in ECA, LAC, and MENA regions, 100 percent of the grants contributed to Resilient Infrastructure. In AFR and SAR regions, grants worth 69 and 86 percent respectively, contributed to Priority 1, Resilient Infrastructure, and a balance of 31 and 14 percent to Priority 2, Risk Identification, Risk Reduction, and Preparedness, respectively. In EAP region, 36 percent contributed to Priority 1, Resilient Infrastructure, and a balance of 64 percent to Priority 2, Risk Identification, Risk Reduction, and Preparedness (Figure 4).

 $^{^{11}}$ The increase also results from the FY21 grants being approved in FY22, which are included in this figure.





1.2.4 Just-In-Time Window

As of April 15, 2022, JIT has approved 7 grants—valuing \$470,000 for the FY22 cycle. The high competition for JIT grants (24 proposals for 7 awards) is evidence of how critical the grant window is for task teams. While JIT proposals can respond to Task Teams' urgent needs and provide quick access to TF grant resources, further support can be offered by GPRI either through the technical support platform being developed or the annual call for proposals.

Hence, the JIT window has proven its value in the resilient infrastructure ecosystem by allowing task teams to timely respond to client needs and project identification/preparation. With an average between 4 to 6 weeks of proposal assessment and approval, JITs are offered to teams throughout the duration of the fiscal year.

For instance, FY22 funding will contribute to the following: a project in Brazil in the critical stage of pre-approval of the required sovereign guarantee for a water operation in the northern region; a project in Tajikistan to address transport asset vulnerability to promote sectoral resilience; and initiation of an Information and Communication Technologies (ICT) Team under the Transport GP to assess disaster risk and impacts on networked infrastructures for last-mile connectivity.

1.3 Component 2 – Tokyo Disaster Risk Management Hub

While Component 2 requires only a fraction of the Program's funds, it has a very significant role in overall management of the Program. Under this component, the Tokyo DRM Hub performs the following functions:

- Program management and administration, including (i) coordination and administrative management supporting the organizational arrangements and related meetings; (ii) planning and execution of work plans and budgets, including pipeline development and screening of grant proposals together with regional and thematic counterparts; (iii) managing communications and outreach, reports on progress, monitoring and evaluation, and audits.
- Operational support to World Bank task teams, including: (i) identification of Japanese and global technical experts; (ii) facilitate engagements of such resources to support country and IBRD and/or IDA investment projects; and (iii) monitoring and reporting on the implementation of Program-financed projects, in coordination with World Bank task teams.
- Dissemination of knowledge and lessons learned from projects, including: (i) mainstreaming knowledge products developed under Phase I in operations and investments financed by IBRD and/or IDA; (ii) connecting knowledge and expertise produced to date with World Bank task teams to support the design and/or implementation of projects; and (iii) structuring partnership programs and communities of practice to advance DRM and resilience within and across key sectors. The Program also leverages the expertise and capacities of TDLC to support the development of Technical Deep Dives (TDDs) and trainings.
- Partner relations management, including: (i) liaising with GOJ on matters relating to Program governance; (ii) coordinating with relevant Japanese agencies for Program implementation and knowledge mobilization; and (iii) connecting World Bank task teams with JICA and other Japanese development partners.

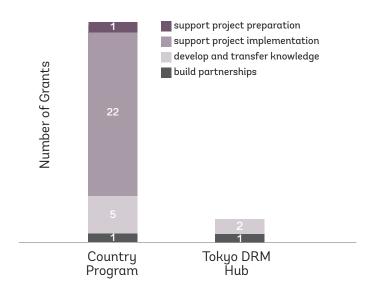
Box 3. Methodology for Japanese Expert Engagement Figures

Despite the impacts of COVID-19, which initially slowed down grant activities and hindered physical travel, the Tokyo DRM Hub supported the facilitation of Japanese expert engagement for a large portfolio of grants. Between the reporting period, January 1, 2021, and December 31, 2021, **29 active grants engaged 76 experts**, which is a significant figure given the challenges of the pandemic. Remotely, through video conferences, virtual workshops, and provision of written analysis and technical reviews, Japanese experts continued to extend operational support to World Bank task teams and client country stakeholders. This support focused on capturing and sharing Japanese knowledge and lessons learned on resilience with client countries and fostering new strategic partnerships.



The Program categorizes Japanese expert engagement into four types: 1) supporting project preparation, 2) supporting project implementation, 3) knowledge transfer, and 4) partnership and outreach. With the objective to link Japanese expertise to the World Bank's operational work, the Tokyo DRM Hub component of the Program especially focuses on engagement types 1 and 2. In FY22, total of 23 active grants benefited from Japanese expert engagements which contributed to the implementation or preparation of the Program grants or World Bank investment project activities. The breakdown of the number of engagements per type for both Components can be seen in Figure 5¹².

Figure 5 Engagement Types by the Program's two components



 $^{^{12}}$ Three engagements contributed to more than one engagement type by benefitting from Japanese experts on different occasions.

Box 5. Definition of Engagement Types

Engagement Types

The definitions of **project implementation**, **preparation**, **knowledge transfer**, **and partnership and outreach**, that comprise the Program's key engagement types remain the same as FY19-21 Annual Report and are indicated below.

- Project implementation Includes the engagement of Japanese experts
 to provide technical assistance to implement Japan Program grants and/
 or World Bank investment projects. This includes an expert who provided
 support and inputs to the Resilient Housing Global Program Roadmap as
 part of an ongoing grant and/or investment project.
- Project preparation Includes the engagement of Japanese experts to
 provide technical assistance to the preparation of World Bank investment
 projects. This includes experts from firms, provide support remotely, virtually, or in country as speakers or resource persons at workshops, conferences, and trainings, as well as lead, contribute to, or review technical
 assessments and analytical reports during the preparation of a World Bank
 investment project. The work contributed directly or indirectly to Concept
 Note, Project Appraisal Document (PAD) development, etc.
- Knowledge transfer Includes the engagement of Japanese experts to develop and transfer Japanese knowledge and expertise to client country and World Bank stakeholders. This includes experts who contributed to global reports, Japan case studies, and publications as resource persons, consultants, and committee members, and so on. It also includes speakers and resource persons who supported the design and implementation of knowledge exchange events such as Technical Deep Dive (TDD) workshops, training, technical visits, public seminars, brown bag lunches, and conferences that were held in Japan or internationally and virtually.
- Partnership and outreach Includes the engagement of Japanese stakeholders in exchange events such as conferences organized by the Hub or where Hub members participated in external events as session organizers or members. These engagements have often led to the Hub identifying opportunities for new partnerships and opportunities for collaboration and coordination with Japanese stakeholders.

The definitions of project preparation and implementation are also indicated in the document "Proposed Definitions and Targets of Key Indicators," submitted to MoF during the 6th Steering Committee in March 2019.



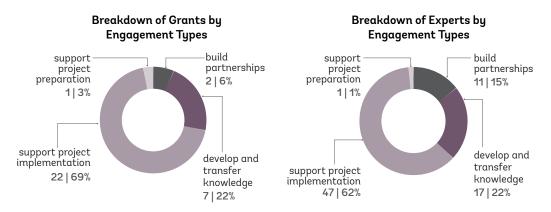
Road construction in Tajikistan. © Gennadiy Ratushenko / World Bank

1.3.1 Experts Engagement

The DRM Hub's leadership in connecting Japanese experts to the World Bank's operational projects and curating knowledge is well-established and continues to be a critical aspect of the Program. For FY22, the methodology for monitoring and reporting the Program's Japanese expert engagement was updated (as specified in Box 3) to ensure a more rigorous portfolio-wide analysis across various types of grants under the Program that were active during the reporting period from January 1, 2021, to December 31, 2021.

In the updated reporting period, 29 active grants engaged 76 Japanese experts across various activities. Some of the grants' engagements contributed to more than one engagement type, bringing the total to 32 engagements. Mapping of these grants as per the engagement objectives are shown in the blue pie chart below in Figure 6.

Figure 6 Breakdown of Number of Grants and Experts by Engagement Types

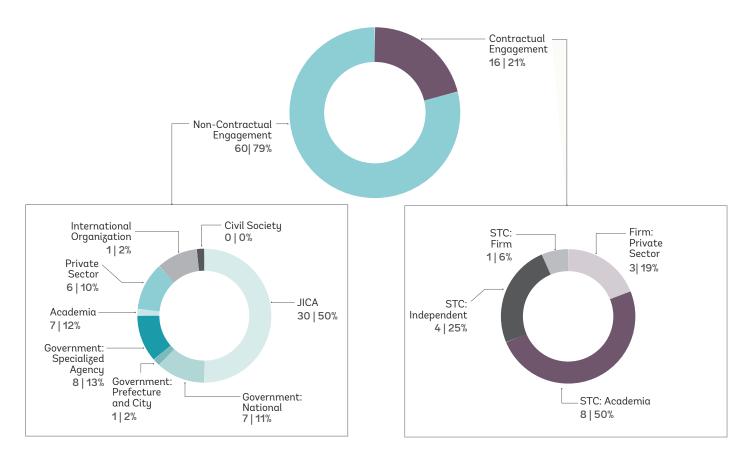


This year the Program continues to facilitate more Japanese expert engagement contributing to the implementation and preparation of Japan Program grants and investment projects for impactful results. During the reporting period, 69 percent of the 29 grants contributed to supporting project implementation of grants and investment projects and 1 percent contributed to preparation. The breakdown of contribution to engagement types is shown in Figure 6¹³.

Out of the 76 experts engaged, 63 percent contributed to preparation and implementation of grant and investment projects. This was followed by 22 percent and 15 percent engaged in knowledge transfer and building partnerships, respectively, which is shown in the red pie chart in Figure 6. Contractual engagements and the types of institutions the experts represent are analyzed below in Figure 7.

 $^{^{13}}$ Three engagements contributed to more than one engagement type by benefitting from Japanese experts on different occasions.

Figure 7 Types of Experts Engaged and Their Modalities



Out of the 76 experts, 16 were engaged through contractual arrangements and the remaining were engaged on an in-kind basis, as illustrated in the figure above. Of the contractual arrangements, the majority were short term consultant (STC) engagements, with 50 percent engaging academia, followed by independent and private sector specialists at 25 percent and 19 percent respectively. There were three firm contracts, all hiring private sector firms, contributing to resilient infrastructure including transport and energy sectors.

The non-contractual engagements included activities such as a one-off virtual technical contribution to knowledge exchange events and participation as experts at conferences. A diverse range of stakeholders including national and local governments, public specialized agencies, private sector firms, and advisors and technical staff of JICA contributed to the Program through voluntary, non-contractual support with highest contribution from JICA at 50 percent, followed by specialized government agencies at 13 percent and academia at 12 percent.

Examples of Japanese Expert Engagements and Contributions to World Bank Activities

The Hub has continued to proactively connect Japanese DRM expertise and solutions to developing countries by mobilizing Japanese DRM experts from the public sector, private sector, civil society organizations, and academia to beneficiary countries.

Supporting implementation of Japan grants and World Bank investment projects

Flood-Resilient Mass Transit Planning in Ouagadougou, Burkina Faso

In February and March 2021, a Japanese expert on road engineering from the Department of Civil and Environmental Engineering at Miyazaki University, provided valuable insights to Burkina Faso transport representatives about the Japanese city Toyooka's experience with urban transport flooding and measures taken to mitigate risks and damage such as a pre-disaster action plan.

The Program supported the grant "Flood-Resilient Mass Transit Planning in Ouagadougou, Burkina Faso (TFOB2135)" aiming to incorporate flood and other hazard risks in its spatial planning and technical design, and to enhance the capacity of national and city institutions to systematically consider flood risk in urban transport planning and management. The TA produced a global case study highlighting a diverse set of best practices detailing strategies to manage flood risks to urban transport systems. One such example came from the Japanese city, Toyooka, Hyogo Prefecture, which has similar urban transport flooding issues to Ouagadougou. The experience of Toyooka will help inform Burkina Faso's urban transport and urban development planning.

• Resilient Urban Mobility Diagnostics for Indonesian Cities

In April 2021, a virtual national level knowledge exchange attended by over 100 Indonesian government officials was held with the support of the Program's technical assistance grant, "Resilient Urban Mobility Diagnostics for Indonesian Cities (TF0B2168)". One of Japan's prominent railway companies presented the company's latest practices and innovations used in strengthening the resilience of Japan's mass transit systems. Japanese expertise and technologies shared during this knowledge exchange will inform system design and operational planning for the Bus Rapid Transit systems under proposed World Bank support to the Indonesian Government for the first phase of roll-out of the Indonesia Mass Transit Project. During the knowledge exchange, a senior representative from JICA Indonesia explained JICA's assistance with design of the Mass Rapid Transit (MRT) in Jakarta, which included flood resistance measures where water stop panels were installed to prevent flood water at station entrances from reaching the platforms. This design feature will be relevant for mass transit station design in other metropolitan cities in Indonesia.

Green and Resilient Industries to Enhance Competitiveness in Bangladesh

Significant collaboration and partnership were provided by a Japanese general trading company and JICA Bangladesh by reviewing and making substantial inputs to the Green and Resilient Economic Zone (GREZ) Guidelines based on their extensive global experience in economic Zone development and operation. The private company's

inputs were particularly substantial in ensuring that the key indicators target green and resilient considerations but are also practical for implementation. The private company expressed interest for continued partnership in piloting and further development of the GREZ guidelines within the Araihazar Economic Zone, which is a Japanese Economic Zone being developed by the Government of Bangladesh and the JICA managed by the company.

The technical assistance provided by the Program through the grant "Green and Resilient Industries to Enhance Competitiveness in Bangladesh (TF0B0854)" is supporting the development of a National GREZ Guideline that integrates disaster and climate change risk considerations. These guidelines are aimed at supporting Bangladesh to reach the next level of economic transformation by promoting direct private investments in economic zones. Additionally, these guidelines help investors and zone operators to meet global market demands and sustainability standards, thus enhancing their competitiveness.

• Disaster and Climate Resilient Renewable Energy Power System in Nepal

Through the "Disaster and Climate Resilient Renewable Energy Power System in Nepal (TF0B2719)", two Japanese experts and one Japanese company were retained to support the Government of Nepal in preparing its disaster resilient renewable energy technical designs. A Senior Resilient Infrastructure Finance Specialist from Toyo University and a Mini-hydro Specialist from Kyushu University worked to support Nepal's disaster risk assessment, resilient infrastructure, and cost estimate guidelines for resilient mini/micro-hydro systems. A Japanese electric power service provider was also retained as an operational consultant preparing the disaster/climate resilient technical designs and the operations manuals for mini/micro-hydro and solar/wind mini-grid systems.

During a virtual implementation support mission from April 19-26, 2021, a technical consultation between Nepal's Alternative Energy Promotion Centre (AEPC), the Government of Nepal (GoN), and Japanese experts was conducted. This discussion clarified the needs of the GoN and led to the development of three Guidance Notes outlining resilient guidelines for renewable energy based on mini-grid systems, as well as a forthcoming Report on Resilient Technical Designs and Operations Manual prepared by a Japanese electric power service provider.

Supporting preparation of World Bank investment projects

Retrofitting Masonry Buildings in Mexico

In continuation from last fiscal year, a professor from The University of Tokyo contributed to the preparation of the investment project "Mexico: Social Housing Support Project (P173570)" by contributing to a technical paper on improvement of social housing programs, through the grant, "Identifying Japanese Actionable Knowledge that Could Increase Housing Resilience in LAC Countries (TF0B2474)". The technical paper was used as a framework for the Resilient Housing team to improve the strategic approach to strengthening the resilience of the housing stock in developing countries and to enrich the list of retrofitting technologies to potentially be used.

Developing and transferring knowledge

Knowledge Exchange on Earthquake Early Warning System in Indonesia

The "Knowledge Exchange: Designing and Operationalizing and Earthquake Early Warning System in Indonesia (InaEEWS") was hosted by the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) on December 7, 2021. A professor from the Disaster Prevention Research Institute at Kyoto University, shared the lessons-learned from Japan's continuous efforts to improve its EEWS, highlighting the technical and operational aspects. With support from the Program, Japanese and global expertise are contributing to the capacity building initiatives supporting the Government of Indonesia's efforts to establish the InaEEWS. Through the World Bank project, Indonesia Disaster Resilience Initiatives Project (IDRIP), the Government of Indonesia, is working to establish a InaEEWS to improve the country's preparedness for geophysical hazards.

Improving Turkey's Urban Resilience

A Virtual Knowledge Exchange, organized with support from the Program, was held on December 21, 2021, for representatives from the Ministry of Environment, Urbanization, and Climate Change (MoEUCC) of Turkey to engage with the Japan Housing Finance Agency (JHF) specializing in providing housing, under the grant "Turkey Urban Resilience (TF0B2526)". The purpose of this knowledge exchange was to share the Japanese experience of providing homeowners with financial assistance for housing upgrading and retrofitting to mitigate the impacts of seismic and flood hazards. Past disaster events have proven the effectiveness of JHF's programs in reducing damage and loss of housing. MoEUCC officials learned the many design features of different financial mechanisms to support seismic- and flood-resilient housing in Japan that are relevant for addressing the challenges faced in Turkey. The experience and lessons learned in Japan are valuable to inform Turkey's path towards developing financing mechanisms to support resilient housing reconstruction and achieving their urban transformation goals.

For more examples of Japanese expert engagement, please refer to Table A6 under Annex 3, which lists Japanese engagements by grants.

1.3.2 Partnerships

As reemphasized in the revised Operations Manual and Visibility Guidelines for task teams, the Hub has been working with task teams to continue close collaboration with EOJ and JICA.

JICA and Japan Embassies

Informing WBG lending operations financing resilient school infrastructure in Central America

As part of activities under the grant "Informing WBG lending operations financing resilient school infrastructure in Central America (TF0B3591)", a meeting was held by the Nicaraguan Ministry of Education (MINED) and the World Bank on February

2, 2022, to overview the technical support provided thus far through Global Program for Safer Schools to Nicaragua. Technical assistance has focused on supporting the Alliance for Education Quality Project as well as strengthening the technical capacity of MINED in its planning and management of school infrastructure. Specifically, capacity training sessions were delivered through video conferencing to over 30 members of staff of the General Division of School Infrastructure at MINED. Different topics were covered over the course of 40 sessions.

The analytical work carried out provides knowledge and tools for the design of school infrastructure strategies, policies, and investments across Central America. This work is summarized in three technical notes, heavily informed by the Japanese experience, that will be finalized in the next quarter. Mr. Yasuhisa Suzuki, Ambassador of Japan to Nicaragua, as well as representatives of the JICA Nicaragua Office attended the meeting. Ambassador Suzuki noted his appreciation of the work carried out by MINED with the support of the technical assistance provided.

• Developing Infrastructure Solutions for Coastal Resilience in Ghana

Under the grant, "WACA: Developing Infrastructure Solutions for Coastal Resilience in Ghana (TF0B5216)", a workshop was held on July 29, 2021, with the World Bank in collaboration with the Ministry of Environment, Science, Technology, and Innovation (MESTI) of Ghana to develop a multi-sector investment plan (MSIP) towards coastal resilience in Ghana. Mr. Akihisa Katsumura, First Secretary at the Embassy of Japan in Ghana, attended the workshop and gave introductory remarks on behalf of the Embassy. The technical assistance will build the basis for the project's activities in Ghana and is supporting studies to inform the MSIP and the "West Africa Coastal Areas Resilience Investment Project 2 (WACA ResIP II)", a World Bank project currently in the pipeline, aimed at improving coastal resilience in Ghana and the West African region. The inception workshop was part of an effort to ensure inclusivity in the MSIP and WACA investment projects, with various stakeholders learning about the methodology and process for developing the MSIP and sharing their views on investment priorities.

South Asia Hydromet Forum 2021

The 3rd South Asia Hydromet Forum was held virtually from November 15-18, 2021, bringing together hydrometeorological experts from around the world to discuss possibilities of improving hydromet service delivery as well as promoting regional cooperation. With support from the Tokyo DRM Hub, a Senior Advisor on Meteorological Sector of JICA with expertise in remote-sensing meteorology and over 30 years of experience at the Japan Meteorological Agency (JMA), participated in the panel discussion, "Regional partnerships for improved weather and climate services in South Asia".

• Workshop on Sustainable Buildings to Strengthen Urban Resilience in Morocco

On April 1, 2021, the First Secretary from the Japan Embassy in Rabat, Morocco participated in the workshop, *Safe and Sustainable Buildings to Strengthen Urban Resilience in Morocco*, offering opening remarks which focused on Japan's commitment to supporting urban resilience in Morocco. During this dissemination workshop implemented under the grant "Building Regulation for Resilience Phase III

(TFOBO629)", the Government of Morocco's Ministry of Interior and the Ministry of Urban Planning, Housing and City Policy in partnership with the WBG Morocco DRM task team presented key findings and recommendations from the Morocco Building Regulatory Capacity Assessment Report, which aims to contribute to strengthening the safety and resilience of the built environment in Morocco and more generally to strengthen urban risk management. The strategic conversations between stakeholders laid the groundwork for translating these recommendations into concrete actions in the National Strategic Action Plan, currently under development.

• Course on Coastal Risk Management Strengthens Coastal Resilience in Seychelles Under the grant "Strengthening Coastal Resilience in Seychelles (TF0B1706)", a closing ceremony to commemorate the completion of a short course on Coastal Risk Management and Adaptation in Seychelles was held on October 15, 2021, which was attended by the Ambassador of Japan in Seychelles. The course was designed to help develop technical capacity to understand coastal risks and impacts, identify adaptation solutions, and help build coastal resilience, in line with the technical assistance on coastal and flood management provided by JICA, and the Seychelles Coastal Management Plan, which was developed in 2019 with support from the World Bank.

Tokyo Development Learning Center, Quality Infrastructure Investment and Global Infrastructure Facility

In FY22, the Hub partnered with the Tokyo Development Learning Center (TDLC) to design and implement the Resilient Infrastructure TDD to provide technical inputs to task teams.

Quality Infrastructure Investment

In continuation with previous years, the Hub actively and closely coordinates with the Quality Infrastructure Investment (QII) Partnership Trust Fund to ensure support across all quality infrastructure principles in order to plan upstream engagements and to respond to operational demand and enable synergies between each program.

Resilient Infrastructure Technical Deep Dive

More than 60 participants from 7 countries (Azerbaijan, China, Jordan, the Maldives, Nigeria, Rwanda, and Tunisia) took part in a virtual **TDD on Disaster Risk Management and Resilient Infrastructure** from February 14 to 18, 2022. This TDD event was organized by the Tokyo Development Learning Center in collaboration with the Tokyo DRM Hub, to promote knowledge exchange and to leverage Japanese and global expertise toward the development of resilient infrastructure against natural hazards and weather-related disasters across the world.

From Japan, experts and representatives from the Cabinet Secretariat's National Resilience Office; the Ministry of Land, Infrastructure, Transport and Tourism; the Ministry of Internal Affairs; governments of Kobe City, Sendai City, and Fukuoka City; Japan Overseas Infrastructure Investment Corporation; and Pacific Consultants shared lessons learned from responding to and recovering from various disasters over decades and best practices for enhancing resilience in infrastructure. Additional presentations from World Bank experts further presented the challenges in promoting infrastructure resilience globally.

The participants actively engaged in discussions on how to achieve resilience in transport, water, and energy sectors in their respective countries, through identifying the most applicable methods to map disaster risks in selected infrastructure assets. Mapping current disaster profiles and understanding past impacts has shown to be paramount, allowing deep discussions on the applicability of lessons learned and disaster risk mitigation approaches. The event concluded with a substantial knowledge sharing exercise, in which participants presented action plans to improve ongoing and future projects. Participants found Japan's knowledge of infrastructure designs, disaster response planning, and DRM institutional arrangements highly useful for considering ways to develop resilient infrastructure in their home countries.

1.3.3 Knowledge and Outreach

The Tokyo DRM Hub continued to work to increase visibility of the Program through several platforms including the Hub website, print media, social media, and other means including senior management engagements and dissemination activities.

International Development Journal Opinions and Editorial Page

The Tokyo DRM Hub and GFDRR contributed two articles to the International Development Journal (IDJ) Opinions and Editorial Page. One article featured Vice President for Sustainable Development Juergen Voegele and his leadership in the various Sustainable Development agenda, and another featured the work of GFDRR and the Tokyo DRM Hub through their partnership with Japan. The articles showcased the World Bank's strategic focus on building a green, resilient, and inclusive recovery into the post COVID era, the World Bank's support to client countries' efforts to increase preparedness and strengthen resilience against climate related disasters and other natural hazards, and the Hub's recent efforts to strengthen health system resilience by using know-how built up for DRM preparedness.

• Link to journal: International Development Journal

A blog entry by Vice President for Sustainable Development Juergen Voegele was also published to World Bank's "Voices" based on the IDJ article.

• Link to blog: Building resilience is vital for a sustainable recovery

Commemoration of March 11 Great East Japan Earthquake

On March 11, 2022, the Vice President for Sustainable Development Juergen Voegele tweeted the message below to commemorate 11 years since the occurrence of the Great East Japan Earthquake. This message was retweeted by President Malpass subsequently, representing the importance of the DRM agenda within the World Bank.

"Through its inspiring history of building resilience and commitment to sharing disaster risk management knowledge, Japan is helping World Bank client countries accelerate progress towards climate and disaster resilience."

World Bank President David Malpass Visit to School in Romania

World Bank Group President David Malpass visited a school in Bucharest on April 13, 2021, which was supported by the World Bank investment project "Disaster-Resistant and Inclusive School Building Project" in Romania. President Malpass discussed with stakeholders such as the Minister of Education and the Mayor about the Bank's support for the country's educational challenges, and in the classroom listened directly to the ideas of students and teachers on building safe schools and improving the learning environment. The grant "Romania Resilient Public Infrastructure (TF0B6343)" supported by the Program provides technical assistance to this project to raise awareness of climate change and the resilience of schools and surrounding communities.

Contribution to The Economist's Article

The Hub contributed to The Economist's article "Japan has a chequered record on climate change", to share what lessons from Japan's approach to DRM has been useful for client countries through World Bank investments. The Global Director for Urban, Disas-

ter Risk Management, Resilience and Land Global Practice, Sameh Wahba and Practice Manager for the World Bank East Asia and Pacific Region, Francis Ghesquiere, shared good practices from Japan on the Government having "pre-arranged contracts for repairing infrastructure, allowing post-disaster reconstruction to begin fast without going through cumbersome procurement processes" and focusing "on engineering-based solutions. Such investment, along with improvements to building codes, has reduced risks."

Contribution to Monthly Newsletter Distributed to Key Stakeholders

The World Bank Tokyo Office initiated the distribution of a monthly newsletter to key stakeholders, including parliamentarians, in FY22. The Hub provides monthly updates on its activities to strengthen resilience globally through the Japan Program grants and World Bank investment projects.

Results in Resilience Stories

In preparation to and alignment with the IDA20 Replenishment meeting and discussions, a series of results stories were prepared to highlight Japanese expert contributions to Program grants and World Bank projects in IDA countries. A total of five stories about IDA countries have been completed. Two more stories have been completed to highlight Japanese expert engagement in IBRD countries.

In addition to the above, 6 RIR stories are being developed to showcase results from Phase 1 Knowledge grants.

Website and Other Dissemination Media

Between July 1, 2021, and April 15, 2022, a total of 1,823 downloads of publications had occurred (950 downloads of those relating to Resilient Infrastructure; 592 downloads of those relating to Risk Identification, Risk Reduction, and Preparedness; 70 relating to DRFI; and 211 relating to Annual Reports and Program Brochures) from both the Tokyo DRM Hub's English and Japanese websites. These figures have increased significantly from a total of 811 in FY21 (432, 154, 5, and 220 respectively). To date, the number of visitors to the Hub website has reached 444,000 since the Program's launch in 2014 as of April 15, 2022, with about 40,700 visiting the site during this reporting period.

Five new event stories; two new feature stories; five new blog entries; 11 new videos; and one press release were published to the Tokyo DRM Hub website. These communication pieces are all presented on the website in both English and Japanese. A total of 11 Facebook posts and 13 Tweets were disseminated to promote these communication pieces, which reached a total of 18,000 people.

In FY22, the Hub continues to update its interactive map in both English and Japanese to offer the audience information on the active and closed TA grants the Program supports.



Doctor examines patient in Nigeria. © Curt Carnemark / World Bank

SECTION 2

RESULTS MONITORING

2.1 Overall Results

*Note: Figures under Section 1.2 Component 1 – Country Program include data for grants that were approved during the reporting period but were planned under FY22 Work Plan.

The activities highlighted in this section showcase the Program's continued proactive efforts to increase direct contributions to ongoing and planned World Bank investment projects and connecting Japanese expertise in DRM with developing countries and World Bank teams.

The FY22 Japan Program Annual Work Plan established a target of project preparation support for 15 new World Bank investment projects. As of April 15, 2022, grants approved in FY22 under the FY22 Work Plan contributed to the preparation of 14 investment projects. The grants in the pipeline submitted and pending approval by MoF are anticipated to contribute to the preparation of an additional 10 investment projects, bringing the total to 24.

Approved grants during this reporting period contributed to the preparation of 14 investment projects valuing \$2.02 billion in World Bank financing (IBRD and IDA) and supported teams across the Transport (two projects); Urban, Resilience, and Land (five projects); Water (four projects); and Energy (two projects); and Digital Development (one project) GPs (please refer to Annex 1¹⁴ for details). Seventy five percent (\$1.51 billion, 11 grants) of project preparation support is helping to strengthen Resilient Infrastructure, while 25 percent (\$509 million, three grants) is helping to enhance Risk Identification, Risk Reduction, and Preparedness.

¹⁴ Please note that Annex 1 also includes investment projects which were informed by grants approved under FY21 Work Plan. Please refer to the column labelled "Grant Approval FY" to see which fiscal year the grants were approved.



Destruction following super storm Yolanda (Haiyan) in the Philippines.

© acrylik / istock.com

Box 3. Definition of Project Preparation

Project preparation under the Japan Program is defined as direct technical assistance support to integrate disaster resilience into the design and development of a World Bank investment operation. Support is recognized as project preparation if contributions are included in Project Appraisal Documents (PADs) or provided to World Bank pipeline projects prior to approval by the World Bank Board of Directors. Project preparation grants include support to feasibility/technical studies and assessments, technical designs, strategies and framework development, and the organization of workshops and training sessions to inform counterpart governments of new investment projects or potential pipeline investment.

Note: The definition summarized here is based on the full definition provided in the "Proposed Definitions and Targets of Key Indicators" document submitted to MoF in FY19.

During the Seventh Steering Committee of the Program, MoF expressed the need for the Program to increase support to client governments to enhance DRM policy design and reforms, including within World Bank Development Policy Loans, and as a result help recipient governments design policies to strengthen their preparedness against disasters. Below are examples of such support provided during FY22.

Post-Disaster Financial Preparedness Strengthens Recovery in Tonga

The World Bank provided an initial \$8 million emergency funding to support the Kingdom of Tonga's response and recovery following the devastating volcanic eruption and tsunami on January 15, 2022. The emergency response funding comes through the Tonga Second Resilience Development Policy Operation with a Cat-DDO, which is a risk finance tool developed by the World Bank with support from the Japan Program and others, allowing monetary disbursements to the affected country within five days of the disaster event. World Bank teams on the ground are preparing impact assessments to aid the Government and partners' understanding of the scale of impacts; critical information necessary to identify response, recovery, and reconstruction needs and where they are most urgently required. The Japan Program grant "Pacific Resilience Program (PREP) - Tonga - GFDRR Co-financing Grant (TFOA1232)" has helped Tonga to develop emergency operations centers for use when disasters like this strike.

Leveraging 4th CAT-DDO in the Philippines to Build Disaster Preparedness at the Local Level

On November 17, 2021, the World Bank approved the Fourth Disaster Risk Management Development Policy Loan with a Cat-DDO 4 of \$500 million for the Government of Philippines. This new line of credit is helping strengthen the Philippines' institutional and financial capacity to manage risks from climate change, natural disasters, and disease outbreaks. In addition to providing immediate liquidity in the aftermath of severe disasters, the Cat-DDOs have, more importantly, provided access to technical

support from the World Bank in strengthening overall DRM policy reforms and developing institutional capacity to implement the reforms at the national and local levels.

Through the Third Cat-DDO, the "Ready to Rebuild (R2R): Disaster Rehabilitation and Recovery Program" was developed and launched, with support from the Program grant, "Building a Culture of Disaster Preparedness at the Local Level (TF0B3960)". The R2R Program provides countries with the framework on how to prepare people, communities, and local governments to be more resilient and ready to respond and recover from disasters better and faster. The Program continues to support the Government of the Philippines in addressing more complex challenges in managing climate, disaster, and health-related risks.

Resilient Health Systems

Following the successful launch of the "Frontline: Preparing Healthcare Systems for Shocks from Disasters to Pandemics" report, the Hub contributed to strengthening the partnership between GPURL and HNP through elevated collaboration via GFDRR. With a \$2 million contribution from the MoF, the new global program Climate and Disaster Risk Management for Health Systems (DRM4HS) was initiated by the Hub. This elevated a TF level collaboration that emerged in FY21 between GFDRR and Health Emergency Preparedness and Response (HEPR) programs to an operational partnership between GPURL and HNP GPs this year. This elevated partnership was translated into practical operational collaborations in FY22, including GFDRR's contributions to the following:

- (i) concept of Health Emergency Preparedness Program Multi Programmatic Approach (HEPP MPA, P178781);
- (ii) a new global MPA being prepared by HNP and anticipated to be approved by the end of FY22;
- (iii) technical inputs for HNP global flagship report, HNP South Asia regional study; and
- (iv) recent HEPR TF annual program report launch event.

Building on findings from the Frontline report, the DRM4HS program has been developing a new operational tool, Frontline Healthcare Scorecard, to identify critical gaps in health system resiliency at the country level. The scorecard is designed to assess country-specific capabilities to absorb, respond, and adapt to shocks while maintaining a continuity of care. Capabilities include health facilities, systems, and emergency response, along with supporting lifeline infrastructures such as energy, water, transport, and communications. This assessment aims to help countries identify capability gaps, which then could help pinpoint a need for future investments, reforms, or additional studies. The scorecard uses data to derive a country-specific gap analysis that can identify major risks, areas for action, and opportunities to strengthen resilience. Ultimately, the scorecard can enable countries to identify and prioritize investments and targeted reforms, along with highlighting areas for additional research. The snapshot

of the scorecard will identify areas of further in-depth analytical work that the RHS program can support for country teams.

In FY23, the DRM4HS program aims to expand analytical tools and their operational applications in selected countries. The program continues to expand a set of analytical tools around five pillars presented in the Frontline report. The program also began identifying countries to effectively leverage such analytical tools and operational supports to inform HNP, GPURL and other infrastructure-oriented investments for resilient health systems.

The DRM4HS also launched a webpage on GFDRR's website to disseminate information on Program activities, progress, and achievements.

2.1.1 Results Against Work Plan

During this reporting period, the Hub is implementing activities to reach the targets set out for FY22. A summary of the targets set in the FY22 Work Plan and outputs delivered in FY22 are shown in Table 3. The detailed results on Japanese expert engagement were indicated in Section 1.3.1; therefore, only the target numbers indicated in the Work Plan are stated in this section.

Table 2 Results against Work Plan

Objective	Indicator	FY21 (full FY) ¹⁵	FY22 (target)	FY22 (Actual, as of April 15, 2022) ¹⁶
	Grants supporting Resilient Infrastructure	84 percent	75 percent	81 percent
Mainstreaming of DRM in World Bank Strategies and Operations	Grants led by World Bank GPs such as Digital Development, Energy, Environment, FCI, Transport, and Water	53 percent	55 percent	73 percent ¹⁷
	Number of World Bank operations prepared with Program support	24	15	14 (24) ¹⁸
Increasing Connection of Japanese and Global Expertise to World Bank Investments	Number of Japanese experts engaged in the preparation or implementation of World Bank operations	92	30	48

 $^{^{15}}$ This figure includes the grants that were approved during FY22, which were planned under the FY21 Work Plan.

¹⁶ This figure includes the grants that were approved during FY22 and planned under the FY22 Work Plan.

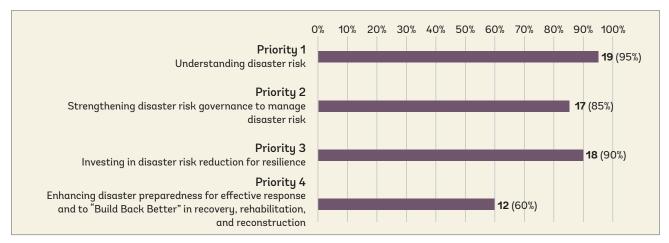
¹⁷ This figure includes grants that were approved during FY22 and planned under the FY22 Work Plan.

¹⁸ This figure includes investment projects mobilized by grants approved during FY22 and planned under the FY22 Work Plan. With the grants in the pipeline to be approved by the end of FY22, this figure is expected to increase to 24, which is more than the target of 15, set for FY22.

2.1.2 Results Against Sendai Framework Priorities

The FY22 portfolio is anticipated¹⁹ to contribute to all four Sendai Framework priorities—Priority 1: Understanding disaster risk; Priority 2: Strengthening disaster risk governance to manage disaster risk; Priority 3: Investing in disaster risk reduction for resilience; and Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction. Over 85 percent of the grants reported that they would contribute to Priorities 1, 2, and 3, as shown in Figure 8.

Figure 8 Percentage of Grants Contributing to Each Sendai Priority



2.2 Beneficiaries

The indirect beneficiaries across regions are approximately 185 million people across all six regions.

¹⁹ Contribution to Sendai Framework Priorities is taken from the grant proposals, for non-JIT grants. For JIT grants, data of contribution to Sendai Framework was developed by Tokyo DRM Hub team and reviewed by GPRI.

SECTION 3

RESULTS IN RESILIENCE

PRIORITY 1: Resilient Infrastructure

3.1 Advancing Resilient Road Transport in Upper Egypt



Road from Qena to Luxor. © Claudio Nichele / Flickr

3.1.1 Background/Context

Home to one-third of Egypt's population of 100 million, Upper Egypt has long faced its fair share of disasters, including cyclones, flooding and landslides. As it strives to accelerate its growth and development prospects, which thus far have lagged behind the rest of the country, Upper Egypt's vulnerability to these disasters is undoubtedly holding the region back.

With the support of the Program, the government of Egypt is working to address a major factor driving Upper Egypt's vulnerability to disasters, namely the region's underdeveloped and poorly maintained road transport infrastructure. By and large, road infrastructure in Upper Egypt has yet to incorporate disaster risks and hazards into technical design and maintenance, resulting in unsafe road conditions during extreme weather often leading to severe disruptions to people's lives and livelihoods.

3.1.2. Description

A key first step for the technical team has been the development of a comprehensive GIS-based geospatial inventory of road transport assets in Upper Egypt, including data on technical parameters such as road conditions, traffic levels and disaster risk. The inventory has been completed for the road networks of two cities, Qena and Sohag, while work is underway in eight other districts.

The team then worked closely with local officials to develop a road asset management system (RAMS), focusing initially on the cities of Qena and Sohag. RAMS is an interactive tool which will enable the officials to manage, understand and analyze the asset data collected in the inventory.

Informed by the geospatial inventory and the RAMS, local officials in Qena and Sohag have been able to develop multi-year operations and maintenance (O&M) plans for road transport infrastructure. Egypt's Ministry of Finance uses these plans to guide its planning and investment decisions in the sector. A key improvement of both plans, compared with previous versions, is that these now include budgeting envelopes for preventive actions designed to reduce road fatalities due to hazards. This innovation would not have been possible without analysis facilitated by the RAMS.

Strikingly, following its receipt of the new O&M plans from Qena and Sohag, the Egyptian Ministry of Finance has allocated more than ten times its usual funding allocations to road maintenance for both cities.

Across the board, this engagement has drawn extensively on the expertise and experience of Japan in building resilient road transport at home. For starters, in undertaking the inventory, the team drew extensively on the experience of two Japanese cities, Nagasaki and Gifu. Much like the case with the two cities, the team mobilized academics from two universities in Upper Egypt to support the data collection and validation. Drawing yet again on Nagasaki and Gifu, the academics were also tapped to train local officials in data collection and validation, thus ensuring that they have the skills to keep the inventory up to date for the long-haul.

Moreover, every stage of the engagement drew extensively on the Road Geohazard Management Handbook, a Japan Program-produced publication the Program produced, which sets out a comprehensive approach to proactively managing the risks of geohazards on roads, road users, and the people living near and affected by roads. For example, the design of the RAMS was shaped by the principles and considerations identified in the handbook.

The Hub was critical not only in connecting Japanese expertise to this project but also in providing the team with valuable resources and capacity building materials that supported this technical assistance at every stage.



Flooding on roads in Qena. Egypt. © AFP

3.1.3. Results

Looking ahead, the Egyptian government is eager to scale up these efforts across Upper Egypt, deeply encouraged by the progress achieved thus far. The hope is that this engagement is only one of the first steps in institutionalizing transport asset management as a key pillar of resilient and sustainable development in Upper Egypt and the country at large, much as it is the case in Japan.

As Upper Egypt continues to strengthen its road transport sector, it will have the continued support of the Upper Egypt Local Development Program, a \$500 million World Bank project to improve the business environment for private sector development across the region. The program has spurred private sector-led job creation and strengthened local government capacity to deliver infrastructure and services, leading the UN Department of Economic and Social Affairs to list it as an example of best practices aimed at meeting the 2030 Sustainable Development Goals.

PRIORITY 2: Risk Identification, Risk Reduction and Preparedness

3.2 Hydromet Services Improve Disaster Resilience



3.2.1 Background/Context

A small landlocked country in South Asia, Bhutan is no stranger to disasters including flash floods, landslides, landslide dam outburst floods, cloudbursts, windstorms, and forest fires. Most of the country's productive infrastructure, such as hydropower plants, roads, airports, and fertile agricultural land, are located along the main drainage basins, making them highly vulnerable to many of these hazards, particularly flash floods and landslides.

With the support of the Program's technical assistance grant "The Hydromet Services and Disaster Resilience Regional Project," Bhutan has been rapidly making headway in advancing the country's disaster risk reduction and preparedness for the long-term.

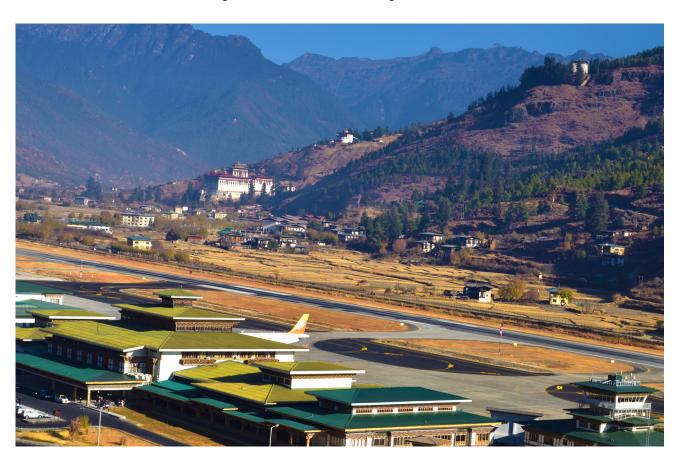
A key focus of the grant has been toward ensuring that Bhutan has the capacity to deliver timely and accurate hydrological and meteorological (hydromet) services which are key to protecting lives and livelihoods before, during and after a disaster.

3.2.2 Description

In line with a roadmap previously developed by the national government in collaboration with the World Bank and the Japan International Cooperation Agency (JICA), a top priority for the technical team has been to support ongoing efforts by

Bhutan – children look on terraced fields, a river and mountains. © World Bank.

the National Center for Hydrology and Meteorology (NCHM) to enhance weather forecasting services across the country.



Paro Airport nestled in the mountains of Bhutan. © Somnath Mahata | Dreamstime.com

Partnering with the NCHM, the team has assisted in operationalizing the SMART-MET system, a highly advanced, state-of-the art platform for weather forecasting and dissemination. Prior to the system being in place, forecasters had to view individual screens of incoming hydromet data which was a cumbersome and tedious task that often reduced the accuracy of the forecasts. But now, forecasters can view and analyze the data on a single platform, enabling more systematic forecasting. All these improvements have helped reduce the average preparation time for NCHM daily weather forecasts by half—down to two hours from the previous four required. NCHM officials have also observed improvement in the accuracy of weather forecasts. The team has concurrently provided capacity-building support to NCHM staff to help ensure that they are able to maximize the capabilities of the SMART-MET system.

Moreover, the team has also worked with the NCHM on installing an automatic weather observations system, a ceilometer, and a wind profiler, among other critical hydromet infrastructure, at Bhutan's sole international gateway, Paro International Airport, one of the most dangerous airports in the world. A ceilometer has also been installed at Bumthang domestic airport. The wind profiler provides wind shear data within its range, thus providing pilots more time for informed decision-making, while the ceilometers

offer better accuracy of cloud heights within the range. Overall, this technologically advanced equipment has dramatically improved the safety of flight operations in Bhutan. Hands-on training has also been provided to operational staff at the airports during the installation of the equipment.

Recognizing the vulnerability of the country's predominantly rainfed agriculture sector to extreme weather, a further priority has been the development of a targeted weather advisory service for farmers called the Agrometeorological Decision Support System (ADSS). Designed to help farmers make farm-level decisions, the system, which is currently in its pilot phase, uses machine learning algorithms to generate specific crop advisories for various locations based on weather data from the NCHM. Housed in a dedicated web portal, ADSS also has a feedback system that will allow users to provide recommendations for improvement. ADSS is expected to improve the climate resilience of the agriculture sector, which employs 56 percent of the country's labor force.

In addition to its support for strengthening hydromet services in Bhutan, the Program grant has also been instrumental in enhancing Bhutan's emergency communications systems across all 20 districts of Bhutan. For example, a multilayered resilient disaster communication system has been established, connecting various means of communication between the District Emergency Operation Centers (DEOCs).

3.2.3 Results

Japanese knowledge and expertise have been critical in laying the groundwork for the progress and results from this grant. Back in 2016, Bhutan was one of 11 countries that learned firsthand from the Japanese experience in hydromet modernization at a TDD organized by The Hub on hydromet services for early warning in Tokyo, Japan. The participation of Bhutanese officials at this TDD was key toward improving their understanding of the linkages between hydromet and disaster risk management, and ultimately helped cement the national government's commitment to strengthening its hydromet sector.

During the TDD, officials from Bhutan had highlighted their key challenges, including the lack of coordination between relevant agencies. This grant has played its part in helping bring those challenges to resolution. For instance, the development of the ADSS has helped facilitate the coordination and information-sharing between hydromet and agriculture agencies in Bhutan.

PRIORITY 3: Disaster Risk Finance and Insurance

3.3. Enabling Next Generation Analytics for Financial Protection of Resilient Infrastructure in Southeast Asia



Lao PDR - Transmission lines on the Nakai Plateau. © World Bank

3.3.1 Background/Context

Few regions in the world have seen advances in growth and development as rapid as Southeast Asia. Yet amid a changing climate and intensifying disaster risk, Southeast Asian countries recognize that resilient critical infrastructure will be key if the region is to sustain and accelerate that progress in the years ahead.

In advancing the resilient infrastructure agenda, a major challenge for Southeast Asian countries will be to ensure timely and cost-effective access to funding that can provide for the continuity of critical assets and services in the aftermath of a disaster. Delays in accessing finance after a disruption not only delay the reinstatement of critical assets and services, but also often have wider economic and social impacts.

3.3.2 Description

The Program's technical assistance grant, "Development and Implementation of Policy Framework for Financial Risk Management against Disasters" has supported the development of next generation tools and analytics which will enable Southeast Asian countries to mobilize disaster risk finance for resilient infrastructure. Disaster risk finance is the process of pre-arranging finance to enable timely and targeted financing for post-disaster relief and recovery.

A foremost priority for this engagement has been to support Southeast Asian countries in deepening their understanding of the disaster risk finance challenges and opportunities in the context of critical infrastructure.

Accordingly, a technical team worked on a detailed stocktaking of financial protection measures for critical infrastructure titled "Financial Protection of Critical Infrastructure Services." The stocktaking, which contributed to the disaster risk finance and insurance agenda of the 2020 Asia-Pacific Economic Cooperation (APEC) Finance Ministers' Meeting, proposed a range of key actions for developing and implementing a national financial protection strategy for critical infrastructure.

Informed by the stocktaking, another technical team subsequently worked on a deep dive risk assessment of critical infrastructure in Southeast Asia. The study, which spanned seven countries (Myanmar, Cambodia, Lao PDR, Indonesia, Philippines, Vietnam and Thailand), was focused on specific sectors, such as electricity and transport, and on specific hazards, including fluvial flooding, coastal flooding, and wind hazards.

By assembling, processing and analyzing available datasets to estimate risk metrics, the study was able to quantify network losses across those countries, sectors and hazards, at a regional, national and subnational level. Specifically, the study quantified the direct damage to the physical infrastructure asset itself and the indirect economic losses due to interruption of service to the customers (households, businesses, government) who depend upon the whole infrastructure network. With an eye to making the analytics more accessible to policymakers and practitioners, a prototype tool has been developed which visualizes the network losses at a regional, national, and subnational level.

Overall, the study and prototype are built on three main innovations. First, it brings together, for the first time, disaster risk finance analytics and infrastructure criticality analytics to assess financial risks and appraise financial risk management options. Second, it explores how global publicly available datasets can be used to deliver information more quickly, at scale and at a lower cost. This is a critical step to making such analyses open, accessible, and usable to emerging markets and developing economies. Third, it utilizes high-performance computing capabilities enabling analysis of network failures on a very large scale.

3.3.3 Results

Drawing on this analytical work, the Program, under the same grant, is now supporting the delivery of technical assistance to World Bank teams embedding disaster risk finance into Bank operations. Work is currently underway to support an energy project in the Pacific and a transport project in Lao PDR. The team is actively engaged in soliciting further interest from three of the Bank's global practices, namely water, transport, and energy.

Japanese expertise and engagement have proven invaluable over the course of this engagement. For starters, the stocktaking of financial protection measures, which

was launched and developed in partnership with the Japanese MoF, drew heavily on lessons learned from Japan. In recent decades, Japan has gained a reputation as a global leader in mobilizing disaster risk finance to protect critical infrastructure.

For instance, the stocktaking highlighted how local governments across the country have pre-arranged financing agreements with private companies to initiate recovery works in the immediate aftermath of disasters, a strategy which helped save lives and livelihoods in the aftermath of the 2011 Great East Japan Earthquake. The stocktaking features this and other examples in a dedicated chapter focusing on Japanese partnerships with the private sector in the context of resilient infrastructure.

Japanese officials have also played their part in furthering engagements by the World Bank and other development partners at the intersection of disaster risk finance and resilient infrastructure. For instance, Deputy Director of the Financial System Stabilization Division of the Japanese Ministry of Finance made a presentation on the Japanese Earthquake Insurance Program at a webinar organized by the World Bank Group and the Swiss State Secretariat for Economic Affairs (SECO). The presentation highlighted earthquake insurance as an example of a disaster risk financing solution that can be developed through the joint efforts of both the public and private sector.

ANNEX 1.

World Bank Investments Influenced during FY22

After years of implementation, the Hub has achieved success in terms of influencing²⁰ World Bank DRM investments. The Hub's support helps prepare client 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.

In Table A1, the total amount of IBRD and IDA financing influenced by all grants that were active during the reporting period²¹ and grants that were approved in FY22²². The breakdown of the total is listed in Tables A2, A3, A4, and A5²³. Tables A2 and A3 list investment projects which were influenced by grants approved in FY22, during the preparation phase and implementation phase respectively. Tables A4 and A5 list investment projects which were influenced by grants which were active during the preparation phase and implementation phase, respectively.

²⁰ In October 2021, GFDRR received corporate guidance from World Bank's Development Finance (DFi) to use the term "leverage" only when referring to the use of IBRD/IDA balance sheets to raise financial resources. Therefore, in this report, to align with this DFi guidance, the term "influence" will now be used instead of "leverage" to refer to Program TA grants being utilized to support the preparation of new World Bank IDA / IBRD investment projects. This is also in alignment with the "Review of the Japan-World Bank Program for Mainstreaming Disaster Risk Management in Developing Countries".

²¹ The figures in this column were based on information taken from the FY22-A M&E reporting. These figures are actual, as they have already been reported through the M&E platform to have been influenced by these grants.

²² This includes grants that were approved under FY21 Work Plan. The figures in this column were based on information taken from the FY21 and FY22 grant proposals approved by MoF between July 1, 2021, and April 15, 2022. These figures are anticipated, as the grants may not have influenced the investment projects at the time of submission of this annual report.

²³ In Tables A2, A3, A4, A5, information on investment projects influenced which were reported in the FY21-B reporting cycle in GFDRR's biannual reporting is also included, for reference. However, these figures are not counted in Table A1 as they are not FY22 figures.

Table A1 Total of IBRD and IDA World Bank investment projects supported by Japan Program grants during reporting period

	Investment projects linked to the TA Grants Approved in FY22	Investment projects influenced by TA grants active during reporting period
Total of IBRD financing influenced by grants during the project preparation phase	\$0.53 billion	\$1.45 billion
Total of IDA financing influenced by grants during the project preparation phase	\$1.48billion	\$ 1.02 billion
Total of IBRD and IDA financing influenced by grant during the project preparation phase	\$2.02 billion	\$ 2.47 billion
Total of IBRD financing influenced by grants during the project implementation phase	\$0.94 billion	\$ 1.64 billion
Total of IDA financing influenced by grants during the project implementation phase	\$1.26 billion	\$ 0.33 billion
Total of IBRD and IDA financing influenced by grant during the project implementation phase	\$2.21 billion	\$ 1.97 billion

Note: All figures are rounded down at the second decimal point to avoid over reporting. Rounding. Numbers may not add to totals because of rounding.

Table A2 List of investment financing influenced during the preparation phase, by grants approved in FY22²⁴

Country	TA Grant Name (\$ amount)	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY	Total Financing and Source (\$M)					
	Priority Area 1: Resilient Infrastructure										
Ghana	Ghana Resilient Power Infrastructure (\$0.45)	2022	GH Energy Sector Recovery PforR (P173258)	Energy & Extractives	2022 (Pipeline)	368 (IDA: 300, Co- financing: 58, Trust Funds: 10)					
Rwanda	Strengthening the Integration of Disaster Risk Management and Resilience into the Public Transport System in Kigali (\$0.5)	2022	Rwanda Urban Mobility Project (P176885)	Transport	2023 (Pipeline)	100 IDA					
Timor-Leste	Improving Resilience of Water Supply Services in Timor-Leste (\$0.45)	2022	Dili Water Supply Project (P176687)	Water	2022 (Pipeline)	123.6125 (IDA: 121, Total Government Contribution: 2.6125					

²⁴ The figures in this table were taken from the FY21 and FY22 grant proposals approved by MoF between July 1, 2021, and April 15, 2022, and World Bank Operations Portal. These figures are anticipated, as the grants may not have influenced the investment projects at the time of submission of this annual report.

Country	TA Grant Name (\$ amount)	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY	Total Financing and Source (\$M)
Mexico	Improving Adaptability and Readiness of Housing Programs to Disasters and Climate Change Related Events in Mexico (\$0.4)	2022	Mexico: Social Housing Support Project (P173570)	GPURL	2022 (Pipeline)	150 IBRD
Jordan	Disaster Resilient Amman Bus Rapid Transit Phase 2 Public Private Partnership (\$0.5)	2022	Amman Bus Rapid Transit Phase 2 - Public Private Partnership (P176451)	Transport	2023 (Pipeline)	250 (Total Equity: Total Government Contribution: 200, Private Sector Equity: 10, Commercial Debt: 40)
Pakistan	PUNJAB (PAKISTAN): Improving Disaster Risk Management Capacity in Punjab (\$0.56)	2022	Punjab Climate Resilience Project (P176743)	Water	2023 (Pipeline)	110 (IDA: 100, Government Contribution: 10)
India	Building Resilience in Assam India: Integrated Water and Flood Risk Management (\$0.44)	2022	Assam Integrated River Basin Management Program (P174593)	Water	2023 (Pipeline)	120 (IBRD: 100, Total Government Contribution: 20)
Cambodia	Mekong River Basin 3D Program: Resilient Dams, Development and Downstream Communities (\$0.25)	2021	Cambodia Water Security Improvement Project (P176615)	Water	2023 (Pipeline)	130 (IDA: 125, Multilateral and Bilateral Financing: 5)
Sub-Total	1351.6125 million (IBRD: 2	50, IDA: 746,	Others: 355.6125)			
			Just In Time			
Ghana	Risk Resilient Network Infrastructure for Last- mile Connectivity (\$0.07)	2022	Ghana Digital Acceleration Project (P176126)	Digital Development	2022 (Pipeline)	200 IDA
Mali	Mali – Resilient and Inclusive Power Sector Development (\$0.07)	2022	Mali Electricity System Reinforcement and Access Expansion Project (P176633)	Energy & Extractives	2023 (Pipeline)	603.8 (IDA: 157, Multilateral and Bilateral Financing: 44.8, Commercial Financing: 402)
Brazil	Brazil: Support Pernambuco State Government in the development of resiliency towards water-scarcity challenges and rural sanitation (\$0.07)	2022	Brazil: Pernambuco Rural Water and Sanitation Project - Projeto de Saneamento Rural de Pernambuco (PROSAR-PE)	Water	2023 (Pipeline)	90 IBRD
India	Enhancing Resilient Urban Infrastructure Investments and Flood Risk Management in Surat, India (\$0.07)	2022	Gujarat Resilient Cities Project Phase 2 (P177799)	GPURL	2023 (Pipeline)	280.1 (IBRD: 196, Total Government Contribution: 84.1)
Sub-Total		1173.9	million (IBRD: 286, IDA	: 357, Others: 5	30.9)	

Country	TA Grant Name (\$ amount)	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY	Total Financing and Source (\$M)				
Priority Area 2: Risk Identification, Risk Reduction, and Preparedness										
Kenya	Kenya Resilient Urban Areas (\$0.4)	2022	Kenya: Integrated Devolution and Urban Support Program (P177048)	GPURL	2023 (Pipeline)	300 IDA				
Liberia	Liberia Urban Resilience Technical Assistance (\$0.4)	2022	Monrovia Integrated Development Project (P169718)	GPURL	2022 (Pipeline)	40 IDA				
Cambodia	DRM Institutional Strengthening and Resilience Investment Options for the rural sector in the Tonle Sap region, Cambodia (\$0.5)	2022	Cambodia Southeast Asia Disaster Risk Management Project II (P177185)	GPURL	2022 (Pipeline)	171.85 (IDA: 169.4, Trust Funds: 0.45, Total Government Contribution: 2)				
Sub-Total		Ę	511.85 million (IDA:509	.4, Others: 2.45)					
Grand Total	3037.36	3037.3625 million (IBRD: 536 million, IDA: 1612.4 million, Others: 888.9625 million)								

Table A3 List of investment financing influenced during the implementation phase, by grants approved in FY22²⁵

					Investment Approval FY		Funding Source (\$M)	
Country	TA Grant Name	TA Grant Approval FY	Investments Leveraged	Lead GP	(Board approval date indicated if already approved)	\$	World Bank	
		Priority	Area 1: Resilient Infrastructur	·e				
Nigeria	Nigeria: Supporting the Storage Agenda for a More Resilient Development (\$0.6)	2022	Transforming Irrigation Management in Nigeria (P123112)	Water	Jun 19, 2014	Coun	3 495.3, terpart ing: 65)	
Turkey	Increasing the Climate Adaptation and Resilience of the Power Transmission System: Wind and Ice Load Mapping (\$0.6)	2022	Renewable Energy Integration (P144534)	Energy & Extractives	May 9, 2014	475 (IBRD:300, Counterpart Funding: 125, Trust Funds: 50)		
			Renewable Energy Integration Project Additional Financing (P169143)	Energy & Extractives	Feb 28, 2020	Co-fi - Oth Source Bilate	0:325, nancing ler ces (IFIs, erals, dations):	
Dominican Republic	3 3		Water Supply and Wastewater Services Improvement Project (P171778)	Water	May 27, 2021	43.5 IBRD		
	Dominican Republic (\$0.57)		DR Resilient Agriculture and Integrated Water Resources Management (P163260)	Agriculture and Food	Dec 13, 2018	80 IBRD		
Pakistan	PUNJAB (PAKISTAN): Improving Disaster Risk Management Capacity in Punjab (\$0.56)	2022	Punjab Rural Sustainable Water Supply and Sanitation Project (P169071)	Water	Jun 18, 2021	IDA: 2 Coun	D: 200, 242, terpart ing: 110)	
Cambodia	Mekong River Basin 3D Program: Resilient Dams, Development and Downstream Communities (\$0.25)	2021	Mekong Integrated Water Resources Management Project- Phase III (P148647)	Water	May 19, 2016		15, terpart ing: 1.5)	

The figures in this table were taken from the FY21 and FY22 grant proposals approved by MoF between July 1, 2021 and April 15, 2022, and World Bank Operations Portal. These figures are anticipated, as the grants may not have influenced the investment projects at the time of submission of this annual report.

					Investment Approval FY (Board approval	Funding Source (\$M)	
Country	TA Grant Name	TA Grant Approval FY	Investments Leveraged	Lead GP	date indicated if already approved)	World \$ Bank	
Turkey	Turkey - Strengthening Seismic Resilience and Energy Efficiency in Public Buildings (\$0.825)	2021	Seismic Resilience and Energy Efficiency in Public Buildings Project (P175894)	GPURL	Jun 9, 2021	265.75 (IBRD: 265, Trust Funds: 0.75)	
Morocco	Strengthening Resilient Infrastructure in Morocco and Tunisia (\$0.5)	2021	Integrated Disaster Risk Management and Resilience Program (P144539)	GPURL	Apr 20, 2016	200 IBRD	
Tunisia		2021	Tunisia Integrated Disaster Resilience Program (P173568)	GPURL	Mar 11, 2021	125 (IBRD: 50, Counterpart Funding: 25, Co-financing - Other Sources (IFIs, Bilaterals, Foundations): 50)	
Iraq	Building Resilient Infrastructure and	2021	Emergency Operation for Development (P155732)	GPURL	Jul 7, 2015	750 IBRD	
	Housing in Iraq (\$0.5)		Emergency Operation for Development Project - Additional Financing (P161515)	GPURL	Oct 31,2017	400 IBRD	
			Iraq Social Fund for Development (P163108)	Social Protection & Jobs	Feb 6, 2018	300 IBRD	
Bangladesh	Scale-up and Consolidation of Urban Resilience Institutions in Bangladesh (\$0.5)	2021	Bangladesh Urban Resilience Project (P149493)	GPURL	Mar 24, 2015	182 (IDA: 173, Counterpart Funding: 9)	
Sub-Total		4408.05 r	nillion (IBRD:2913.5, IDA: 925	.3, Others: 569.	.25)		
			Just In Time				
Tanzania	Water Resilience and Disaster Risk Preparedness for Dar es Salaam (\$0.05)	2022	Second Tanzania Water Sector Support Project (P150361)	Water	Jan 23, 2017	230 (IDA: 225, Counterpart Funding: 5)	
Central Asia	Strengthening Resilience and Safety of Road Infrastructure in Tajikistan (\$0.07)	2022	Fourth Phase of the Central Asia Regional Links Program (P166820)	Transport	Jul 30, 2020	132 (IDA: 131, Trust Funds: 1)	
Nicaragua	Mainstreaming Disaster and Climate Resilience in Critical Infrastructure after Hurricanes Eta and lota in Nicaragua (\$0.07)	2022	Nicaragua-Hurricanes Eta and lota Emergency Response Project (P175878)	GPURL	Jan 22, 2021	80 IDA	
Sub-Total			442 million (IDA: 436, Other	ers: 6)			

					Investment Approval FY	Funding Source (\$M)	
Country	TA Grant Name	TA Grant Approval FY	Investments Leveraged	Lead GP	(Board approval date indicated if already approved)	\$	World Bank
	Priority A	rea 2: Risk Ide	entification, Risk Reduction, a	nd Preparednes	s		
Cambodia	DRM Institutional Strengthening and Resilience Investment Options for the Rural Sector in the Tonle Sap region, Cambodia (\$0.5)	2022	Land Allocation for Social and Economic Development Project III (P171331)	Agriculture and Food	Jun 26, 2020		93, nterpart ling: 14)
Cambodia	Building Disaster Resilience of the Angkor World Heritage Site (\$0.225)	2021	Cambodia Southeast Asia Disaster Risk Management Project (P160929)	GPURL	Apr 14, 2017	Fund	
Sub-Total			169.5 million (IDA: 153, Othe	rs: 16.5)			
Total	5019.5	5 million (IBRI	D: 2913.5 million, IDA: 1514.3 i	million, Others:	591.75 million)		

Note: GPURL = Urban, Resilience and Land Global Practice; IWT = Inland Water Transport.

Table A4 List of investment financing influenced during the preparation phase, by grants active during the reporting period²⁶

Country	TA Grant Name	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY (Board approval date indicated if already approved)	Total Funding and Source (\$M)
		Priority	Area 1: Resilient Infrastruct	ure		
Niger	Building Urban Resilience in Niger (\$0.6)	2021	Niger Integrated Urban Development and Multi- sectoral Resilience Project (P175857)	GPURL	2022 (Pipeline)	250 IDA
Seychelles	Strengthening Coastal Resilience in Seychelles (\$0.5)	2020	Seychelles First Fiscal Sustainability and Climate Resilience Development Policy Financing (P176420)	Macro- economics, Trade and Investment	Dec 16, 2021	35 IBRD
Tanzania	Building Regulation for Resilience Program Phase 3 (\$0.7)	2020	Boosting Inclusive Growth for Zanzibar: Integrated Development Project (P165128)	GPURL	Jun 10, 2021	150 IDA

²⁶ These figures are taken from GFDRR's M&E platform cycles FY22-A and FY21-B and World Bank's Operations Portal.

Country	TA Grant Name	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY (Board approval date indicated if already approved)	Total Funding and Source (\$M)
Mongolia	Mongolia: Ulaanbaatar Transport Infrastructure Asset Management and Design for Resilience (\$0.45)	2021	Ulaanbaatar Sustainable Urban Transport Project (P174007)	Transport	Jun 23, 2021	100 IBRD
Vanuatu	Climate and Disaster Resilient Transport in Small Island Developing States (\$1.00)	2019	Vanuatu Climate Resilient Transport Project - Additional Financing (P177135)	Transport	Dec 10, 2021	46.8 IDA
Vietnam	Strengthening Urban Resilience in Vietnam: Investment Support and Analysis (\$1.00)	2021	Vinh City Priority Infrastructure and Urban Resilience Development Project (P174157)	GPURL	2022 (Pipeline)	194.5 (IBRD: 129.6, Total Government Contribution: 64.9)
Brazil	Implementing Resilient Urban Transport Systems for Improved DRM in Belo Horizonte – MG (\$0.35)	2021	Reducing Flood Risks and Improving Living Conditions in Ribeirao Isidoro Basin, Belo Horizonte (P174619)	Water	2022 (Pipeline)	168 (IBRD: 134.4, Counterpart Funding: 33.6)
St. Vincent and the Grenadines	Climate and Disaster Resilient Transport in Small Island Developing States (\$1.00)	2019	Saint Vincent and the Grenadines Volcanic Eruption Emergency Project (P176943)	GPURL	Nov 30, 2021	42 (IDA: 40, Trust Funds: 2)
Afghanistan	Enhancing Disaster Response and Resilience of the Afghanistan Urban Water Supply and Sewerage Corporation (\$0.435)	2021	Afghanistan Water, Sanitation, Hygiene and Institutional Support Project (P169970)	Water	Dec 11, 2020	200 (IDA: 50, Trust Funds: 150)
Bangladesh	Integrating Extreme Weather and Natural Hazard Resilience in the Bangladesh Power System (\$0.6)	2021	Electricity Distribution Modernization Program (P174650)	Energy & Extractives	Dec 21, 2021	902 (IDA: 500, Counterpart Funding: 250, Trust Funds: 15, Commercial Financing: 24, Cofinancing - Other Sources (IFIs, Bilaterals, Foundations): 13)
Sub-Total		2088.3	million (IBRD: 399, IDA: 103	6.8, Others: 65	2.5)	13)

Country	TA Grant Name	Grant Approval FY	Investments Leveraged	Lead GP	Investment Approval FY (Board approval date indicated if already approved)	Total Funding and Source (\$M)				
Priority Area 2: Risk Identification, Risk Reduction, and Preparedness										
Ethiopia	Enhancing Disaster Resilience in Ethiopia (\$0.5)	2021	Ethiopia Integrated Disaster Risk Management Project (P176327)	GPURL	2022 (Pipeline)	300 IDA				
Liberia	Supporting Multi-risk Assessment of Greater Monrovia (\$0.2)	2020	Liberia Urban Resilience Project (P169718)	GPURL	2022 (Pipeline)	49.6 (IDA: 40, co- financing: 9.6)				
Philippines	Building a Culture of Disaster Preparedness at the Local Level: Pilot Implementation of the Philippine Disaster Rehabilitation and Recovery Guide in Poorer and More Vulnerable Provinces, Cities and Municipalities (\$0.25)	2019	Fourth Disaster Risk Management Development Policy Loan with a Catastrophe- Deferred Drawdown Option (P177125)	GPURL	Sep 7, 2021	500 IBRD				
Tajikistan	Scaling up Disaster Resilience in Tajikistan (\$1.00)	2019	Tajikistan Preparedness and Resilience to Disasters Project (P177779)	GPURL	Mar 11, 2022	50 IDA				
Brazil	Southern Brazil Resilience Capacity Building Support Grant (\$0.6)	2020	Green, Resilient and Inclusive Regeneration of the Central Area of Porto Alegre (P178072)	GPURL	2023 (Pipeline)	191.1632 (IBRD: 91.76, Total Government Contribution: 38.232, Multilateral financing: 61.1712)				
Costa Rica	Strengthening Hydrometeorological Services, Preparedness and Response Capacities in Central America (\$0.6)	2019	Costa Rica Climate Resilient Recovery and Territorial Development Project (P178049)	GPURL	2023 (Pipeline)	500 IBRD				
Panama			Second Panama Disaster Risk Management Development Policy Loan with a CAT DDO (P174191)	GPURL	Mar 14, 2022	100 IBRD				
Sub-Total		1690.7632 1	million (IBRD: 1191.76, IDA: 3	90, Others: 10	9.0032)					
Grand Total	3779.0632	million (IBRD	: 1590.76 million, IDA: 1426.	8 million, Othe	rs: 761.5032 mil	lion)				

Table A5 List of investment financing influenced during the implementation phase, by grants active during the reporting period²⁷

		TA Grant Approval	Investments		Investment Approval FY (Board approval date indicated if		Source (\$M)
Country	TA Grant Name	FY	Leveraged y Area 1: Resilient Infr	Lead GP	already approved)	\$	World Bank
Mozambique	Strengthening Urban Resilience and Disaster Preparedness in Mozambique (\$0.5)	2021	Mozambique Disaster Risk Management and Resilience Program (P166437)	GPURL	Mar 19, 2019		, Counterpart 36.27, Trust
			Mozambique: Cyclone Idai & Kenneth Emergency Recovery and Resilience Project (P171040)	GPURL	Sep 30, 2019	- Other :	
Seychelles	Strengthening Coastal Resilience in Seychelles (\$0.5)	2020	Disaster Risk Management Development Policy Loan with CAT DDO (P148861)	GPURL	Sep 26, 2014	7 IBRD	
Somalia	Kismayo Urban Flood Risk Reduction and City-Wide Storm Water Drainage Plan (Somalia) (\$0.4)	2021	Somalia Urban Resilience Project II (P170922)	GPURL	Dec 9, 2019	112 (IDA: 50, Trust Funds: 62)	
Lao People's Democratic Republic	Lao PDR: Strengthening Urban Flood Resilience and DRM Institutional Capacity (\$0.4)	2021	Lao PDR Southeast Asia Disaster Risk Management Project (P160930)	GPURL	Jul 6, 2017	31 (IDA: 30 1)	, Trust Funds:
Brazil	Implementing Resilient Urban Transport Systems for Improved DRM in Belo Horizonte – MG (\$0.35)	2021	Improving Mobility and Urban Inclusion in the Amazonas Corridor in Belo Horizonte (P169134)	Transport	Mar 24, 2020	100 (IBRD: 8 Funding	0, Counterpart : 20)
Egypt, Arab Republic of	Upper Egypt Resilient Road Transport Technical Assistance (\$0.3)	2021	Upper Egypt Local Development PforR (P157395)	GPURL	Sep 29, 2016	500 IBRD	
Iraq	Informing WBG Lending Operations Financing Resilient and Learning Oriented School Infrastructure in Iraq (\$0.3)	2021	Emergency Operation for Development Project - Additional Financing (P161515)	GPURL	Oct 31, 2017	400 IBRD	
India	Risk Management & Resilient Infrastructure Development for Assam IWT (\$0.2)	2020	Assam Inland Water Transport Project (P157929)	Transport	Dec 13, 2019	110 (IBRD: 8 Funding	8, Counterpart : 22)

 $^{^{27}}$ These figures are taken from GFDRR's M&E platform cycles FY22-A and FY21-B and World Bank's Operations Portal.

					Investment Approval FY	Funding	Source (\$M)			
Country	TA Grant Name	TA Grant Approval FY	Investments Leveraged	Lead GP	(Board approval date indicated if already approved)	\$	World Bank			
India	Informing the Design of a Statewide Strategy to Build Resilient and Equitable Schools in Nagaland (\$0.3)	2021	Nagaland: Enhancing Classroom Teaching and Resources (P172213)	Education	Dec 15, 2020	85 (IBRD: 6 Funding	8, Counterpart : 17)			
Sri Lanka	Supporting Resilient Public Transport Infrastructure in Kandy, Sri Lanka (\$0.25)	2021	Kandy Multimodal Transport Terminal Development Project (P172342)	Transport	May 18, 2020	69.33 IDA				
Sub-Total 1736.6 million (IBRD: 1143, IDA:, 369.33, Others: 224.27)										
	Priority A	rea 2: Risk I	dentification, Risk Red	luction, and F	reparedness					
Sri Lanka	Climate Resilient Flood Risk Management in Priority Basins and Cities (\$0.25)	2021	Climate Resilience Multi-Phase Programmatic Approach (P160005)	GPURL	Jun 25, 2019	92 IBRD				
Sub-Total			92 million (IBRD: 92)						
		Tokyo	Disaster Risk Manage	ment Hub						
Philippines	Country Program Support Phase 2 (\$1.6)	2021	Philippines Third Disaster Risk Management Development Policy Loan (P171440)	GPURL	Apr 9, 2020	500 IBRD				
Sub-Total			500 million (IBRD: 500)						
Total	2328	.6 million (IB	RD: 1735 million, IDA:	369.33 millio	n, Others: 224.27 mi	llion)				

ANNEX 2.

Financial Statement²⁸

Statements of Receipts, Disbursements and Fund Balance

Express in US Dollars

	For the fiscal year 2022 until April 15, 2022	For the fiscal year ended June 30th, 2021	For the fiscal year ended June 30th, 2020
Opening Balance:	47,372,605	34,261,365	19,966,585
Receipts:			
Donor Contributions	20,000,000	25,338,162	20,000,000
Net Investment and other incomes	60,306	161,134	513,248
Total Receipts	20,060,306	24,499,296	s18,513,248
Disbursements:			
Project Disbursements	8,459,363	9,995,658	4,193,875
World Bank Administration Fee	23,494	0	24,594
Program Management and Administration Expenses	990,028	1,392,397	0
Total Disbursements	9,472,885	11,388,056	4,218,469
Excess of (disbursements over receipts)/ receipts over disbursements	10,587,421	13,111,240	14,294,780
Ending Balance:			
Ending Balance	57,960,026	47,372,605	34,261,365
Less: Undisbursed Commitments	35,129,005	33,848,719	18,124,369
Fund Available for New Grants	22,831,021	13,523,886	16,136,995

a. In FY20 initial US\$20 million contribution received. Of this US\$2 million was transferred to the MDTF III (TF073410)

b. In FY21 initial US\$25.3 million contribution received. Of this US\$1 million was transferred to the MDTF III (TF073410)

²⁸ Financial statement was developed using a new methodology. For BETFs total disbursements are subtracted from total grant amount and commitments for RETFs were added. Due to the change in methodology, figures may differ from those indicated in previous annual reports.

ANNEX 3.

List of Japanese Expert Engagement and Events

Description of Japanese Expert Engagement in Grants

Table A6 Phase 2 Trust Fund Country Program Grants

	Grant Title	TF # Child Fund/ PCode	Region/ Country	Total Grant Amount (USD)	Start Date/ End Date	Description of Japanese Expert Engagement
1	Building Community Inclusive Flood Management in Sri Lanka	TF0B0052/ P160005	SAR/ Sri Lanka	600,000	5-Apr-19/31- Dec-21	JICA DRM team shared JICA's ongoing DRM activities including urban stormwater management in Kalu River Basin and landslide mitigation projects. JICA's approaches and methodologies were shared. 1 JICA water resources engineer specializing in hydraulics and hydrology shared expertise and contributed to the detailed design review of the salinity barrier.
2	Development and Implementation of Policy Framework for Financial Risk Management against Disasters	TF0B0110/ P170893	OTHER/ World	2,000,000	17-Apr-19/30- Jun-23	Report launch event (March 11, 2022) was opened by the director of Research Division, MoF and 1 expert from Tokio Marine & Nichido Fire Insurance Co. Ltd made a presentation introducing the example of Japan on integrating DRFI solutions to strengthen the disaster resilience of critical infrastructure systems. Furthermore, 1 expert from MoF provided inputs during finalization of the APEC Report on Financial Protection of Critical Infrastructure Systems. 4 MoF representatives joined the Webinar on Sovereign Disaster Risk Insurance of the Global Knowledge Exchange (virtual) on Disaster Risk Finance organized by World Bank Group & Swiss State Secretariat for Economic Affairs (SECO) program on Disaster Risk Finance in Middle Income Countries in September 2021. A Deputy Director of the Financial System Stabilization Division presented the Japanese Earthquake Insurance Program.
3	Bhutan: Hydromet Services and Disaster Resilience Regional Project	TF0B0586/ P154477	SAR/ Bhutan	22,000	8-Aug-19/30- Jun-21	Kokusai Kogyo Co. Limited was contracted for design of National Emergency Operation Center through a Joint Venture with United Consultancy (Bhutan).

	Grant Title	TF # Child Fund/ PCode	Region/ Country	Total Grant Amount (USD)	Start Date/ End Date	Description of Japanese Expert Engagement	
4	Scaling up Disaster Resilience in Tajikistan	TF0B0600/ P158298	ECA/ Tajikistan	1,000,000	17-Jun-19/30- Jun-23	4 JICA representatives attended stakeholder workshops and shared JICA's project for Capacity Development for Road Disaster Management. The shared information supported the assessment of economic impacts from disasters along key corridors, in particular potential resilience investments and operations/maintenance realities.	
5	Climate and Disaster Resilient Transport in Small Island Developing States	TF0B0672/ P164157	OTHER/ World	1,000,000	26-Jun-19/30- Apr-22	3 Japanese Professors form Kyoto University provided inputs to the development of an e-leaning course based on their extensive experience and knowledge on the topics of climate change and natural hazards management in transport networks, systems, and assets; and on methods, techniques, and frameworks to integrate disaster risks considerations in transport asset management to improve climate resilience.	
6	Piloting Project Resilience in Power Systems	TF0B0808/ P166122	OTHER/ World	500,000	22-Jul-19/30- Jun-22	5 JICA representatives provided inputs for the Expression of Interest (EoI) and reviewed short-listed proposals.	
7	Green and Resilient Industries to Enhance Competitiveness in Bangladesh	TF0B0854/ P170688	SAR/ Bangladesh	800,000	29-Jul-19/31- Jul-22	1 expert from Sumitomo Corporation joined the GREZ Technical Committee workshop held in June 2021 and shared Japanese solutions and case studies related to improving the resilience of the power supply network. 1 STC provided inputs to the technical assessment of firm-to-firm industrial symbiosis.	
8	Strengthening Capacity and Information Management for Improved Disaster Risk Assessment in Bhutan	TF0B0888/ P175081	SAR/ Bhutan	250,000	1-Aug-19/30- Jun-23	1 Japanese expert was hired as an STC and brought Japanese expertise on conservation and disaster risk management of cultural heritage.	
9	Resilient Mass Transit in Ouagadougou	TF0B2135/ P173537	AFR WEST/ Burkina Faso	197,388	11-Feb-20/30- Jun-21	1 professor from University of Miyazaki was engaged in the development of a case study on the Japanese city experience with managing flood risks, especially through "soft" solutions and integrated planning. The case study findings informed the development of the "long list" of solutions proposed for addressing flood risks in Ouagadougou.	

	Grant Title	TF # Child Fund/ PCode	Region/ Country	Total Grant Amount (USD)	Start Date/ End Date	Description of Japanese Expert Engagement
10	Resilient Urban Mobility Diagnostics for Indonesian Cities	TF0B2168/ P169548	EAP/ Indonesia	180,000	8-Feb-20/30- Sep-21	1 JICA representative and 1 expert from East Japan Railway Company joined the workshop: National Level Dissemination Workshop (Online) - Addressing Disaster Risk Management and Climate Change Adaptation for Mass Transit Systems in Indonesian Cities which was held in Jakarta virtually and shared the best practices of disaster mitigation measures drawing from the experience of Japan Rail-EAST and MRT Jakarta.
11	Identifying Japanese Actionable Knowledge that Could Increase Housing Resilience in LAC Countries	TF0B2474/ P167747	OTHER/ World	150,000	20-Mar-20/31- Aug-21	A professor from the Institute of Industrial Science at the University of Tokyo has been engaged as an STC to identify and analyze Japanese best practices on housing resilience, extract lessons for policy makers, and assess how these experiences could be adapted to Latin American contexts to increase the resilience of the housing stock to earthquakes and other hazards.
12	Turkey Urban Resilience	TF0B2526/ P173025	ECA/ Turkey	1,000,000	27-Mar-20/30- Apr-23	2 STCs conducted research to develop the list of potential Japanese experts for a knowledge exchange on various possible topics relevant to urban resilience in Turkey. Among 2 STCs, 1 STC also provided inputs to the Japanese case studies on Japan: DRM initiatives after the 2011 Great East Japan Earthquake; Tokai region earthquake resistance through the TOUKAI-0 project; Urban Redevelopment Law. 2 experts from Japan Housing Finance Agency (JHF) shared Japan's experience on providing financial support for resilient housing upgrading with representatives from MoEUCC at the virtual knowledge exchange session on December 21, 2021.
13	Myanmar Strengthening Seismic Resilience	TF0B2607/ P160931	EAP/ Myanmar	500,000	9-Apr-20/30- Apr-22	Key informant interviews conducted by 4 JICA experts informed the drafting of BCRA report, particularly in terms of the descriptions of development partner landscape and capacity building support extended to Yangon City Development Committee (YCDC). Masterplans for Yangon developed in partnership with JICA were also reviewed to draw recommendations on the need to clarify land-use classifications as areas to strengthen Yangon's building regulatory capacity.

	Grant Title	TF # Child Fund/ PCode	Region/	Total Grant	Start Date/ End Date	Description of language Everyt Engagement
14	Disaster and Climate Resilient Renewable Energy Power System in Nepal	TF0B2719/ P171183	SAR/ Nepal	Amount (USD) 300,000	8-May-20/30- Jun-22	Description of Japanese Expert Engagement 1 firm (Tokyo Electric Power Services Co., Ltd. (TEPSCO)) and 2 STCs were contracted to develop a knowledge report and guidance notes on the disaster/climate resilient power generation, transmission, and distribution. A virtual technical consultation was held with AEPC/GoN to support the client to prepare its disaster resilient renewable energy technical designs and operation manuals.
15	India Dam Risk Assessment and Benchmarking Dam Safety	TF0B3071/ P170873	SAR/ India	150,000	20-Apr-21/31- Dec-22	More than 5 experts from JWA and ICHARM provided technical support in development of the national guidelines on "Operation of Dams under Seismic Condition".
16	Disaster Preparedness at the Local Level: Pilot Implementation of the Philippine Disaster Rehabilitation and Recovery Guide in Poorer and More Vulnerable Provinces, Cities and Municipalities	TF0B3960/ P171440	EAP/ Philippines	250,000	16-Sep-20/30- Jun-22	Discussions between the task team and JICA team have been carried out to explore possibilities on how rehabilitation and recovery planning will be institutionalized through the local disaster risk and reduction plans (LDRRMPs). The Manual for Formulating/Updating the LDRRMPs is currently being updated by the Office of Civil Defense with technical assistance from JICA Philippines.
17	Cambodia Urban Flood Resilience Diagnostics	TF0B4672/ P160929	EAP/ Cambodia	300,000	10-Dec-20/31- Dec-22	1 expert from UNESCO (Team Leader for the preparation of the Disaster Risk Management Plan for Angkor Heritage and a focal point for the IUFRS coping Study in engaging with Apsara) is acting in a coordinating role.
18	Strengthening Urban Resilience in Vietnam: Investment Support and Analysis	TF0B4678/ P175981	EAP/ Vietnam	1,000,000	7-Dec-20/30- Jun-22	1 JICA official provided inputs and analysis during a stakeholder workshop reviewing an integrated water management and flood risk management plan of Truong Giang River in Quang Nam province.
19	Enhancing Disaster Response and Resilience of the Afghanistan Urban Water Supply and Sewerage Corporation	TF0B4742/ P169970	SAR/ Afghanistan	400,000	3-Jαn-21/30- Jun-23	1STC (development and water sector expert) supported the preparation of the Terms of Reference and the procurements of consultants to implement grant activities. The STC will be further engaged during the implementation of this grant.
20	Water Security and Drought Resilience for Water Supply in Sri Lanka	TF0B4868/ P147827	SAR/Sri Lanka	300,000	15-Jan-21/30- Sep-22	ICHARM was consulted on the drought analysis and shared effective use of models to analyze droughts.

		TF # Child Fund/	Region/	Total Grant	Start Date/	
21	Building Regulation for Resilience Program Phase 3	PCode TF0B4930/ P176068	OTHER/ World	Amount (USD) 705,104	End Date 15-Jan-21/31- Dec-23	Following previous engagements with Japanese counterparts in Jamaica, Morocco and the Maldives, the World Bank task teams are maintaining partnerships with Japanese counterparts such as JICA and the Embassy of Japan. In particular, JICA representatives attended the Morocco BRCA Workshop in which Mr. Takashi Sakoda, First Secretary, Embassy of Japan in Rabat, Morocco was invited to provide opening remarks. Mr. Sakoda's statements focused on Japan's commitment to supporting the agenda of urban resilience in Morocco.
22	Implementing Resilient Urban Transport Systems for Improved DRM in Belo Horizonte	TF0B5016/ P169134	LAC/ Brazil	350,000	27-Jan-21/31- Jan-23	Nippon Koei Co., Ltd. and Nihon University (research fellow) participated in a workshop. Nippon Koei presented its case study of Sao Paulo Roads, financed by the WB, and a research fellow at the Nihon University gave an overview of Japanese case studies, methodologies and solutions, and discussed how these measures can be adapted to the local context.
23	Upper Egypt Resilient Road Transport TA	TF0B5049/ P157395	MENA/ Egypt, Arab Republic of Egypt	300,000	3-Feb-21/31- Oct-22	Oriental Consultant Global Co., Ltd. was contracted and developed case studies on the experiences of road asset management in Nagasaki and Gifu, Prefectures in Japan. Experiences from Japan are expected to provide valuable insights into procuring the human resources necessary for RAM in Upper Egypt.
24	Strengthening Resilient Logistic Infrastructure in Bangladesh	TF0B5115/ P154580	SAR/ Bangladesh	350,000	9-Feb-21/30- Sep-22	2 experts were hired as STCs to review the terms of reference and outputs.
25	Strengthening Resilience of the Power Transmission Infrastructure in Ukraine	TF0B5186/ P146788	ECA/ Ukraine	750,000	18-Feb-21/31- Dec-22	Kansai T&D was contracted to share expertise: (i) disaster prevention and response; (ii) power system stabilization technology; (ii) renewable energy integration; (iv) upgrades of aged facilities; (v) maintenance optimization; (vi) substation automation; and (vii) transmission line construction process. 5 experts from Kansai T&D made presentations during the knowledge sharing workshop (Virtual): Strengthening Resilience of Power Transmission Infrastructure in Ukraine, held on November 12, 2021, and shared their knowledge and practices in climate and natural disasters. 1 STC provided Japanese expertise/solution/case studies which will be included in the training program.

	Grant Title	TF # Child Fund/ PCode	Region/ Country	Total Grant Amount (USD)	Start Date/ End Date	Description of Japanese Expert Engagement
26	Enhancing Disaster Resilience in Ethiopia	TF0B5243/ P176327	AFR/ Ethiopia	500,000	24-Feb-21/31- Dec-22	1 STC (Senior Water and Disaster Risk Management Expert) was engaged in the preparation and implementation of the activities for the basin-level risk profiles and the investment framework.
27	Strengthening Resilience and Construction Quality of Subsidized Housing Sector in Indonesia	TF0B7656/ P176511	EAP/ Indonesia	100,000	15-Dec-21/28- Feb-23	Miyamoto International was one of the key speakers at the Housing Construction Quality Workshop. Miyamoto International also provided technical assistance to the National Affordable Housing Program task team on how to establish a construction Quality Assurance and Quality Control (QAQC) virtual monitoring system to enable us to systematize and scale a functional and effective QAQC system and process.

Table A7 Phase 2 Trust Fund Tokyo DRM Hub Program Grants

	Grant Title	TF # Child Fund	Region/ Country	Total Grant Amount (USD)	Start Date/ End Date	Description of Japanese Expert Engagement
1	Knowledge and Outreach Program Phase 2	TF0B4405/ P175863	OTHER/ World	1,000,000	5-Nov-20/31- Aug-25	6 experts participated as keynote speakers, panelists and moderators at the special seminar co-organized by the Government of Japan and World Bank, "Building Back Better: Reflections on the 10th Anniversary of the Great East Japan Earthquake". 1 JICA expert in remote-sensing meteorology with over 30 years of experience at the Japan Meteorological Agency (JMA) shared JICA's experience in helping to improve hydromet services in South Asia at the South Asia Hydromet Forum (SAHF) held on November 18, 2021. JICA has been strengthening early warning systems in the region through grant aid of weather radars, transferring latest science and technology in meteorological services through the dispatch of expert teams, and providing training programs for meteorologists in South Asia, with the cooperation of JMA.
2	Country Program Support Phase 2	TF0B4410/ P175862	OTHER/ World	1,600,000	12-Nov- 20/31- Aug-25	JICA was invited to the consultation workshop for emergency cash transfers in early 2021. 1 professor from Kyoto University presented a general overview of the technical and pattern of the EEWS development process, as well as relevant features used for the EEW system in Japan at the Knowledge Exchange Designing and Operationalizing an Earthquake Early Warning System In Indonesia (InaEEWS) on December 7, 2021.

Events by the DRM Hub or with Its Inputs in FY22

Table A10 List of Events

Event	Summary and Japanese experts engaged	Link to web story
	June	
TDD: Virtual Technical Deep Dive: Managing Metro Regions to Build Back Better	The Hub was invited to present overview of the Japan Program during this TDD on Managing Metro Regions to Build Back Better organized by Tokyo Development Learning Center (TDLC). Experts: Pacific Consultants Co., Ltd.; Tokyu Research Institute; Meiji	https://www.worldbank. org/en/events/2021/06/14/ virtual-tdd-managing- metro-regions-to-build-back- better#1
	University; Waseda University	
Seminar: ADRC Online DRR Seminar Series - First Seminar: Investing in Disaster Risk Reduction for a Resilient Society	The Hub was invited to speak at this seminar organized by Asian Disaster Reduction Center (ADRC). The findings from the report "Lifeline" were shared by addressing the overview of why strategic disaster mitigation is necessary with, as appropriate, evidence-based case studies and statistics and relevant data; and how gaps and challenges of the current mitigation strategies hinder DRR efforts and how it contributes to people's well-being and sustainable economic growth.	
	Experts: Disaster Mitigation Research Center Nagoya University, Asian Disaster Reduction Center	
	September	
Conference: The 17th World Conference on Earthquake Engineering	Practice Manager from GFDRR was invited to speak at the hybrid conference organized by Japan Association for Earthquake Engineering under the auspices of the International Association for Earthquake Engineering. At the Keynote Lecture, the World Bank and GFDRR's experience in strengthening seismic resilience was shared in the presentation "The Need to Act Now – Investments and Actions to Enhance Resilience Globally".	
	Experts: The University of Tokyo among many others	
Workshop: Green Infrastructure - Implementation, Integrating Green and Gray Infrastructure	The Hub was invited to participate in this online seminar organized by the Committee on Hybrid Structures, Japan Society of Civil Engineering (JSCE) to share Green Infrastructure initiatives at World Bank. Experts: MLIT, Hokkaido University, Port and Airport Research	
	Institute, Public Works Research Institute, Saitama University	
	October	
Working Group Meeting: Meeting of the Working Group on Regional Disaster Risk Financing and Insurance (DRFI) Solutions	The Hub supported the organization of this virtual meeting. Participants from APEC economies and international organizations discussed roles of the governments and private sectors in DRFI among others. Experts: MoF	
Knowledge Sharing: Presentation	The Hub made a presentation on the Program for a research group of	
for Tohoku University	Tohoku University.	
	Expert: Tohoku University	
Training: Green Infrastructure Strategies and Practice	The Hub was invited to share Green Infrastructure Initiatives at the World Bank at this training organized by Shimizu Corporation. Experts: Shimizu Corporation	

Event	Summary and Japanese experts engaged	Link to web story
	November	
Seminar: 14th CityNet Disaster Cluster Seminar Session 3: Saving Cities and its People with ICT and Data Driven DRR	The Hub was invited to speak at Session 3: Saving Cities and their People with ICT and Data Driven DRR, to present how ICT can support city resilience based on the insights from GFDRR Labs' experience.	
	Experts: Yokohama Fire Bureau, City of Yokohama	
	December	
Knowledge Exchange: Designing and Operationalizing an Earthquake Early Warning System in Indonesia (InaEEWS)	A knowledge exchange on the "Designing and Operationalizing an Earthquake Early Warning System (InaEEWS)" was hosted by the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG). A professor from Disaster Prevention Research Institute (DPRI) at Kyoto University provided lessons learned from its continuous efforts to improve earthquake early warning systems of Japan, both technical and operational aspects, through sharing an overview of EEW systems in Japan, Japan's efforts in improving EEW effectiveness throughout the country, and lessons learned and key takeaways for Indonesia.	
	Experts: Kyoto University	
	January	
Meeting: Meeting with Infrastructure Development Institute-Japan (IDI) - Support for Integrated Sediment Management	The Hub was invited to join this meeting to give the overview of GFDRR's activities and explore the collaboration with Infrastructure Development Institute- Japan (IDI). IDI is the Interim Coordinator of WACA Japan Knowledge Network serving as concierge for West African countries and the Japanese Water Sector supporting DRM challenges including coastal erosion, floods, and pollution. Experts: IDI	
	February	
TDD: Virtual Technical Deep Dive: Disaster Risk Management and Resilient Infrastructure	Tokyo DRM Hub and TDLC jointly organized a TDD on DRM and Resilient Infrastructure. 17 Japanese experts showcased Japan's decades-long journey towards the development of disaster risk management systems to protect infrastructure and promote resilience in key sectors for society's wellbeing. 33 delegates from client countries participated and shared their infrastructure challenges endeavoring to find appropriate solutions by learning from their global peers.	https://www.worldbank. org/en/events/2022/02/14/ virtual-technical-deep-dive- disaster-risk-management- and-resilient-infrastructure- tdlc
	Experts: Cabinet Office, MLIT, MIC, Kobe City, Sendai City	
Working Group Meeting: MLIT Green Infrastructure Platform Finance WG Meeting	The Hub was invited to join the 5 th meeting of MLIT Green Infrastructure Platform Finance Working Group Meeting as an observer.	
	Experts: MLIT, The Real Estate Companies Association of Japan, Ministry of the Environment, Development Bank of Japan Inc., MS&AD Insurance Group Holdings, Inc., CSR Design Green Investment Advisory, Co. Ltd., SOKEN CO., LTD., Shiga Committee for Economic Development	

Event	Summary and Japanese experts engaged	Link to web story
Forum: International Forum on Fire and Disaster Management	The forum was hosted by Fire and Disaster Management Agency, Japan (FDMA). Per request from FDMA, the Hub shared this forum info with relevant stakeholders in the Kyrgyz Republic. Experts: FDMA	
	March	
TDD: Virtual Technical Deep Dive: Low Carbon Climate-Smart Cities	The Hub was invited to present overview of the Program during this TDD on Low Carbon Climate-Smart Cities organized by TDLC.	https://www.worldbank. org/en/events/2022/03/14/ virtual-tdd-low-carbon-
	Experts: Institute for Global Environmental Strategies (IGES), Kyoto City	climate-smart-cities#1

ANNEX 4.

Status of FY22 TA grants in pipeline, as of May 31, 2022

		Japan TF Phase 2 FY22		Priority	Value		FY
Country	Region	Envelope	GP	Area	(USD)	Status	Allocation
Bangladesh	SAR	Resilient Rural Mobility in Bangladesh	Transport, Environment, GPURL	1	585,000	Submitted, Pending Approval	FY22
Seychelles	AFR	Seychelles: Enhancing Coastal and Urban Resilience	GPURL	2	250,000	Submitted, Pending Approval	FY22
Maldives	SAR	Strengthening Resilience and Construction Quality of Subsidized Housing Sector in the Maldives	GPURL	2	350,000	Approved on April 28, 2022	FY22
Madagascar	AFR	Climate and Natural Disaster Resilient Transport in Madagascar	Transport/ GPURL	1	600,000	Submitted, Pending Approval	FY22
Armenia	ECA	Building Regulation for Resilience in Armenia	GPURL	1	130,000	Submitted, Pending Approval	FY22
Uruguay	LAC	Informing WBG Operations Financing Resilient and Learning Oriented School Infrastructure in Uruguay	Education GP/ GPURL	1	300,000	Approved on May 25, 2022	FY22
Tajikistan	ECA	Scaling Up Resilient School Infrastructure in the Republic of Tajikistan	Education GP/ GPURL	1	300,000	Submitted, Pending Approval	FY22
Egypt, Arab Republic of	MENA	Enhancing Climate and Disaster Resilience in Egyptian Cities and Governorates	GPURL	2	350,000	Approved on May 25, 2022	FY22
Albania; Serbia; North Macedonia; Bosnia and Herzegovina; Kosovo	ECA	Supporting Resilient and Climate-smart Transitions in Western Balkan Cities	GPURL	2	500,000	Approved on May 25, 2022	FY22
Bangladesh	SAR	Climate and Disaster Resilient Urban Development in Bangladesh	GPURL	2	500,000	Submitted, Pending Approval	FY22
Cambodia	EAP	Informing WBG Operations Climate Resilient and Learning-Oriented School Infrastructure in Cambodia	Education/ GPURL	1	400,000	Submitted, pending approval	FY22
Philippines	EAP	Resilient School Infrastructure in the Philippines Overview	GPURL	1	500,000	Submitted, Pending approval	FY22

Country	Region	Japan TF Phase 2 FY22 Envelope	GP	Priority Area	Value (USD)	Status	FY Allocation
India	SAR	Open data for Kerala	GPURL	2	550,000	Submitted, pending approval	FY22
Croatia	ECA	Supporting Disaster Resilience in Croatia	GPURL	2	500,000	Submitted, pending approval	FY22
Tanzania	AFR	Resilient Mobility in Tanzania's Intermediate Cities	Transport Urban, Resilience and Land	1	600,000	Submitted, pending approval	FY22
Colombia	LAC	Strengthening Colombia's Resilience to Natural and Climate-induced Hazards at Subnational and Sectoral Level	GPURL	2	500,000	Under Local Consultation	FY22
Kenya	AFR	Resilient Commuter Rail System in Nairobi Metropolitan Area	Transport/ Urban-DRM	1	500,000	Under Local Consultation	FY22
Nigeria	AFR	Building Urban Climate and Disaster Resilience in Nigeria	Urban, Disaster Risk Management, Resilience and Land GP	2	500,000	Under Local Consultation	FY22
Algeria	MENA	Algeria DRM Strategy for Operation	GPURL	2	150,000	Under Development	FY22
India	SAR	Supporting Resilient and Inclusive Development in Uttarakhand	GPURL	2	400,000	Under Local Consultation	FY22
Turkey	ECA	Supporting Resilient and Green Urban Built Environment in Turkey	GPURL	2	825,000	Under Development	FY21

 $Note: The \ pipeline \ information \ in \ this \ table \ is \ indicative \ and \ projects \ under \ development \ are \ subject \ to \ change.$

