

Ex-Ante Evaluation (for Japanese ODA Loan)
Southeast Asia Division 1, Southeast Asia and Pacific Department, JICA

1. Name of the Program

- (1) Country: The Republic of Indonesia (Indonesia)
- (2) Project site / Target region: All of Indonesia
- (3) Program: Disaster Resilience Enhancement and Management Program Loan (III)

L/A signed on: March 31, 2023

2. Background and Necessity of the Program

- (1) Current State and Issues of the Disaster Prevention Sector and Priority of the Program in Indonesia

In the Republic of Indonesia (“Indonesia”), many national disasters including floods, landslides, earthquakes, and volcanic eruptions have occurred and caused economic and social damage. Especially in 2018, a lot of large-scale disasters such as earthquakes and tsunamis occurred, including the Lombok Island earthquake on July 29, an earthquake and a tsunami that impacted the Province of Central Sulawesi on September 28, and a volcanic eruption and a tsunami in the Sunda Strait on December 22, which caused many casualties and affected economic activities. Furthermore, in January 2020, nearly 70 people were killed in the City of Jakarta and its suburbs and thousands of people were forced to evacuate due to large-scale floods and landslides caused by intense rainfall. In April 2021, 181 people were killed in the Province of East Nusa Tenggara by a cyclone that had occurred in the east region of Indonesia. Thus, damage by natural disasters never ends.

Annual economic losses caused by these frequent natural disasters are estimated to be approximately 180 billion yen or more in Indonesia¹. As for the breakdown of the disasters, earthquakes, fires, and floods account for a large portion. Meanwhile, the average amount of disaster preparation money (Dana Cadangan) (from 2005 to 2017), which the Indonesian government appropriates to its budget every year as a fund for recovery from disasters, rehabilitation and reconstruction, is still approximately 25 billion yen, and it is not enough to cover for all the economic losses caused by disasters.

In consideration of fatal damage by the great earthquake off the coast of

¹ Tentative calculation by BKF, the Ministry of Finance of the Republic of Indonesia. Average from 2000 to 2017.

Sumatra and the Indian Ocean Tsunami in 2004, the Indonesian government has not only been taking measures soon after the occurrence of disasters, but it has also been strengthening legal systems and organizations against disasters in order to develop a comprehensive disaster prevention system, including preparation at the stage of prevention of occurrence, by enacting the Disaster Management Law (2007), establishing the National Disaster Management Agency (“BNPB”) (2008), etc. In addition, with the support of international society including Japan, the Indonesian government has created the “Indonesia Tsunami Early Warning System: InaTEWS” (2007) and has made efforts to strengthen the understanding of disaster risks and advance preparations.

However, in light of the four specific priorities for action ([1] Understanding disaster risks, [2] Strengthening disaster risk governance to manage disaster risks, [3] Investing in disaster risk reduction for resilience, and [4] Enhancing disaster preparedness for effective response and “Build Back Better” (“BBB”) in recovery, rehabilitation, and reconstruction) specified in the “Sendai Framework for Disaster Risk Reduction 2015-2030” (approved by the 3rd World Conference on Disaster Risk Reduction held in March 2015), efforts toward building a disaster prevention system have only reached half-way and problems remain unsolved.

(2) Japan and JICA’s Cooperation Policy and Operations in Relation to the Disaster Prevention Sector and Priority of the Program

Japan’s Country Development Cooperation Policy for the Republic of Indonesia (September 2017) identifies “support toward the creation of a safe and fair society through well-balanced development” as a priority area and focuses on support for disaster prevention measures toward a safe and fair society. The JICA Country Analysis Paper for the Republic of Indonesia (June 2018) states that disaster prevention is an important issue and that future policy for cooperation with Indonesia will focus on improving the capacity to respond to disasters during the stages of prevention (precautions), emergency responses, and restoration and reconstruction, through the strengthening of comprehensive disaster prevention (measures for structures and non-structures) in that country. Japan has been a host country of the World Conference on Disaster Risk Reduction since the first conference and contributed to the formulation of the “Sendai Framework for Disaster Risk Reduction 2015-2030” in the 3rd conference held in March 2015, by sharing its knowledge and technology as an advanced country in disaster risk reduction with other countries. Thus, Japan is

playing a leading role in international society in the areas of disaster countermeasures and disaster prevention. The Program is consistent with these policies and JICA's analyses. In addition, the creation of a disaster resilient society and economy through the strengthening of the disaster prevention capacity of Indonesia, which is located between the Pacific Ocean and the Indian Ocean, an important place geopolitically, plays a part in ensuring the stability and peace of the Indo-Pacific region, thus contributing to peace and stability in "a free and open Indo-Pacific."

(3) Other Donors' Activities

Since 2018, the World Bank has been supporting activities by the Indonesian government for disaster risk finance and set actions related to disaster risk insurance in the policy matrix of the "Indonesia Fiscal Reform DPL 3" (a loan of 1 billion USD) provided in 2019. The "Indonesia Disaster Resilience Initiative Project (IDRIP)" (a loan of 0.16 billion USD) was also approved by the Board in November 2019 for support, including for the building of a disaster early warning system. In relation to the earthquake disaster in the Province of Central Sulawesi, the "Central Sulawesi Rehabilitation and Reconstruction Project" (a loan of 0.15 billion USD) was approved by the Board in June 2019. Moreover, in January 2021, the "Indonesia Disaster Risk Finance & Insurance" (a loan of 0.5 billion USD) was approved by the Board, with the aim of supporting the strengthening of fiscal and financial resilience in response to disasters and climate change.

In 2019, the "Financial Market Development and Inclusion Program (Sub program 3)" (a loan of 0.5 billion USD) was approved by the Asian Development Bank. The "Disaster Resilience Improvement Program (DRIP)" (a loan of 0.5 billion USD) as an emergency disaster finance scheme was also approved by the Board in September 2020 to support disaster resilience improvement, including non-nature-related disasters such as infections.

Co-financing for this Program by the Agence Française de Développement (AFD) (150 million euros) was also approved by the Board in June 2022.

3. Program Description

(1) Program Description

1) Program Objective(s)

The objective of the Program is to support the implementation of disaster related policies and strategies of the Republic of Indonesia through policy dialogue, thereby contributing to strengthening the capacity to deal with

natural disasters.

2) Program Component(s)

Based on the “Sendai Framework for Disaster Risk Reduction 2015-2030,” the Program will support improvements in and the steady implementation of policies and systems by focusing on the following four pillar areas, which have been agreed and set by the relevant ministries and agencies in Indonesia. Fifteen policy actions have been set in total by adding one policy action in the Phase 1, and the progress made and achievement status will be confirmed. Examples of representative policy actions are as follows:

Pillar	Policy actions achieved by end of June 2019 (Phase 1)	Policy actions achieved by end of June 2020 (Phase 2)	Policy actions achieved by end of September 2021 (Phase 3)
1. Strengthening DRR governance and mainstreaming	<ul style="list-style-type: none"> ○ In consideration of lessons from the Central Sulawesi earthquake and the Lombok earthquake, activities to formulate National Medium-Term Development Plan (RPJMN) 2020-2024 were started. ○ The final draft of the Long-Term Disaster Management Master Plan (DMMP) 2015-2045 was completed. ○ The formulation ratio of the disaster risk reduction plan (DRR Plan) reached 34% at the prefecture- and city-level. 	<ul style="list-style-type: none"> ○ In consideration of the lessons learned from the Central Sulawesi earthquake and the Lombok earthquake, RPJMN 2020-2024 was announced. ○ Procedures to enforce the executive order for DMMP 2015-2045 were implemented. ○ The formulation ratio of the DRR Plan was increased from 34% to 35% at the prefecture- and city-level. 	<ul style="list-style-type: none"> ○ Based on RPJMN 2020-2024, disaster prevention measures that take into consideration socially weak people were added to the annual plan for 2021 formulated by BAPPENAS. ○ The executive order for DMMP 2015-2045 was enforced and disseminated to the relevant ministries and agencies, as well as to regional governments. ○ BNPB and the Ministry of Internal Affairs cooperated to increase the formulation ratio of the DRR Plan from 35% to 37%.
2. Promotion of Understanding Disaster Risk	<ul style="list-style-type: none"> ○ Two technological guidelines for disaster risk evaluation at the 	<ul style="list-style-type: none"> ○ Four technological guidelines for disaster risk evaluation at the 	<ul style="list-style-type: none"> ○ Two technological guidelines for disaster risk evaluation at the

	<p>regional government level were formulated.</p> <ul style="list-style-type: none"> ○ Discussions on the strengthening of the earthquake & tsunami observation network were started. ○ Discussions on the strengthening of early flood warning systems for rivers under jurisdiction of MPWH were started. ○ Contingency plans as emergency measures, which show to residents' appropriate evacuation actions, were formulated at 11 places. 	<p>regional government level were newly formulated.</p> <ul style="list-style-type: none"> ○ The quantity of data accumulated on earthquake & tsunami observations was increased. ○ Flood data related to early flood warning systems for rivers under jurisdiction of MPWH were accumulated on a weekly basis. ○ Contingency plans were newly formulated at 29 places. 	<p>regional government level were newly formulated.</p> <ul style="list-style-type: none"> ○ The transmitting speed and accuracy of earthquake information & tsunami warnings were improved. ○ In cooperation with relevant ministries and agencies, MPWH integrated flood data and improved the monitoring system. ○ Support was provided to regional governments in formulating contingency plans.
3. Promotion of Investing in Disaster Risk Reduction for Resilience	<ul style="list-style-type: none"> ○ The formulation of a draft of strategic plan (Renstra) 2020-2024, including DRR policy at a national level, was started. 	<ul style="list-style-type: none"> ○ Procedures toward the establishment of Renstra 2020-2024, including DRR policy at a national level, were implemented. 	<ul style="list-style-type: none"> ○ Based on Renstra 2020-2024, 69 trillion rupiah in total or 7.8% of the total budget was allocated to the disaster prevention budget for five years.
4. Enhancing to Build Back Better in Recovery, Rehabilitation and Reconstruction	<ul style="list-style-type: none"> ○ Based on information gathered and risk evaluation after the central Sulawesi earthquake, the formulation of a hazard map was started. ○ Toward greater resilience in areas vulnerable to disasters, the formulation of a regional spatial plan 	<ul style="list-style-type: none"> ○ With the aims of formalizing a hazard map, formulating the Spatial Plan DKI Jakarta, and promoting understanding of residents on disaster prevention, the hazard map was disseminated. ○ By confirming consistency with the 	<ul style="list-style-type: none"> ○ Drafts of the Spatial Plan DKI Jakarta (RTRW) and the Detailed Spatial Plan (RDTR) were formulated for infrastructure reconstruction and were provisionally approved by regional governments. ○ Analyses of the damage caused by the flood in Jakarta were shared with

	was started.	<p>infrastructure plan and coordinating with the appropriate concerned parties, drafts of RTRW and RDTR in the Province of Sulawesi, the City of Palu, and Sigi Regency were formulated based on a sophisticated hazard map.</p> <ul style="list-style-type: none"> ○ Cooperation with relevant ministries and agencies was strengthened for countermeasures against floods and landslides in Jakarta. 	relevant ministries and agencies for use in future flood measures.
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3) Beneficiaries of the Program (target group)

Final beneficiaries (Population of beneficiaries of this Program: Approximately 0.27 billion (total population of Indonesia))

(2) Estimated Program Cost: Yen loan of 30,000 million yen

(3) Schedule (Cooperation Period)

Financial support in the Program will start in March 2023. The deadline of achieving policy actions was September 2021, by which time all policy actions were achieved. Following one loan scheduled for March 2023, the Project will be completed.

(4) Program Implementation Structure

1) Borrower: The Government of the Republic of Indonesia

2) Guarantor: None

3) Executing Agency: National Development Planning Agency (BAPPENAS)

4) Operation, Maintenance and Management Agency: None

(5) Cooperation and Sharing of Roles with Other Programs and Other Donors

1) Japan's assistance activities:

Individual experts, such as "Inclusive Disaster Risk Reduction Policy Adviser" (from February 2022 to February 2024) and "Integrated Water Resources Management Policy Adviser" (from July 2019 to March 2023), give technological

support in formulating disaster prevention policies and development plans. To improve disaster prevention capacity, Japan's assistance activities are as follows: [1] support for countermeasures against the flood in Jakarta that occurred in January 2020 through technological cooperation, the "Project for Promoting Countermeasures against Land Subsidence in Jakarta" (from May 2018 to November 2022), [2] improvements to information transmission systems and capacity related to earthquakes and tsunamis through technological cooperation, the "Capacity Development on Operation of Earthquake and Tsunami Analysis and Warning Dissemination" (from February 2022 to February 2025), and [3] building a system to reduce disaster risks through technological cooperation, the "Project for Enhancing Disaster Prevention Capacity through Improvement in the Use of Disaster Information" (from February 2023 to August 2026). Japan is also supporting system development to process and transmit disaster prevention information in the "Project for Strengthening Disaster Prevention Information System" as grant-aid cooperation. In addition, with regard to the earthquake/tsunami in the Province of Central Sulawesi, Japan is supporting work from planning to implementation in an integrated manner, through the "Project for Development of Regional Disaster Risk Resilience Plan in Central Sulawesi" (from December 2018 to November 2021), which is development- and survey-type technological cooperation; the "Programme for the Reconstruction of Palu 4 Bridges in Central Sulawesi Province" (G/A signed in June 2019), which is grant-aid cooperation; and "Infrastructure Reconstruction Sector Loan in Central Sulawesi" (L/A signed in January 2020), which is loan aid.

2) Other donors' assistance activities:

Co-financing with the Agence Française de Développement (AFD) is scheduled.

(6) Environmental and Social Consideration

1) Environmental and Social Consideration

[1] Category: C

[2] Reason for Categorization: The Program is likely to have a minimal adverse impact on the environment under the "JICA Guidelines for Environmental and Social Considerations" (released in January 2022).

(7) Cross-Cutting Issues

1) Countermeasures against climate change

The Program was judged to contribute to countermeasures against climate change (adaptation) by improving capacity to respond to flood risks, the impact

of which due to climate change is a cause for concern, through policy actions to promote the establishment of flood early warning systems.

2) Consideration for disabilities

In formulating disaster prevention strategies and plans, interviews with organizations for people and residents with disabilities were conducted and inclusive disaster prevention activities were made obligatory.

(8) Category of Gender

[Gender Issue] ■ GI(S) Gender informed (Significant)

<Description of activities and reason for classification> The Program aims to reflect females' opinions, needs and viewpoints in the long-term disaster prevention master plan (from 2015 to 2045) and RPJMN 2020-2024 based on the agreement of the Indonesian government.

(9) Other Important Issues: The loan of the Program identifies policy actions to be achieved in the Phase 1 (June 2019), in the Phase 2 (June 2020), and in the Phase 3 (September 2021), respectively, and the Program support will then be completed. With the Indonesian government, Japan has confirmed the importance of advancing prior disaster prevention investment and strengthening disaster management from the viewpoint of controlling infectious diseases including COVID-19, because the occurrence of natural disasters in areas highly vulnerable to natural disaster risks further increases the risk of infections, such as the case of COVID-19.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (Actual Value in 2019)	Target (2021) ² Upon Termination of the Program
The percentage of developed local DRR strategies/plans (%) (in response to the 1st pillar's policy action)	34	37 or more
The number of Contingency Plans that include timing of issue for Early Warning, and evacuation sites on	11	26 or more

² Target values are set by ministries and institutions in charge of individual actions.

hazard analysis under BNPB support (in response to the 2nd pillar's policy action)		
The increase of budget allocation for programs related to Disaster Risk Reduction under PUPR support (trillion rupiah) (in response to the 3rd pillar's policy action)	9.3 (2018)	9.3 or more as average for the most recent 3 years ³
The number of spatial plans to be prepared based on elaborated hazard maps (in response to the 4th pillar's policy action)	0	6 or more

2) Impact

Improvement in disaster prevention systems and capacity of relevant institutions within the Indonesian government

(2) Qualitative Effects

Strengthening of policy planning and implementation capacity in the area of disaster prevention and improvements to disaster prevention capacity within the Indonesian government

(3) Internal Rate of Return

Not applicable.

5. Preconditions and External Conditions

- (1) Preconditions: No major changes to the Indonesian government's policies.
- (2) External Conditions: Appropriate control of the global spread of COVID-19 infection and early termination

6. Lessons Learned from Past Programs

Ex-post evaluation data on the "Development Policy Loans (I to IV)" to Indonesia (2009) and other data have taught us that Development Policy Loans (DPL) and technological cooperation are complementary to each other and that it is necessary to promote partnerships between DPL and technological cooperation in order to demonstrate synergy effects at various stages of the

³ The disaster prevention investment amount is the average for the most recent 3 years because it changes every year depending on the number of disasters.

reform process. Also, what was learned from the ex-post evaluation on the “Climate Change Program Loan” and the “Disaster Reconstruction and Management Sector Program Loan” to Indonesia is that it is important to build a system for policy deliberations even after a program is terminated, in order to produce better effects from policy improvements.

Based on the above-mentioned lessons, the Program sets policy actions linked to current and future technological cooperation results, and cooperation among relevant ministries and agencies is promoted through policy deliberations and monitoring systems led by BAPPENAS, which has contributed to achieving policy actions in the Phase 3.

Some standards for the evaluation of the achievement of policy actions were not clear in the Phase 2 loan. Therefore, monitoring indicators were set per policy action in advance when setting policy actions in the third period. It has become easier to evaluate the achievement status by confirming the achievement of policy actions in response to the status of monitoring indicators.

7. Evaluation Results

The Program is consistent with Indonesian development issues and policies, as well as Japan’s and JICA’s cooperation policies and analyses. It supports improvements in policies and systems in the area of disaster prevention, promotes prior investment in Indonesian countermeasures against disasters, enhances capacity to respond to disasters, and contributes to creating a disaster resilient society and economy. The Program is considered to contribute to SDGs’ goal No. 1 (No Poverty), SDGs’ goal No. 11 (Make cities and human settlements inclusive, safe, resilient and sustainable), and goal No. 13 (Take urgent action to combat climate change and its impacts). All these aspects suggest that it is highly necessary to support the implementation of the Program.

8. Plan for Future Evaluation

(1) Indicators to Be Used

As indicated in 4.

(2) Timing

Ex-post Evaluation: after program completion