



GOI INITIATIVES AGAINST POTENTIAL RISK OF CLIMATE CHANGE IMPACT IN INDONESIA

The Government of Indonesia takes serious consideration toward climate change and other environmental issues. Through its three programs of 1) Improving Environmental Quality; (2) Enhancing Disaster and Climate Resilience; and (3) Low Carbon Development, Indonesia committed to reducing GHG emissions and improving ecosystem restoration activities

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Potential Risk of Climate Change Impact in Indonesia

As an archipelagic country, Indonesia has 514 regencies/cities facing the threat of hydrometeorological disasters due to climate change, particularly, floods and droughts. The disaster can affect the marine and coastal environment, water, agricultural land and health. This potential loss can cause disruption to people's livelihoods in Indonesia.

Indonesia's climate projection data on the RPC Scenario shows that there will be a change in rainfall patterns. Extreme variability will be higher regardless of the use of the scenario. Higher frequencies of extreme dry and wet climate probability are above normal. This condition will have an impact on the increasing average sea level rise of 0.9 cm/year in 2006-2040. These potential hazards arise within the absence of climate resilient management in the coastal areas. Increasing temperature of 0.45 - 0.75 °C, sea-level rise of 0.8 - 1.2 cm/year and extreme waves height increase of >1.5 m will elevate the vulnerability of the 18,000 km of the Indonesian coastline. This condition can make economic losses by IDR 244.5 trillion in 2020-2024 [1].

Due to this climate hazard in the coastal areas, 10 coastal provinces are threatened by the greatest potential of economic losses. The biggest to smallest affected provinces are Central Java, DKI Jakarta, South Sulawesi, West Java, Bali, Bangka Belitung, South Sumatera, Central Sulawesi, Riau and Aceh. The disaster loss database is developed by the National Development Planning Agency (BAPPENAS), the National Disaster Management Authority (BNPB), the Ministry of Home Affairs in cooperation with United Nations Development (UNDP) and the Department of International Development of the United Kingdom (DFID of UK) based on the DesInventar, which is a free, open-source methodology and software (Fig 1). The tool has a range of options for analysis allowing the national and sub-national authorities and Disaster Risk Reduction (DRR) practitioners to understand disaster trends, patterns and their impacts in a systematic manner. With an increased understanding of the disaster trends and their impacts, better prevention, mitigation and preparedness measures can be planned to reduce the impact of disasters in communities.



Figure 1. Web-based and Open-source Disaster Loss Database, Indonesia (Source: BNPB website)

Photographer: Rio Fatahillah - Indonesia

The Action of the Government of Indonesia on Climate Change Resilience

Indonesia is making efforts to build climate resilience, to minimize economic and social losses caused by hydrometeorological disasters and changes in environmental conditions due to climate change. This is done through economic transformation strategies, such as the green economy and low-carbon development (PRK). Based on a study by the National Development Planning Agency, due to the impact of climate change, Indonesia has the potential to suffer losses up to IDR 115 trillion in 2024. With the implementation of the Low Carbon Development and Climate Resilience policy intervention as stated in the 2020-2024 National Medium-Term Development Plan (RPJMN), the potential economic loss could decrease by up to 50,4 percent to Rp 57 trillion in 2024. The PRK emphasizes priorities on five sectors, namely waste management and a circular economy, green industry development, sustainable energy development, low carbon marine and coastal areas, and sustainable land restoration. Meanwhile, climate-resilient development focuses on 4 (four) main priorities which have priority locations distributed throughout Indonesia.

To make environmental issues one of the government's developments priorities, through a long process of producing a planning document (RPJMN), Indonesia has successfully incorporated three programs, i.e., 1) improving Environmental Quality; 2) Enhancing Disaster and Climate Resilience; and 3) Low Carbon Development. Improving the environmental quality is done by improving the quality of water, air, seawater, land cover and handling pollutants, and by increasing the environmental quality index to 69.7 in 2024. Enhancing disaster and climate change resilience is carried out through strengthening the convergence between disaster risk reduction and climate change adaptation by reducing GDP potential loss of 1.25% compared to total GDP, by 2024. The implementation of low carbon development through emission reduction policies and emission intensity in priority areas (energy, transportation, land, waste, industry and marine) is conducted by decreasing 27.3% of emission and 31.6% of emission intensity compared to baseline, by 2024.

Through Presidential Regulation No. 18 of 2020, Climate-Resilient Development (PBI) has become one of National Priorities (PN) # 6 in the National Medium-Term Development Plan (RPJMN) 2020-2024. The climate-resilient development policy is the implementation of the Sustainable Development Goals (TPB/SDGs), Low Carbon and Climate Resilience Strategy, Sendai Framework, and the fulfillment of the Paris Agreement targets. Climate resilience is very important because Indonesia is located



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on the equator between two oceans so that a dynamic climate pattern is created, namely, one that takes place quickly (rapid onset) and in a relatively long period of time (slow onset).

The Climate-Resilient Development (PBI) regulates 1) Priority Locations and List of Climate Resilience Actions; 2) Central and Regional Institutions; 3) The Role of Non-Governmental Institutions in Climate Resilience; 4) Funding Sources to Support Climate Resilience Plans and Actions; (5) Monitoring, Evaluation and Reporting Mechanisms; and (6) PBI Executive Summary Book.

The policy of Climate Resilient Development is not only a climate change adaptation activity but also a policy breakthrough in disaster reform efforts and efforts to reduce economic losses due to climate hazards. Active collaboration from all relevant parties is very much needed to provide meaningful results that are felt by the community.

Financial Support on Climate Change and Coastal Resilience in Indonesia

The targeted sectors of economic loss reduction by climate-resilient development in RPJMN 2020-2024 are the marine and coastal, water, agriculture and health sectors. To support this program, the Ministry of Finance of Indonesia (MoF) declared that the average of the allocated state budget for climate change for 2018-

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2020 is 102.65 trillion rupiahs per year. Around 88% of the budget is used to finance green infrastructure, while 12% is for supporting activities such as regulations and policies, research and development, capacity building and community empowerment. The MoF has already issued multiple Green Bond and Green Sukuk from 2018 to 2021 as alternative sources of green financing. The latest one is SDGs Bond in 2021 which is amounted to 500 Million Euros. The SDGs bond is not only focused on the Green and Blue sector but also the Social sector. The SDGs bond is projected to finance various projects such as the development of renewable energy, energy efficiency, climate resilience, sustainable transportation, waste management, sustainable natural resources management, green tourism, green building, sustainable water management, Micro, Small, Medium Enterprises (MSME) financing, food security, basic services (health and education) and basic infrastructure.

Green Project Highlights

Indonesia has mangrove areas totaling 3.2 million hectares (ha) and an area of approximately 3 million hectares of seagrass beds which can store up to 17% of the world's Blue Carbon reserves. Blue Carbon ecosystems are able to provide employment and income for local economies, improve water quality, support healthy fisheries, and provide coastal protection. The need for strengthening

national strategies for the improvement and development of blue carbon ecosystems, including coordination between stakeholders. The green project mobilizes the funding for programs/projects to optimize blue carbon, supported by data clarity and project feasibility. The project also aims to achieve the blue sector's annual contribution to 12.5% GDP in accordance with Indonesia's Vision 2045. Therefore, an annual investment of IDR 1,928 to 3,307 trillion is required [2].

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