

Ex-ante Evaluation

1. Name of the Program

Country:	The Republic of Indonesia
Program:	Climate Change Program Loan (II) (including Economic Stimulus and Budget Support Loan)
Loan Agreement:	December 10, 2009
Loan Amount:	37,444 million yen (including yen-based loan for economic stimulus: 9,361 million yen)
Borrower:	The Republic of Indonesia

2. Background and Necessity of the Program

(1) Current State and Issues of Climate Change in Indonesia

Indonesia was the world's third largest emitter of greenhouse gases after China and the United States (3,156 MtCO₂ (million tons of carbon dioxide equivalent)) in 2009, if emissions of carbon dioxide caused by loss of forests and devastation of peatlands are included. Furthermore, as a consequence of increasing energy demands associated with economic growth, coal consumption has expanded, and emissions of greenhouse gases from the energy sector, which had been 266.7 MtCO₂ in 1999 (ranked 20th in the world), had increased to 348.9 MtCO₂ (ranked 15th in the world) in 2005. For this reason, giving concrete shape to measures aimed at reducing greenhouse gases emissions has become an urgent issue for Indonesia, such as inhibiting the loss of forested areas, developing renewable energy and conserving energy.

On the other hand, as global warming advances, it is predicted that annual rainfall patterns will change, and particularly in regions south of the equator, it is predicted that there will be increased climate change risks, such as prolonged dry seasons and a smaller volume of rainfall, and shorter rainy seasons and a greater volume of rainfall. There are concerns that more intense and more frequent floods or other disasters arising from climate change could bring about economic stagnation, increased poverty or the like, and could be a serious risk factor for the sustainable development of the country.

(2) Climate Change Policies in Indonesia and the Priority of the Program

At the 13th Conference of Parties of the United Nations Climate Change Conference (COP13) held in Bali in December 2007, the Government of Indonesia announced a national action plan for the implementation of comprehensive mitigation and adaptation measures against climate change. The national action plan stipulates an action agenda of mitigation and adaptation in the medium and long-term, until 2050, covering a broad range of sectors, such as forestry, energy, water resources, sanitation, agriculture and marine fisheries. Based on this action plan, the Government of Indonesia has proceeded to formulate and implement specific mitigation and adaptation measures against climate change.

This program is comprised of the following three priority areas, and aims to promote and accelerate the implementation of policy actions in each of the priority areas: (1) mitigation (preservation of forests, diversification of energy sources, promotion of energy efficiency,

etc.); (2) adaptation (establishment of organizations/systems for integrated river basin management, improving access to water supply and sewerage, strengthening irrigation management and agricultural advisory services, etc.); and (3) cross-sectoral issues (establishment of coordination frameworks for the implementation of countermeasures against climate change, mainstreaming climate change policies into national development plans, promoting the formulation of Clean Development Mechanism (CDM) projects, strengthening weather observation systems, etc.).

(3) Japan and JICA's Policy and Operations for Support for Climate Change Countermeasures, and Other Donors' Activities

In the August-2007 "Joint Statement by Japan and the Republic of Indonesia on the Enhancement of the Cooperation on Climate Change, Environment and Energy Issues," the two leaders of Japan and the Government of Indonesia affirmed to set a target of cutting global emissions by half from the current level by 2050, and to promote sustainable forest management, CDM, appropriate mitigation and adaptation measures for climate change, and close cooperation in various fields such as the improvement of energy efficiency. In September 2008, the first phase of the program (30,768 million yen) was granted through the "Cool Earth Partnership" financing mechanism announced by the Government of Japan in January 2008. In September 2009, the "Hatoyama Initiative" was announced as a new policy of providing assistance on climate change to developing countries.

Furthermore, in Japan's "Country Assistance Program for Indonesia", formulated in November 2004, assistance for environmental conservation has been listed as one of the priority areas, and JICA sets assistance for countermeasures against climate change as one of the areas to strengthen its support.

As for other organizations, activities can be seen in sectors related to climate change. The United Nations Development Programme (UNDP) provides assistance for the preparation of the National Communication, a set of reports submitted to the Secretariat of the United Nations Framework Convention on Climate Change. The French Development Agency (Agence Française de Développement: AFD) provided 200 million dollars as cofinancing for the program (first phase) in November 2008, and a further 300 million dollars as cofinancing for the program (second phase) in August 2009.

(4) Positioning of the Program and Indonesia's Economic Stimulus Measures

In response to the global financial crisis, Indonesia implemented economic stimulus measures worth a total of 73.3 trillion rupiah (6.9 billion dollars) in 2009. Amid the worldwide recession, Indonesia is facing decreases in tax revenues and other income which could otherwise support the fiscal stimulus. The program provides financial assistance to Indonesia for economic stimulus measures, and contributes to the country's economic recovery.

(5) Necessity of the Program

The steering committee —established as the place for monitoring the program and conducting policy dialogue, and represented by the governments of Japan, Indonesia and France—has assessed that, of the 45 policy actions that had been planned in 2008, about 80% had either "achieved beyond their target" or had "achieved their target." For the other actions, measures aimed at achieving the goals of each action have also been indicated, and policy actions for

2009 were revised accordingly. Furthermore, it is also commendable that two new areas—disaster management and marine and fisheries—have been added to the actions for 2009 as adaptation measures for climate change. Moreover, supporting the Government of Indonesia’s economic stimulus measures amid the financial and economic crisis through financial assistance is extremely important for the continuation of these policy reforms and for the recovery of the Indonesian economy. Thus, it is highly necessary and relevant for JICA to provide assistance through this program.

3. Program Description

(1) Program Objectives

By supporting climate change countermeasures promoted by Indonesia through policy dialogue and other means, the program aims to: (1) mitigate global warming by greenhouse gas absorption and emissions control, (2) strengthen adaptive capacity to deal with the adverse effects of climate change, and (3) respond to cross-sectoral issues related to climate change, thereby contributing to reducing the risks of disasters and so forth brought about by climate change.

Furthermore, amid the worldwide recession, Indonesia is facing decreases in tax revenue and other income which could otherwise support the fiscal stimulus, and so by providing financial assistance to Indonesia for encouraging economic stimulus measures, the program also contributes to the country’s economic recovery and sustainable development.

(2) Program Components

The program promotes the following reforms as measures concerning climate change (only main policy actions (PAs) are listed below).

Item	Actions achieved in 2008	Future Actions (2009)
Mitigation climate change through greenhouse gas absorption and emissions control (forestry, energy)	<ul style="list-style-type: none"> ○ Formulation of detailed implementation rules and approval of an implementation plan for the implementation of a REDD¹ pilot project ○ Preparation of draft government regulations related to incentive measures for the development of renewable energy ○ Formulation of sectoral road maps for the reduction of carbon dioxide emissions through energy conservation 	<ul style="list-style-type: none"> ○ Institutional design of sustainable program for afforestation of barren lands ○ Implementation of REDD pilot project ○ Institutional design of incentives aimed at promoting geothermal development (fixed purchase prices and support for exploratory drilling for geothermal wells) ○ Introduction of ministerial regulation on sectoral road maps for the reduction of carbon dioxide emissions through energy conservation, and implementation support and

¹ Reduced Emissions from Deforestation and Degradation

		building of an evaluation framework for the promotion of energy conservation
Strengthening of adaptation capacity to deal with the adverse effects of climate change (water resources, irrigation, water supply and sewerage, agriculture, disaster prevention, marine)	<ul style="list-style-type: none"> ○ Establishment of government regulations and presidential decrees aimed at integrated river basin management ○ Strengthening of systems for the maintenance of management facilities for irrigation water ○ Implementation of agricultural advisory programs that deal with climate change 	<ul style="list-style-type: none"> ○ Formulation of integrated river basin management plans for major river basins ○ Implementation of a pilot project related to the management of irrigation water and the integration of farming systems ○ Continued implementation of agricultural advisory programs that deal with climate change ● Establishment of a national disaster management plan ● Formulation of a national plan for the conservation of coral reefs
Response to cross-sectoral issues related to climate change	<ul style="list-style-type: none"> ○ Reflection of climate change measures in the Government's annual action plan (2009) ○ Increase in the number of CDM projects approved (24 projects → 70 projects in total) ○ Expansion of observation facilities aimed at strengthening weather observation systems 	<ul style="list-style-type: none"> ○ Reflection of climate change measures in the next national development plan (2010-2014) ○ Increase in the number of CDM projects approved (90 projects in total) ○ Continued expansion of observation facilities aimed at strengthening weather observation systems

- indicates policy actions in the two sectors added in 2009 (disaster management and marine fisheries)

(3) Total Program Cost/Estimated Amount of Cooperation

Loan amount: 37,444 million yen (including loan for economic stimulus: 9,361 million yen)

(4) Program Implementation Structure

- 1) Borrower: The Republic of Indonesia
- 2) Executing Agency: National Development Planning Agency (BAPPENAS)

(5) Environmental and Social Consideration/Poverty Reduction/Social Development

- 1) Environmental and Social Consideration
 - (i) Category: C
 - (ii) Reason for Categorization: The program is classified as Category C, because it applies (provides loans for policy support) to a sector in which no particular environmental impact is expected, and because the program is not located in a sensitive area, nor has it sensitive characteristics under the JBIC

Environmental Guidelines, and it is likely to have minimal environmental impacts.

- 2) Promotion of Poverty Reduction: By implementing appropriate measures against climate change, it is expected that disaster risks will be reduced and adaptation capacity will be strengthened among the poor who are vulnerable to the impacts of flood, drought and other disasters arising from climate change.
 - 3) Promotion of Social Development (gender perspective, measures for infectious diseases including HIV/AIDS, participatory development, consideration for persons with disabilities, etc.): None in particular
- (6) Coordination with Other Donors: In August 2009, the AFD provided 300 million dollars for the second phase of the program.
- (7) Other Important Issues: As a related technical cooperation project, JICA provided support for the formulation of a guideline on forest fire prevention. Furthermore, JICA also plans to implement a project to improve technical capacity in geothermal development (exploratory techniques), a study on the demand-side management of electricity and the “Project for Developing Capacity to Restore Degraded Lands for the Preservation of Ecosystems in Conservation Areas” (March 2010 - February 2015).

4. Targeted Outcomes

- (1) Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (2007)	Target (2009) [at completion of program]
Mitigation of global warming by greenhouse gas absorption and emissions control	<ul style="list-style-type: none"> ○ Lack of incentives and management systems for the preservation of forests ○ Insufficient systems relating to the development of renewable energy ○ Insufficient systems aimed at promoting energy conservation 	<ul style="list-style-type: none"> ○ Establishment of incentives for forest protection and the strengthening of forest management systems ○ Establishment of systems relating to the development of renewable energy ○ Establishment of systems aimed at promoting energy conservation
Strengthening of adaptive capacity to deal with climate change	<ul style="list-style-type: none"> ○ Insufficient systems relating to integrated river basin management ○ Insufficient management of irrigation water and facilities, and insufficient agricultural advisory services ○ Drafting of a national disaster management plan ○ No formulated national plan for the conservation of coral reefs 	<ul style="list-style-type: none"> ○ Establishment of systems relating to integrated river basin management ○ Development of the management of irrigation water and facilities, and the development of agricultural advisory services ○ Formulation of a national disaster management plan ○ Formulation of a national plan for the conservation of coral reefs
Response to	<ul style="list-style-type: none"> ○ Formulation of a national 	<ul style="list-style-type: none"> ○ Reflection of climate change

cross-sectoral issues related to climate change	action plan on climate change ○ Formulation and approval of CDM projects (13 projects) ○ Installation of weather observation facilities (automatic weather stations at 47 locations, and weather radars at 7 locations)	measures in national development plans ○ Formulation and approval of CDM projects (90 projects) ○ Expansion of weather observation facilities ² (automatic weather stations at 26 locations, weather radars at 12 locations, and rain gauges at 31 locations)
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(2) Internal Rate of Return: Not calculated

5. External Factors and Risk Control

There is a risk that issues beyond the control of individual ministries and government agencies may arise in the improvement of the targeted policies and systems.

6. Lessons Learned from Findings of Similar Programs Undertaken in the Past

From the development policy loans and other loan programs for policy and institution building, it was learned that it is important to exchange information closely with relevant organizations, from the appraisal stage to implementation monitoring. Based on this lesson, carrying on from the first phase of the program, JICA will carry out supervision of the loans with advisories from external experts and in close cooperation with the Government of Indonesia and the AFD.

7. Plan for Future Evaluation

(1) Indicators for Future Evaluation:

- 1) Outcomes relating to the mitigation of global warming by greenhouse gas absorption and emissions control (establishment of forest preservation incentives, and the strengthening of forest management systems, etc.)
- 2) Outcomes relating to the strengthening of adaptive capacity to deal with climate change (establishment of systems relating to integrated river basin management, etc.)
- 3) Outcomes relating to the response to cross-sectoral issues related to climate change (reflection of climate change measures in national development plans, etc.)

(2) Timing of Next Evaluation: after the completion of the program

² Figures indicate the planned increases. Combined with the quantities as of 2007, in total, there will be automatic weather stations at 53 locations, weather radars at 19 locations, and rain gauges at 31 locations.