Evaluation Summary

1. Outline of the Project

Country: Indonesia

Project Title: Demonstration Study on Carbon Fixing Forest Management in Indonesia
Issue/Sector: Forest conservation

Cooperation Scheme: Technical Cooperation Project

Division in Charge: Forest and Nature Environment Conservation Team I, Group I, Global Environment Department

Total Cost (FY2002 - FY2005): 267,177,000 yen

Period of Cooperation
8 January 2001 - 7 January 2006
(R/D): Concluded on 6 December 2000

Partner Country's Implementing Organization(s): Forestry Research and Development Agency (FORDA), Ministry of Forestry

Supporting Organization(s) in Japan: Ministry of Agriculture, Forestry and Fisheries; Forestry Agency

Related Cooperation:

1-1 Background to the Project

In Indonesia, conservation of tropical forests became an important policy issue, especially after large-scale forest fires hit the country in recent years. It was even so in the context of mitigating global warming. Meanwhile, the Third Conference of Parties to the UN Framework Convention on Climate Change (COP3) in 1997 established the Clean Development Mechanism (CDM). As a result, Japanese businesses and other organizations were increasingly interested in afforestation/reforestation activities abroad.

The problem was that there were only insufficient data on the absorption of carbon dioxides (CO2) by forests. For afforestation and reforestation projects under the Clean Development Mechanism (AR-COM) to take root, it was necessary to develop a technique for accurately measuring the amount of carbon absorbed and stored by forests. Application of charcoal to plantations was attracting attention as a silviculture technique that promotes environmental conservation and more efficient sequestration of CO2 through soil improvement.

These circumstances prompted the Indonesian government in March 2000 to ask Japan for a demonstration study aimed at establishing a forest management technique that maximizes carbon sequestration as much as possible for CO2 emissions control by producing charcoal and applying it to plantations in an integrated manner while conserving the local environment. In response, JICA launched this demonstration study under the JICA scheme of investment and financing for development in January 2001. Because this scheme was abolished, this study has been operated as a technical cooperation project since February 2003.

## 1-2 Project Overview (based on PDMe Annex 1 of the Termination Evaluation)

### (1) Overall Goal

To enhance carbon sequestration and mitigation of global warming through establishment and management of plantations

### (2) Project Purpose

To establish new techniques and methodologies for carbon storing forest management which are expected to promote and enhance foreign and domestic investments for tree plantations

### (3) Outputs

Output 1: A technique for estimating the amount of carbon stored in plantation forests will be developed.
Output 2: New technology for charcoal-applied plantations to maintain and enhance carbon sequestration potential will be developed.
Output 3: More effective technology for charcoal production will be developed.
Output 4: Cost and revenue of CDM plantations will be estimated.
Output 5: Data and information necessary for potential CDM participants will be made available.

### (4) Inputs (until the time of evaluation)

Japanese side:
Long-term Experts: 9 person-assignments (4 at terminal evaluation)
Short-term Experts: 30 experts
Equipment: 258,679 US dollars
Local cost: $6{,}218*10^6$ Rp (approx. 74,505,000 yen)
Trainees received: 11 persons

Indonesian side:
Counterparts: 16 person-assignments (8 at terminal evaluation)
Purchase of equipment: None

Land and facilities: Pilot plantations, the project office and related facilities, experimental forests, etc.
Local cost: Not available

• The C/P organization has a single budget item for each donor. Information on the local cost of this Project only was not available.

2. Evaluation Team

Members of Evaluation Team
(Role/responsibility: Name Position)
Team Leader: Yukihide KATSUTA Director, Group I, Global Environment Department
AR-CDM Evaluation: Tatsuya WATANABE Technical Officer, National Forest Planning Division, Forestry Agency
Evaluation Planning: Daisuke SAITO Group I, Global Environment Department
Evaluation Analysis: Yasuyo HIROUCHI Permanent Expert, International Department Associates Ltd.

Period of Evaluation
6 - 17 September 2005

Type of Evaluation: Terminal Evaluation

3. Results of Evaluation

3-1 Objectives of Evaluation

The terminal evaluation of this Project, scheduled for completion by January 2006, has two major objectives: (i) to review its achievements, the implementation process in accordance with the JICA Guidelines for Project Evaluation and evaluate the Project in light of the five criteria; and (ii) present recommendations and lessons learned for future projects.

3-2 Summary of Evaluation Results

(1) Relevance

The Overall Goal is relevant to the needs of the Indonesian government and consistent with its national policy. The importance of afforestation and reforestation projects under the Clean Development Mechanism (AR-CDM) is stressed in the National Strategy Study on CDM in Forestry Sector of 2003 and the Minister of Forestry's speech at a CDM workshop. The Project Purpose is relevant to the needs of potential CDM participants.

Both the Overall Goal and the Project Purpose are consistent with Japan's ODA policy as they correspond to "global issues such as global warming and other environmental problems," one of the four priority issues in the ODA Charter, and to "environmental conservation," one of the priority issues in the JICA Country Program for Indonesia.

(2) Effectiveness

<Prospect of the Project Purpose being attained>

The Project will achieve its purpose by the end of the project period. Through the project process, progress has been made in a number of aspects, including (i) the collection and analysis of basic data on biomass, soil and financing, (ii) the development of a manual on AR-CDM, (iii) disclosure of the products of these activities, and (iv) the development of technology for charcoal-applied plantations and charcoal production techniques. Because of these developments, the Outputs will be achieved by the end of the Project, including Output 5: Data and information necessary for potential CDM participants will be made available.

<Degree of contribution of the Outputs to the achievement of the Project Purpose>

Outputs 1, 4, and 5 directly contribute to the achievement of the Project Purpose because they will directly or indirectly provide potential CDM participants with access to necessary and useful information. Outputs 2 and 3 do not directly contribute to the attainment of the Project Purpose now that an unexpected change occurred in the Important Assumptions in the PDM. Still, they have positive effects. The unexpected change is that in the modalities of AR-CDM (framework of negotiations), it was decided not to regard production and application of charcoal as a carbon sink.

(3) Efficiency

The project inputs are largely appropriate. The achievement on the Outputs is appropriate in light of the project inputs and activities.

(A) Inputs

<Japanese side>

a. Expert assignment (timing, the number of experts, and their capacity)

The expert assignment was generally appropriate. As long as long-term experts, there was some room for improvement. Their replacement concentrated at one point in the project period. Some of them had to deal with activities that were outside of their expertise. Nevertheless, the long-term experts overcame these difficulties in cooperation with other stakeholders. The assignment of short-term experts was

appropriate in terms of timing, technical capacity, and experience, although a longer assignment duration would have proved more efficient.

b. CP training in Japan

The contribution of the counterpart (C/P) training in Japan to the Project was moderate. The training was appropriate as a whole. The counterparts took advantage of what they had learned in Japan in their project activities. However, the group training in which some C/Ps participated were too general in its content to suit their needs.

c. Equipment (quantity, quality, and timing)

The equipment inputs were appropriate and put to effective use in making achievements in the Project. Yet, the NC analyzer often broke down due to changes in voltage, making it necessary to contract out some analyzing activities.

d. Local cost

Funds from Japan were appropriately used. Japan also took over the Indonesian portion of the local cost.

<Indonesia side>

a. Counterparts

Although the assignment of counterparts was appropriate as a whole, there was some room for improvement. For example, a few C/Ps were assigned some time after the relevant expert was assigned from Japan. A few project activities were not attended by C/Ps. Some C/Ps were concurrently engaged in other activities as well and could not concentrate on one project activity on a full time basis. The project manager was replaced more than a few times.

b. Land and facilities

The provision of land and facilities was largely appropriate in terms of quality and timing, although the construction of the garage was a little behind schedule. The project office experienced an unstable power supply, suspending some project activities. The Indonesia side could have done more to maintain the security of the experimental sites. Japan financed this security maintenance.

(B) Coordination with relevant projects

The Project received data on stands from the JICA's Small-scaled Forest Plantation Using Fast-growing Tree Species Project in Malaysia. It has also exchanged information with other JICA projects in Indonesia in the sector of forest and natural environmental conservation. Information was also exchanged with other donors, namely ADB and ACIAR on CDM projects.

(C) Contributing and inhibiting factors for the achievement of the Outputs

Contracting out some activities to NGOs, universities, and research institutions in Indonesia and exchanging information with them has contributed to the achievement of the Outputs.

(4) Impact

<At the Overall Goal level>

The Evaluation Team considers the Overall Goal of the Project too ambitious; it cannot be achieved in 3-5 years from the completion of the Project. To achieve it, the techniques developed in the Project should be put to effective use in the first place. Among the conditions described in the Important Assumptions for the Overall Goal in the PDM, those concerning the modalities of AR-CDM and the CDM policy of Indonesia will be met as no major change to them occurred. It remains to be seen, however, whether the condition that a carbon market where a substantial amount of credit obtained in AR-CDM (t-CER and i-CER) was exchanged at reasonable prices will emerge. Unless this condition is met, attaining the Overall Goal will be difficult.

<At other levels>

The Project has had no negative effects to date. The positive effects include the improved technical skills of the C/Ps and other project stakeholders, and the development of a network involving the C/Ps and Japanese experts. The achievement of Outputs 2 and 3 has provided technical and economic benefits to local NGOs and charcoal producers.

Potentially positive effectives may include the use of the results of soil carbon measurement in the Project for many AR-COM projects in the tropics, and the effective use of the NC analyzer.

(5) Sustainability

In relation to sustainability, the technical skills of the C/Ps have improved so as to manage the project outputs on their own. The Evaluation Team has confirmed that the organizational structure is being developed for maintaining and building on the project outputs. For example, FORDA has a research plan associated with CDM and is developing its own database. At the financial level, the Indonesian government has not provided sufficient allocations to the Project. Although the government says it plans to do so in the future, it is unclear this plan will be fully delivered at all.

3-3 Implementation process

Generally, the Project has been implemented according to plan. All the project activities will be completed by the end of the Project. The appropriate implementation of the Project has been supported by close cooperation between the Japanese experts and the C/Ps, as highlighted by a quarterly debriefing and the Joint Coordinating Committee (JCC). The key features monitored by JICA include the establishment of a supporting committee in Japan, and the change in scheme from a demonstration study to a technical cooperation project. The scheme change had a few problems, such as an insufficient procedure of operation (PO), and the failure to perform the mid-term survey. These problems made information sharing among the stakeholders difficult.

## 3-4 Conclusion

In sum, the Project has been appropriately managed in a way to respond flexibly to changes in the Important Assumptions and the project process. The Evaluation Team concludes that both the Outputs and the Project Purpose will be accomplished by the completion of the Project.

## 3-5 Recommendations (specific solutions, suggestions and advice for the Project)

The recommendations based on the findings of the terminal evaluation have been submitted to the Ministry of Forestry. They can be summarized as follows:

<Measures to be taken by the project completion>

(1) Appropriately implement and complete the project activities
(2) Secure the necessary budget for the Indonesian counterparts
(3) Assign counterparts specializing in database-related techniques
(4) Maintain the NC analyzer properly and build an appropriate maintenance system
(5) Prepare institutional and financial arrangements for the post-project phase
(6) Revise the Overall Goal in the Project Design Matrix (PDM) and ensure project management based on the revised PDM

<Measures to be taken after the project completion>

(1) Appropriately manage the experimental sites that have been constructed in the Project
(2) Continue the measurement and analysis of carbon sequestration
(3) Manage and update the data and the database
(4) Provide information to potential CDM participants
(5) Make institutional and financial arrangements for the post-project activities
(6) Secure the right of the Japanese government to use the products of the Project

3-6 Lessons Learned (especially those that provide information that is useful for identifying/formulating, implementing, and administering similar projects)

(1) It is necessary to clearly define the ownership of the project and hold sufficient consultations with the partner country government for appropriate project management.
(2) Local resources should be put to effective use for project activities.
(3) Proper project management requires an appropriate monitoring framework and information sharing that takes advantage of such management tools as PDM and PO.

3-7 Follow-up Status

The Indonesia Ministry of Forestry has requested the following activities. They are under consultation.

(1) Inputting data into the database
(2) Performing charcoal experiments
(3) Bearing the cost of internet providing services
(4) Continuing the data measurement in the experimental forests