Malaysia

Ex-Post Evaluation of the Japanese Technical Cooperation Project "Bornean Biodiversity and Ecosystems Cooperation Program (I)" Mr. Koichiro Ishimori, Value Frontier Co., Ltd

0. Summary

The implementation of the program project, which is a program consisting of 7 outputs, has been highly relevant to the development policies and needs of Malaysia, as well as to the development policies of Japan, and thus the relevance is high. The efficiency of the project inputs is also high since the project period and cost were almost as planned. Although one of the seven outputs, that is, the park management component, has not been achieved, the remaining six outputs have been achieved or mostly achieved. The program objective under the premise of the seven outputs has been attained in terms of all three indicators, and thus, the effectiveness of the program is high. Moreover, positive impacts such as increase in the number of entities and individuals cooperating to conserve biodiversity and the ecosystem in Sabah and the number of protected areas, have been realized. The 10th Malaysia Plan (2011-2015) aims at the "conservation of biological resources" and "sustainable use of resources," and the National Policy on Biological Diversity (1998) remains unchanged; thus, the sustainability of the policy related to the program is high. However, there are minor problems with the institutional, technical, and financial aspects of the operation and maintenance of the program with regard to environmental education, and thus the sustainability of program effects and impacts is fair.

In light of the above, the program project is evaluated to be highly satisfactory.



1. Project Description

Program Location

Images of the ecosystems in Borneo

1.1 Background

Malaysia was home to approximately 60% to 70% of the earth's species. It had over 15,000 types of phanerogam, including the world's largest flower, *Rafflesiales*, over 15,000,000 types of terrestrial vertebrate, including orangutans and proboscis monkeys, and over 150,000 types

of invertebrate, including the world's largest butterfly, *Troides brookiana*. In particular, Sabah (a state on Borneo island), where the program project was implemented, had one of the richest biodiversities in the world.

However, in Sabah, rampant commercial logging and oil palm plantation have rapidly taken place and resulted in the loss of forests, causing the destruction of its biodiversity. Accordingly, measures to conserve the biodiversity have started to become necessary¹.

Under such circumstances, the Government of Malaysia requested the Government of Japan to implement a technical cooperation project based at the Institute for Tropical Biology and Conservation (ITBC). However, the problem analyses during the subsequent program formulation indicated that it would be also necessary to manage the parks and protected areas, improve environmental education, and take comprehensive measures in their collaboration, in addition to the original request to conduct research into the biodiversity. Consequently, this program project that has seven outputs has been formulated and implemented.

Overall (Goal	Conservation of the biodiversity and ecosystems in Sabah is enhanced.				
Program	Objective	Comprehensive and sustainable approach for conservation is established.				
	Output 1	A monitoring system and integration among components for comprehensive conservation is enhanced.				
	Output 2	An appropriate research and education model for conservation is established (Research and Education Component: REC).				
	Output 3	Effective management options for protected areas are developed (Park Management Component: PMC).				
Output	Output 4	An integrated approach to habitat management for important species is established (Habitat Management Component: HMC).				
	Output 5	Models to change behaviors of the target groups towards biodiversity conservation are established (Public Awareness Component: PAC).				
	Output 6	A more permanent framework as a basis for comprehensive conservation which is modeled from the program is developed.				
	Output 7	The plan, progress, and results of the program are made known to the public.				
Input		[Japanese side]				
		1. Experts: 52 experts				
mput		(Long-tem: 19 experts, Short-tem: 33 experts)				
		2. Trainees received: 62 trainees				

1.2 I I VICCI O utiline

¹ For us, the conservation of biodiversity in Malaysia is not someone else's problem. Most of the fibers for our clothes, our food, and building materials for our houses are imported. Our lives depend on ecosystem services (supporting services, provisioning services, regulating services and cultural services) abroad. Since the foundation of ecosystem services is biodiversity (lives on earth), the loss of our biodiversity leads to poorer ecosystem services and thus, a lower standard of living.

	3. Japan Overseas Cooperation Volunteers (JOCV): 17 people			
	(of which 2 are Senior Volunteers)			
	4. Third country training program: NA			
	5. Equipment: 290 million yen			
	6. Local cost: 102 million yen			
	7. Others: Study teams of the appraisal, the mid-term review, and			
	the terminal evaluation, etc.			
	[Malaysia side]			
	1. Counterparts: 117 counterparts			
	2. Land, facilities, and operation and maintenance cost of facilities			
	- Research and Education Component (REC) : 16 million yen			
	- Park Management Component (PMC) : 32 million yen			
	- Habitat Management Component (HMC) : 5 million yen			
	- Public Awareness Component (PAC) : 13 million yen			
Project Cost	Approximately 1,383 million yen			
Project Period	February, 2002 to January, 2007			
	Institute for Tropical Biology and Conservation (ITBC), Sabah Parks			
Executing Agency	(SPs), Sabah Wildlife Department (SWD), Unit of Science and			
	Technology (UST), and others ²			
Cooperation	Ministry of the Environment, Ministry of Agriculture, Forestry, and			
Agency in Japan	Fisheries.			
Dalatad Drainat	JOCV and "Bornean Biodiversity and Ecosystem Cooperation Program			
Kelated Projects	(II)" of the Technical Cooperation Project			

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Overall Goal

According to the terminal evaluation in 2006, it was expected that the overall goal would be achieved to some degree within five years. It was also expected that it would be difficult to continue comprehensive conservation activities after the completion of the program project without a comprehensive framework integrating the four outputs corresponding to REC, PMC, HMC, and PAC components.

1.3.2 Achievement of Project Objective

According to the terminal evaluation in 2006, the program objective has been mostly achieved, with the exception of introducing a permanent framework at the program level.

1.3.3 Recommendations and the Situation of Responding to Them

The terminal evaluation in 2006 made the following recommendations. The

² Economic Planning Unit of the Federal Government, Ministry of Tourism, Culture and Environment, Natural Resources Office, Economic Planning Unit, Lands and Surveys Department, Forestry Department, Environment Protection Department, and district government of Sabah.

recommendations and the situation of responding to them are as follows:

1. An organizational framework that integrates the four outputs corresponding to REC, PMC, HMC, and PAC needs to be made after the completion of the program project.

--> Sabah Biodiversity Centre (SaBC), which integrates the four outputs, was established under the "Sabah Biodiversity Enactment 2000" in May 2008 after the completion of the program project.

2. Regarding REC, it is necessary to deploy technicians for maintaining the biodiversity database, MUSEBASE, by the completion of the program project and to incorporate research and education into actual management after the completion of the program project.

--> Technicians for maintaining MUSEBASE were deployed before the completion of the program project. MUSEBASE functions as the biodiversity database, but it is impossible to use it for incorporating research and education into actual management, since the data in the database cannot be shared on the internet because of its system errors.

3. Regarding PMC and PAC, it is necessary that the state government of Sabah authorizes the Crocker Range Park Management Plan and the Sabah Environmental Education Policy (SEEP) by the completion of the program project and that the Plan and the Policy are steadily implemented and monitored after the completion of the program project.

--> The state government of Sabah authorized the Crocker Range Park Management Plan after the completion of the program project, and SPs now implements and monitors the Plan. The state government of Sabah also authorized SEEP in April 2009, after the completion of the program project, and SaBC that took over the responsibility of environmental education from UST now implements and monitors it with assistance from the Bornean Biodiversity and Ecosystem Cooperation Program (II).

4. Regarding HMC, it is necessary to strengthen the technical aspects and staffing of counterparts (SWD).

--> SWD has been trying to strengthen its technical aspects by conducting research into habitat in collaboration with international NGOs. Although significant staffing of SWD has not been observed, it has been attempting to strengthen its staffing by utilizing a participatory system of honorary wildlife wardens.

1.4. Project Description of the Bornean Biodiversity and Ecosystem Cooperation Program (II)

Overall Cool	Biodiversity and ecosystems conservation in Sabah is strengthened
Overall Goal	and internationally recognized as a conservation model.

Program	Objective	A system for biodiversity and ecosystems conservation in Sabah is strengthened and Sabah state becomes a center for extension of knowledge and information to other areas of Malaysia and foreign
		countries.
	Outpu1	Functions and implementation capacity of Sabah Biodiversity Council/Centre are enhanced.
Output	Outpu2	Biodiversity and ecosystems conservation activities are implemented.
	Outpu3	Extension services and training capability related to the biodiversity and ecosystems conservation are enhanced.

The Bornean Biodiversity and Ecosystem Cooperation Program (II) by Japan International Cooperation Agency (JICA), operating from October 2007 to September 2012, provides policy-oriented assistance focusing on the public administration system in the state of Sabah in order to establish and strengthen the system for conservation of biodiversity and the ecosystem. For example, it facilitates the institutional setup, capacity-building activities, and creation of the strategic action plan of SaBC under the activities of output 1.

2. Outline of the Evaluation Study

2.1 External Evaluator

Mr. Koichiro Ishimori, Value Frontier Co., Ltd

2.2 Duration of the Evaluation Study

The ex-post evaluation study was implemented according to the followings: Duration of the Study: October 2010 – October 2011 Duration of the Field Study: January 9–29, 2011, & April 24–May 7, 2011

2.3 Constraints during the Evaluation Study

The program project targeted vast areas of the state of Sabah³. However, owing to limitations on the budget and time available for the ex-post evaluation study, it was not possible to visit and observe all the program-related areas. There were also slight problems with indicators (i.e., indicators 4-1 and 6-1) in measuring the outputs that had been set at the time of planning the program project, and thus, it was difficult to evaluate the extent to which the concerned outputs were achieved. In addition, the external evaluator has been unable to disclose detailed financial information in this evaluation report because the counterparts have requested that these details should be withheld from the public, though they have agreed to present the external evaluator the financial situations unofficially.

³ The total area of the state of Sabah is 73,631km², which is equivalent to approximately 90% of the total area of Hokkaido, Japan (83,456km²).

3. Results of the Evaluation (Overall Rating: A)

3.1 Relevance (Rating: ③)

3.1.1 Relevance with the Development Policies/Plans of Malaysia

The 8th Malaysia Plan (2001–2005), in operation at the time of planning the program project, aimed at "pursuing environmentally sustainable development to reinforce long-term growth" as one of its seven priorities, and it attempted to "conserve the biodiversity" in accordance with the National Policy on Biological Diversity (1998) and "empower local authorities and engaging communities" to realize this aim.

The National Policy on Biological Diversity (1998) aimed at "transforming Malaysia into a world center of excellence in conservation, research and utilization of tropical biological diversity" as its vision, attempted to promote "conservation and sustainable use of the biodiversity" to realize this aim. One of the priorities was to "enhance scientific and technological knowledge, and educational, social, cultural values of biological diversity."

The 9th Malaysia Plan (2006–2010), in operation at the time of the terminal evaluation, aimed at "improving the standard and sustainability of quality of life" as one of its five priorities, and it attempted to promote "environmental protection and sustainable resource management" to realize this aim. The National Policy on Biological Diversity (1998) also remained valid at this time.

In light of the above, the program project is judged to be relevant with the national development plans and sector plan.

3.1.2 Relevance with the Development Needs of Malaysia

The biodiversity in the state of Sabah at the time of planning the program project was already deemed important for containing valuable assets common to humankind. However, owing to the lack of an integrated system to manage its conservation as well as the lack of understanding of the importance of the biodiversity, the biodiversity was worsening year by year. Therefore, the program project, which intended to establish such an integrated system, promote environmental education, and so forth with a view of conserving the biodiversity, met the development needs at the time of planning the program project. In light of the above, the needs of the program project were judged to be high.

The biodiversity in the state of Sabah at the time of the terminal evaluation remained important because of its value across the world, and its conservation remained essential. However, rampant commercial logging and oil palm plantation have persisted, and the loss of forests⁴ followed by the loss of biodiversity still occurred. Accordingly, the program

⁴ The total forest area in the state of Sabah in 2002 when the program project got started were approximately 4.42 million ha, but dropped to approximately 4.30 million ha in 2010 when the ex-post evaluation was conducted; hence, the net loss of approximately 0.12 million ha, which is almost twice as large as the size of the 23 wards comprising the Tokyo metropolitan area (Source: calculation by the external

project, which intended to establish an integrated system and promote environmental education with a view of conserving the biodiversity, met the development needs at the time of the terminal evaluation. In light of the above, the needs of the program project were judged to be high.

3.1.3 Relevance with Japan's ODA Policies

The previous Charter on Official Development Assistance (ODA) (1992) highlighted the importance of "helping efforts made by developing countries, given that global issues like environmental issues must be resolved together through cooperation between developed and developing countries." The current Charter on ODA (2003) highlights the importance of "making positive contributions to global issues through ODA, given that global issues like environmental issues are issues for which the international communities must take prompt and coordinated actions."

The previous Mid-term Policy on ODA (1999) prioritized "positive cooperation for nature conservation from the viewpoint that environmental issues would threaten the lives of human beings." The current Mid-term Policy on ODA (2005) prioritizes the "capacity building of human resources in order to strengthen organizational capability of handling environmental issues for relevant entities in developing countries, and cooperation for environmental monitoring, policy making, system development, and procurement of equipment from the viewpoint that environmental issues would threaten the lives of human beings."

In addition, the previous Country Assistance Policy for Malaysia (2002) viewed East Malaysia (the northern part of Borneo island) as the richest area in the world in terms of biodiversity and prioritized the importance of providing comprehensive cross-sectoral support for nature conservation, from training for researchers and practitioners to environmental education.

In sum, the program project has been highly relevant with Malaysian development policies/plans and development needs, as well as Japan's ODA policies. Therefore, its relevance is high

3.2 Effectiveness, Impact (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Outputs

evaluator based on data from Forestry Department, Forest Research Institute of Malaysia, Malaysia Timber Council, and World Wildlife Fund). In order to conserve forests all over the state of Sabah, a policy-oriented assistance across related ministries and departments is necessary. However, since the program project was just a project-oriented assistance in research and education, park management, habitat management, and public awareness, it is unreasonable to expect the program project to prevent forest loss.

Output 1: A monitoring system and integration among components for comprehensive conservation is enhanced (for efficient and effective collaboration among concerned parties in implementing the program project).

Indicator 1-1: A mechanism to coordinate and monitor the activities of 4 components is established.

Four levels of committee/meetings have been established (Program Steering Committee⁵, Component Managers Meeting⁶, Working Group Meeting⁷, and Program Secretariat Meeting⁸). As a result, a mechanism to coordinate the planning, implementation, and monitoring of each component has been established.



Indicator 1-2: Activities and results of 4 components are coordinated and integrated for comprehensive conservation.

The four levels of committee/meetings have been held on a regular and as-required basis. They have become a forum where the planning, implementation, and monitoring of each component were coordinated and thus comprehensive conservation was integrated.

⁵ The Program Steering Committee consisted of the state secretary of Sabah as the chairperson, chancellor of the University of Malaysia at Sabah and JICA's chief advisor as the vice chairpersons, component managers, and other members, and it was held three times a year. The main role of the Committee was overall management and coordination of the program project and authorization of plans submitted by each project.

^o The Component Manager Meeting consisted of, among others, the representatives from ITBC, in its position as the lead organization for REC; SPs, the lead organization for PMC, SWD, the lead organization for HMC; and UST, the lead organization for PAC. It was held about 10 times a year. The major role of the Meeting was sharing information on the planning, implementation and monitoring of each component for the purpose of coordination among all components.

⁷ The Working Group Meeting of each component consisted of the concerned lead organization and other related organizations, and it was held about four times a year. The major role of the Meeting was the planning and monitoring of activities by the concerned component.

⁸ The Program Secretariat Meeting was attended by staff from ITBC, UST, and JICA and was held about four times a year. ITBC was in charge of running the Program Steering Committee and Component Manager Meeting, and UST was in charge of publicity and communication among the concerned parties.

In sum, the above two indicators have been achieved, and efficient and effective collaboration among concerned parties has been recognized. It is therefore judged that output 1 has been achieved.

Output 2: An appropriate research and education model for conservation is established (for enhancing the research and education capabilities of the concerned parties, including ITBC).

Indicator2-1: Usefulness of model to solve conservation problems brought in.

ITBC has conducted a wide variety of biological research, including research into the ecology of important species, such as orangutans and proboscis monkeys, and into the conservation of tropical forests. It presented the results of this research as part of an educational outreach effort to 7 international conferences, 94 seminars, 14 workshops, 22 training programs, and other such events. Moreover, based on these research results, ITBC has introduced a park management approach at Crocker Range Park in collaboration with SPs as well as a habitat management approach at Lower Segama Wildlife Reserves in collaboration with SWD.

In sum, the above indicator has been achieved, and it is acknowledged that the research and education capabilities of the concerned parties, including ITBC, have been enhanced. Therefore, it is judged that output 2 has been achieved.



International Conference in 2003

Training in Entomology

Output 3: Effective management options for protected areas are developed (for enhancing the park management capabilities of concerned parties, including SPs).

Indicator 3-1: The majority of protected areas in Sabah and all states in Malaysia have and refer to the hand book of lessons-learned by the end of January 2007.

A handbook of lessons learned from the program project was compiled in September

2006 and has been in use at the concerned organizations of the state of Sabah. This book includes the concept of the Community Use Zone (CUZ), which allows indigenous people in protected areas to use and manage land within those areas, and the concept of the Honorary Park Manager, for local people to patrol protected areas. However, the book has not been distributed to all states in Malaysia, owing to budget limitations at SPs, and thus, at the end of January 2007, has not become in use in all the states.

In sum, it is acknowledged that the park management capabilities of the concerned parties, including SPs, have been enhanced, but that the handbook has not become in use in all states. Therefore, it is judged that part of output 3 has not been achieved.



Land Survey at Crocker Range Park

Discussion with indigenous people on CUZ

Output 4: An integrated approach to habitat management for important species is established (for enhancing the habitat management capabilities of concerned organizations, including SWD).

Indicator 4-1: The number of stakeholders in Lower Segama participating in the approach that is sustainable and supported by local people by the end of January, 2007.

The government (i.e., the state government of Sabah and the district government of Kota Kinabatangan), 14 companies, 2 NGOs, and 14 local communities have participated in the Integrated Management Plan for Lower Segama. SWD has promoted habitat revegetation in collaboration with NGOs and implemented training programs for local people appointed as honorary wildlife wardens. In this manner, the habitat management capabilities of the concerned organizations, including SWD, have been improved.

It is judged that this indicator, which was set at the time of planning the program project, is not appropriate, since it is difficult to evaluate its achievement based on only the number of stakeholders, which does not indicate any quantitative baseline or plan. (A preferable indicator would have been, for example, "the number of stakeholders will increase from X to Y by the completion of the project," based on the actual count or a rough estimation of the number of stakeholders before the program project was implemented.) Accordingly, the external evaluator made the assumption that the program project would allow a "large" number of stakeholders to participate in the Plan and estimated that over 30 stakeholders was a sufficiently large number.

In sum, this indicator has been achieved, and it is acknowledged that the habitat management capabilities of the concerned parties, including SWD, have been enhanced. It is therefore judged that output 4 has been achieved.

Output 5: Models to change behaviors of the target groups towards biodiversity conservation are established (for enhancing the public awareness capabilities of the concerned parties, including UST).

Indicator 5-1: Models including guideline and delivering mechanism for public awareness of the target groups (i.e., teachers, journalists, developers, policy makers, and non-environmental NGOs) are produced with evidence of successful application by the end of January, 2007

The guideline (i.e., SEEP) was not completed by the end of January 2007, owing to limitations on the time required for consulting over 30 parties. It was eventually completed in April 2009. The delivery mechanism (i.e., Sabah Environmental Education Network: SEEN⁹) was completed in March 2005 and was applied to the target groups in an effective manner.

In sum, while SEEP was completed only after the program project, SEEN was completed as planned with evidence of successful application, and it is acknowledged that the public awareness capabilities of the concerned parties, including UST, have been enhanced. Therefore, it is judged that output 5 has been achieved.

Output 6: A more permanent framework as a basis for comprehensive conservation which is modeled from the program project is developed (for efficient and effective collaboration among concerned parties in implementing the program project).

⁹ The role of SEEN is to promote environmental education, communication, and awareness in Sabah through networking, cooperation, and collaboration among the member organizations/individuals, and its themes vary from conservation of the biodiversity and ecosystems to global warming and the 3 Rs (i.e., Reduce, Reuse, and Recycle).

Indicator 6-1: The number of joint activities.

The number of joint activities, including research, exhibitions, conferences, and workshops, among the concerned parties directly related to the program project (i.e., ITBC, SPs, SWD, and UST) during the implementation of the program project was 28, which translated to 6 activities per year on average.

It is judged that this indicator, which was set at the time of planning the program project, is not appropriate, since it is difficult to evaluate its achievement based on only the number of joint activities, which does not indicate any quantitative baseline or plan. (A preferable indicator has been, for example, "the number of joint activities will increase from X to Y by completion of the project," based on the actual count or a rough estimation of the number of joint activities before the program project was implemented.) Accordingly, the external evaluator assumed that the program project intended to carry out a "large" number of joint activities and estimated that 28 joint activities was a sufficiently large number. This means that indicator 6-1 has been achieved.

Indicator 6-2: The document containing the framework is produced.

• REC: Biodiversity and Conservation research for Science and the People was made in March 2006.

• PMC and HMC: Master List of Sabah Protected Areas was jointly made in December 2006.

• PAC: SEEP was made in April 2009.

In sum, SEEP was established after the program project was implemented. However, the above two indicators have been achieved, and efficient and effective collaboration among the concerned parties is recognized. It is therefore judged that output 6 has been mostly achieved.

Output 7: The plan, progress, and results of the program project are made known to the public (for disseminating information).

Indicator 7-1: Media coverage on the program project is increased and maintained.

The program project has been covered by media such as newspapers, radio, and television over 700 times during its implementation (see Chart 1). Although this coverage began to decrease after 2005, it can be considered that the overall coverage has increased and has maintained some degree of exposure according to the progress made

by the program project. In fact, the beneficiary survey discussed later in this ex-post evaluation report indicates that 30% of the people have been made aware of the program project by such media.



Chart 1: Number of times the program project was covered by newspapers, radio, TV, and other media Source: JICA

In addition, the annual average number of times the homepage of the program project was accessed during the implementation of the program project was over 32,000 (see Chart 2).



Chart 2: Number of times the homepage of the program project was accessed Source: JICA

In sum, indicator 7-1 has been mostly achieved, and it is acknowledged that the dissemination of information has been improved. It is therefore judged that output 7 has been mostly achieved.

3.2.1.2 Achievement of Program Objective

<u>Program Objective: Comprehensive and sustainable appraoch for conservation is</u> established.

Indicator 1: The concerned parties are networked to share information, human resources and facilities, and joint conservation activities are increases.

The joint conservation activities¹⁰ among concerned parties directly related, and

¹⁰ Study tours, ecotourism, workshops, and forestations, etc.

between concerned parties directly and indirectly related, to the program project, numbered 18 at the time of the start of the program project, but increased to over 50 by its completion.

Table 1: Numbers of joint conservation activities

	2002	2007
Number of joint conservation activities	18	50
Source: JICA		

Indicator 2: Organizations, local communities, NGOs, and private companies that are directly not related to the program project are involved in planning, implementation and monitoring of conservation activities with the state government and University of Malaysia at Sabah.

Since the monitoring mentioned in this indicator has not been undertaken, no data is available. Consequently, the ex-post evaluation study made the evaluation based on hearings of actual cases revealed by counterparts.

SOS Rhino Borneo (now Borneo Rhino Alliance), a local NGO established in 2003, has been carrying out, together with SWD and the University of Malaysia at Sabah, activities to protect Borneo rhinos, which are an endangered species. The Borneo Conservation Trust established in 2006 has been implementing together with SWD the Green Corridor Project, which connects fragmented forests and wildlife reserves by purchasing and foresting the lands between them, resulting in the expansion of wildlife habitats. These cases are evidence that entities that are not directly related to the program project are involved in conservation activities with the state government and University of Malaysia at Sabah. It is therefore judged that indicator 2 has been achieved.

Indicator 3: A more permanent framework as a basis for comprehensive conservation.

The program project proposed that the state government of Sabah should establish Sabah Biodiversity Council under which biodiversity-related entities can work jointly and SaBC as the secretariat of the Council.

In sum, the above three indicators have been achieved, and thus, the program objective has also been achieved.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

Overall Goal: Conservation of biodiversity and ecosystems in Sabah is enhanced.

Indicator 1: Public awareness of biodiversity is raised among people in Sabah (This indicator has not been set in Program Design Matrix)

According to the beneficiary survey, which targeted 100 people in Sabah¹¹, the number of people aware of the importance of biodiversity has increased from 74 in 2002 to 97 in 2010. Reflecting the increase, in addition, the number of people participating in conservation activities related to biodiversity, such as forestation, has also increased from 41 in 2002 to 45 in 2010.

Indicator 2: The number of institutions and individuals in Sabah cooperated for biodiversity conservation through the formalized framework (i.e., SEEN created under output 5) is increased.

Since SEEN did not exist prior to the program project, it is not possible to make a direct comparison of the numbers of institutions and individuals cooperating on biodiversity conservation through SEEN before and after the program project. However, these numbers increased after 2005 when SEEN was established, to 34 institutions and 80 individuals by the time of the ex-post evaluation in 2010.

 Table 2: Numbers of institutions and individuals in Sabah cooperating on biodiversity conservation through the formalized framework (i.e., SEEN)

				(,
	2002	2005	2006	2007	2008	2009	2010
Institutions cooperating through SEEN	Ι	22	26	26	29	33	34
Individuals cooperating through SEEN	_	52	63	63	66	72	80

(Unit: institutions/individuals)

Source: SEEN

Indicator 3: The number of protected areas is increased.

Whereas the number of protected areas was 135 before the program project, by the time of the ex-post evaluation in 2010, this number had increased to 138. One place was added to the total number in each of the years 2003, 2006, and 2008¹².

		(Ur	nt: places
		2002	2010
Protected areas in Sabah		135	138
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Source: World Database on Protected Areas (2010)

3.3.2.2 Other Impacts

1) Impacts on the Natural Environment

The positive impact of the program project on the natural environment, such as raised

¹¹ Fifty people from the city of Kota Kinabalu and fifty people from the rural area of Tambunan were randomly chosen and interviewed one-to-one.

¹² Nurod Urod Virgin Jungle Reserve (1,705 ha) in 2003, Kebun Cina Amentiy FR (149 ha) in 2006, and Lower Kinabatangan Segama Wetlands (78,803 ha) in 2008.

public awareness and increased number of institutions/individuals and protected areas, is well acknowledged and no negative impact is acknowledged.

2) Relocation and Acquisition of Land

There is nothing in particular to be noted.

3) Other Indirect Impacts

Activities for conserving biodiversity underpin tourism in Sabah, where ecotourism is emphasized on. The numbers of travel agencies and hotels registered in Sabah and revenue from tourism in Sabah have therefore been examined, and it has been found that these have all increased, though they are not indicators that were set at the time of planning the program project. However, it is reasonable to expect that other factors have also had a role to play in these increases. Thus, it would be inaccurate to assert that these increases have been brought about solely by the program project. Nevertheless, it is believed that the program project has had a role to play in the increases to some degree.

Table 4: Numbers of travel agencies and hotels registered and revenue from tourism in Sabah

(Unit: Number/RM 1 billion	n)
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	2002	2009*
Travel agencies registered in Sabah	167	515
Hotels registered in Sabah	279	443
Revenue from tourism in Sabah	2,287	3,266
		. /

Source: Sabah Tourism Board

 $\ast\,$ Data for 2009 was used because of a lack of data for 2010 when the ex-post evaluation study was conducted

In sum, the above three indicators have been achieved, and other impacts have also been acknowledged. Thus, it is judged that the overall goal has been achieved and that the program project, consisting of multiple components, has had synergies.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

Table 5: Comparison of inputs before and after the project

Elements of Inputs	Plan	Actual Result (at Terminal Evaluation)
<japanese side=""></japanese>		
(1) Experts	Long-term: 9 fields Short-term: 40 experts	Long-term: 19 experts in 10 fields Short-term: 33 experts in 29 fields
(2) Trainees received	45 trainees	63 trainees
(3) Japan Overseas Cooperation Volunteers (JOCV)	9 volunteers	17 volunteers in 9 fields (2 of them were senior volunteers in 2 fields)
(4) Third country training	NA	NA
(5) Equipment	Approximately 2.5 million yen	Approximately 2.9 million yen

(6) Local cost	Approximately 1.5 million yen	Approximately 1.2 million yen
Total cost	Approximately 1,585 million yen including JOCV	Approximately 1,383 million yen in which cost of JOCV was calculated based on average cost per person information on actual costs was not available.
< Malaysian Side >		
(1) Counterpart	NA	117 counterparts
(2) Land and facilities, maintenance cost of facilities.	NA	 REC: 16.92 million yen PMC: 32.00 million yen HMC: 5.66 million yen PAC: 13.09 million yen

Source: JICA

3.3.1.1 Elements of Inputs

< Japanese Side >

The number of long-term experts is believed to have been almost same as planned, though it is not possible to make a comparison between planned and actual figures, because of the unavailability of a planned figure, whereas the actual number of short-term experts was fewer than planned. The number of JOCVs was greater than planned, and the number of trainees was also greater than planned. Equipment and local costs have been mostly the same as planned. It is considered that the inputs from the Japanese side have been mostly as planned, and counterparts have also considered that the inputs were appropriate.

< Malaysian Side >

The counterparts consider the inputs from the Malaysian side to be suitable, though it is not possible to make a comparison between the planned and actual figures, because of the unavailability of a planned figure.

3.3.1.2 Program Cost

The planned total cost of the program project was 1,585 million yen, while the actual cost was lower than planned, at 1,383 million yen.

3.3.1.3 Program Period

The planned period of the program project was five years from February 2002 to January 2007, as was the actual period. Therefore, the program period was as planned.

In sum, it can be considered that the elements of the program inputs have been appropriate in relation to the realized outputs. The cost of the program project was lower than planned, and the period of the program project was the same as planned. The program project necessitated significant inputs because it consisted of multiple components. However, all the inputs have been efficiently managed, and thus, the efficiency of the program project is high.

3.4 Sustainability (Rating: 2)

3.4.1 Policy Related to the Project

The 10th Malaysia Plan (2011–2015) aims at "building an environment that enhances quality of life" as one of its five priorities, and attempts to promote the "conservation of biological resources" and "sustainable use of resources" to realize this aim.

The National Policy on Biological Diversity (1998) remains valid.

Thus, the sustainability of the policy related to the program project is judged to be high.

3.4.2 Institutional Aspects of the Executing Agency

3.4.2.1 ITBC (REC)

Staff at ITBC prior to implementation of the program project numbered 29 (2 professors, 2 associate professors, 13 lecturers, and 12 supporting staff), while this figure is currently 67 (6 associate professors, 20 lecturers, and 41 supporting staff).

Two professors left ITBC, but the number of associate professors and lecturers increased significantly. Many of the associate professors and lecturers have experience within and outside Malaysia, and ITBC has been able to continue research and education with no particular problems. Thus, it is judged that there are no problems with the institutional aspects of ITBC.

3.4.2.2 SPs (PMC)

Staff at SPs before the program project was implemented numbered 321 (17 administrative staff at the headquarters and regional offices and 304 park management staff), while this figure is currently 658 (164 administrative staff at headquarters and regional offices and 494 park management staff). SPs has significantly improved the quantity and quality of administrative staff at its headquarters and regional offices and has been able to continue park management activities with no particular problems. Thus, it is judged that there are no problems with the institutional aspects of SPs.

3.4.2.3 SWD (HMC)

Staff numbers at SWD before the program project was implemented totaled 195 (18 administrative staff at its headquarters and regional offices and 177 rangers), while this number is now 225 (20 administrative staff at its headquarters and regional offices and 205 rangers). Although SWD has not significantly improved the quantity and quality of its staff, it has been trying to strengthen its staffing by utilizing honorary wildlife wardens and has

been able to continue habitat management activities with no particular problems. Thus, it is judged that there are no problems with the institutional aspects of SWD.

3.4.2.4 UST (PAC)

Staff at UST before the program project numbered 6 (3 administrative staff and 3 technical staff), while this figure is now 16 (13 administrative staff and 3 technical staff). However, because the major responsibility for public awareness of biodiversity conservation shifted from UST to SaBC in December 2009¹³, it has become important to ascertain the institutional role of SaBC¹⁴. Staff at SaBC currently numbers only 8 (6 administrative staff and 2 technical staff), and the person responsible for raising public awareness has not received any technical assistance from the program project; thus, it is difficult to affirm that SaBC has sufficient staffing.

3.4.3 Technical Aspects of the Executing Agency

3.4.3.1 ITBC (REC)

ITBC has been using in its activities research and education techniques in such fields as taxonomy and conservation biology transferred from the program project, and it is judged that they are well embedded in ITBC¹⁵. Moreover, ITBC staff have improved in terms of quantity and quality, and no problems have been found with the technical aspects of ITBC, with the exception of MUSEBASE. As mentioned above, MUSEBASE functions as the biodiversity database, but it is unable to be employed as a tool to disseminate ITBC information on important species, since the data in the database cannot be shared on the internet owing to its system errors.

3.4.3.2 SPs (PMC)

SPs has been using in its activities park management techniques, such as social survey methods and land use planning within parks, transferred from the program project, and it is judged that they are well embedded in SPs¹⁶. Moreover, SPs staff have improved in terms of quantity and quality, and no problems have been encountered with the technical aspects

¹³ UST still conducts public awareness activities spontaneously even after this shift.

¹⁴ SaBC received technical assistance under the Bornean Biodiversity and Ecosystem Cooperation Program (II) from 2007 to 2012 and was successfully established in May 2008. The missions of SaBC are to 1) promote environmental education with regard to biodiversity in Sabah, 2) coordinate and manage activities for conserving biodiversity, 3) regulate access to biological resources, 4) manage information on biodiversity, and 5) promote utilization of biotechnologies.

¹⁵ According to the terminal evaluation, ITBC has been lack of techniques in animal physiology, DNA analyses, or environmental ecology. However, it now has these capabilities because it has acquired either associate professors or lecturers who have them.

¹⁶ According to the terminal evaluation, there should be no problems with establishing the CUZ plan, but there may be a problem with implementing and disseminating it. It is still impossible to judge whether SPs has difficulties in doing so, because the plan has not been implemented and disseminated until the ex-post evaluation study.

of SPs, with the exceptions of weather monitoring stations and touch-screen monitors. After the completion of the program project, four sets of weather monitoring stations malfunctioned and have been out of use to researchers of plant and animal biology. Recently, however, the Bornean Biodiversity and Ecosystem Cooperation Program (II) introduced three sets of new weather monitoring stations in the same locations as the inactive stations, and it is now possible to conduct this research again. Meanwhile, four sets of touch-screen monitors that have been installed in places such as the visitor center of Croker Range Park, which had over 20,000 visitors in 2010,¹⁷ are still out of order. Consequently, public visibility of the program project through Japanese assistance and opportunities for effective dissemination of information on animals and plants have been lost.

3.4.3.3 SWD (HMC)

SWD has been using in its activities habitat management techniques such as selection methods for key species and planning participatory habitat management transferred from the program project, and it is judged that they are well embedded in SWD¹⁸. Moreover, SWD staff have made attempts to improve their techniques by conducting joint studies in habitat management with international NGOs, and no problems have been found with the technical aspects of SWD. Although two GPS transmitters out of the four introduced by the program project in order to conduct research in the habitat of elephants are currently unusable, SWD has been able to continue its research by undertaking it jointly with international NGOs that have working GPS transmitters.

3.4.3.4 UST (PAC)

UST has been using in its activities public awareness techniques, such as training in environmental education on biodiversity conservation and creating and implementing public awareness plans, transferred from the program project, and it is judged that they are well embedded in UST¹⁹. As mentioned above, however, the major responsibility for

¹⁷ This is fewer than the 34,824 visitors (in 2009) to the Rausu Visitor Center of Shiretoko National Park in Japan, which is a world heritage site, but is larger than the 7,515 visitors (in 2009) to the Yakushima World Heritage Conservation Center in Japan, which is another world heritage site (Source: Ministry of the Environment).

¹⁸ According to the terminal evaluation, SWD has been lack of techniques in 1) monitoring various key species, 2) assistance in strengthening organizational and financial capabilities of villages implementing eco-tours led by villagers, and 3) registration procedures for Ramsar Conservation. At the time of the ex-post evaluation, however, there are no problems with points 1) and 3), because SWD has gained experience in these. However, it is difficult to judge whether it has sufficient techniques in point 2), since it has no experience in this yet.

¹⁹ According to the terminal evaluation, UST has been lack of techniques in 1) planning environmental education policy and 2) monitoring environmental education activities. At the time of the ex-post evaluation, however, there are no problems with point 1), since UST has gained experience in this, and regarding point

public awareness has shifted to SaBC, which has been planning, implementing, and monitoring public awareness activities with the help of the Bornean Biodiversity and Ecosystem Cooperation Program (II). However, it remains a concern whether the public awareness techniques will be utilized at and embedded in SaBC, since it has no staff who have received training in these through the program project.

3.4.4 Financial Aspects of the Executing Agency

3.4.4.1 ITBC (REC)

There has been an increasing trend in the annual budget for the operation and maintenance of ITBC from 2006 to 2010, and the annual budget in 2010 was approximately 250% of that in 2006. The annual budget in 2011 also increased compared to that in 2010 and covers the expenditure necessary for the operation and maintenance of ITBC. Therefore, there are no problems with the financial aspects of ITBC.

3.4.4.2 SPs (PMC)

There has been an increasing trend from 2006 to 2010 in the annual budget for the operation and maintenance of SPs; the annual budget in 2010 was approximately 170% of that in 2006. The annual budget in 2011 is almost the same as that in 2010, but covers the costs necessary for the operation and maintenance of SPs. Therefore, there are no problems with the financial aspects of SPs.

3.4.4.3 SWD (HMC)

The annual budget for the operation and maintenance of SWD over 2006–2010 has increased overall, and the annual budget in 2010 was approximately 176% of that in 2006. The annual budget in 2011 also increased compared to that in 2010 and covers the costs required for the operation and maintenance of SWD. Therefore, no problems can be found with the financial aspects of SWD.

3.4.4.4 UST (PAC)

The annual budget for the operation and maintenance of UST has increased overall from 2006 to 2010; the annual budget in 2010 was approximately 107% of that in 2006. As mentioned above, however, the budget of SaBC should be confirmed since the major responsibility for public awareness of biodiversity has shifted from UST to SaBC. The annual budget for the operation and maintenance of SaBC has increased overall since 2008, when it was established, and the annual budget in 2010 was approximately 240% of that in 2009. The annual budget in 2011 also increased from that in 2010, since SaBC has

²⁾ SaBC will carry this out on behalf of UST.

acquired a special budget for managing information on biodiversity, as one of its missions, in addition to the ordinary budget. The ordinary budget in 2011 is almost the same as that in 2010 and remains small. Therefore, it is difficult to state confidently that SaBC has a sufficient budget for fulfilling its missions, including public awareness.

3.4.5 Continuity of Effects/Impacts

No problems have been found with the institutional, technical, and financial aspects of ITBC, SPs, SWD, and UST. However, SaBC, which was newly established as a comprehensive framework on biodiversity and is responsible on behalf of UST for public awareness of biodiversity, has slight problems with its institutional, technical, and financial aspects. Therefore, there are concerns about the continuity of effects and impacts, particularly on public awareness.

In sum, the program project has slight problems with the institutional, technical, and financial aspects of SaBC, and thus the sustainability of program effects and impacts is fair.

4. Conclusions, Recommendations, and Lessons Learned

4.1 Conclusions

The implementation of the program project, which is a program consisting of 7 outputs, has been highly relevant to the development policies and needs of Malaysia, as well as to the development policies of Japan, and thus the relevance is high. The efficiency of the project inputs is also high since the project period and cost were almost as planned. Although one of the seven outputs, that is, the park management component, has not been achieved, the remaining six outputs have been achieved or mostly achieved. The program objective under the premise of the seven outputs has been attained in terms of all three indicators, and thus, the effectiveness of the program is high. Moreover, positive impacts such as increase in the number of entities and individuals cooperating to conserve biodiversity and the ecosystem in Sabah and the number of protected areas, have been realized. The 10th Malaysia Plan (2011–2015) aims at the "conservation of biological resources" and "sustainable use of resources," and the National Policy on Biological Diversity (1998) remains unchanged; thus, the sustainability of the policy related to the program is high. However, there are minor problems with the institutional, technical, and financial aspects of the operation and maintenance of the program with regard to environmental education, and thus the sustainability of program effects and impacts is fair.

In light of the above, the program project is evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 To Counterparts

4.2.1.1 ITBC (REC)

MUSEBASE functions as the biodiversity database, but it cannot be used to share this data on the internet, owing to its system errors. Therefore, it is expected that any missing effects and impacts of the program project may be recovered by fixing the system errors. Meanwhile, parties in the Convention of Biological Diversity have begun to promote heavily the Clearing House Mechanism (CHM)²⁰, which is an advanced information management tool on biodiversity. It is assumed that ITBC must respond to this call in due course. Accordingly, it is expected that ITBC will reconsider the roles of MUSEBASE based on the necessity to take action regarding CHM and decide whether to continue MUSEBASE by fixing the system errors or to start to use CHM as a new alternative.

4.2.1.2 SPs (PMC)

Since the handbook containing information on the concepts of CUZ and the Honorary Park Manager has been distributed in Sabah, the concepts have become pervasive in the state. However, they have not yet been formally introduced. The Bornean Biodiversity and Ecosystem Cooperation Program (II) has been supporting SPs work on CUZ and expects it to be introduced during the implementation period of the program. Honorary park managers should be deployed in June 2011 as scheduled.

Meanwhile, lessons including the concepts from the program project are currently not well shared with other states, since the handbook has not been distributed widely. Where SPs does not have a sufficient budget for printing and distributing the handbook, it is expected that it will attempt to share copies with other states by taking measures such as uploading data on the lessons to the SPs homepage.

4.2.1.3 SWD (HMC)

The habitat management techniques developed at Lower Segama through the program project have been used in wildlife reserves in the state of Kelantan on the peninsula of Malaysia, and thus its versatility has been acknowledged. It is expected that SWD will apply the techniques to wildlife reserves in as many other states as is feasible.

²⁰ CHM contains information on biological specimens, similar to MUSEBASE (e.g., information on their scientific names, place and time that specimens were collected, name of the person who collected specimens and identified them, and present location where specimens are stored). CHM covers a wider range of information than MUSEBASE on the ecosystem (e.g., geographical distributions and changing conditions of vegetation and terrestrial and marine animals, terrain, rivers, lakes, swamps, coasts, mudflats, seaweed beds, and coral reefs), information on species (e.g., scientific names of species, physiological and genetic characteristics, geographical distributions), and information on regulations with regard to the natural environment (e.g., regulated areas of national parks and protected game reserves). The user is able to search this information and share it on the internet.

4.2.1.4 UST (PAC)

UST ensures that techniques transferred from the program project with regard to public awareness will be transferred to SaBC, and it is expected that this will happen soon. Meanwhile, among its many missions, SaBC must prioritize and focus on a few missions, owing to limitations on its budget and staff, at least for the time being. In addition to fulfilling the responsibility for public awareness, which SaBC has taken over from UST, it must work on projects that promise high impacts over a relatively short period, such as managing information on biodiversity, for which SaBC has already acquired a budget and which will also be of great use to other parties. By doing so, it is expected that SaBC will raise its profile among concerned parties and expand its organization.

4.2.2 To JICA

It is expected that JICA will either repair the four sets of touch-screen monitors that have been procured for SPs or procure new ones under its follow-up scheme. The proper functioning of these will contribute to effective dissemination of information on biodiversity to the 20,000 visitors to the Center at Crocker Range Park and to visibility of the program project through Japanese assistance.

Despite the acknowledged importance of the SaBC missions (see footnote 14), SaBC is not well prepared for them in its institutional terms. Therefore, it is expected that JICA will seek better understandings on and further cooperation for SaBC towards the state government of Sabah for strengthening the institutional aspects of SaBC.

The speed of rampant commercial logging and oil palm plantations has been slowing, but the loss of forests followed by the loss of biodiversity still occur. Therefore, it is expected that JICA will continue its work on biodiversity and the ecosystem in Sabah through the Bornean Biodiversity and Ecosystem Cooperation Program (II). It is also expected that JICA will help the state government of Sabah to regulate new commercial logging and oil palm plantations in a sustainable manner by assisting it in creating a Sabah Biodiversity Conservation Strategy through the Bornean Biodiversity and Ecosystem Cooperation Program (II).

4.3 Lessons Learned

Biodiversity and ecosystems involve a variety of areas, and thus conservation of biodiversity and ecosystems requires the establishment of a scheme that involves various areas. In this regard, it was appropriate that JICA took the approach of a program project bundling multiple components in various fields under one objective when planning and implementing the technical cooperation project, which was not the conventional approach of a project in these fields. This program project-based approach is considered to have been

crucial in successfully achieving the program objectives and overall goal.

The program project has established the permanent framework of SaBC as the foundation for comprehensive environmental conservation. However, since its establishment in May 2008, SaBC has not been without problems in terms of its institutional, technical, and financial aspects. When proposing a new organization through a project, it is therefore important to coordinate and consult with leading organizations on the institutional, technical, and financial capabilities necessary to fulfill its missions well before it is established.