

Completion Report of Pre-Project:

ITTO/ISME PPD 134/07 Rev.1(F)

GUIDELINES FOR THE RESTORATION OF MANGROVES AND OTHER COASTAL FORESTS DAMAGED BY TSUNAMIS AND OTHER NATURAL HAZARDS IN THE ASIA-PACIFIC REGION

Host Government:

GOVERNMENT OF JAPAN

Executing Agency:

INTERNATIONAL SOCIETY FOR MANGROVE ECOSYSTEMS

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30 June 2009

Project Number:

ITTO/ISME PPD 134/07 Rev.1 (F)

Starting Date of Pre-Project:

January 2008

Duration of Pre-Project:

15 months

Project Cost (US\$):

US\$129,038

Type of Report:

Pre-project Completion Report

Pre-Project Technical and Scientific Staff:

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Implementing Agency:

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Executive Summary

The Indian Ocean Tsunami of 26 December 2004 devastated some coastal areas of several Asian countries bordering the Indian Ocean. Countries affected included Indonesia, Thailand, India and Sri Lanka. Currently, there are no manuals with guidelines for the restoration of mangroves and other coastal forests following damage by natural hazards such as tsunamis, cyclones and typhoons.

The development objective of this Pre-Project is to contribute to the safety of lives of people living in coastal areas of the Asia-Pacific region against natural hazards through rehabilitation and sustainable management of mangroves and other coastal forests. The specific objective is to re-evaluate the role and functions of mangroves and coastal forests in mitigating natural hazards in the Asia-Pacific region and to assist countries in their coastal rehabilitation efforts aimed at reducing damages from future hazards.

Although the duration of the Pre-Project has been extended from 12 to 15 months, objectives have been achieved based on the completion of the three outputs.

The Proceedings of the Okinawa Meeting and the Bangkok Workshop on Guidelines for the Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region have been published in November 2008 as *Mangrove Ecosystems Proceedings No. 5*. Copies have been sent to ITTO for distribution to member countries.

The Manual on Guidelines on Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region has been published in March 2009 as *Mangrove Ecosystems Proceedings No. 5* and copies have been sent to ITTO for distribution to member countries.

The Proposal on Rehabilitation and Sustainable Management of Mangrove Forests subjected to Commercial Harvesting for Woodchips in Sabah, Malaysia has been drafted and submitted to MOFA for possible funding. Initial feedbacks on the draft proposal prompted ISME to delay submission to ITTO to November 2009.

Based on lessons learnt, the following actions are recommended:

- a. Do not commit to many outputs and activities
- b. Ensure that participants of meeting and workshop submit full papers
- c. Send draft proposal for review before submission to ITTO

1. Project Identification

Mangrove forests are unique, inter-tidal, and highly productive ecosystems of the coastal zone. Human communities living in coastal areas of the tropics and sub-tropics are dependent on mangrove forests as a source of timber, fuelwood, and other forest products. A large number of people also rely on fisheries within or linked to mangrove ecosystems for their livelihood. Mangroves also serve as coastal buffers protecting the coastlines against the destructive forces of tsunamis and other natural hazards such as cyclones and typhoons, floods, and coastal erosion. In addition to mangroves are coastal forests fringing sandy beaches and rocky shores. Vegetation of sandy beaches plays an important part in the formation and stabilization of coastal sand dunes. Pioneer plants trap and hold windblown sand in the fore-dune and help create conditions, which encourage the establishment and growth of other plant communities such as scrub and heath forests. These forests play a role in the protection of sandy beaches against coastal erosion. At promontories are rocky shores with vegetation that is closely associated with coastal hill forests.

The Indian Ocean Tsunami of 26 December 2004 devastated some coastal areas of several Asian countries bordering the Indian Ocean. Countries affected included Indonesia, Thailand, India and Sri Lanka. Worst damaged areas were in areas with little or no natural protection from the sea and that communities living behind intact mangroves and other coastal forests were largely spared. Following the catastrophic event, a number of international organizations had held meetings and workshops to assess the loss of human lives, damage caused to properties and coastal vegetation. Resolutions and recommendations had been made and a number of post-tsunami rehabilitation projects are in the pipeline. However, some local scientists in affected countries stated that the veracity of the damage from the tsunami is not only unknown but also difficult to verify scientifically. It was suggested that scientific studies on the functional, physical, and ecological processes of coastal dynamics be carried out before the implementation of rehabilitation and other mitigation projects.

Currently, there are no manuals with guidelines for the restoration of mangroves and other coastal forests following damage by natural hazards such as tsunamis, cyclones and typhoons. *Restoration of Mangrove Ecosystems* published by ITTO and ISME in 1996 is the only publication on restoration techniques adopted by various countries in the world. The book provides the rationale and general guidelines for mangrove restoration, but does not include the restoration of other coastal forests. The production of a comprehensive manual as proposed under this Pre-Project would entail practical guidelines for restoring mangroves and other coastal forests in tsunami damaged areas. The goal of restoration is to bring back the protective functions of these coastal ecosystems against future natural hazards. It aims to promote a return to the natural assemblage structure and ecosystem function that is self-sustaining. The guidelines would not

advocate massive replanting programs but provide other options such as encouraging natural re-growth and recovery. In areas where the damage is beyond repair, planting guidelines would be provided. They entail site selection and preparation, choice of species, collection of planting materials, planting techniques, and monitoring and evaluation of planted sites.

Scientific evidence on the protective role of mangroves and other coastal forests in attenuating strong wind and wave actions needs to be re-evaluated. Considerations would be given to factors such as geographical location, coastal processes, coastal geomorphology, forest types, species composition, stand density, stand width and forest structure. Understanding the physics and erosive nature of wave actions, which would affect coastal vegetation, will also be important. The utilization of remote sensing and GIS techniques will also provide spatial information on the presence or absence of coastal vegetation, and on the severity of damage of the coastal zone. There is evidently a lack of information on the protective role of mangroves and other coastal forests, and the compilation of information would require inputs from a wide range of scientists involved in relevant fields of coastal zone management.

2. Project Objectives and Implementation Strategy

The development objective of this Pre-Project is to contribute to the safety of lives of people living in coastal areas of the Asia-Pacific region against natural hazards such as tsunamis, typhoons, floods, coastal erosion, and sea-level rise through rehabilitation and sustainable management of mangroves and other coastal forests. This development objective is consistent with ITTO's goal of promoting the conservation, rehabilitation, and sustainable management of mangroves to benefit the global community, particularly communities living in mangroves and their surrounding areas.

Specific objective of this Pre-Project is to re-evaluate the role and functions of mangroves and coastal forests in mitigating natural hazards in the Asia-Pacific region and to assist countries in their coastal rehabilitation efforts aimed at reducing damages from future hazards.

3. Project Performance

3.1 Specific Objective

To re-evaluate the role and functions of mangroves and coastal forests in mitigating natural hazards in the Asia-Pacific region and to assist countries in their coastal rehabilitation efforts aimed at reducing damages from future hazards.

3.2 Outputs and Related Activities

Output 1

Scientific report of Regional Meeting compiled and published

Activity 1.1: Holding of Regional Meeting

Activity 1.2: Compilation of assessment

Activity 1.3: Publishing of scientific report of Regional Meeting

Output 2

Comprehensive manual with practical guidelines on the restoration of mangroves and other coastal forests in the Asia-Pacific region prepared and published

Activity 2.1: Drafting of manual and guidelines

Activity 2.2: Review and evaluation of manual and guidelines

Activity 2.3: Publishing of manual with guidelines

Output 3

New project proposal for the rehabilitation and sustainable management of mangroves and other coastal forests damaged by natural hazards in the Asia-Pacific region prepared for submission to ITTO

Activity 3.1: Drafting of project proposal

Activity 3.2: Validation and review of project proposal by experts/stakeholders

Activity 3.3: Finalizing of project proposal

Activity 3.4: Submission of proposal for funding

4. Project Outcome and Target Beneficiaries

4.1 Output 1

As planned in the Pre-Project Document, the first output is a Scientific Report of the Regional Meeting compiled and published.

The Regional Meeting on Guidelines for the Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region was organized by ISME and ITTO in collaboration with University of the Ryukyus. The two-day meeting was held in Okinawa, Japan from 15-16 June 2007 and coincided with the 21st Pacific Science Congress, also held in Okinawa from 12-16 June 2007. Day One was held in University of the Ryukyus while Day Two was held in the Ginowan Convention Centre. Fourteen participants from seven countries attended the meeting. Participants of the JICA Training Course on Conservation and Sustainable Management of Mangrove Ecosystems were also present as observers. The Regional Meeting served as a pre-activity of the Pre-Project and all expenses incurred were borne by University

of the Ryukyus and ISME. A total of five country and regional reports, and two technical reports were presented during the Regional Meeting.

A one-day Workshop on Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region and Impacts of Global Warming on Mangrove Ecosystems and their Mitigation Options which formed an activity of the Pre-Project was organised by ISME and ITTO in collaboration with Thailand Environment Institute (TEI) and Department of Marine and Coastal Resources (DMCR) of Thailand. It was held in T.K. Palace Hotel, Bangkok, Thailand on 23 August 2008 in conjunction with the Seventh General Assembly of ISME which was convened the day before.

The Opening Session of the Workshop started with Welcoming Remarks by Ambassador Noboru Nakahira, Vice-President of ISME. This was followed by Opening Remarks by Dr. Ma Hwan Ok, Projects Manager, Reforestation and Forest Management, ITTO. As Dr. Ma was not able to attend, his Opening Remarks were read by Prof. S. Baba. The Technical Session of the Workshop started with a discussion on the progress of the ITTO/ISME Pre-Project on *Guidelines for Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region*. The progress was presented and the discussion was moderated by Dr. H.T. Chan, Coordinator of the Pre-Project.

About 150 overseas and local participants attended the Workshop. UN and Non-Governmental Organisations represented at the Workshop included FAO, UNDP, IUCN, TEI, Wetlands International, World Food Program, WWF and Mangroves for the Future. Local government departments and universities represented included Department of Marine and Coastal Resources, National Research Council of Thailand, Pollution Control Department, National Economic and Social Development Board, Department of Environment Quality Promotion, Tourism Development Board, Chulalongkorn University, Kasetsart University, Mahidol University and King Mongkut's University of Technology. A total of five country and regional reports, and four technical reports were presented during the Workshop.

Consequently, the planned output was upgraded from a scientific report of the Regional Meeting to a *Proceedings of the Okinawa Meeting and the Bangkok Workshop on Guidelines for the Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region*.

The Proceedings have been published by ISME in November 2008 as *Mangrove Ecosystems Proceedings No. 5* and 120 copies have been sent to ITTO for distribution to member countries.

Proceedings of the meeting and workshop on

**Guidelines for the Rehabilitation of Mangroves
and other Coastal Forests damaged by
Tsunamis and other Natural Hazards
in the Asia-Pacific Region**

ITTO/ISME PPD 134/07 Rev.1 (F)

Meeting: Okinawa, Japan, 15-16 June 2007

Workshop: Bangkok, Thailand, 23 August 2008

Edited by H.T. Chan & J.E. Ong



Photo by S. Baba

November 2008

International Society for Mangrove Ecosystems
and
International Tropical Timber Organization

Citation of the publication is:

Chan, H.T. & Ong, J.E. (2008) (Eds.). *Proceedings of the Meeting and Workshop on Guidelines for Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region*. Mangrove Ecosystems Proceedings No. 5, International Society of Mangrove Ecosystems (ISME) and International Tropical Timber Organization (ITTO), 105 pp.

Stakeholders and scientists involved in the rehabilitation of mangroves and other coastal forests in the Asia-Pacific region will be beneficiaries. They will find the proceedings useful particularly on experiences and lessons learnt from on-going and past rehabilitation projects. Copies can be purchased from the ISME Secretariat or downloaded free of charge from websites of ISME (<http://www.mangrove.or.jp/>) and GLOMIS (<http://www.glomis.com>).

4.2 Output 2

The planned output is a comprehensive manual with practical guidelines on the restoration of mangroves and other coastal forests in the Asia-Pacific region prepared and published.

In accordance to the planned output, a *Manual on Guidelines on Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region* has been published by ISME in March 2009 and 120 copies have been sent to ITTO for distribution to member countries.

Citation of the publication is:

Chan, H.T. & Baba, S. (2009). *Manual on Guidelines for Rehabilitation of Coastal Forests Damaged by Natural Hazards in the Asia-Pacific Region*. International Society of Mangrove Ecosystems (ISME) and International Tropical Timber Organization (ITTO), ISBN: 978-4-906584-13-0, 66 pp.

The manual is unique in that it entails other coastal forests such as sandy beaches and dunes, and coral islands where very little information has been documented. Limited experience has been gained by ISME which is currently undertaking coastal forest rehabilitation projects in the Maldives and Kiribati. These experiences are reported in the manual as case studies.

Introductory chapters are on the types of coastal forests (mangrove forests, beach and dune forests, and forests of coral islands); natural hazards affecting coastal forests (tsunamis, tropical cyclones, coastal erosion and sea-level rise); the protective roles of coastal forests (overview, mangrove forests and other coastal forests).

MANUAL ON GUIDELINES FOR REHABILITATION OF COASTAL FORESTS DAMAGED BY NATURAL HAZARDS IN THE ASIA-PACIFIC REGION



H.T. Chan & S. Baba

*International Society for Mangrove Ecosystems
and
International Tropical Timber Organization*

The main chapter is on guidelines for rehabilitation of mangrove forests and other coastal forests. The chapter entails three sections. There is an overview on concepts and rationale, and on rehabilitation efforts. This is followed by rationale for rehabilitation, choice of species, site selection and preparation, propagation and planting, monitoring and tending, and case studies of mangrove forests and other coastal forests. The case studies provide useful lessons of success and failure of past and on-going projects in coastal forest rehabilitation.

Stakeholders and scientists involved in the rehabilitation of mangroves and other coastal forests in the Asia-Pacific region will be beneficiaries. They will find the manual useful which includes chapters on types of coastal forests, natural hazards affecting coastal forests, protective roles of coastal forests and guidelines on rehabilitation of coastal forests. Copies of the manual can be purchased from the ISME Secretariat or downloaded free of charge from websites of ISME (<http://www.mangrove.or.jp/>) and GLOMIS (<http://www.glomis.com>).

4.3 Output 3

The planned output of the Pre-Project is a new project proposal for the rehabilitation and sustainable management of mangroves and other coastal forests damaged by natural hazards in the Asia-Pacific region prepared for submission to ITTO.

Initially, the Pre-Project intended to propose a project on the *Assessment of Post-Indian Ocean Tsunami Rehabilitation Efforts in Banda Aceh, Indonesia and the Establishment of Demonstration Sites for Sustainable Forest Management*.

The objective of Phase I is to assess the success and failure of recent mangrove rehabilitation efforts in Banda Aceh. Activities of Phase I will include a regional workshop on experiences of organizations and individuals involved in recent mangrove rehabilitation projects and a technical assessment of factors affecting the performance of recent mangrove rehabilitation efforts including lessons learnt. From the lessons learnt, a mangrove site will be established to demonstrate best practice rehabilitation techniques under Phase II. Activities of Phase II will include establishment of a mangrove site (one hectare in area) to demonstrate best practice rehabilitation techniques and a regional training course for technical personnel involved in mangrove rehabilitation work.

Ir. Yuyu Rahayu (Director, Centre for International Cooperation) and Dr. Teguh Rahardja (Officer in charge of ITTO affairs) of the Ministry of Forestry of Indonesia have been contacted to seek the endorsement of the Government of Indonesia in agreeing to cooperate with ISME in implementing the project in Banda Aceh. However, ISME did not receive any response from the Indonesian authorities. ISME is now aware that UNEP (2007) has published a report entitled

After the tsunami coastal ecosystem restoration: Lessons learnt. In Hanley et al. (2008) *Coastal forest rehabilitation manual for Aceh Province and North Sumatra*, a document published by FAO, there was a special mention of some lessons learnt from recent rehabilitation efforts. These two publications would imply that ISME's objective to conduct a technical assessment of factors affecting the performance of recent mangrove rehabilitation efforts including lessons learnt at Banda Aceh has become redundant. Furthermore, ISME has been informed that there are insufficient sites for mangrove rehabilitation in Banda Aceh as the local people prefer to restore their shrimp ponds destroyed by the tsunami.

Under such circumstances, further pursuance of the Banda Aceh proposal would be futile and that it would be more fruitful for ISME to undertake another mangrove rehabilitation project elsewhere in Southeast Asia.

ISME prepared another proposal on *Rehabilitation and Sustainable Management of Mangrove Forests subjected to Commercial Harvesting for Woodchips in Sabah, Malaysia.*

Briefly, the proposed project will be undertaken in two phases. The objective of Phase I is to assess the state of the woodchip harvested mangrove forests in Sabah. Outputs of Phase I will include an assessment report on the degree of degradation and recovery of the forests, and the establishment of five one-hectare pilot plots to demonstrate best practice rehabilitation techniques. The objective of Phase II is to prepare a Mangrove Rehabilitation Management (MRM) Plan for the rehabilitation of these degraded mangroves, based on data and information from specific objectives 1 and 2. Outputs of Phase II will a MRM Plan for the affected areas.

The project will provide hands-on training to the involved Sabah Forestry Department staff. A graduate from Japan and another from Sabah involved in this project will be given the opportunity to pursue their M.Sc. using data and information from this project. According to the Clean Development Mechanism (CDM) of the Kyoto Protocol, since these mangrove forests were deforested prior to 1990, carbon accumulated as a result of reforestation is eligible for carbon trading.

ISME has contacted the Director of the Sabah Forestry Department in Sandakan and has received interest in collaborating in the proposed project. ISME has submitted the draft proposal to the Ministry of Foreign Affairs (MOFA) of Japan in May 2009. A copy of the draft proposal was forwarded by MOFA to an expert familiar with evaluation of ITTO project proposals seeking his initial views of the draft proposal. Initial feedbacks on the draft proposal prompted ISME to delay submission to ITTO to November 2009. The Executive Committee of ISME will be meeting in Okinawa on 1 August 2009. Among the agenda of the meeting will

be the strategy to adopt in formulating a new proposal taking into consideration some of the initial feedbacks.

5. Assessment and Analysis

The Pre-Project is unique in that a Regional Meeting was organized prior to its starting date. The meeting which served as a pre-activity was supported by University of the Ryukyus and ISME, and does not incur any budget allocation of the Pre-Project.

The rationale of the Pre-Project is sound. The Pre-Project Identification Process involved adequate interest and participation of stakeholders. Objectives have been achieved based on the completion of the three outputs which are verifiable and can be evaluated.

Output 1 i.e. *Proceedings of the Okinawa Meeting and the Bangkok Workshop on Guidelines for the Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region* have been published in November 2008 as *Mangrove Ecosystems Proceedings No. 5*. Copies have been sent to ITTO for distribution to member countries.

Output 2 i.e. *Manual on Guidelines on Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region* has been published in March 2009 as *Mangrove Ecosystems Proceedings No. 5* and copies have been sent to ITTO for distribution to member countries.

Output 3 i.e. *Proposal on Rehabilitation and Sustainable Management of Mangrove Forests subjected to Commercial Harvesting for Woodchips in Sabah, Malaysia* has been drafted and submitted to MOFA for possible funding. Initial feedbacks on the draft proposal prompted ISME to delay submission to ITTO to November 2009. Meeting in Okinawa on 1 August 2009, the ISME Executive Committee will discuss the comments based on initial feedbacks and will formulate the strategy for a new proposal.

6. Lessons Learned

Among the lessons learnt in the implementation of the Pre-Project are:

a. When designing a Pre-Project, do not commit to many outputs and activities

Based on experiences gained from the Pre-Project, it is prudent to focus on fewer outputs and activities. Organizing two international meetings (Okinawa Meeting and Bangkok Workshop) is a drain on the budget. Producing two publications (Proceedings and Manual) along with drafting the follow-up proposal incur much effort in view of the time constraint of one year for the Pre-Project.

- b. Ensure that participants of meeting and workshop submit full papers

A number of participants of the Okinawa Meeting and Bangkok Workshop failed to submit full papers for the proceedings (Output 1). This led to the publication of only their abstracts. In some cases, the compilation of information for the manual (Output 2) has to rely on their power-point presentations.

- c. Send draft proposal for review before submission to ITTO

Sending the draft proposal to an expert familiar with the evaluation process of ITTO proposals for his/her comments and advice is strongly encouraged. Amendments will improve the quality of the proposal and subsequently enhance the chances of approval by the ITTO Proposal Evaluation Panel.

7. Conclusions and Recommendations

Although the duration of the Pre-Project has been extended from 12 to 15 months, objectives have been achieved based on the completion of the three outputs.

The Proceedings of the Okinawa Meeting and the Bangkok Workshop on Guidelines for the Rehabilitation of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region have been published in November 2008 as *Mangrove Ecosystems Proceedings No. 5*. Copies have been sent to ITTO for distribution to member countries.

The Manual on Guidelines on Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region has been published in March 2009 as *Mangrove Ecosystems Proceedings No. 5* and copies have been sent to ITTO for distribution to member countries.

The Proposal on Rehabilitation and Sustainable Management of Mangrove Forests subjected to Commercial Harvesting for Woodchips in Sabah, Malaysia has been drafted and submitted to MOFA for possible funding. Initial feedbacks on the draft proposal prompted ISME to delay submission to ITTO to November 2009.

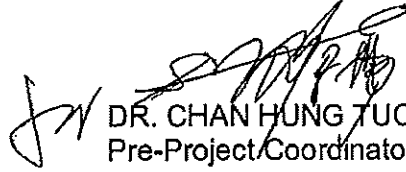
Based on lessons learnt, the following actions are recommended:

- a. Do not commit to many outputs and activities
- b. Ensure that participants of meeting and workshop submit full papers
- c. Send draft proposal for review before submission to ITTO

Responsible for the Report:



PROF SHIGEYUKI BABA
Executive Secretary of ISME



DR. CHAN HUNG TUCK
Pre-Project Coordinator

Date: 29 June 2009

Annex 1 Project financial statement

Annex 2 Project cash flow statement

PROJECT FINANCIAL STATEMENT
(US\$)

Period ending on 10 June 2009

Project No: PPD 134/07 Rev.1(F)

Project Title: Guidelines for the Restoration of Mangroves and other Coastal Forests Damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region

Components	Original Amount (A)	Expenditures To-date			Available Funds (D) (A-D)
		Accrued (B)	Expended (C)	Total (D) (B+C)	
I. Funds managed by Executing Agency					
10. Project Personnel					
11 Pre-project coordinator	32,400		32,400.00	32,400.00	0.00
12 Secretarial support	24,300		23,343.91	23,343.91	956.09
13 Part-time assistants	1,000		2,882.93	2,882.93	-1,882.93
19 Component total	57,700		58,626.84	58,626.84	-926.84
20. Sub-contract					
21 Editor	4,500		4,500.00	4,500.00	0.00
29 Component total	4,500		4,500.00	4,500.00	0.00
30. Duty travel					
31 Travel	30,000		31,065.26	31,065.26	-1,065.26
32 DSA	18,000		16,539.46	16,539.46	1,460.54
33 Local transportation	960		713.13	713.13	246.87
39 Component total	48,960		48,317.85	48,317.85	642.15
60. Miscellaneous					
61 Printing cost	4,000		2,798.91	2,798.91	1,201.09
62 Meeting expenses (room, facilities, etc.)	-		-	-	-
63 Communication and postages	450		315.59	315.59	134.41
64 Miscellaneous (including office supplies, bank charges, etc)	870		2,252.03	2,252.03	-1,382.03
69 Component total	5,320		5,366.53	5,366.53	-46.53
SUBTOTAL	116,480	0.00	116,811.22	116,811.22	-331.2
II. Funds managed by ITTO					
80. ITTO Monitoring, Evaluation and Administration					
81 Monitoring and Evaluation costs	3,000				
82 Programme support cost	9,558				
89 Component total	12,558				
GRAND TOTAL	129,038		116,811.22	116,811.22	12,226.78

PROJECT CASH FLOW STATEMENT

Period ending on 10 June 2009

Project No: PPD 134/07 Rev.1(F)

Project Title: Guidelines for the Restoration of Mangroves and other Coastal Forests Damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region

Components	Reference	Date	Amount	
			in US\$	Local Currency (JPY)
A. Funds received From ITTO				
1.First installment		21-Feb-08	75,000.00	7,541,250
2.Second installment		18-Dec-08	41,480.00	4,170,814
Total Funds Received			116,480.00	11,712,064
B. Expenditures by Executing Agency				
10. Project Personnel				
11 Pre-project coordinator			32,400.00	3,257,820
12 Secretarial support			23,343.91	2,347,230
13 Part-time assistants			2,882.93	289,879
19 Component total			58,626.84	5,894,929
20. Sub-contract				
21 Editor			4,500.00	452,475
29 Component total			4,500.00	452,475
30. Duty travel				
31 Travel			31,065.26	3,123,612
32 DSA			16,539.46	1,663,043
33 Local transportation			713.13	71,705
39 Component total			48,317.85	4,858,360
60. Miscellaneous				
61 Printing cost			2,798.91	281,430
62 Meeting expenses (room, facilities, etc.)			-	-
63 Communication and postages			315.59	31,733
64 Miscellaneous (including office supplies, bank charges, etc)			2,252.03	226,442
69 Component total			5,366.53	539,605
Total Expenditures To-date			116,811.22	11,745,368
Remaining Balance of Funds (A-B)			-331.22	-33,304

Notes: Amounts in Japanese Yen are converted using the average rate of exchange when funds were received (US\$1=100.55)