

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE	PRODUCTION OF AN EDUCATIONAL BOOK SERIES ON MANGROVES FOR SUSTAINABLE MANAGEMENT AND UTILIZATION OF MANGRAVE ECOSYSTEMS
SERIAL NUMBER	PD 564/09 Rev.1 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF JAPAN
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

This project will publish three educational books entitled, Introduction to Mangrove Ecosystems; Structure and Function of Mangrove Forests; and Useful Products from Mangrove Plants. The production of this educational book series is aimed at increasing public awareness of the environmental, ecological and socio-economic functions of mangrove ecosystems, and providing the necessary information for development of appropriate policies and/or management plans for sustainable management and utilization of mangrove forests. Written by mangrove experts, the books will be communicated in English that is understandable, relevant and useful for all stakeholder groups which include governments, forest managers, research and learning institutions, private sector, and civil society. Case studies in each of the books will provide insights into regional experiences in the management and utilisation of mangrove resources. These books will complement the other ITTO-funded publications of the World Atlas of Mangroves for Conservation and Restoration of Mangrove Ecosystems, and the Manual on Guidelines for Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region. The English version of the books will be promoted through a launching ceremony held during a general meeting of ISME. In conjunction with the meeting, a workshop will be organized for target users. Production of the French and Spanish versions of the books is envisaged in the next phase of the project, with dissemination and socialization of the products for target audiences in relevant French- and Spanish-speaking countries.

EXECUTING AGENCY INTERNATIONAL SOCIETY FOR MANGROVE ECOSYSTEMS (ISME)

COOPERATING GOVERNMENTS ---

DURATION 15 MONTHS

APPROXIMATE STARTING DATE TO BE DETERMINED

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$	Local Currency Equivalent
	ITTO	149,904	
	ISME	72,330	
	TOTAL	222,234	

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LIST OF ABBREVIATIONS AND ACRONYMS

EA	Executing Agency
EC	Executive Committee
<u>EP</u>	<u>Expert Panel</u>
ES	Executive Secretary
FAO	Food and Agriculture Organization of the United Nations
GLOMIS	Global Mangrove Database and Information System
INWEH	International Network on Water, Environment and Health
ISME	International Society for Mangrove Ecosystems
ITTA	International Tropical Timber Agreement
ITTC	International Tropical Timber Council
ITTO	International Tropical Timber Organization
JICA	Japan International Cooperation Agency
MAB	Man and Biosphere
NGO	Non-governmental organization
NPO	Non-profit organization
ODA	Overseas Development Assistance
PC	Project Coordinator
PTC	Project Technical Committee
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEP	United Nations Environment Programme
UNU	United Nations University
WCMC	World Conservation Monitoring Centre

PART 1: PROJECT CONTEXT

1.1 Origin

The ITTO/ISME project on *World Atlas of Mangroves for Conservation and Restoration of Mangrove Ecosystems* [PD 276/04 Rev.2 (F)], with contributions from FAO, UNESCO-MAB, UNEP-WCMC, and UNU-INWEH, is in its completion phase. It is anticipated that the English version of the world atlas will be published by early 2010. Being a world atlas, it emphasizes on maps showing the current geographical distribution of mangrove vegetation by countries and regions. In Section I of the atlas, a very brief introduction to mangroves is provided in Chapter 1: *Mangrove Ecosystems* and Chapter 2: *Mangroves and People* (Spalding et al., unpublished).

The ITTO/ISME pre-project on *Restoration of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region* [PPD 134/07 Rev.1 (F)] was implemented by the International Society for Mangrove Ecosystems (ISME) from January 2008 to March 2009. A major output of the pre-project was the *Manual on Guidelines for Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region* (Chan & Baba, 2009). The manual has introductory chapters on coastal forests (mangrove forests, beach and dune forests, and forests of coral islands), natural hazards (tsunamis, tropical cyclones, coastal erosion and sea-level rise), and the protective roles of coastal forests. The main chapter on guidelines for rehabilitation of coastal forests provides an overview on concepts and rationale of rehabilitation, and rehabilitation efforts. The guidelines include the rationale for rehabilitation; choice of species; site selection and preparation; propagation and planting; monitoring and tending; and case studies. The case studies provide useful lessons of success and failure of past and on-going projects in coastal forest rehabilitation.

This project on production of an educational book series on mangroves is aimed at increasing public awareness of the environmental, ecological and socio-economic functions of mangrove ecosystems, and at providing the necessary information for development of appropriate policies and/or management plans for sustainable management and utilization of mangrove forests. Written by mangrove experts, the books will be communicated in English that is understandable, relevant and useful for all stakeholder groups which include governments, forest managers, research and learning institutions, private sector, and civil society. Case studies in each of the books will provide insights into regional experiences in management and utilisation of mangrove resources.

This educational book series, which provide a comprehensive overview of mangrove ecosystems and their sustainable management and utilisation, will complement the *World Atlas of Mangroves for Conservation and Restoration of Mangrove Ecosystems* [PD276/04 Rev.2 (F)], the ITTO-funded project and the *Manual on Guidelines for Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region* [PPD 134/07 Rev.1 (F)]. Information in the two introductory chapters on *Mangrove Ecosystems* and *Mangroves and Man* of the world atlas is very brief and lacks supporting case studies and illustrations. Information in the manual is specific on guidelines for rehabilitation of coastal forests damaged by natural hazards.

Furthermore, *Journey Amongst Mangrove* (Field, 1995) a non-technical coffee-table book published by ITTO and ISME as one of the outputs of PD 6/93 Rev.2 (F), is out of print. Other books published by ISME such as *The Economic and Environmental Values of Mangrove Forests and their Present State of Conservation in South-East Asia/Pacific Region* (Clough, 1993), *Conservation and Sustainable Utilization of Mangrove Forests in Latin America and Africa Regions, Part I – Latin America* (de Lacerda & Diop, 1993a), and *Conservation and Sustainable Utilization of Mangrove Forests in Latin America and Africa Regions, Part II – Africa* (de Lacerda & Diop, 1993b) are compilations of country-based reports that need up-dating.

1.2 Relevance

1.2.1 Conformity with ITTO's objectives and priorities

a. ITTO's Objectives as in Article 1 of ITTA, 2006

Objective f: Promoting and supporting research and development with a view to improving forest management and efficiency of wood utilization and the competitiveness of wood products relative to other materials, as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests

Objective j: Encouraging members to support and develop tropical timber reforestation, as well as rehabilitation and restoration of degraded forest land, with due regard for the interests of local communities dependent on forest resources

Objective q: Promoting better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of tropical forests with the aim of enhancing the capacity of members to develop strategies to strengthen such contributions in the context of sustainable forest management, and cooperating with relevant institutions and processes to this end

The project complies with objectives f, j and q of Article 1 of ITTA, 2006. The educational books on mangrove ecosystems will support research and development, promote rehabilitation efforts, and provide better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of mangrove forests.

b. ITTO Action Plan 2008-2011

Expected Outcome 5: Tropical forest resource better secured

Action E of ITTO: Assess opportunities for, and promote the development of, non-timber forest products and forest environmental services that can improve the economic attractiveness of maintaining the tropical timber resource base under SFM

Possible action of member countries e: Identify opportunities for and implement activities to capitalise on non-timber forest products and environmental services that further the security of the tropical timber resource base, taking into account the needs of forest-dwelling indigenous and local communities

Expected Outcome 6: Tropical forest resource sustainably managed

Action D of ITTO: Monitor and assess the social, economic and environmental costs and benefits of the sustainable management of natural and planted forests

Possible action of member countries d: Study the costs and benefits of SFM and share the results of such studies

Action F of ITTO: Provide guidance on improving the sustainable yield of timber and non-timber products and services by intensifying silvicultural management of natural tropical production forests and by restoring degraded forests

Possible action of member countries f1: Improve the productive capacity of natural forests through intensified silvicultural practices, including guided natural regeneration, enrichment planting and reforestation

The project complies with Action E of Expected Outcome 5, and with Actions D and F of Expected Outcome 6 of ITTO Action Plan 2008-2011. The books will provide information supporting the benefits of non-timber forest products, environmental services, and intensified silvicultural management of mangrove forests.

c. Compliance with ITTO Mangrove Work Plan 2002-2006

Area 1: Conservation and Sustainable Management

- *Implement sustainable mangrove management and establish protected mangrove areas including buffer zones surrounding and influencing such areas*
- *Rehabilitate degraded mangroves*

Area 4: Mangrove Ecosystem Functions and Health

- *Undertake studies and projects to improve understanding of mangrove forest ecosystem structure, growth and function*

The project complies with Area 1 and Area 4 of the ITTO Mangrove Work Plan 2002-2006. The books will emphasize on the importance of sustainable management and conservation of mangrove ecosystems. They will also improve understanding of the structure, growth, and function of mangroves.

1.2.2 Relevance to the submitting country's policies

The Government of Japan has been a major donor of mangrove-related ITTO projects implemented by various executing agencies, including ISME. In addition, through the Japan International Cooperation Agency (JICA), Japan has been providing bilateral assistance to mangrove projects, in recognition of the important roles of mangrove forests for sustainable development of coastal areas in the tropics. This project is fully consistent with the country's Official Development Assistance (ODA) (JICA, 2007) for mangrove-related projects and for sustainable management of tropical forests in general. For example, JICA, in collaboration with ISME, have been conducting Training Courses on Mangrove Ecosystems and on Environmental Education in Japan since 1995. Currently, JICA/ISME conducts three such training courses each year. They are *Conservation and Sustainable Management of Mangrove Ecosystems*; *Environmental Education for Sustainable Development*; and *Management & Reforestation of Mangroves*. Outputs of this project would serve as useful references for trainees of the courses.

1.3 Target area

The project entails production of an educational book series for promoting sustainable management and utilization of mangrove ecosystems. As such, the target area cannot be categorized under geographical location, and social, cultural, economic, and environmental aspects. It would be more appropriate to focus on target and beneficiary groups, instead. These groups will be highlighted under item 2.1 on stakeholder analysis.

1.4 Outcomes at project completion

The educational book series written in English will provide technical and scientifically-sound information for increasing public awareness of the environmental, ecological and socio-economic functions of mangrove ecosystems, and can be used as technical references for developing policies on sustainable management of mangroves. They would benefit many stakeholders including coastal and small island nations and regions where mangroves are major resources for livelihood support and income generation of local communities.

ITTO-member countries endowed with mangrove resources will find these books useful as concepts and facts presented can be adapted into policy statements and management plans supporting sustainable management and utilization of mangrove ecosystems. The books will provide a basis for technically-sound policy development for sustainable mangrove forest management, avoiding possible failure in silvicultural efforts in mangrove restoration and rehabilitation.

Furthermore, the target audience i.e. policy makers of central and local governments, as well as managers of forest management units, will be able to obtain useful and necessary knowledge from the books for developing appropriate and technically-sound management plans for mangrove forests.

This educational book series will complement the *World Atlas of Mangroves for Conservation and Restoration of Mangrove Ecosystems*, and the *Manual on Guidelines for Rehabilitation of Coastal Forests damaged by Natural Hazards in the Asia-Pacific Region* (Chan & Baba, 2009), a publication of the *ISMEITTO Pre-Project on Restoration of Mangroves and other Coastal Forests damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region*.

Production of the French and Spanish versions of the books is envisaged in the next phase of the project, with dissemination and socialization of the products for target audiences in relevant French- and Spanish-speaking countries.

PART 2: PROJECT RATIONALE AND OBJECTIVES

2.1 Stakeholder analysis

Primary, secondary and tertiary stakeholders as target and beneficiary groups of book outputs of the project are listed in Table 1.

Table 1: Stakeholder analysis

Stakeholder group	Need & interest	Potential benefits
Primary stakeholder		
Forest management units	Technical guidance on management and utilization of mangroves	Drawing up of management plans for sustainable management, conservation and utilization of mangrove forests
Secondary stakeholder		
NGOs & NPOs	Educational books on the environmental, ecological, and socio-economic importance of mangrove ecosystems	Enhance public awareness on the importance of mangrove and related coastal ecosystems
Local government	Information on management and utilization of mangroves	Development of policies and/or management plans for sustainable management and utilization of mangrove forests
Tertiary stakeholder		
Central government	Information supporting sustainable management and utilization of mangroves	Development of policies promoting sustainable management and utilization of coastal resources
Education & research institutions	Updated and easy-to-understand educational and research materials on mangroves	Reference text on mangroves for students and researchers
Private sector	Information on useful products from mangrove resources	Exploring the commercial potentials of product development from mangroves
Civil society	Knowledge on natural resources and the environment	Greater awareness and better informed of mangroves

Primary stakeholders will include foresters of forest management units. Secondary stakeholders will include NGOs, NPOs and local government officials while tertiary stakeholders will include central government officials, staff and students of education and research institutions, representatives of the private sector, and members of the civil society.

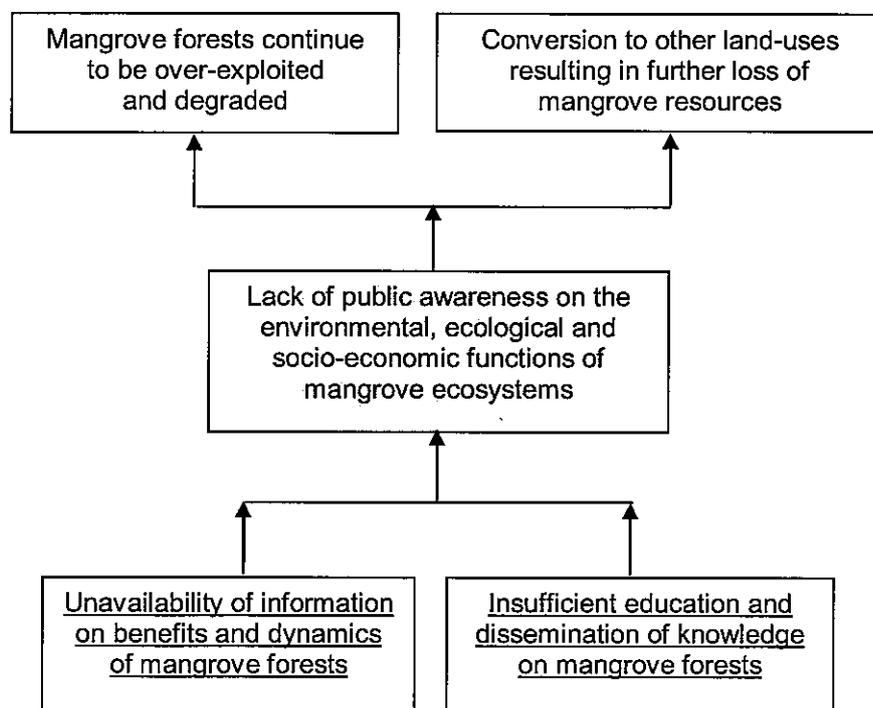
Profiles of stakeholders who would actually use the three educational books are foresters managing mangrove forests at the district levels. Their duties would include regulating forest harvesting and replanting, and manufacturing of forest products. Local government officials with mangrove forests in the states or provinces; NGOs and NPOs dealing with mangroves and/or coastal wetlands; institutions of higher learning with coastal ecology and biodiversity in their syllabus; and research institutions with management and utilization of coastal forests in their research programmes would also benefit from using these books as references.

Generally, all three educational books entitled *Introduction to Mangrove Ecosystems*; *Structure and Function of Mangrove Forests*; and *Useful Products from Mangrove Plants* will focus on the environmental, ecological, and socio-economic importance of mangrove ecosystems. Written by mangrove experts and communicated in a language that is understandable, mangrove managers of forest management units will find the books as useful references for drawing up management plans for sustainable management, conservation and utilization of mangrove forests. The books will also be of interest to NGOs, NPOs including education and research institutions. As for the book on *Useful Products from Mangrove Plants*, the private sector interested in exploring the commercial potentials of existing and new product development from mangroves may find it particularly interesting.

2.2 Problem analysis

From 1980 to 2005, the loss of mangroves has been estimated at about 35,600 km² or one percent per annum (FAO, 2007). These rates are 3 to 5 times greater than overall rates of global forest loss. Much of this loss is due to the conversion to shrimp pond aquaculture, agriculture, and urban land uses (Spalding et al., unpublished). The coastal zone is typically densely populated and pressure for land is often intense. Even where they remain, mangroves have been degraded through over-harvesting in many areas.

Figure 1: Problem tree analysis



The key problem is essentially the lack of public awareness on the environmental, ecological and socio-economic functions of mangrove ecosystems (shaded grey in Figure 1). This is mainly caused by the unavailability of necessary information for awareness, such as benefits and dynamics of mangrove forests, and insufficient education and dissemination of such knowledge. As such, mangroves will continue to be over-exploited and degraded due to the lack of management plans for sustainable management and utilization of mangrove forests, and there will be further loss of mangrove resources due to conversion to other land-uses.

2.3 Objectives

2.3.1 Development objective and impact indicators

The development objective of this project is to strengthen the capacity of central and local governments as well as forest management units to develop appropriate policies and/or management plans for sustainable management and utilization of mangrove forests. Impact indicators will be the use of these authoritative books as references in the development of mangrove policy statements and management plans to reduce over-exploitation and unsustainable development of mangrove forests.

2.3.2 Specific objectives and outcome indicators

Specific objectives of this project are to increase public awareness of the environmental, ecological and socio-economic functions of mangrove ecosystems for activities to conserve and restore mangroves. Outcome indicators will be the publication and distribution of the books in English; successful completion of the workshop for target users; and uploading of the e-books onto the GLOMIS website, making the information available to all stakeholder groups.

PART 3: DESCRIPTION OF PROJECT INTERVENTIONS

3.1 Outputs

3.1.1 Output 1: Production of educational book series

Output 1 of the project consists of three educational books entitled *Introduction to Mangrove Ecosystems*; *Structure and Function of Mangrove Forests*; and *Useful Products from Mangrove Plants*. Written by mangrove experts, the books will be communicated in English that is understandable, relevant and useful for all stakeholder groups which include governments, forest managers, research and learning institutions, private sector, and civil society. Case studies in each of the books will provide insights into regional experiences in the management and utilisation of mangrove resources. The books written by Technical Experts will be 60-70 pages each and the copyright of ISME and ITTO. It is envisaged that 400 copies of each book will be printed with 200 copies distributed to ITTO-member countries. Contents of the books are listed below:

Book 1: Introduction to Mangrove Ecosystems

Introduction

Mangrove Species

- Coping with salt
- Anaerobic soils
- Seeds and seedlings
- Zonation and Succession

Distribution and Biogeography

- Latitudinal limits
- Eastern and western flora

Utilization of Mangroves

- Timber and wood products
- Coastal fisheries
- Coastal protection
- Barriers for natural disasters

Environmental Impacts

- Conversion to other uses
- Forest degradation
- Sea-level rise

Sustainable Management

- Conservation and protection
- Rehabilitation and restoration
- Non-conversional uses

Case Studies

- Mangrove ecotourism in Australia and Japan
- Planting mangroves in Kiribati and Gujarat
- Mangroves of Japan and New Zealand

Book 2: Structure and Function of Mangrove Forests

Introduction

Ecosystem Structure

- Geomorphic factors (sedimentation vs. erosion, sea-level change, tides, and soil)
- Biotic factors (salt glands, succulence, water-use efficiency, vivipary, water dispersal, pneumatophores, lenticels, aerenchymatous tissues, and stilt & buttress roots)

Ecosystem Function

- Producers (primary production and consumers)
- Decomposition (processes, food chain, and export)
- Useful functions (sediment accretion, coastal protection, bird sanctuaries and migratory stopovers, sustaining coastal fisheries, carbon sink, and ecotourism)

Socio-economic Aspects

- Sustained use management
- Conversional uses

Case Studies

- Kuala Gula Bird Sanctuary in Matang, Malaysia
- Proboscis monkeys of mangroves, Borneo
- Mangroves at risk, Bay of Bengal
- Coastal erosion of mangrove shores, Thailand

Book 3: Useful Products from Mangrove Plants

Introduction

Wood Products

- Charcoal, firewood and poles (Malaysia, Thailand, Cameroon and Pacific Islands)
- Wood vinegar (Thailand and Malaysia)
- Wood sculptures (Malaysia)

Non-wood Products

- Thatching, tobacco wrappers and fodder (Thailand, Malaysia and Pakistan)
- Food, beverage, sugar and desserts (Thailand, Malaysia, Indonesia, Vietnam and Maldives)
- Tannin, adhesives and dye (Japan, Sri Lanka, and Guyana)
- Honey and bee wax (Bangladesh, Brazil, and Tanzania)
- Ornaments and hedges (Japan and India)
- Phytochemicals as health supplements (Thailand and India)

Case Studies

- Wood vinegar from charcoal kilns, Malaysia
- Aboriginal sculptures from mangrove wood, Malaysia
- Tobacco wrappers from *Nypa* fronds, Malaysia
- Dyeing fabric using tannin from mangrove bark, Japan
- Planting mangrove trees as hedges, India
- Herbal teas from mangrove plants, Thailand
- Mangrove honey and bee wax, Bangladesh

3.1.2 Output 2: Workshop for target users

A workshop for target users will be held to promote the books through better understanding of the environmental, ecological and socio-economic importance of mangrove ecosystems.

3.2 Activities and inputs

3.2.1 Production of educational book series

For production of the three books, the activities and inputs are:

- A1.1: Appointment of Project Coordinator (PC) and Technical Experts as authors of books
- A1.2: Holding of Project Technical Committee (PTC) meeting to finalize contents of chapters and case studies
- A1.3: Drafting of chapters and case studies by authors
- A1.4: Finalizing chapters and case studies with illustrations by authors
- A1.5: Editing, type-setting and printing of books by PC and EA

3.2.2 Workshop for target users

A launching ceremony of e-books in English, by making them available on-line in the GLOMIS website, will be held during a general meeting of ISME.

In conjunction with the meeting, a workshop will be organized for target users. The objectives of the workshop are to promote the books through better understanding of the environmental, ecological and socio-economic importance of mangrove ecosystems. The PC will brief on the background of the project while authors will highlight the contents of chapters and case studies of the books. Representatives of NGOs, NPOs, universities and government departments of the host country invited will form an important component of the target audience for the workshop. Other target users invited will include foresters of forest management units (primary stakeholders) from countries in the region.

- A2.1: Organizing workshop for target users

3.3 Strategic approach and methods

The ISME Executive Committee (EC) meeting is scheduled to meet in August 2010 and 2011. To avoid the need to form a separate Project Technical Committee (PTC), the EC will function as the PTC. Technical Experts who are authors of the books will also be attending the PTC meeting. Successful completion of the project would require simultaneous coordination by the PC and close cooperation between the Technical Experts when writing the books. In this context, exchange of information and ideas would be crucial. Although hardcopies of the books will be distributed to ITTO-member countries and sold by ISME at nominal costs to cover postage and handling fees, pdf copies can be downloaded free-of-charge from the GLOMIS website. The latter provision will benefit users who are unable to purchase hardcopies of the books.

3.4 Work plan

The anticipated starting date of the 15-month project is July 2010 (Table 2). Following appointment of PC and three Technical Experts as authors, a PTC meeting will be held in August 2010. Guided by the PTC, the authors will finalize the topics of chapters and case studies. They will then commence drafting and finalizing the chapters and case studies with illustrations. Subsequent activities would include editing, type-setting, and printing of books for distribution; a launching ceremony to upload the e-books onto the GLOMIS website during a general meeting of ISME; and a workshop for target users to disseminate relevant information.

Table 2: Work plan for the project of 15-month duration

Output/activity	Responsible party	Year 1 Quarter		Year 2 Quarter		
		3	4	1	2	3
Output 1: Production of educational book series						
A1.1: Appoint project coordinator and authors	ES					
A1.2: Hold PTC meeting to finalise topics of chapters and case studies	PC, EA, TE					
A1.3: Draft chapters and case studies	TE					
A1.4: Finalize chapters & case studies with illustrations	TE					
A1.5: Edit, type-set, & print books for distribution	PC, EA					
Output 2: <u>Workshop for target users</u>						
<u>A2.1: Organizing workshop for target users</u>	PC, EA, TE					

Abbreviations: ES – Executive Secretary; EA – Executing Agency; PC – Project Coordinator; TE – Technical Experts; PTC – Project Technical Committee

3.5 Budget

The project budget are tabulated in Table 3 (budget by outputs and activities), Table 4 (consolidated budget by component), Table 5 (ITTO yearly budget), and Table 6 (executing agency yearly budget).

Table 3: Budget by outputs and activities (US\$)

Output/activity and description	Budget component	Quantity Year 1	Quantity Year 2	Units	Unit cost US\$	Total cost US\$	ITTO Year 1	ITTO Year 2	ISME	
Output 1: Production of educational book series										
A1.1: Appoint project coordinator and authors										
A1.2: Hold PTC meeting to finalize topics of chapters and case studies										
Travel	31	8		person	1,500	12,000	9000	0	3,000	
DSA	32	24		day	80	1,920	1440	0	480	
Meeting room and facilities	62	1		set	2,500	2,500	1000		1,500	
A1.3: Draft chapters and case studies										
Project Coordinator	11	6		m/m	2,200	13,200	13200	0	0	
Three Technical Experts	21	1.5		contract	15,000	22,500	22500	0	0	
Secretarial support	12	6		m/m	1,600	9,600	9600	0	0	
Secretarial support (part-time)	13	6		m/m	750	4,500	0	0	4,500	
Secretarial support (admin)	14	6		m/m	1,500	9,000	0	0	9,000	
Annual audit	63	1		time	2,000	2,000	2000	0	0	
A1.4: Finalize chapters & case studies with illustrations										
Project Coordinator	11		3	m/m	2,200	6,600	0	6,600	0	
Three Technical Experts	21		1.5	contract	15,000	22,500	0	22,500	0	
Secretarial support	12		3	m/m	1,600	4,800	0	4,800	0	
Secretarial support (part-time)	13		3	m/m	750	2,250	0		2,250	
Secretarial support (admin)	14		3	m/m	1,500	4,500	0		4,500	
A1.5: Edit, type-set, & print books for distribution										
Project Coordinator	11		3	m/m	2,200	6,600	0	6,600	0	
Secretarial support	12		3	m/m	1,600	4,800	0	4,800	0	
Secretarial support (part-time)	13		3	m/m	750	2,250	0		2,250	
Secretarial support (admin)	14		3	m/m	1,500	4,500	0		4,500	
Type-setting and printing of books (3 books x 400 copies)	61		1	set	8,000	8,000	0	8,000	0	
Bank charges, postage, etc	64	6	24		100	3,000	700	700	1,600	
Output 2: Workshop for target users										
A2.1: Organizing workshop for target users										
Project Coordinator	11		3	m/m	2,200	6,600	0	6,600	0	
Secretarial support	12		3	m/m	1,600	4,800	0	4,800	0	
Secretarial support (part-time)	13		3	m/m	750	2,250	0		2,250	
Secretarial support (admin)	14		3	m/m	1,500	4,500	0		4,500	
Travel	31		11	person	1,500	16,500	0	9,000	7,500	
DSA	32		33	day	80	2,640	0	960	1,680	
Meeting room and facilities	62		1	set	3,000	3,000	0	1,000	2,000	
Annual audit	63		1	time	2,000	2,000	0	2,000	0	
						189,310	137,800	51,510		

Table 4: Consolidated budget by component (US\$)

Budget Components	Unit cost	Qty	Unit	TOTAL	ITTO	ISME
10 Project personnel						
11. Project Coordinator (PC)	2,200	15	m/m	33,000	33,000	0
12. Secretarial support	1,600	15	m/m	24,000	24,000	0
13. Secretarial support (part-time)	750	15	m/m	11,250	0	11,250
14. Secretarial support (administrative issues)	1,500	15	m/m	22,500	0	22,500
19. sub-total				90,750	57,000	33,750
20 Sub-contracts						
21. Technical Experts (TE) as authors	15,000	3	contract	45,000	45,000	0
29. sub-total				45,000	45,000	0
30 Duty travel						
31. Travel	1,500	19	m/trip	28,500	18,000	10,500
32. DSA	80	57	m/d	4,560	2,400	2,160
39. sub-total				33,060	20,400	12,660
60 Miscellaneous						
61. Type-setting and printing of books	<u>8,000</u>	1	set	<u>8,000</u>	<u>8,000</u>	0
62. Meeting rooms and facilities	5,500			5,500	2,000	3,500
63. Auditing (project accounts)	2,000	2	time	4,000	4,000	0
64. Bank charges, postage, etc.	3,000			3,000	1,400	1,600
69. sub-total				21,500	<u>15,400</u>	5,100
Total 1				<u>189,310</u>	<u>137,800</u>	51,510
70. Executing agency management costs				20,820		20,820
80. Project monitoring and administration						
<u>81.</u> ITTO monitoring & review costs	<u>1,000</u>	1	total	<u>1,000</u>	<u>1,000</u>	
<u>82.</u> ITTO programme support (8% of 11-81)	11,104	1	total	11,104	11,104	
Total 2				<u>32,924</u>	<u>12,104</u>	20,820
100. GRAND TOTAL				222,234	149,904	72,330

Table 5: ITTO yearly budget (US\$)

Budget Components	ITTO Total	Year 1 (6 months)	Year 2 (9 months)
10. Project personnel			
11. Project Coordinator (PC)	33,000	13,200	19,800
12. Secretarial support	24,000	9,600	14,400
13. Secretarial support (part-time)	0		
14. Secretarial support (administrative issues)	0		
19. sub-total	57,000	22,800	34,200
20. Sub-contracts			
21. Technical Experts (TE) as authors	45,000	22,500	22,500
29. sub-total	45,000	22,500	22,500
30. Duty travel			
31. Travel	18,000	9,000	9,000
32. DSA	2,400	1,440	960
39. sub-total	20,400	10,440	9,960
60. Miscellaneous			
61. Type-setting and printing of books	8,000	0	<u>8,000</u>
62. Meeting rooms and facilities	2,000	1,000	1,000
63. Auditing (project accounts)	4,000	2,000	2,000
64. Bank charges, postage, etc.	1,400	700	700
69. sub-total	15,400	3,700	11,700
Total 1	137,800	59,440	<u>78,360</u>
70. Executing agency management costs	0		
80. Project monitoring and administration			
<u>81.</u> ITTO monitoring & review costs	1,000		
<u>82.</u> ITTO programme support (8% of 11-81)	11,104		
Total 2	12,104		
100. GRAND TOTAL	149,904		

Table 6: Executing agency yearly budget (US\$)

Budget Components	ISME Total	Year 1 (6 months)	Year 2 (9 months)
10 Project personnel			
11. Project Coordinator (PC)			
12. Secretarial support			
13. Secretarial support (part-time)	11,250	4,500	6,750
14. Secretarial support (administrative issues)	22,500	9,000	13,500
19. sub-total	33,750	13,500	20,250
20 Sub-contracts			
21. Technical Experts (TE) as authors	0	0	0
29. sub-total	0	0	0
30 Duty travel			
31. Travel	10,500	3,000	7,500
32. DSA	2,160	480	1,680
39. sub-total	12,660	3,480	9,180
60 Miscellaneous			
61. Type-setting and printing of books	0	0	0
62. Meeting rooms and facilities	3,500	1,500	2,000
63. Auditing (project accounts)	0	0	0
64. Bank charges, postage, etc.	1,600	800	800
69. sub-total	5,100	2,300	2,800
Total 1	51,510	19,280	32,230
70. Executing agency management costs	20,820		
80 Project monitoring and administration			
81. ITTO monitoring & review costs	0		
82. ITTO programme support	0		
Total 2	20,820		
100. GRAND TOTAL	72,330		

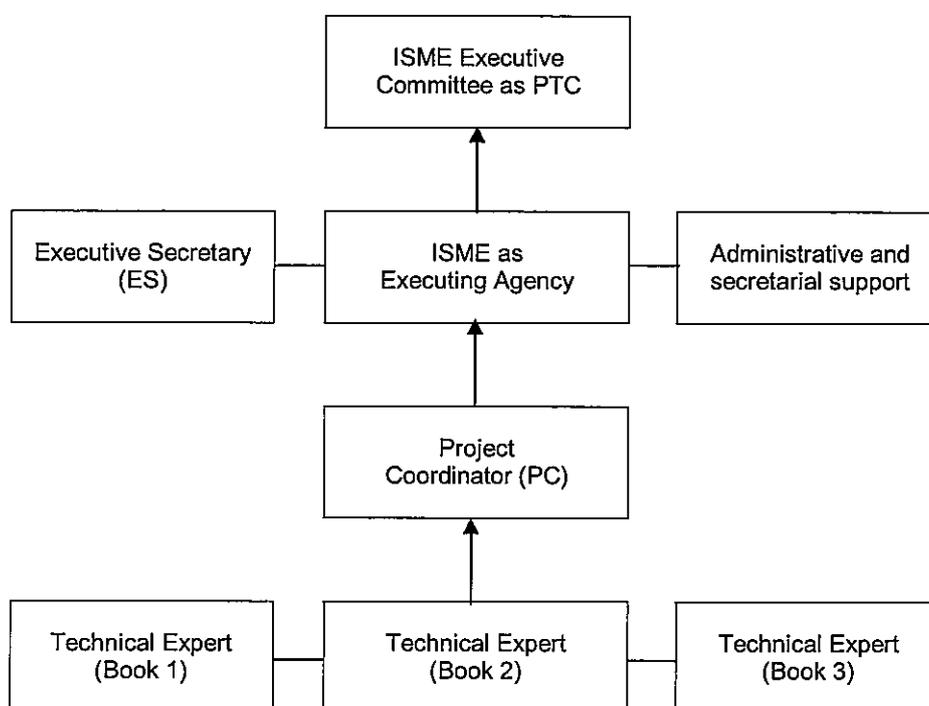
PART 4: IMPLEMENTATION ARRANGEMENTS

4.1 Executing agency and organizational structure

ISME is the executing agency (EA) of the project (Annex 1). Prof, Shigeyuki Baba and Dr. François Blasco are key experts provided by the EA (Annex 2).

Pending endorsement by ITTO, ISME will engage a Project Coordinator (PC) to coordinate all activities of the project, and will provide the necessary administrative and secretarial support for the project (Figure 2). The Executive Committee (EC) of ISME comprising a President, three Vice-Presidents, a Treasurer, and a Executive Secretary (ES) will serve as the Project Technical Committee (PTC).

Figure 2: Organizational structure of the project



4.2 Project management

The three Technical Experts will work in consultation with the PC. ISME will employ a staff to provide the necessary administrative and secretarial support for the project. The terms of reference for the PC and Technical Experts are listed as Annex 3. Recommendations of ITTO's Expert Panel (EP) and resulting modifications by the EA are shown in Annex 4.

4.3 Monitoring and reporting

Bi-annual progress report of the project shall be submitted to ITTO in February and August in each year. The project completion report will be prepared and submitted to ITTO within three months of completion of the project (September 2011).

REFERENCES

- 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 for Mangrove Ecosystems (ISME) and International Tropical Timber Organization (ITTO), 66 pp.
- Clough, B. (Ed.), 1993. *The Economic and Environmental Values of Mangrove Forests and their Present State of Conservation in South-East Asia/Pacific Region*. ISME, ITTO and JIAM Mangrove Ecosystems Technical Reports Vol. 1, 202 pp.
- de Lacerda L.D. & Diop, E.S. (Eds.), 1993a. *Conservation and Sustainable Utilization of Mangrove Forests in Latin America and Africa Regions, Part I – Latin America*. International Society for Mangrove Ecosystems (ISME), Okinawa, Japan.
- de Lacerda L.D. & Diop, E.S. (Eds.), 1993b. *Conservation and Sustainable Utilization of Mangrove Forests in Latin America and Africa Regions, Part II – Africa*. International Society for Mangrove Ecosystems (ISME), Okinawa, Japan.
- FAO, 2007. *The World's Mangroves 1980-2005*. A thematic study prepared in the framework of the Global Forest Resources Assessment 2005. FAO Forestry Paper 153, 77 pp.
- Field, C., 1995. *Journey Amongst Mangroves*. International Tropical Timber Organization and International Society for Mangrove Ecosystems (ISME), 140 pp.
- JICA, 2007. Chapter 1: Japan's ODA and an Overview of JICA Programs. Pp. 26–30 of JICA Annual Report 2007, Japan International Cooperation Agency (JICA).
- Spalding, M., Kainuma, M. & Collins, L. (unpublished). *World Atlas for Mangroves*. International Tropical Timber Organization (ITTO) and International Society for Mangrove Ecosystems (ISME). Earthscan, UK.

ANNEX 1: PROFILE OF EXECUTING AGENCY

The International Society for Mangrove Ecosystems (ISME) is an international non-profit, non-governmental scientific society, established in August 1990. ISME was certified a Foundation on 23 October 1992, by the local government of Japan and is affiliated by the Japanese Law of Foundation. In 1998, a new Japanese law (Law to Promote Specified Non-profit Activities) was enacted. Under the new law, ISME was registered as a Non-profit Organization (NPO) in 2003. ISME is an NGO associated with the United Nations Department of Public Information and has good collaboration with ITTO, UNU, UNESCO, FAO, and with many local NGOs and NPOs. ISME has been implementing several mangrove projects in collaboration with other national and international NGOs such as IUCN-Pakistan, WWF-Japan, and others. Presently, the membership of ISME includes 40 institutions and over 1,000 individual members from 86 countries.

Members of ISME Executive Committee (2008 to 2011)

President:

Prof. E.S. Diop (Senegal), Senior Environmental Affairs Officer, UNEP

Vice-Presidents:

1. H.E. Noboru Nakahira (Japan), Former Ambassador to United Arab Emirates, Malaysia and Canada
2. Dr. François Blasco (France), Former Director of Laboratoire d'Ecologie Terrestre, France
3. Dr. Chan Hung Tuck (Malaysia), Former Director of Research Management, Forest Research Institute Malaysia (FRIM), Malaysia

Treasurer:

Prof. Sanit Aksornkoae (Thailand), President of Thai Environment Institute (TEI) and Professor Emeritus of Kasetsart University, Thailand

Executive Secretary:

Prof. Shigeyuki Baba (Japan), Professor, University of the Ryukyus and Director of the Tropical Biosphere Research Center, Iriomote, Japan

Aims of ISME:

To promote research and surveys on the conservation, rational management, and sustainable utilisation of mangrove ecosystems; and to serve as an international databank on mangrove ecosystems

Activities of ISME:

- To promote the study of mangrove ecosystems
- To promote collection, evaluation and dissemination of information on mangrove ecosystems
- To promote research, training and activities for sustainable management, rational utilization, rehabilitation and conservation of mangrove ecosystems
- To develop materials to enhance public awareness of the social, economic and ecological importance of mangrove ecosystems
- To organize and co-sponsor conferences, seminars, and workshops, giving lectures and courses, publishing both scientific and popular articles
- To support and implement research projects and programs

ISME Secretariat:

The ISME Secretariat is headed by the Executive Secretary (ES), Prof. Shigeyuki Baba. The Secretariat comprises of four full-time staff members in Okinawa and two overseas. The Executive Secretary is serving the Secretariat on a voluntary basis.

List of ITTO-funded projects and pre-projects implemented by ISME

Project title and reference number	Year and budget (US\$)	Status
The Economic and Environmental Values of Mangrove Forests and Present State of Conservation PD 71/89 Rev.1 (F)	1990-1991; Submitted through JIAM	Completed
Workshops on Conservation and Sustainable Utilization on Mangrove Forests in the Latin America and Africa Regions PD 114/90 (F)	1992-1994; \$480,000	Completed
Manual and a World Natural Mangrove Atlas for Mangrove Ecosystem Restoration PD 6/93 Rev.2 (F)	1993-1995; \$732,984	Completed
Mangrove Resource Information System: Evaluation of the Scope and Content of Existing Databases PPD 8/95 Rev.2 (F)	1996; \$96,427	Completed
Global Mangrove Database and Information System (GLOMIS) PD 14/97 Rev.1 (F)	Phase I; \$883,427 Phase II; \$209,868	Completed
Action Plan on Sustainable Mangrove Management PPD 17/01 Rev.1 (F)	2002-2003; \$181,485	Completed
Expanding and Improving Global Mangrove Database and Information System (GLOMIS) and its Networking PD 194/03 Rev.1 (M)	\$484,865	Completed
Guidelines for the Restoration of Mangroves and other Coastal Forests Damaged by Tsunamis and other Natural Hazards in the Asia-Pacific Region PPD 134/07 Rev.1 (F)	2008-2009; \$129,038	Completed
Revised World Atlas of Mangrove for Conservation and Restoration of Mangrove Ecosystems PD 276/04 Rev.2 (F)	\$430,920 and \$43,252	Completion phase

ANNEX 2: TASKS AND RESPONSIBILITIES OF KEY EXPERTS PROVIDED BY THE EXECUTING AGENCY

Key experts provided by the Executing Agency (EA) are:

Key expert	Field of expertise
Prof. Shigeyuki Baba Executive Secretary of ISME, Professor of University of the Ryukyus, Okinawa, Japan	Mangrove rehabilitation and conservation
Dr. François Blasco Vice-President of ISME, Former Director of Laboratoire d'Ecologie Terrestre, Toulouse, France	Mangrove mapping and inventory

Prof. Shigeyuki Baba and Dr. François Blasco are the Executive Secretary (ES) and Vice-President of ISME, respectively. They are members of the ISME Executive Committee (EC) which can also serve as the Project Technical Committee.

Tasks and responsibilities of the key experts are to advise on technical and financial aspects of the project implementation, and to review draft chapters of the books.

ANNEX 3: TERMS OF REFERENCE OF PERSONNEL AND CONSULTANTS AND SUB-CONTRACTS FUNDED BY ITTO

Project Coordinator (1)

The Project Coordinator (PC) will be engaged by the Executing Secretary (ES) of the Executing Agency (EA) pending endorsement by ITTO. The PC will coordinate and implement activities of the project, which include appointment of Technical Experts as authors, organizing the Project Workshop, and selection of printing company. The terms of reference (TOR) of the PC will also include editing, type-setting, printing, and dispatch of the books.

Qualifications:

The PC should be a forestry expert on mangroves with relevant experience in research and project management. A minimum experience of 10 years is required for the candidate to the post. Previous experience in coordinating ITTO-funded projects is desirable.

Duties:

- a) Coordinate all project activities in close consultation with EA
- b) Appoint Technical Experts as authors of books
- c) Prepare required project documents such as progress and completion reports
- d) Edit and type-set text of the books
- e) Supervise printing and dispatch the books to ITTO
- f) Organize the project workshop for target users
- g) Ensure timely achievements of project results and objectives

Technical Experts (3)

The PC will engage three Technical Experts to author the books. Pending endorsement by the ES, engagement will be on a sub-contract basis. Payment will be in installments, pending progress made.

Qualifications:

Candidates should have internationally recognized expertise in mangrove botany, ecology, physiology, management, and silviculture. Previous involvement in ITTO-funded projects is desirable.

Duties:

- a) Timely completion of book chapters with illustrations as in the work plan
- b) Attend the PTC meeting and present chapters at the project workshop
- c) Compile information on case studies
- d) Carry out other duties as requested by the PC and EA

Staff for administration and finance (1)

Administration and financial management are essential components of the project. As such, a staff will be employed by the EA to assist the PC. Stationed full-time at the ISME Headquarters in Okinawa, the staff will work under the direct supervision of the ES. Candidate with some experience in the management of ITTO-funded projects would be an advantage.

Duties:

- a) Make correspondence with staff of the project
- b) Manage the project finance
- c) Make logistic arrangements for meetings
- d) Provide secretarial support to achieve project objectives
- e) Typeset manuscripts for publications and reports for submission
- f) Carry out other duties as requested by the PC and ES

ANNEX 4: RECOMMENDATIONS OF ITTO'S EXPERT PANEL AND RESULTING MODIFICATIONS

PD 564/09 (F) Production of an Educational Book Series on Mangroves for Sustainable Management and Utilization of Mangrove Systems

Assessment by the Thirty-ninth Panel

A) Overall Assessment

The Panel acknowledged that the project intended to publish three educational books on mangrove ecosystems (Introduction to Mangrove Ecosystems; Structure and Function of Mangrove Forest; and Useful Products from Mangrove Plants) with a view to increasing public awareness of the environmental, ecological and socio-economic functions of mangrove ecosystems. It also recognized the Executing Agency (International Society for Mangrove Ecosystems – ISME) has published a manual for mangrove restoration, a world atlas of mangrove and a global mangrove database and information system (GLOMIS) through ITTO projects. The Panel further noted that the proposed publication would be complementary to such publications.

However, the Panel noted that the proposal could be further improved by refining the problem analysis and its problem tree focused on the key problem to be addressed by the project. It also noted that the specific objectives and outputs could be refined in a concise way. With regards to dissemination of project outcomes, the Panel recalled that the recommendations of the ex-post evaluation of ISME implemented mangrove projects included the need to publish technical reports in three ITTO working languages for wide dissemination. In this regard, the Panel felt that the publication of the three educational books in French and Spanish would be necessary.

B) Specific Recommendations

The proposal should be revised taking into account the overall assessment and the following:

1. Refine the problem analysis and its problem tree by focusing on the key problem to be addressed by the project. For instance, "Lack of appropriate and technically-sound policies and/or management plans for sustainable management and utilization of mangrove forests" would be a sectoral problem rather than a problem to be addressed by the project;
2. Adjust the specific objective to the refined key problem and combine Outputs 2 and 3 into one Output as they are closely linked with the dissemination of the three educational books;
3. Provide impact indicators for the development objective of the project and outcome indicators in connection to the specific objectives;
4. Provide a profile of the target audiences who will actually use the three educational books in key stakeholders such as forest management units, NGOs & NPOs, local governments, and education and research institutes;
5. Strengthen the dissemination activities by considering the organization of a launching ceremony of the three books at a Session of the ITTC instead of holding a separate project workshop;
6. Rearrange the current budget resources to allow for the publication of the three educational books in French and Spanish for wider dissemination;
7. Correct the title of Table 2 in consistent with the planned project duration;
8. Include ITTO Monitoring and Review Costs to US\$1,000 and recalculate the ITTO Programme Support Costs at 8% of ITTO total project costs; and

9. Include an annex that shows the recommendations of the 39th Expert Panel and the respective modifications in tabular form. Modifications should also be highlighted (bold and underline) in the text.

C) Conclusion

Category 1: The Panel concluded that the proposal could be commended to the Committee with incorporation of amendments.

**Modifications by the Executing Agency (EA)
resulting from recommendations of the Expert Panel (EP)**

Recommendations by EP	Resulting modifications by EA
1	<i>Lack of public awareness on the environmental, ecological and socio-economic functions of mangrove ecosystems</i> has now been identified as the key problem to be addressed by the project (pages 8 & 9).
2	Specific objective to the refined key problem has been adjusted (page 9). Outputs 2 and 3 have been combined as Output 2: Workshop for target users (page 11).
3	Impact indicators for the development objective and outcome indicators for the specific objectives of the project have been provided (page 9).
4	Profiles of target audiences who will actually use the three educational books as key stakeholders have been provided (page 8).
5	The EA is of the view that the launching ceremony during the Council Session is not cost-effective since the target users of the books, the primary beneficiaries, are not present, although the panel presentation and distribution of the publications will be considered. Instead, e-books in English will be launched during a general meeting of ISME (pages 11 & 12). In conjunction with the meeting, a workshop for target users will be held. Representatives of NGOs, NPOs, universities and government departments of the host country invited to attend the meeting will form an important component of the target audience for the workshop. Other target users invited will include forester of forest management units (primary stakeholders) from countries in the region.
6	The cost of translation of the three educational books into two additional languages is about US\$65,000. At a translation cost of \$180 per 1,000 words and ~60,000 words per book, each book would cost \$10,800. The total cost for translation amounts to \$64,800. Including project support, printing and distribution, the total cost of the project is more than \$80,000. Furthermore, the project duration would require another 12 months to complete. Therefore, the present project should focus on producing the three books in English (pages 4, 6 & 9). Production of the French and Spanish versions of the books is envisaged in the next phase of the project, with dissemination and socialization of the products for target audiences in relevant countries (page 7).
7	The title of Table 2 has been corrected with the project duration of 15 months (page 13).
8	The ITTO Monitoring and Review Cost of US\$1,000 has been included and the ITTO Programme Support Cost has been recalculated at 8% of the total project costs (pages 15 & 16).
9	Recommendations of the Expert Panel and the respective modifications are tabulated in Annex 4 (page 24). Resulting modifications are underlined in the text.