

# INTERNATIONAL TROPICAL TIMBER ORGANIZATION

## ITTO

### PROJECT DOCUMENT

TITLE	CONTRIBUTION TO FOREST REHABILITATION IN THAILAND'S AREAS AFFECTED BY THE TSUNAMI DISASTER
SERIAL NUMBER	PD 372/05 Rev. 1 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF THE KINGDOM OF THAILAND
ORIGINAL LANGUAGE	ENGLISH

#### SUMMARY

In Thailand the 26 December 2004 tsunami caused a lot of destruction of human life, property and economic infrastructure and environmental assets in six southern provinces along the Andaman coastline. This project will initiate a process for medium and long-term rehabilitation of the damaged coastal forests in that zone. The development objective is to contribute to the long-term rehabilitation of the coastal forest resources. The specific objectives are: (1) to initiate a process of developing a community-based coastal resource management to enhance the contribution of forests to ecological security and (2) to promote bamboo use in tsunami affected areas in order to meet medium and long term needs in rural house construction. Ultimately the project will contribute to promoting the utilization and trade of bamboo and other forest products from sustainable sources. Among the project's most important outputs will be the rehabilitation of 1250 ha damaged by the tsunami, and the elaboration of plans for long term community-based coastal forest rehabilitation in pilot areas of the Provinces of Krabi and Pang Nga. Its design emphasizes the complementarity and synergies with a project to be funded in the same target area by Swiss Solidarity, which aims at providing support to the development of sustainable community livelihood.

EXECUTING AGENCY	Royal Forest Department with the collaboration of Thailand Environmental Institute		
COOPERATING GOVERNMENTS	---		
DURATION	36 MONTHS		
APPROXIMATE STARTING DATE	TO BE DETERMINED		
BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$	Local Currency Equivalent
	ITTO	790,020	
	Gov't of Thailand	343,620	
	<b>TOTAL</b>	<b>1,133,640</b>	



## **ABBREVIATIONS**

BMS	Bamboo management specialist
BUS	Bamboo utilization specialist
CBM-SLES	Community/based coastal resource management to enhance the contribution of forests to sustainable livelihoods and ecological security
DANIDA	Danish International Development Agency
DNP	National Park, Wildlife and Plant Conservation Department
DSA	Daily subsistence allowance
FMFPRO	Forest Management and Forest Products Research Office
GIS	Geographical Information System
ha	Hectares
ICZM	Integrated coastal zone management
ITTA	International Tropical Timber Agreement
ITTC	International Tropical Timber Council
ITTO	International Tropical Timber Organization
MONRE	Ministry of Natural Resources and Environment
NGO	Non-governmental organization
NTFP	Non-timber forest product
PC	Project coordinator
pm	Person-month
PSC	Project Steering Committee
ONEP	Office of Environmental and Natural Resources Policy and Planning
RFD	Royal Forest Department
TEI	Thailand Environmental Institute
US\$	United States of America dollar

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## PART I. CONTEXT

### 1. Origin

In Thailand, the December 26, 2004 tsunami caused a lot of destruction of human life, property and economic infrastructure and environmental assets in six southern provinces along the Andaman coastline, namely Ranong, Phang Nga, Phuket, Krabi, Trang and Satun (see Map in Appendix). By mid-February 2005, the casualty figures stood at 5,395 dead, the injured at 8,457 and the missing at 3,001. The severely affected areas included 308 villages in 79 sub-districts of 24 districts. A number of 12,068 households with a population of 54,672 people were considered to have been directly affected by the loss or injury of a family member. Over 3,600 houses were totally destroyed and almost 3,200 houses were partly damaged. The most impacted province is Phang Nga, with 61 villages in 15 sub-districts severely affected. In this province, over 4,000 households, or more than 19,000 people were directly affected.

Many inhabitants along the coast lost their means of livelihood. Among the most heavily hit are villages which depend on traditional fishing, where many fishermen still need to replace their destroyed boats, and women in many households need support to get equipment and raw material to fully resume their handcraft making which in many cases has become the main livelihood means after the tsunami disaster.

The Tsunami disaster has therefore dramatically shown the high vulnerability of the coastal areas to natural hazards that have immense impact on human lives and economic infrastructure. It has also illustrated the role coastal forests can play as bio-shields and speed breakers to enhance coastal security. However, the damage caused to coastal forests is threatening the ecological security of the coastal zone, the livelihoods of the coastal communities of whom many depend on fishing activities, and the coastal economy in general. The coastal vegetation is diverse; it includes beach forests which play a crucial role in the protection of communities and economic infrastructures against tidal waves, coastal erosion, crop destruction, etc. It comprises also the mangroves which are the nurseries of many coastal and oceanic fish species, and are therefore very important for the livelihoods of coastal communities and for commercial fisheries of the country.

With emergency relief operations in the affected areas almost over, it is time to plan the implementation of medium and long term livelihood and forest rehabilitation activities. In this regard, the Government of Thailand requested the Executive Director of ITTO to provide assistance to prepare a project for the implementation of post-tsunami rehabilitation actions. The Executive Director provided the requested assistance, with the aim of elaborating a proposal to submit to ITTO for financing. In April 2005, a consultant worked with a mission comprising 7 high officials of the Ministry of Environment and Natural Resources (MONRE) and scientists of Kasetsart University to assess the impacts of the tsunami. The Mission visited six affected provinces and had discussions with the Provincial staff of the Royal Forest Department (RFD), local communities representatives, relief NGOs agents, and economic operators of the private sector. The result of the assessment and the conclusions of the mission is the present proposal.

The major focus of the proposed project is to contribute to Thailand's longer-term recovery and rehabilitation efforts. It will provide support to rehabilitation of coastal forests, and promote forest management approaches which enhance ecological security, disaster preparedness and mitigation. **It will also promote the use of**

**bamboo in house construction and furniture making with the aim of reducing pressure on forests in the medium term. Its design takes into account and emphasizes the complementarity and synergies with a project to be funded in the same target area by Swiss Solidarity, which aims at providing support to community livelihood recovery.**

## 2. Forest Sector Policies

The project is consistent with Thailand's national policy affecting tropical timber. This policy is rooted in the 1997 Constitution of the Kingdom of Thailand which states that "the state shall promote and encourage public participation in the preservation, maintenance and balanced exploitation of natural resources and biological diversity and in the promotion, maintenance and protection of quality of the environment in accordance with the persistent development principle as well as the control and elimination of pollution affecting public health, sanitary condition, welfare and quality of life".

The project is also consistent with Thailand's national policy affecting tropical timber. This policy is clearly stated in the Cabinet Resolution taken on 3 December 1985 and contains several policy aspects relating to tropical timber, but also to environmental protection:

- Long-term guidelines for forest management and development shall be established to maximize national social and economic benefits and national security, with sufficient measures provided for environmental protection. Emphasis shall be placed on harmonized utilization of forest resources and other natural resources.
- Forty percent of the country's area shall remain forested (25% protection forests and 15% production forests).
- Public and private sectors together shall develop and manage the forest area to achieve the objective of providing perpetual direct and indirect benefits to the country.
- The State shall establish a forest development plan as part of the natural resources development plan in the National Social and Economic Development plan to harmonize a mutual utilization action between forest resources and other natural resources.

It is equally consistent with «Thailand Policy and Perspective Plan for Enhancement and Conservation of National Environmental Quality, 1997-2018" which provides the guidelines for Natural Resources and Environment acts. The policy target on forest resources are as follows:

- Protect 50% of country as forest cover; of this figure at least 30% is designated as conservation forest, and the remaining 20% is designated as economic forest.
- Utilize forest resources based on maintaining balanced ecosystems and environmental quality.
- Conserve biodiversity sustainability.

Forests are under the jurisdiction of the Ministry of Natural Resources and Environment. One of its Departments, the *National Park, Wildlife and Plant Conservation Department (DNP)*, was split from the Royal Forest Department after the execution of the Government Reorganization Act of 2002. DNP is responsible for conservation, promotion and rehabilitation of forest resources, wildlife and plant inside protected areas such as national park and wildlife sanctuary. In addition, the Department aims to raise local awareness to participate in biodiversity conservation, watershed management and outdoor recreation activities. RFD **has** overall

responsibility over more than half of the country land area both conservation forest and production forest. However, after the execution of the Government Reorganization of 2002) it has been assigned only the activities related to economic forest production and utilization (commercial forests). These activities include forest plantation, non-wood product, community forest management, wood utilization, and economic research and forest products. Provincial forestry offices Represent RFD to manage economic forest in 75 provinces and assist provincial governors on forestry aspects.

### 3. Programs and operational activities

The major concern of Thailand in tropical forestry is nature conservation and maintenance of environmental balance. One of the measures taken for this endeavor is the logging ban that applies over the entire country since 1997, whose aim is to preserve the remaining forests. Next to the concern on conservation is to achieve the target of raising the actual forest cover from 25 to 40%. The major feature of operational activities is the government's large-scale forest plantation program. The other facts that can be mentioned are the existence of a national inventory master plan and the publication of Thai criteria and indicators for sustainable management of forests by the Royal Forest Department.

There are several programs and operational activities related to biodiversity conservation, coastal management and natural resources management being implemented at the national level with national and international funding support. ITTO projects relevant to biodiversity conservation and natural resource management implemented in Thailand are as follows:

- PD 2/99 Rev. 2(F) «Establish a National Monitoring Information System for the Effective Conservation and Sustainable Management of Thailand's Forest Resources – Phase II», implemented throughout the country.
- PD 16/97 Ref. 3 (F) «Integrated Buffer Zone Development for Sustainable Management of Tropical Forest Resources in Thailand», implemented in the buffer zone of Kaeng Krachan National Park. The project objective is to achieve sustainability in the Kaeng Krachan Natural Resources and Environment Conservation Network.
- PD 289/04 Rev. 1 (F) «*Management of the Emerald Triangle Protected Forests Complex to Promote Cooperation for Trans-boundary Biodiversity Conservation between Thailand, Cambodia and Laos (Phase II)*».
- **PD 56/99 Rev.1 (I) Promotion of the utilization of bamboo from sustainable sources in Thailand. The objective is to develop and disseminate knowledge on sustainable management of bamboo and technologies, in order to promote its efficient and diversified utilization in Thailand for the socio-economic development of rural communities. It will also contribute to the conservation of the natural tropical forests in Thailand.**

International programs which are relevant to coastal resource management are as follows:

- Joint Management of Protected Areas Project funded by the Danish International Development Assistance (DANIDA) (2004-2008). It aims at promoting participatory approaches to protected areas management for securing both biodiversity conservation and improved livelihood of local communities. In the



south, three marine national parks are chosen as pilot projects, including Laem Son Marine Park in Ranong, Had Nopparattara and Pi Pi Island Marine Park in Krabi and Thaleban national Park in Satun.

- The Marine and Coastal Resources Department recently formulated the participatory coastal resources management at Prathong Island in Phang Nga Province before the Tsunami hit the south. This plan had been developed by multi-local stakeholders with technical support from facilitators.
- With the financial support from DANIDA, the Office of Environmental and Natural Resources Policy and Planning (ONEP) is implementing the project on "Implementation of the Ramsar Convention: Management and Protection of Wetlands Areas». The project aims to promote wise use and sustainable management of wetland resources through participatory planning and management. Two Ramsar sites were selected as pilot areas, including Krabi Estuaries in Krabi Province and Nong Bong Kai Non-hunting Area in Chiangrai Province.

## **PART II. THE PROJECT**

### **1. Project Objectives**

#### **1.1 Development Objective**

The development objective is to contribute to the long-term rehabilitation of the coastal forest resources and the livelihoods of local communities following the Tsunami disaster of the 26 December 2004.

#### **1.2 Specific Objectives**

##### **Specific objective 1**

To initiate a process of developing a community-based coastal resource management to enhance the contribution of forests to ecological security (CBM-SLES).

##### **Specific objective 2**

**To promote bamboo use in tsunami affected areas in order to meet medium and long term needs in rural house construction.**

### **2. Justification**

#### **2.1 Problems to be addressed**

As the immediate relief operations after the tsunami disaster are almost over, it is time to initiate medium and long-term rehabilitation actions, taking into account the lessons learnt as far as vulnerability of coastal areas to natural disaster is concerned. As the problem analysis shows, for rehabilitation of damaged coastal forests there is an opportunity of focusing on long lasting coastal management solutions and benefits, integrating an ecological security dimension, and not stop on immediate relief actions. Indeed coastal forests are located at or near the land/sea interface and their management can play a key role in enhancing protection against natural hazards. In this regard, the needs identified by the Mission that prepared this project through the discussion with key stakeholders in the impacted provinces are as follows:

- Rehabilitation of about 700 km of coastal forest (average width: 40 m), and to contribution to the on-going national and international efforts for the rehabilitation of the livelihoods of local communities.
- For the long-term rehabilitation, strengthen the contribution of coastal forests to sustainable human security.

Concerning the rehabilitation of coastal forests and local community livelihoods, the tsunami disaster revealed weaknesses in the coordination of coastal resource management planning and implementation, and weak partnerships between development implementation services and research institutions. These weaknesses must be addressed in order to reach a lasting success of field operations.

Concerning the long-term rehabilitation taking into account the dimension of sustainable human security, the disaster has further revealed that current silviculture and forest management systems are not taking into account the potential role of coastal forests in preventing and mitigating the impacts of natural disasters. There is no research activities aimed at providing technologies that may allow filling these gaps, and no monitoring system exists to measure the contribution of coastal forests to ecological security and community livelihoods. In order to fill the above gaps so that coastal forests can fully play their role, it is important to review how forest

management can reduce the impact of disaster in the future. This requires that forests are adequately managed to integrate the environmental security dimension. As know-how to design appropriate management systems is necessary, it is important for the Forest Department to establish partnerships with scientific and research institutions to establish the ecological foundation of the community-based coastal resource management that integrates the dimension of ecological security.

## **2.2 Intended situation after Project completion**

The expected situation at project completion is as follows:

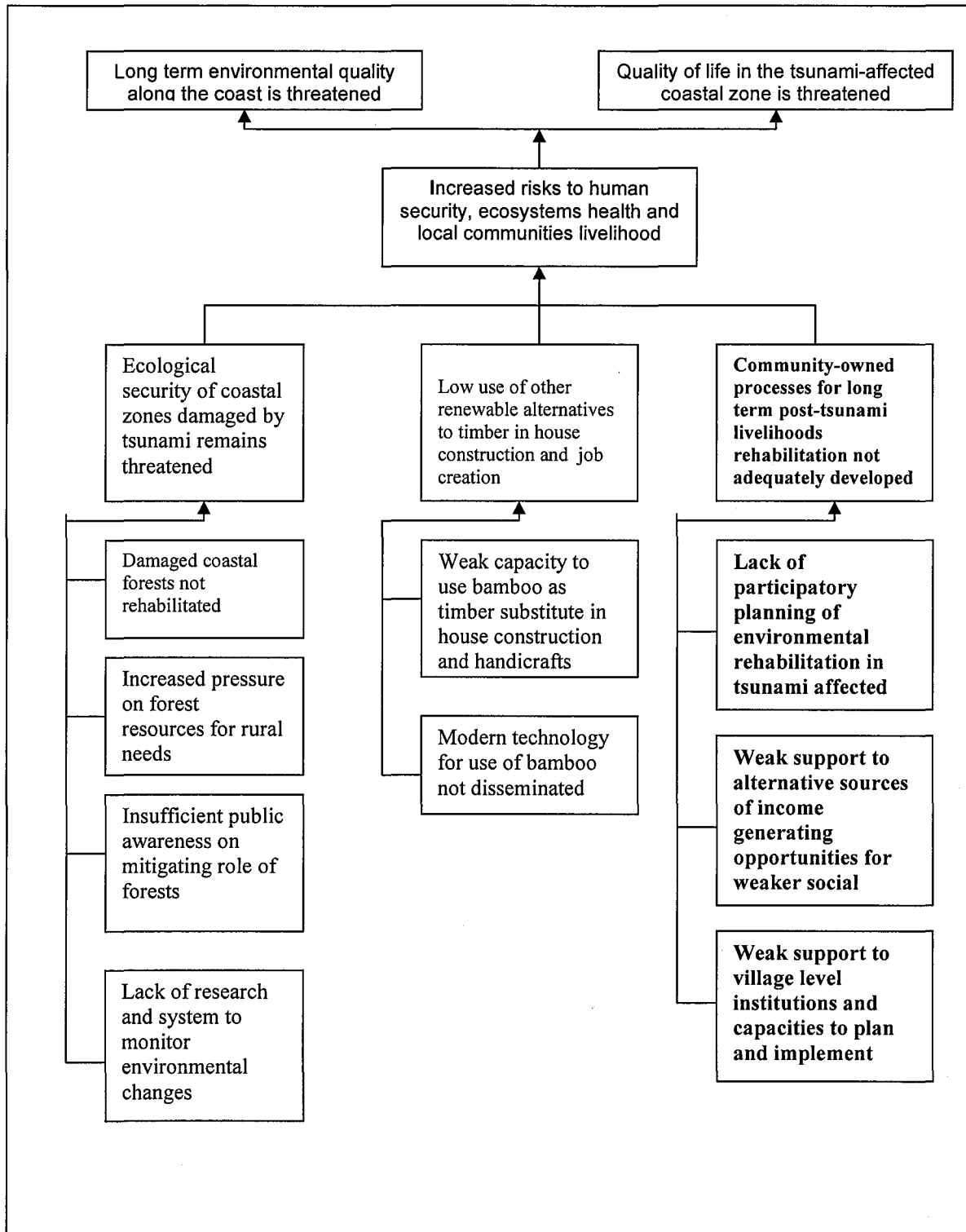
- An effort to create multiple use and multiple functions forests planted and managed as bio-shields which will enhance human security against natural disasters will have started.
- Awareness of the general public and key stakeholders of the goals of coastal forest management will be raised; special needs and expectations of local communities will be known.
- The capacity of provincial and subprovincial services to rehabilitate damaged forests and to manage them integrating the dimension of ecological security will be strengthened.
- The project will open new possibilities for public participation in the implementation of coastal forest management, as NGOs, local communities and scientists will provide inputs in its work.
- There will be an increased availability of baseline data on the role of coastal forests in the pilot areas.
- **Knowledge on bamboo use to substitute timber in house construction will be disseminated and will be in use.**

## **2.3 Project Strategy**

The project will actively seek the cooperation of a diversity of key stakeholders in order to build up a consensus on its objectives and methods, to win support and to interchange information and experience. These stakeholders include coastal communities, sectoral administrations (provincial, district and sub-district levels), research and educational institutions, NGOs, private sector. The consensus with these stakeholders will be particularly needed for a realistic strengthening of the role of forests in coastal environment and economy. A special relationship will be established with local communities to enhance their participation in the rehabilitation of the tsunami-damaged forests and their management. Forging a good relationship with the local communities and other stakeholders will allow to understand the interests of each group and to design adequate participatory mechanisms for their mobilization. The project will also contribute to the strengthening the capacities of the Natural resources and environment services in the field.

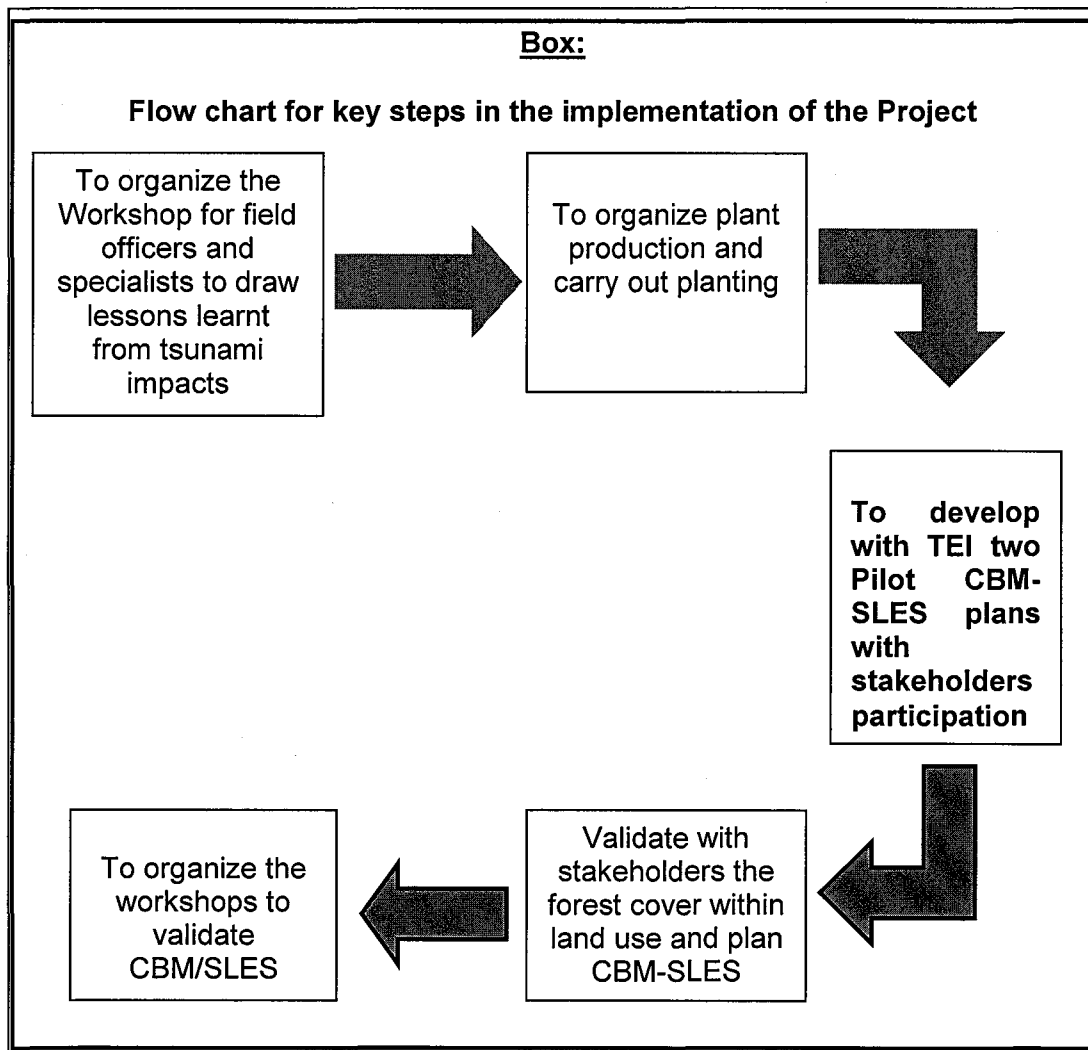
For the best mix of medium and long term rehabilitation integrating a coastal security and livelihoods dimension, the project will develop a knowledge-based process using information from ecological and socio-economic assessments. It is also recognized that communities and other key stakeholders should play an important role in planning, implementation and monitoring of coastal resources management.

**Tsunami affected areas of the Andaman coast : Problem analysis**



Given the technical innovations that the project will seek to apply to establish and manage coastal forests, it is necessary to establish a good partnership with a scientific institution to implement planning and capacity building activities. The Project will therefore establish a contract with such institution to implement all the relevant technical and scientific activities in order to reduce the cost of time, transportation and related logistics for journeys in the field. It is far easier and cheaper to implement such activities by a team of scientists from one institution working together than to arrange several independent scientists traveling in different times. **The project will also coordinate its activities with community-based livelihoods project financed by Swiss Solidarity.**

The key approach guiding the strategy of the project is community-based coastal resource management to enhance the contribution of forests to sustainable livelihoods and ecological security (CBM-SLES). To implement this approach, the project will develop a plan for forest management integrating environmental security with social, cultural, economic and security values. The project will also bring together governmental, non-governmental, and other stakeholders in order to prepare a shared vision of coastal resources management. A five-year plan will be prepared to implement that vision. It is expected that this consultation will prevent conflicts between competing uses of coastal lands and facilitate inter-agency coordination and good management practices, taking into account of the interrelationships between terrestrial and marine ecosystems.



The proposed project will be implemented in 3 phases of 2 years each. In the first phase, the project will focus on the rehabilitation of livelihoods and destroyed coastal forests (see the Box for key Project implementation steps). Validation of areas allocated to forests within the coastal land use zoning will be conducted, and socio-economic data relating to stakeholders-resource relationships will be collected, in order to have a baseline for planning.

The Project will be coordinated by an experienced Project coordinator, and field activities will be executed by respective provincial, district and sub-district technical services. Its pilot areas of focus will be the provinces of Ranong and Phang Nga.

## **2.4 Target beneficiaries**

The major beneficiaries of the project are the following:

- The populations of the coastal zone and the national economy in general, the fishing communities in particular.
- The Provincial and sub-provincial administrations in charge of coastal resource management who will have reliable data to assist them in implementing their development.
- Scientists, public institutions and NGOs with a stake in coastal natural resource management conservation.
- Global community: the rehabilitation of destroyed forests will increase the potential of CO<sub>2</sub> sequestration.

## **2.5 Technical and scientific aspects**

The tsunami disaster presents a challenge to face similar events in the future with new preparedness and mitigation approaches. In the medium term, coastal forest rehabilitation must be guided by the search of new management approaches that enhance ecological security, disaster preparedness and mitigation. Ecological security encompasses sustainable development, environmental protection and rehabilitation for the well-being of the population. The tsunami impacts have clearly demonstrated that it must be an important dimension of coastal forest management. These impacts are an early warning to imagine and implement silvicultural and management systems that enhance environmental defense systems while expanding the opportunities for sustainable livelihoods in the coastal zones. The project will therefore contribute to technology development and dissemination, with the aim of improving the design of bio-shields that maximize the potential of impact mitigation in the perspective of a new disaster. It will initiate pilot actions aiming at sustainable management of coastal forests with a dimension of ecological security allowing them to serve as bio-shield forests against natural disasters. The choice of species will focus on those with strong root system, saline resistant, which have proven their effectiveness as wave energy breakers during the 26 December tsunami, such as *Casuarina equisetifolia*, *Derris indica*, *Milletia brandisiana*, *Cocos nucifera*, *Anacardium occidentale*. Other aspects where there are important knowledge gaps include:

- Horizontal lay out of trees in plantation, taking into account species mixture,
- Vertical structure of stands
- Treatment of individual trees to enhance stand's protective role,
- Regeneration system to improve existing old coastal stands

Perhaps the most important aspect to consider is the area to be technically considered as included in the coastal zone for ecological security purposes. The

indication from the tsunami affected areas is that up to 10-15 meters above sea level, land can be vulnerable.

## **2.6 Economic aspects**

The coastline contains several major urban centers. In the sea front area, traditional and industrial fisheries and tourism provide the main source of livelihood. Other activities of the coastal zone which provide livelihoods to local populations include agriculture and handcrafts. The coastal zone plays therefore an important role for the local and national economy. It has an immense potential for tourism and ecotourism development, and it is rich fishery resource. The natural resources supply food, shelter, and employment, in addition to contributing to the protection of shoreline and the economic infrastructure located along the coast. The coastal forests play an important role in the well being of people for their beauty and their role in outdoor recreation, and protection of economic and tourist infrastructure. Forest-based activities provide substantial economic benefits to local communities. Their products include fuel-wood, poles, logs, material for construction and fishing, medicinal products, fruits and other non-timber forest products.

## **2.7 Environmental aspects**

The coastal forests provide environmental services which include stabilization and protection of shorelines, provision of nesting sites for sea and shore birds, filtering and trapping of water-born pollutants, and provision of resources for eco-tourism and recreation. They also produce organic matter which is taken in the sea by tidal waves, thus contributing to the complex food web. Hence well managed near-shore forests can enhance sea productivity. Furthermore coastal forests protect the coast against erosion and enhance segmentation and land accretion. They are important in coastal protection and in the conservation of coastal ecosystems. The project will therefore have no negative impact to the environment as it is aimed to improve the habitats and make forest production sustainable.

In many areas, the tsunami has had a very severe impact on the ecological functions of the forests. It is estimated that about 700 km of coastal forests in addition to important areas of coastal national parks were damaged and need rehabilitation. The impacts have obvious consequences for the tourism industry and the livelihoods of local communities. The rehabilitation of the coastal forests tsunami has therefore the potential to enhance the ecological security by providing more protection against natural hazards in the future.

The project will have no negative effect on the coastal environment. On the contrary the rehabilitation of forests will allow repairing the damages caused by the tsunami to the environment. Furthermore, the project will support the process of coastal forest rehabilitation planning that will serve as a pilot model to be generalized along the entire coast in the future. It will contribute to raising awareness on of the general public on the potential of coastal forests to enhance ecological security.

## **2.8 Social aspects**

The tsunami disaster has severely impacted the livelihoods of many local communities. The majority of them live in fishing villages and local urban areas where livelihood depends heavily on fishing and tourism. It is estimated that over 120,000 people have been adversely affected by the impacts to the fishery sector. About 500 fishing villages along the Andaman coast were seriously affected. Nearly 30,000 households which depend on fisheries have lost their means of livelihood,

and over 4,500 fishing boats have been destroyed or damaged. The Royal Thai Government has acted quickly and effectively in providing immediate relief and temporary shelters to victims. The immediate relief phase being over, the challenges lie in implementing longer-term recovery and rehabilitation with appropriate development programs aiming at sustainable livelihood.

## **2.9 Risks**

The strategy pursued by the project of stakeholders involvement and community participation requires a high political backing at different levels of the government administrations. The development of partnerships with the NGOs and the scientific institutions also requires a positive response and a commitment from them as far as the objectives pursued are concerned. If these conditions were not met, the consequence would then be the loss of confidence in the project and the processes it supports. This risk is mitigated by the current national response to the needs of the people in the areas hit by the tsunami.

## **3 Outputs**

### **3.1 Specific objective 1**

#### ***Output 1.1 Project coordination established***

The Executing Agency will be responsible for the coordination of the project, and will designate a Project coordination team composed of a Project coordinator, a Senior silviculturist, a technical assistant and a Head of Administration and Finance. The executing agency will also second necessary staff at provincial and sub-provincial levels to implement the project. It will also provide an office in Bangkok for the coordination team and offices for assistants in the provinces of Krabi and Phang Nga. The first meeting of the Project Steering Committee will be convened at the earliest possible moment following project approval and finance by ITTC. It will approve the first annual Working Plan.

#### ***Output 1.2 250 km of destroyed coastal forests (net area: 750 ha of about 1250 ha) rehabilitated***

At the beginning of the project, a workshop aimed at sharing experiences and lessons learnt from tsunami damages in the light of "ITTO Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests" will be held. It will allow adapting silvicultural practices during the establishment and management stages to integrate the ecological security dimension in the production of goods (timber and NTFPs) and services. Effective silvicultural techniques for rehabilitation of the tsunami damaged forests will be developed, seeking innovative approaches to enhance environmental security through forest management. In addition to appropriate choice of species to be used in rehabilitation operations, the workshop will put together the experiences of participants regarding namely regarding the horizontal lay out of trees in plantation, the species mixture, the vertical structure of stands, the treatment of individual trees to enhance stand's protective role, and regeneration system to improve existing old coastal stands. The project will develop a practical manual for coastal forest management to enhance ecological security. This Manual will be used for on-job training as well as formal training seminars for field staff. The Project will therefore contribute to institutional strengthening and capacity building, and insure the longer-term success of coastal resource management.



**Output 1.3 100 ha of bamboo plantations established in tsunami affected areas**

To start the implementation of this output, the project specialists will conduct a survey to choose the species that will be used for bamboo plantation establishment. A training on silvicultural techniques for planting and management will be organized. To produce bamboo seedlings, contracts will be established with producers in the local communities. These may be for example women's or youth groups, or other socio-professional community associations. Farmers will be selected for the establishment of bamboo plantation management demonstration plots.

***Output 1.4 Awareness raising activities implemented***

Educational materials will be developed for the general public and schools. They will explain the functions of coastal forests and their potential role in mitigating the impact of natural disasters on human life and property. These materials will include maps, booklets, videos, posters, and models of coastal protection forests. Visits will be organized for schools. A website for the project will be established and broadcast programs for television and radio will be prepared.

***Output 1.5 Two Pilot CBM-SLES plans developed and endorsed by major stakeholders***

The baseline information needed in the planning process is mainly the distribution of coastal forests within the overall coastal land use, and threats to these forests and their source, current and potential uses. To collect this information, remote sensing methods will be used instead of costly field sampling techniques. The Project will contract a specialized institution which has GIS, aerial photography and satellite imagery means to assist in implementing this output. Among other things, the project will carry out an analysis of the status of forests, showing current uses and potential use options as a basis for planning. Relevant stakeholders including public agencies interested in coastal forest rehabilitation, management and sustainable use will be identified in order to optimize the consultation process. A special attention will be paid to women's stakeholder groups. Surveys will be conducted to understand local communities relationship with coastal forest resources. For all stakeholder groups, the project will seek to understand the perception of their role, their priorities, and their readiness for participation in management and decision-making processes on coastal forest management and sustainable uses.

***Output 1.6 Research and Monitoring program developed***

Community-based coastal resource management to enhance the contribution of forests to sustainable livelihoods and ecological security must be knowledge-based. It is important that the stakeholders be informed of current and potential uses of coastal forests, potential environmental impacts and associated socio-economic benefits. The information on the status of coastal forest ecosystems must be provided. **The research program will also explore the potential for trading environmental services provided by planted forests.**

**3.2 Specific objective 2**

**Output 2.1 Capacity in use of bamboo for house construction strengthened**

Training in production of popular bamboo products will be provided. One of the important aspects for training is bamboo treatment for preservation. Current technologies will be made available through extension services, workshops, dialogue and demonstrations. Attention will be paid to both promotion of product quality and diversified bamboo utilization. A study tour abroad will be organized for current or potential bamboo furniture makers and house construction small enterprises.

#### Output 2.2 Technology for bamboo house construction in use

Bamboo properties will be tested and a course on bamboo house design will be organized. The project will assist the establishment of a demonstration bamboo house in tsunami affected areas, the production of furniture parts, weaving products and handicrafts. The demonstration house will be allocated to a beneficiary family under a special loan contract. Preferably such a family will also be participating in the establishment of bamboo plantation demonstration plot.

### 4. Activities and Inputs

#### 4.1 Specific Objective 1

N°	Activity	Inputs (costs in US\$)
<b>Output 1.1 Project coordination established</b>		
A1.1.1	Designate project coordinator and establish project coordination	<ul style="list-style-type: none"> <li>- 36 pm technical assistant @ 700.-/pm;</li> <li>- Office supplies for the project @ 100.-/month, 36 months;</li> <li>- 4 PSC meetings @ 500.-/meeting;</li> <li>- Air travel within Thailand, 700.-/month; 36 months;</li> <li>- DSA 1000.-per month; 36 months;</li> <li>- Equipment: 3 computers and peripherals @ 2000.-per computer; 1 digital video-camera @ 1200.-</li> <li>- Team capacity building: 20,000.-</li> </ul> <p><i>Thailand's contribution:</i>  36 pm Project coordinator @ 700.-/pm; 36 pm senior silviculturist @ 1,000.-/pm; 36 pm 36 pm Bamboo management specialist @ 1000.-/pm; 36 pm Bamboo utilization specialist @ 1000.-/pm; Assistant administration and finance @ 700.-/pm; Office: 400.-per month.</p>
A1.1.2	Organize project inception workshop	30 participants ; 2 days @ 50.-/participant/day
A1.1.3	Organize regular project coordination meetings.	4 meetings/year @ 500.-/meeting
<b>Output 1.2 250 km of destroyed coastal forests (750 ha) rehabilitated</b>		
A1.2.1	Organize a Workshop for field officers and specialists to draw lessons learnt from tsunami impacts on coastal forests	<ul style="list-style-type: none"> <li>- 1 pm silviculturist with experience in ICZM @ 3000.- (lump sum including honorarium, transport, DSA);</li> <li>- 30 participants (field officers and scientists); 7 days @ 50.-/participant/day;</li> <li>- Transportation for field 2 days trips @ 300.-/day</li> </ul>

		– Publication of proceedings: 1500.-
A1.2.2	Identify training needs of government staff and other stakeholders and design training programs	– 1 pm silviculturist with experience in ICZM @ 3000.- (lump sum including honorarium, transport, DSA)
A1.2.3	Develop practical manual for coastal forest management to enhance ecological security	– 1 pm silviculturist with experience in ICZM @ 3000.- (lump sum including honorarium, transport, DSA) – Printing: 1500.-
A1.2.4	Organize plant production and carry out planting	750 ha @ 400.-/ha <i>Thailand's contribution</i> 2 provincial project coordinators, 24 pm/provincial coordinator, 500.-/pm; 4 provincial field assistants, 24 pm/assistant, 500.-/pm; 1 vehicle/province, 1000.-per vehicle per month; offices: 400/month per province; administrative cost: 15% of total.
<b>Output 1.3 One hundred ha of bamboo plantations established in tsunami affected areas</b>		
A1.3.1	Carry out a preliminary survey for planting species choice	Transport : 500.-
A1.3.2	Identify farmers and negotiate contracts for bamboo demonstration plots	Transport : 500.-
A1.3.3	Conduct 2 training courses for extensionists and farmers on bamboo silviculture	2 trainings (50 participants) @ 25.-/participant/day; 3 days Transport: 500.-
A1.3.4	Identify bamboo seedlings producers and negotiate seedling supply contracts	2 Training (50 participants) for bamboo seedling producers: 25.-/participant/day, 3 days; transport: 500.
A1.3.5	Establish 100 ha of bamboo plantations.	72,000 seedlings, total cost: 52,000.-
<b>Output 1.4 Awareness raising activities implemented</b>		
A1.4.1	Develop public awareness raising material	– 2 pm consultant @ 2,500.-; – Website: 1000.-; video: 1000.- – Printing: 1500.- ; – Outreach towards schools: 2000.-/province.
A1.4.2	Design and implement a media public awareness program	– 1 pm consultant @ 2,500.-
<b>Output 1.5 Two Pilot CBM-SLES plans developed and endorsed by major stakeholders</b>		
A1.5.1	Validate with stakeholders forest cover within land use zoning in pilot areas of Phang Nga Province and Krabi Province	– 4 pm Management planning/remote sensing specialist @ 3000.- (lump sum including honorarium, transport, DSA); – 2 pm rural economist/livelihoods specialist @ 3000.- (lump sum including honorarium, transport, DSA) – 3 pm GIS specialist @ 3000.- (lump sum including honorarium, transport, DSA) – Printing report: 1500.-
A1.5.2	To plan community-based coastal forest management integrating sustainable	– 2 pm Management planning specialist @ 3000.- (lump sum including honorarium,

	livelihoods and ecological security dimension	transport, DSA) – Consultation meetings, 5 districts @ 500.- /district – Printing: 1500.-
A1.5.3	To organize workshops to validate and build consensus on the plans	– 1 workshop/province, 2 provinces @ 600.- per workshop
<b>Output 1.6 Research and Monitoring program developed</b>		
A1.6.1	Develop a CBM-SLES support research and development program	– 1 pm @ 3000.- – Printing: 1000.-
A1.6.2	Develop a community-based ecological monitoring system	– 1 pm @ 3000.- – Printing: 1000.-
A1.6.3	Organize a validation workshop for the research and monitoring system	One day event @ 600.-

## 4.2 Specific objective 2

<b>Output 2.1 Capacity in use of bamboo for house construction strengthened</b>		
<b>A2.1.1</b>	<b>Organize a study tour abroad for bamboo furniture and house makers</b>	<b>8 participants, tickets : 1000.-/person ; DSA : 150.-/person/day for 7 days.</b>
<b>A2.1.2</b>	<b>Organize a workshop in bamboo utilization and furniture making</b>	<b>20 participants, 25.-/person; transport: 3000.-; rentals and facilities: 1,000.-; materials: 2000.- ; lecturers: 2000.-</b>
<b>A2.1.3</b>	<b>Organize a workshop in bamboo house construction</b>	<b>20 participants, 25.-/person; transport: 3000.-; rentals and facilities: 1,000.-; materials: 2000.- ; lecturers: 2000.- ; Equipment (circular saw, sander, driller, etc.): 2,500.-</b>
<b>A2.1.4</b>	<b>Conduct on-job training course on bamboo use for house construction in tsunami affected areas</b>	<b>Consultancies: 10,000.- ; transport : 1000.-</b>
<b>Output 2.2 Technology for bamboo house construction in use.</b>		
<b>A2.2.1</b>	<b>Conduct tests of bamboo properties and design bamboo house prototypes</b>	<b>Equipment (pressure treatment): 25,000.-; Materials: 2500.-; Specimen testing (5 species): 13,000.- Publication of results and guidelines: 2,500.-</b>
<b>A2.2.2</b>	<b>Negotiate loan contracts for 2 bamboo houses (50 m2 each) allocation and other bamboo uses in construction</b>	<b>Consultant: 2,000.-; 4 houses: 12,000.- (50% grant); other bamboo uses for house construction (ex. ceilings, walls, flooring, offices, etc...): 5,000.-</b>
<b>A2.2.3</b>	<b>Conduct a training course on bamboo utilization and furniture design</b>	<b>20 participants, 25.-/participant, 5 days</b>

## 5. Logical Framework

Project Elements	Indicators	Means of verification	Assumptions
<p><b>Development objective:</b> To contribute to the long-term rehabilitation of the coastal forest resources and the livelihoods of local communities following the Tsunami disaster of the 26 December 2004.</p>	<ul style="list-style-type: none"> <li>- From Year 6 onwards, tsunami damaged forests rehabilitated and providing goods and services and environmental protection to local communities;</li> <li>- Higher involvement and participation of local communities in management activities;</li> <li>- Stakeholders satisfaction with forest management performance</li> </ul>	Maps of areas; field and community surveys.	<ul style="list-style-type: none"> <li>- Continued government support;</li> <li>- Stakeholder cooperation secured at provincial and sub-provincial levels;</li> <li>- Relevant technologies and management systems applied.</li> </ul>
<p><b>Specific objective 1:</b> To initiate a process of developing a community-based coastal resource management to enhance the contribution of forests to sustainable livelihoods and ecological security</p>	Plan to rehabilitate and manage coastal forests is acceptable by key stakeholders April 2007.	Project reports.	A good partnership will be developed between the project and a research institution.
<p><b>Specific objective 2:</b> To promote bamboo use in tsunami affected areas in order to meet medium and long term needs in rural house construction.</p>	Number of bamboo house makers and number of houses constructed.	Project reports.	A good response from the house construction industry and handcrafts makers
<p><b>Output 1.1:</b> Project coordination established.</p>	Staff of coordination team and at provincial level designated in time, number and quality as planned.	Inception report.	Timely designation of planned staff by the Executing Agency.
<p><b>Output 1.2:</b> 250 km of destroyed coastal forests (750 ha) rehabilitated.</p>	750 ha rehabilitated before the end of the project according to success criteria to be established in specialist workshop.	Project reports; Field observations.	Good cooperation of provincial and sub-provincial services.
<p><b>Output 1.3:</b> 100 ha of bamboo plantations established in tsunami affected areas.</p>	100 ha of bamboo plantations established before the end of the project	Project reports ; Field observations	Good cooperation of provincial and sub-provincial services.
<p><b>Output 1.4:</b> Awareness raising activities implemented.</p>	Type, quality and number of awareness material published and distributed.	Project reports	No assumption.

<b>Output 1.5:</b> Two Pilot CBM-SLES plans developed and endorsed by major stakeholders.	Report and plans available by February 2007.	Report and plans; Project reports.	Good partnership with specialized institution established.
<b>Output 1.6:</b> Research and Monitoring program developed.	Reports July 2007.	Report; Project reports.	Good partnership with specialized institution established.
<b>Output 2.1:</b> Capacity in use of bamboo in house construction strengthened	The people who were trained are using their knowledge in house construction	Project reports, evaluation.	House construction industry and crafts makers are interested.
<b>Output 2.2:</b> Technology for bamboo house construction in use.	The people who were trained are using their knowledge in house construction	Project reports, evaluation.	Quality of products satisfies users.

6. Work Plan

Activity	Responsible Party	Year 1 Quarter				Year 2 Quarter				Year 3 Quarter			
		1	2	3	4	1	2	3	4	1	2	3	4
<b>Output 1.1</b>													
A1.1.1	Executing Agency	█											
A1.1.2	Project coordinator	█											
A1.1.3	Project coordinator	█											
<b>Output 1.2</b>													
A1.2.1	PC, Senior silviculturist	█											
A1.2.2	Consultant	█											
A1.2.3	Consultant	█											
A1.2.4	PC, Provincial services	█											
<b>Output 1.3</b>	<b>FMFPRO</b>												
A1.3.1	<b>BMS</b>	█											
A1.3.2	<b>BMS</b>	█											
A1.3.3	<b>BMS</b>	█											
A1.3.4	<b>BMS</b>	█											
A1.3.5	<b>BMS</b>	█											
<b>Output 1.4</b>													
A1.4.1	PC	█											
A1.4.2	PC	█											
<b>Output 1.5</b>													
A1.5.1	Partner institution	█											
A1.5.2	TEI	█											
A1.5.3	TEI	█											
<b>Output 1.6</b>													
A1.6.1	Partner institution	█											
A1.6.2	Partner institution	█											
A1.6.3	PC	█											
<b>Output 2.1</b>	<b>FMFPRO</b>												
A2.1.1	<b>BMS</b>	█											
A2.1.2	<b>BMS</b>	█											
A2.1.3	<b>BMS</b>	█											
A2.1.4	<b>BMS</b>	█											
<b>Output 2.2</b>	<b>FMFPRO</b>												
A2.2.1	<b>BUS</b>	█											
A2.2.2	<b>BUS</b>	█											
A2.2.3	<b>BUS</b>	█											



7. Budget

7.1 ITTO Budget by Activity

Output/ Activities	Budget Components, US \$							Year
	Project Personnel	Subcontracts	Duty Travel	Capital Items	Consumable items	Miscellaneous	Total	
<b>Output 1.1</b>	<b>25200.00</b>	<b>0.00</b>	<b>66200.00</b>	<b>7200.00</b>	<b>3600.00</b>	<b>22000.00</b>	<b>124200.00</b>	
A1.1.1	25200.00		61200.00	7200.00	3600.00	22000.00	119200.00	1st, 2nd, 3rd
A1.1.2			3000.00				3000.00	1st
A1.1.3			2000.00				2000.00	1st, 2nd, 3rd
<b>Output 1.2</b>	<b>0.00</b>	<b>309000.00</b>	<b>11100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3000.00</b>	<b>323100.00</b>	
A1.2.1		3000.00	11100.00			1500.00	15600.00	1st
A1.2.2		3000.00					3000.00	1st
A1.2.3		3000.00				1500.00	4500.00	1st
A1.2.4		300000.00					300000.00	2nd, 3rd
<b>Output 1.3</b>	<b>0.00</b>	<b>52000.00</b>	<b>1000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>16000.00</b>	<b>69000.00</b>	
A1.3.1			500.00				500.00	1st
A1.3.2			500.00				500.00	1st
A1.3.3						8000.00	8000.00	2nd
A1.3.4						8000.00	8000.00	1st, 2nd, 3rd
A1.3.5		52000.00					52000.00	2nd, 3rd
<b>Output 1.4</b>	<b>0.00</b>	<b>7500.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7500.00</b>	<b>15000.00</b>	
A1.4.1		5000.00				7500.00	12500.00	1st
A1.4.2		2500.00					2500.00	2nd
<b>Output 1.5</b>	<b>0.00</b>	<b>33000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>6700.00</b>	<b>39700.00</b>	
A1.5.1		27000.00				1500.00	28500.00	3rd
A1.5.2		6000.00				4000.00	10000.00	3rd
A1.5.3						1200.00	1200.00	3rd
<b>Output 1.6</b>	<b>0.00</b>	<b>6000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2600.00</b>	<b>8600.00</b>	
A1.6.1		3000.00				1000.00	4000.00	3rd
A1.6.2		3000.00				1000.00	4000.00	3rd
A1.6.3						600.00	600.00	3rd
<b>Output 2.1</b>	<b>0.00</b>	<b>14000.00</b>	<b>23400.00</b>	<b>2500.00</b>	<b>6000.00</b>	<b>0.00</b>	<b>45900.00</b>	
A2.1.1			16400.00				16400.00	1st
A2.1.2		2000.00	3000.00		3000.00		8000.00	1st
A2.1.3		2000.00	3000.00	2500.00	3000.00		10500.00	2nd
A2.1.4		10000.00	1000.00				11000.00	2nd, 3rd
<b>Output 2.2</b>	<b>0.00</b>	<b>2000.00</b>	<b>0.00</b>	<b>48000.00</b>	<b>15500.00</b>	<b>2500.00</b>	<b>68000.00</b>	
A2.2.1				25000.00	15500.00		40500.00	1st
A2.2.2		2000.00		23000.00			25000.00	1st
A2.2.3						2500.00	2500.00	1st, 2nd
							0.00	
<b>TOTAL</b>	<b>25200.00</b>	<b>423500.00</b>	<b>101700.00</b>	<b>57700.00</b>	<b>25100.00</b>	<b>60300.00</b>	<b>693500.00</b>	

7.2 Yearly ITTO Budget					
		8400			
Budget headings		Total	Year 1	Year 2	Year 3
<b>10</b>	<b>Personnel</b>				
10	Technical assistant	25,200	8,400	8,400	8400
19	<b>S/Total</b>	<b>25,200</b>	<b>8,400</b>	<b>8,400</b>	<b>8400</b>
<b>20</b>	<b>Sub-contracts</b>				
201	Consultant to organize Workshop	3,000	3,000		
202	Consultant for training needs	3,000	3,000		
203	Consultant for practical manual	3,000	3,000		
204	Plant production and planting	300,000	150,000	150,000	
205	Bamboo seedlings production	52,000	20,000	20,000	12000
206	Public awareness material	5,000	5,000		
207	Media program	2,500	2,500		
208	Consultants for validation of forest cover	27,000		27,000	
209	Planning CBM-SLES	6,000		6,000	
210	Consultant for Research planning	3,000		3,000	
211	Consultant for monitoring system	3,000		3,000	
212	Lecturers bamboo workshops	4,000	4,000		
213	Bamboo on-job training	10,000		5,000	5000
214	Consultant bamboo houses	2,000	2,000		
29	<b>S/Total</b>	<b>423,500</b>	<b>192,500</b>	<b>214,000</b>	<b>17,000</b>
<b>30</b>	<b>Duty Travel</b>				
31	Air travel within Thailand	25,200	8,400	8,400	8400
32	DSA, project coordination team	36,000	12,000	12,000	12000
33	Project inception workshop DSA	3,000	3,000		
34	Project coordination meetings	2,000	1,000	1,000	
35	Workshop participants DSA + transport	11,100	11,100		
36	Bamboo study tour abroad	16,400	16,400		
37	Bamboo: survey and farmer identification	1,000	1,000		
37	Bamboo: workshops transport cost	7,000	7,000		
39	<b>S/Total</b>	<b>101,700</b>	<b>59,900</b>	<b>21,400</b>	<b>20,400</b>
<b>40</b>	<b>Capital items</b>				
41	3 computers	6,000	6,000		
42	Digital video	1,200	1,200		
43	Baboo houses	23,000		23,000	
44	Equipment (Circular saw, etc.)	2,500	2,500		
45	Equipment (Pressure treatment)	25,000	25,000		
49	<b>S/Total</b>	<b>57,700</b>	<b>34,700</b>	<b>23,000</b>	<b>-</b>
<b>50</b>	<b>Consumables</b>				
51	Office supplies	3,600	1,200	1,200	1200
52	Bamboo workshops	6,000	6,000		
53	Bamboo tests	15,500	15,500		
59	<b>S/Total</b>	<b>25,100</b>	<b>22,700</b>	<b>1,200</b>	<b>1,200</b>
<b>60</b>	<b>Miscellaneous</b>				
601	Project Team capacity building	20,000	10,000	10,000	
602	PSC meetings	2,000	1,000	500	500
603	Printings Proceedings and Guidelines	3,000	3,000		
604	Awareness materials, outreach to schools	7,500	2,500	2,500	2500
605	Consultation meetings plan CBM-SLES	2,500		2,500	
606	Printing CBM-SLES reports and plans	3,000		3,000	
607	Provincial workshops on plans	1,200		1,200	
608	Printing Research and Monitoring system	2,000		2,000	
609	Workshop validation of research	600		600	
610	Bamboo: training courses Extension...	8,000	8,000		
611	Bomboo: training for seedling producers	8,000	8,000		
611	Publication of results of bamboo tests	2,500		2,500	
69	<b>S/Total</b>	<b>60,300</b>	<b>32,500</b>	<b>24,800</b>	<b>3,000</b>
	<b>S/T Total</b>	<b>693,500</b>	<b>350,700</b>	<b>292,800</b>	<b>50,000</b>
<b>80</b>	<b>Monitoring, eval., adm.</b>				
81	Monitoring cost	18,000			
82	Evaluation cost	20,000			
	<b>S/Total 1</b>	<b>731,500</b>			
83	Administrative cost (8% of Sub-total 1)	58,520			
89	<b>S/Total</b>	<b>96,520</b>			
<b>100</b>	<b>Grand Total</b>	<b>790,020</b>			

### 7.3 Yearly contribution of Thailand Government to the project budget

Budget Items	TOTAL	Year 1	Year 2	Year 3
<b>10 Project personnel</b>				
11 Project coordinator	25,200	8,400	8,400	8,400
12 Senior silviculturist	25,200	8,400	8,400	8,400
13 Bamboo management specialist	25,200	8,400	8,400	8,400
14 Bamboo utilization specialist	25,200	8,400	8,400	8,400
15 Head, Administration and Finance	25,200	8,400	8,400	8,400
16 Povincial coordinator	18,000	6,000	6,000	6,000
17 2 Povincial technical assistants	36,000	12,000	12,000	12,000
18 2 Povincial field assistants	36,000	12,000	12,000	12,000
<b>19 S/Total</b>	<b>216,000</b>	<b>72,000</b>	<b>72,000</b>	<b>72,000</b>
<b>40 Capital items</b>				
41 Office in Bangkok	18,000	6,000	6,000	6,000
42 Povincial offices	14,400	4,800	4,800	4,800
42 Vehicles	36,000	12,000	12,000	12,000
<b>49 S/Total</b>	<b>68,400</b>	<b>22,800</b>	<b>22,800</b>	<b>22,800</b>
<b>50 Consumables</b>				
51 Various consumables, povincial services	4,800	2,400	2,400	2,400
52 Povincial office supplies	4,800	2,400	2,400	2,400
<b>59 S/Total</b>	<b>14,400</b>	<b>4,800</b>	<b>4,800</b>	<b>4,800</b>
<b>SUB-TOTAL</b>	<b>298,800</b>	<b>99,600</b>	<b>99,600</b>	<b>99,600</b>
Administrative cost, 15%	44,820			
<b>TOTAL</b>	<b>343,620</b>			

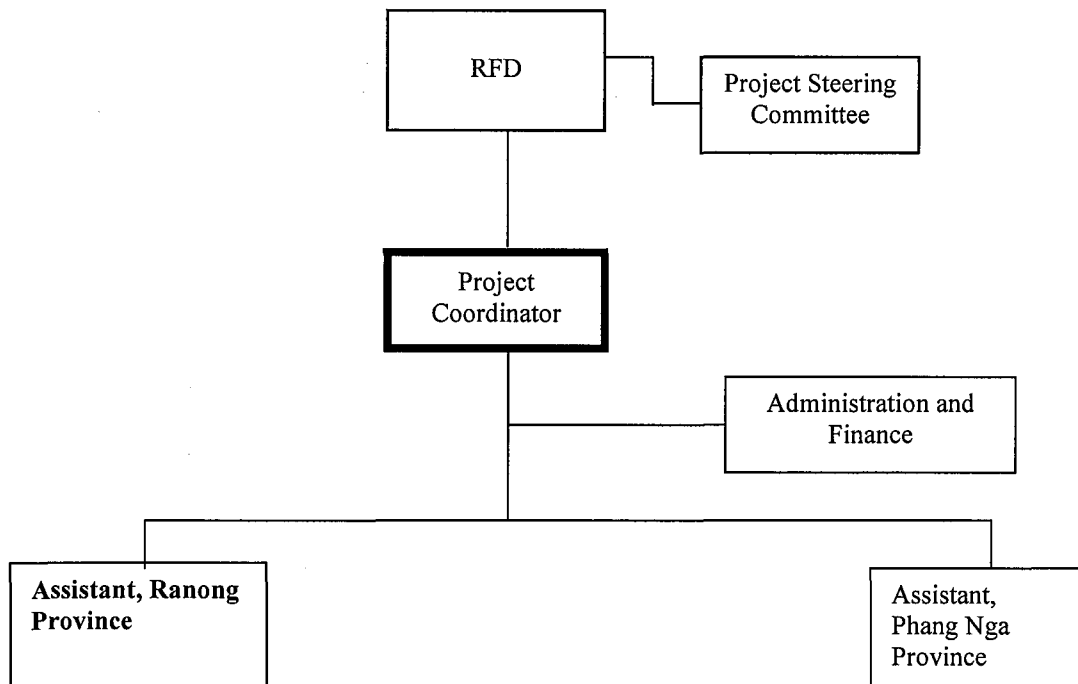
### PART III. OPERATIONAL ARRANGEMENTS

#### 1. Management Structure

The Ministry of Environment and Natural Resources of Thailand will be responsible for the implementation of the project. Within the Ministry, the Executing Agency will be the Royal Forest Department (RFD). It will designate a Project coordinator and his team comprising a senior silviculturist, a **Bamboo Management Specialist**, a **Bamboo Utilization Specialist**, a Head of Administration and Finance, and a Technical assistant. The Project coordinator will assume all the responsibility for the overall Project coordination (see Organization chart), and for the production of its outputs. At provincial level and District levels, RFD will also provide the staff to implement respective field activities. This staff will consequently assume the co-responsibility for the production of corresponding outputs.

The Executing Agency will establish a Project Steering Committee (PSC), consisting of its own representatives and representatives of other relevant line ministries, representatives of partner research institutions, **Thailand Environmental Institute (TEI)**, ITTO, donor countries, and **Swiss Solidarity** which will be represented by **Intercooperation**. This will be the same Steering Committee in composition as for the post-tsunami livelihoods rehabilitation project targeting the same area, funded by Swiss Solidarity, and executed by TEI.

Project organization chart



The project coordinator will have an advanced science degree (MA, M.S. or PhD) in a subject related to forest management, wildlife conservation or environmental sciences. He/she will have a minimum of 5 years experience in interdisciplinary and multidisciplinary approaches in a forestry/environmental field, and a demonstrated ability in managing projects, and a substantial experience in working with government administrations, local communities and NGOs.

## **2 Monitoring, Reporting and Evaluation**

Within the first 8 weeks of project implementation, the project manager will prepare an inception report for the first meeting of the PSC. The report will be accompanied by a detailed proposal of the work plan for the first 12 months. A monitoring and evaluation plan will be prepared by the Project coordinator and approved by the Steering Committee. The objective of this monitoring is to contribute to smooth project implementation, and, if needed, to adapting activities to changes in the working context, and to creating the basis for project evaluation.

Every six months, the implementing Agency will submit to the ITTO Secretariat progress reports in accordance with the "ITTO Manual for Project Monitoring, Review and Evaluation". These progress reports will be produced September 2005, March 2006, September 2006, March 2007 and September 2007. Technical reports of consultants will undergo a similar distribution. The final report will be transmitted to ITTO not later than three months after project completion. The first ITTO monitoring mission will take place in before March 2006, and the second before September 2006. Such missions will carry out standard project implementation monitoring based on its logical framework, ITTO rules and procedures and any relevant orientations or decisions of the PSC.

## **3 Future Operation and Maintenance**

After completion of Phase I of the project, Phase II will start and will continue forest rehabilitation activities and contribute to the implementation of the pilot areas plans and the Research and Development program.

## PART IV. THE TROPICAL TIMBER FRAMEWORK

### 1 Compliance with ITTA 1994's Objectives

By supporting Thailand's effort to rehabilitate the tsunami ravaged coastal forests, the project is a contribution to the prevention of tropical deforestation, and complies therefore with the ITTA 1994 by meeting the following objectives of its Article 1:

- (c) *To contribute to the process of sustainable development:* One of the guiding principle of the project will be an integrated approach of implementing long-term rehabilitation actions, taking into account the human security, socioeconomic and environmental needs. An other principle will be the promotion of stakeholder participation in the implementation of the activities of the project.
- (f) *To promote and support research and development with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to to conserve and enhance other forest values in timber producing tropical forests:* The project will elaborate a research and development program which will be implemented in the second phase, and will allow meeting the challenge of sustainable production of goods (timber and NTFPs) in coastal forests while integrating the ecological security dimension in forest management.
- (j) *To encourage members to support and develop industrial tropical timber reforestation and forest management activities as well as rehabilitation of degraded forest land, with due regard for the interests of the local communities dependent on forest resources:* The Project is aimed at conducting activities for the rehabilitation of the forests that ere destroyed by the 26 December 2004 tsunami. It will take into account the needs of local communities not only for their livelihood but also for their security vis à vis the natural disasters.
- (l) *To encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade:* One of the preoccupations for the implementation of the project is to bring multiple disciplines and stakeholders together through the establishment of partnerships for research and implementation of livelihood activities. It will therefore provide useful lessons and experience for the coordination of development efforts as far as maintaining ecological balance in the coastal zone is concerned.

It should also be recalled that as a member of ITTO, Thailand has committed itself to achieving sustainable management of its natural forest resources, namely by achieving the Year 2000 objective. In 1993, ITTO members identified 4 key areas for action towards sustainable forest management in compliance with that Objective. This project idea is in relevant to the following three of them:

- Security of forest resources and prevention of unplanned deforestation;
- Production of optimal mix of goods and services;
- Improvement of the social and political environment concerning forest management.

## **2. Compliance with ITTO Yokohama Action Plan**

This project meets Goal 1 «Support activities to secure the tropical timber resource base» of the Yokohama Action Plan, in its Action 4 “Promote the conservation, rehabilitation and sustainable management of threatened forest ecosystems ...”. It will re-establish the forests which were damaged by the tsunami.

Similarly, the project also meets Goal 2 «Promote sustainable management of tropical forest resources», in one of the paragraphs of its Action 10 «Implement research and development activities in the management of secondary tropical forests, restoration of degraded tropical forests and rehabilitation of degraded forest land, taking into account consideration ITTO Guidelines», since its main focus is rehabilitation of the forests destroyed by the tsunami.

## **ANNEX I: TERMS OF REFERENCE OF PROJECT STAFF**

### **Project Coordinator**

The Project Coordinator will report to the Director General, Royal Forest Department, and through him to the Steering Committee. He will be responsible for:

- Technical and administrative orientation and coordination of all project activities;
- Supervision of the use of project's funds;
- Elaboration and implementation of annual project operations plans;
- Liaise closely with ITTO Secretariat and donors;
- Prepare periodic progress reports for presentation to the ITTO Secretariat and the PSC;
- Insure the necessary administration set-up to guarantee that the project's resources are efficiently utilized, and elaborate the terms of reference for other project staff of the Coordination team and at the provincial level;
- Ensure the publication and dissemination of project's results and experiences;
- Relations with the Royal Forest Department and other public agencies and institutions;
- Prepare and implement a monitoring and evaluation program to ensure adequate and timely assessment of project activities;
- Design and implement a communication strategy and oversee the creation of a project's web site to facilitate the dissemination of materials and information on its objectives and outputs;
- Selection of consultants, and giving guidance for the work of consultants, supervising them and controlling the quality of their results;
- Information on project's objectives and work, targeting the public in general and key stakeholders in particular (Provincial and District authorities, local communities, NGOs, international bodies);
- Monitoring progress toward achieving project objectives, and elaboration of all reports required by ITTO and by the project objectives.

### **Head, Administration and Finance**

- Assist the Project Coordinator in the coordination of financial management of the project resources and respect of the rules and procedures of ITTO;
- Ensure proper keeping of project accounts and financial documents;
- Input financial data in a computerized accounting system;
- Assist in preparation of financial reports;
- Assist in the process of timely calling of funds;
- Execute payment of salaries to project personnel;
- Assist in all other administrative and finance related matters as requested by the Project Coordinator;
- Ensure an adequate supply for project needs;
- Ensure that the project's personnel is administered in full respect of the relevant laws and rules.



**ANNEX II: TERMS OF REFERENCE FOR THE PREPARATION OF THE CBM-SLES PLANS**

- Identify and map current land uses of targeted coastal areas ;
- Identify and map forest cover, conducting field surveys where necessary; map the forests in their different types, status and property regime;
- Identify and assess the potential of existing coastal forests to enhance coastal security and to play to meet other environmental and socio-economic needs;
- Assess the direct and indirect impact of current practices (reclamation for agricultural production, shrimp ponds, urban development, transportation and tourism, clearing for construction of aquaculture ponds, unsustainable harvest of wood and non-wood resources, etc.) with reference to sustainable use and environmental security;
- Review existing policies and laws on coastal land use, development planning and implementation, especially with regard to integrated coastal zone management;
- Conduct a gender sensitive survey of socio-economic forest use patterns and trends;
- Propose guidelines for community participation in the management of coastal forests;
- Based on the findings, elaborate a five-year plan for

**ANNEX III : MAP SHOWING THE DECEMBER 26 TSUNAMI AFFECTED PROVINCES  
ALONG THE ANDAMAN COAST**

