A Sustainable Financing Strategy for the Andaman

For the Project: Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean -Thailand Component

Saima Baig

March 2010

ECOSYSTEMS AND LIVELIHOODS GROUP ASIA, IUCN

Mangroves for the Future
INVESTING IN COASTAL ECOSYSTEMS

Federal Ministry
for Economic Cooperation
and Development

ONE WORLD

A Sustainable Financing Strategy for the Andaman

For the Project: Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean - Thailand Component

Federal Ministry
for Economic Cooperation
and Development

A Sustainable Financing Strategy for the Andaman

For the Project: Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean - Thailand Component

Saima Baig

March 2010

Federal Ministry
for Economic Cooperation
and Development

This document was produced under the project 'Coastal ecosystems rehabilitation and conservation in Sri Lanka and Thailand' carried out with financial support from the German Federal Ministry for Economic Cooperation and Development (*Bundesministerium Für Wirtschaftliche Zusammenarbeit* - BMZ). The designation of geographical entities in this technical report, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of IUCN or BMZ concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The views expressed in this publication do not necessarily reflect those of IUCN or BMZ.

Published by: Ecosystems and Livelihoods Group Asia, IUCN, International Union for Conservation of Nature and Natural Resources.

Citation: Baig, S (2010). *A Sustainable Financing Strategy for the Andaman*. Colombo: Ecosystems and Livelihoods Group Asia, IUCN. vi + 32 pp.

Cover Photo: Fishermen in Ka Poe Estuary, southern Thailand © IUCN

Produced by: Ecosystems and Livelihoods Group Asia, IUCN.

Available from:
http://www.iucn.org/about/work/initiatives/about_work_global_ini_mangr/bmz/resources___thailand/

Table of Contents

ACKNOWLEDGMENTS IV

EXECUTIVE SUMMARY V

1. INTRODUCTION - THE PROJECT 1

2. BACKGROUND - COUNTRY AND PROJECT CONTEXT 2

2.1 Overall Governance Structure 2
2.2 Project Area 3
2.3 Local socio-economy 5
2.4 The Project Watersheds 5
2.5 The Drivers of Change affecting the Ranong and Phang Nga Catchment 7
2.6 BMZ Investments 9

3. ECONOMIC BENEFITS OF THE ECOSYSTEMS IN THE PROJECT AREA 12

4. MAKING THE INVESTMENTS SUSTAINABLE – A SUSTAINABLE FINANCING STRATEGY 15

4.1 Prerequisites of sustainability - General Requirements 15
4.2 A sustainable financing framework 17
4.2.1 Value addition – Current Project Investments 18
4.2.2 Moving forward – Setting priorities 19
4.2.3 Gap analysis, funding requirements and setting goals 20
4.2.4 Funding Sources 21
4.2.5 Financial Management 26
4.2.6 Evaluation, progress and lessons learned 26

5. BENEFIT SHARING 27

5.1 A Strategic Framework for Benefit Sharing 27

Acknowledgments

The author wishes to acknowledge the support of the Federal Ministry of Economic Cooperation and Development, Germany (BMZ) for providing the financial support for the development of this strategy.

Thanks are also due to the support, input and backstopping provided by Janaka De Silva, Coordinator IUCN Thailand Programme; Somsak Soonthornnawaphat, Petchrung Sukpong and Patidta Chaladdee from the IUCN Field Office in Kuraburi Thailand; Maeve Nightingale, Regional Coordinator IUCN Asia Coastal and Marine Programme; Thushara Ranasinghe Senior Programme Officer, IUCN Asia Environmental Economics Programme; and Ali Raza Rizvi, Head Ecosystems and Livelihoods Group II IUCN Asia. Many thanks to Dr. Sriyanie Miththapala, Consultant Ecosystems and Livelihoods Group for her support in finalizing the document.

Saima Baig
Regional Coordinator Environmental Economics Programme
Ecosystems and Livelihoods Group, Colombo Sri Lanka
IUCN Asia
4/1 Adam's Avenue,
Colombo 4
Sri Lanka

spb@iucnsl.org

Executive Summary

The project *Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean* aimed to facilitate coastal ecosystem rehabilitation and conservation activities in critically degraded and threatened ecosystems in tsunami-affected countries of the Indian Ocean. Two countries were selected to implement the project: Sri Lanka and Thailand. Part of the project involved developing a Sustainable Financing Strategy for the project areas. This document serves as the Sustainable Financing Strategy for the Thailand Component. It looks at the situation in the project area and recommends financing options and other measures that would help to sustain the activities initiated as part of the project.

In Thailand, the Andaman coast was chosen to implement the interventions of the project. Two watersheds: Kuraburi and Ka Poa were the main project areas where tourism, fisheries and agriculture form the main livelihoods activities.

The BMZ project aimed to work in these two watersheds by providing investments for ecosystem rehabilitation and sustainable management for community livelihoods and benefits in the post tsunami context. Investments were made into community based activities; building on existing initiatives to ensure an integrated management approach within Thailand's complex regulatory and policy frameworks. The investment criteria were based on the three major ecosystems; forest ecosystems (upper watershed), riverine ecosystems (intermediate watershed) and coastal ecosystems (lower watershed). The investment goals for both watersheds aimed to protect and preserve areas of high ecosystem value, support species management, restore damaged/ degraded ecosystems, and identify sustainable development opportunities by generating income, especially through eco-tourism. Investments also supported local livelihoods striving towards a more equitable approach to conservation. A total of 13 grantees were short listed for the two categories of grants distributed; those less than 500,000 baht (approximately US $ 14,500) and those up to a maximum of 862,500 baht (USD 25,000), and was based on the MFF grants facility structure. The total value of sub-contracts is Thai baht 6.3 million (~ USD 185,000), approximately 70% of the total available for disbursement. The final grantees represent 6 community based organizations, two government departments, three non governmental organizations, 1 NGO consortium and a private sector entity.

In the case of Thailand overall and as such indirectly for the project area, a mix of financial strategies and approaches are required at the policy level to support conservation at large and specific project interventions in particular. This would help to set up conservation priorities, build capacities and ensure equitable benefit sharing. This means making conservation of ecosystems more economically attractive in addition to implementing regulations, laws and policies. Penalties can be instituted for those activities that lead to ecosystem degradation and loss. For the purpose of benefit sharing, a distributive mechanism has to be developed for these instruments to generate and redistribute funds at the local level.

For an effective financing strategy it is necessary that some broad elements are also considered that impact the general economic, policy and conservation environment. These include the existing policy and legal framework, institutional set up and capacity building as important components that impact any sustainable financing strategy, which must be first analysed because it is within the backdrop of these elements that any sustainable financing strategy will be implemented.

Out of all the activities that were supported by the project, there is first a need to set realistic short, medium and long term investment priorities based on community preferences, government priorities and donor interest. For the purpose of the project activities these have been identified in terms of short and long term priorities. In the short term this means continuing the capacity building of CBOs, strengthening

existing institutional arrangements at the community level as well as continued support for livelihoods activities. For the long term the priorities are to scale up institutional engagements and take them up to provincial government levels; increased advocacy; and promotion of community stewardship agreements.

Once the priorities are set the next step is to assess what the expenditures and income are and what gaps exist. This requires a financial gap analysis to understand funds required to sustain both the short term and long term activities. The gap analysis will help to understand the short and long term funding requirements for specific activities and this information can then be used to set realistic sustainable financing goals. Developing a budget that includes direct and indirect costs, costs of management and opportunity costs is a necessary step for this.

Short and long term funding sources have been identified in the document for the project to be assessed in the face of the economic environment. A diverse portfolio would be more sustainable in the long run, which necessitates a mix of funding sources. Furthermore, the stream of funding opted for should be timely and stable over a period of time. The options in addition to government support include but are not limited to environmental trust funds, community membership fees, adopting existing community financial models, community based tourism, user fees and private sector funding. It is also recommended that existing revenue collection is improved, and that part of the revenues generated from the area is invested back. Furthermore, a mechanism should also be put in place to capture offsite funding. In addition to strategic funding mechanisms, formulation and implementation of financial plans is necessary. This requires mechanisms for resource allocations and redistribution mechanisms, management and capacity needs and an implementation plan. Evaluation of the investment and measuring progress are needed so that the sustainable financing strategy can be adapted on a regular basis.

Finally, a redistributive and benefit sharing system must be put in place to ensure that equitable and pro-poor conservation and livelihood activities are funded. What is needed for any benefit sharing strategy is to identify and assess the types of ecosystems used by all stakeholders and the benefits accrued from these; identify the beneficiaries of the ecosystem services and how they use the services; identify groups that do not benefit due to access, rights or other issues and including gender roles; identify the existing benefit sharing mechanisms; assess the institutional and legal framework that governs access and rights; and ensure participation of all stakeholders is a critical element of benefit sharing.

1. Introduction - The Project[i]

The project *Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean* aimed to facilitate coastal ecosystem rehabilitation and conservation activities in critically degraded and threatened ecosystems in tsunami-affected countries of the Indian Ocean. It operated in Thailand and Sri Lanka, two of the six focal countries of MFF (India, Indonesia, Maldives, Seychelles, Sri Lanka, and Thailand, which were among the worst-affected nations in the December 26, 2004 Indian Ocean tsunami).

The immediate purpose of the project was that degraded and threatened coastal ecosystems in tsunami affected countries of the Indian Ocean are rehabilitated and conserved using ecologically and socioeconomically sound methods. Its core focus was to invest in measures to conserve and renovate ecosystems, which have been severely damaged and degraded, and to thereby restore their biodiversity and provision of ecological services. Work was undertaken in two pilot sites, selected from the following coastal ecosystems: mangroves and other coastal forests and wetlands, estuaries, lagoons, sandy beaches, sand dunes, coral reefs and seagrass communities. Measures were undertaken to restore and rehabilitate degraded ecosystems at these sites and provide NRM based livelihoods, as well as to set in place long-term measures for their continued conservation in the future.

The intended beneficiaries of the project are local stakeholders who live in coastal areas, depend on or are impacted by natural ecosystem status, and whose actions in turn influence local ecological and socioeconomic conditions. These stakeholders include the government agencies that are mandated to oversee coastal development and conservation, local communities, civil society groups and organisations, and the industries and commercial enterprises that operate in coastal zones. Within these stakeholder groups, the project has a particular emphasis on benefiting the more vulnerable and marginalized members of coastal communities (such as women and the poor), who suffer disproportionately from the effects of ecosystem degradation, and who have often been excluded from coastal management planning and decision-making in the past.

The project is founded on a participatory approach, which involves benefits and coordinates the multiple stakeholders who depend or impact on coastal ecosystems in the pilot sites. It aimed to foster better dialogue and communication between coastal stakeholders at the local level, and to actively engage different sectors and groups in working together to design and undertake coastal ecosystem rehabilitation and conservation and to strengthen the management of these restored ecosystems so as to offset future threats and pressures. There was also a strong emphasis on generating information on, and informing project design with, a sound understanding of ecological and socio-economic conditions and needs in pilot sites, and using the most up-to-date science, techniques and approaches to ecosystem conservation and restoration.

IUCN provided the overall management and lead in implementing this project, working in collaboration with MFF partners (national governments, UNDP, UNEP, FAO, CARE, WWF and Wetlands International) and the project is being implemented under the auspices of the MFF framework.

2. Background - Country and Project context

Lying between latitudes 50 and 110 N, Thailand covers an area of 7,153,917 ha with a shoreline of 2,705 km (Thanawood et al 2006). The western and eastern shores of the southern peninsula are bordered by the Andaman Sea and the Gulf of Thailand – the main fishing ground - respectively. This coastal stretch boasts of mountain ranges rich in biodiversity and tropical watersheds and these diverse and productive coastal areas provide homes, shelter and livelihoods to a large proportion of the population. The uplands are rich in tropical rainforests, and the coastal shores have beach forests and white sand beaches with a rich marine life, making the area a popular tourist destination. There is a variety of aquatic ecosystems such as saline, brackish, freshwater and forests, which provide a rich biodiversity unique to the area (Thanawood et al 2006).

There are 14 coastal districts in Thailand and 12 of these have access to the shoreline, with many opportunities for livelihood activities. In general however, unsustainable resource use is leading to degradation of ecosystems. Tourism and fisheries have seen unprecedented growth with the result that resorts, culture ponds and aquaculture infrastructure have replaced much of the mangrove and beach forests. On the other side the palm oil and rubber agriculture and human settlements have replaced a lot of the mountain forests (UNEP 2005). The Exclusive Economic Zone (EEZ) is of 420,280 km^2, out of which 304,000 km^2 are in the Gulf of Thailand and 11,280 km^2 in the Andaman Sea (Nakthon 1992).

2.1 Overall Governance Structure[ii]

Thailand is a constitutional monarchy, with the King as the head of state and the Prime Minister as the head of government presiding over the cabinet of Ministers. The main legislative body is the National Assembly and the court system (judiciary) applies and enforces the laws. The government structure is organised into national (prime minister, ministries and government departments), provincial (provincial administration organisation, provincial governor), district (chief district officer), sub-district (sub district head, tambon administrative organisation) and village levels (village head).

The Constitution is the supreme law of the country and the source of authority of all other laws. Acts are created by the King and have to be passed by the National Assembly; while regulations and notifications are passed by ministries as the more specific rules to implement an Act. Furthermore, policies provide guidance to decisions taken by the government but are not enforceable; and plans are roadmaps to achieve the objectives of policies and are not usually enforceable either. There are also Royal decrees enacted by the King under the Constitution, and finally Resolutions are orders from the Cabinet regarding a particular action and may or may not be enforceable.

There are multiple national laws that govern natural resource management and environmental conservation. At the provincial level, the Phang Nga Environmentally Controlled Area (ECA) was created through a regulation under the Enhancement and Conservation of the National Environmental Quality Act (EQA) 1992, the EQA 1992 being the umbrella environmental legislation in the country. There also exists the provincial zoning code promulgated pursuant to the City Planning Act.

Both the constitution and the EQA 1992 provide for the rights of individuals and communities to participate in environmental management. As part of the decentralisation process sub district governments have statutory rights to manage natural resources. In the two watersheds there are also community rules created by the communities themselves, which are primarily informal and seemingly applied in the absence of effective implementation of environmental laws.

All in all more than three dozen legal instruments govern natural resource management in Thailand. Mandates of government agencies and authorities often overlap and sometimes conflict with each other and implementing and enforcing responsibilities remain unclear. This is also true for authorities that issue land titles. Although all titles should be issued through the Provincial Land Office, in reality multiple

agencies can be involved depending on the specific issue. In the same vein, zoning, protected area and forest management also have similar issues of multiple authorities with more conflict than coordination[iii].

It is evident that while environmental law in the country is formally established, enforcement and implementation depends on local realities, needs and practices. It is a generally accepted fact that government departments implement what they deem as practical based on the specific issue, area and requirement; and negotiations rather than enforcements are the cornerstone of regulations. But this results in a general level of confusion and low understanding of laws, regulations, institutional jurisdictions and mandates. Corruption and power struggles also exist and therefore processes are circumvented.

Finally, while community based NRM has been practiced in Thailand for many years, and capacity building of community based organisations has been supported by both the government and the civil society, there are gaps in the implementation of an integrated approach. The complex regulatory framework and complicated institutional arrangements make it difficult to synthesise and integrate knowledge and lessons from different stakeholders.

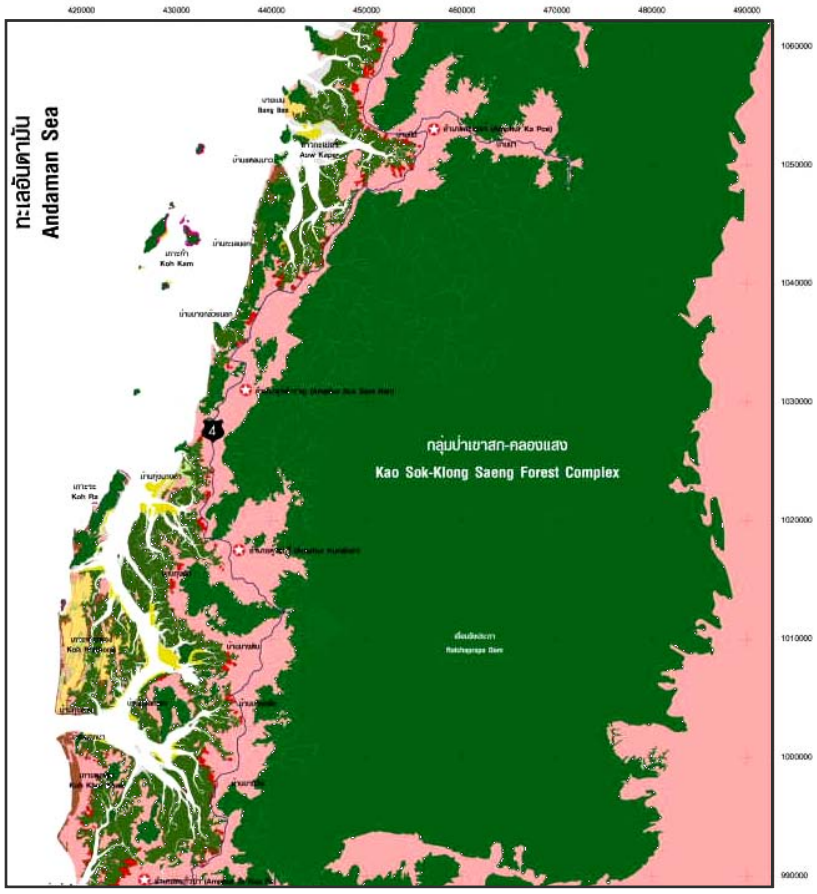
In the context of the project interventions, the above issues apply both in the Kuraburi and Ka Poe project areas and there is a general lack of an enabling environment that posed a challenge to project activities. In terms of defining its objectives and priorities the environmental and NRM plans of the country were chosen as umbrella frameworks. These included 10th National Plan, three key policies, the draft Andaman Strategic Environmental Plan and two provincial action plans.

2.2 Project Area[iv]

The Andaman Coast and Provinces

The Andaman coast was chosen to implement the interventions of the project *Ecologically and Socio Economically sound Coastal Ecosystem Rehabilitation and Conservation in Tsunami Affected Countries of the Indian Ocean.* This coastal stretch lies between the Ranong and Phang Nga Provinces (Figure 1), spanning approximately 130 km. encompassing the Kuraburi and Ka Poe watersheds with a total population of 6,500 persons and 1,800 households. The area boasts of a wide range of habitats including undisturbed montane, dry, moist evergreen, beach and mangrove forests; as well as sea grass beds and coral reefs; all characterized by rapidly changing ecosystems over short distances. There are three protected areas, two wildlife sanctuaries, forests reserves, one no-hunting area, a UNESCO Biosphere Reserve, a Ramsar Site and community managed areas. Overall the region boasts of one of the largest protected area complexes spanning approximately 5,460 km^2, with overall 12 wildlife sanctuaries and national parks and the largest rainforest in Thailand with no human populations within it. The Andaman coast has 340 km^2 of mangrove forests extending from Ta Kua Pa in Phang Nga to Ka Poe estuary in Ranong. It has three estuaries, one of them being a Ramsar site and approximately 25 km^2 of sea-grass ecosystems. Furthermore, there are eight rivers linking the watershed and the coast.

Figure1 Map of Project Area



Ranong lies 586 km south of Bangkok, with all of its districts being coastal, although it is Thailand's least populated province. It also gets the highest amount of rainfall in the country and has been identified as a natural disaster risk hotspot. Fisheries play an important role although there are many other livelihoods activities contributing to the economy.

Phang Nga – the other coastal area lies south of Ranong at approximately 788 km from Bangkok, with 293 km of coastline and 105 islands. This province also has a catchment area and hosts unique landscapes comprising of mountain forests, beaches, lagoons, coastal and beach forests. Mangroves, seagrasses and coral reefs are found abundantly. Phang Nga is a popular tourist destination and Phuket international airport is also located in this province. A variety of industries and activities both commercial and subsistence take place in Phang Nga. These include coastal and offshore mining, aquaculture and mariculture, charcoal production and fishing.

The 2004 tsunami severely damaged the natural ecosystems in both the Ranong and Phang Nga provinces. In Ranong province about 21 Rai (3.36 ha) of coral reefs, 550 Rai (88 ha) of mangroves, 400 Rai (64 ha) of soil and 7,961 Rai (1,275 ha) of beach forests were affected; and in Phang Nga province 925 Rai (148ha) of beaches, 1,850 Rai (296 ha) of mangroves and 59,235 Rai (9,477 ha) of beach forest

were damaged (FAO 2006). About 22 fishing villages in Ranong and 73 fishing villages in Phang Nga were damaged by the tsunami[1].

The project site extends over a coastal stretch of 130km, and includes the watershed areas of Ka Poe, and Kuraburi. The site stretches from the coast to the mountains, so that a 'reef to ridge' approach surmounting ecosystems and looking at landscapes is used throughout the project design and implementation.

2.3 Local socio-economy

Tourism

Both the provinces are popular as tourist destinations and a sufficiently well developed tourism industry is apparent in Phang Nga, while it is not so developed in Ranong. However, it should be noted that the Center for Tourism, Sports and Recreation of Ranong Province has completed developing a tourism strategy for Ranong province (University of Hawaii 2005). It would be useful to be aware of the direction of this provincial tourism strategy and determine how tourism direction would fit into the project initiatives and investments. Both provinces have national parks which serve as tourist destinations for Thais. Additional activities are trekking and rafting in the wildlife sanctuaries (University of Hawaii 2005 and IUCN 2006).

Fisheries and Aquaculture

Fisheries are one of the three main livelihood activities in Ranong and Phan Nga provinces. There are 59 fishing villages in Ranong and 132 in Phang Nga, which is about 31% of total number of fishing villages along the Andaman cost and these are the lowest and highest number of fishing villages in any coastal province along the Andaman coast (FAO 2001).

Studies highlight that following the tsunami, the stock of jelly fish in some provinces particularly in Ranong Province has increased dramatically. This has increased to a point that fisheries are now targeting jellyfish and earning between 2,000 – 4,000[2] Baht (US$ 60 – 115) per day (FAO 2005). Shrimp, cage fish and mollusc culture are the main aquaculture activities that take place primarily in coastal stretches.

Agriculture

Agriculture has also been promoted as a major livelihood activity. Traditionally agriculture was subsistence with people relying on a number of crops. However, in recent years mono-crops have been promoted such as rubber and oil palm.

2.4 The Project Watersheds[v]

In line with the ridge to reef approach, two watersheds, one in each province were selected. These are Ka poe estuary and watershed in Ranong and the Kuraburi watershed in Phang Nga. The whole region has a high biodiversity and also provides important habitats for many species along the coast as well as the upland areas. Sea turtles, dugongs and winter migratory birds as well as plant species such as the Rafflasia and crinum are found here. The region also has a diversity of orchid species. The Ka Poe estuary is recognised as a Ramsar site of international significance. Also within the project area are three

[1] 1 ha = 6.25 rai

[2] 1 US$ = 34.5 Thai Baht in this document

national parks – Laemson National Park, Sri Phang Nga National Park and Koh Surin National Park – and one wildlife sanctuary, as well as a no hunting area.

The Ka Poe watershed encompasses the Naca and Ka Poe rivers, which flow from the mountains into the Ka Poe estuary. It is an area of high biodiversity and natural resource value. The target area of the project in the watershed includes 7 tambons[3] between Suk samran and Ka Poe districts.

Naca River is located in Tambon Naca, Suk Sam Ran, and Ranong. This area is one of the last remaining habitats of a rare endemic plant species: the *Crinum thaianum. Crinum (*commonly called water onion*)* is a water lily belonging to the *Amaryllidaceae* family with a high commercial value in the aquarium trade. Over-collection by traders, lack of regulation for over-exploitation and impacts of activities in the upper catchment of the River (such as changes in land use patterns and excavation of the river for rubble) are the major threats being faced by this species. However, within this watershed, the local conservation group has been involved in the conservation of the lily for the last 10 years and has demonstrated a commitment to protect it.

Ban Na Watershed is located in the upper Ka Poe River, in Tambon Ban Na, Chiew Leang and Ka Poe. These watershed areas have high ecosystem value through an abundance of rain forest, wild animals, waterfalls, hot springs, rare animal and plant species and mountain areas. There are many protected areas in Ban Na, such as Klong Naca, Kuan Yai Mon and Klong Yan and the Ka Poe River flows from Ban Na Watershed down to Ka Poe estuary an area of high ecological importance.

Bang Lam Poo Village is located in Ka Poe, Ranong. This village is the poorest community within the project target area housing a high number of poor and stateless who rely on casual employment such as working as labourers in agriculture, shrimp farms, private sector and collecting Nypa (plant species found within mangrove forests). The area is subject to a high rate of forest clearing for single crops, which in particular is affecting the terrestrial community forest.

Ka Poe Estuary is the largest estuary on the north Andaman Coast and was declared a Ramsar site in 2002. The Estuary is also adjacent to Laem Son national Park. There are many villages located in the surrounding areas and there is a heavy dependence on fishing. This estuary is also considered one with a high biodiversity value that includes many rare bird species, migratory birds, mangrove forests, sea grass beds, Venus shell, mud crab and various fish species. It serves as an income source to the local people primarily resulting from fisheries. Currently, there are many threats to the estuary such as destructive fishing practices, pollution from shrimp farms, mangrove encroachment by businessmen and sedimentation from upper watershed

The target area within the Kuraburi watershed includes 6 tambons, within the two districts of Kuraburi and Takopa. The watershed includes four specific areas highlighted below.

The **Kuraburi watershed** includes forest tracts upstream, adjacent to a national park. It is bordered by the forests of Sri Phang Nga National Park, and Khao Bor Sai and Khao Mae Nang Khao, located outside the protected area. The watershed is fed by three major rivers; the Nang Yon, Bang Pong and Ta Pud. These watershed areas are of very high ecosystem value, serving as habitat for many rare animals and plant species. Loss of habitat due to excessive clearing of forests and over-exploitation of natural resources are some of the issues being faced here.

Khao Mae Nang Khao is located in Tambon Bang Wan and Tambon Mae Nang Khao, Kuraburi. This mountain is the largest forest land outside protection spanning 22,000 Rai (3,520 ha) and is surrounded by 8 villages. The communities use the watershed to collect of non timber forest products (NTFP) and to collect water. The major threats to the forest are forest encroachment and illegal hunting and logging.

Kuraburi River Mouth is a high biodiversity area that represents a number of important aquatic ecosystems such as mangrove forests, sea grass beds and coral reef. In addition, these ecosystems also serve as important habitats for rare species such as the dugong and turtle. The local community

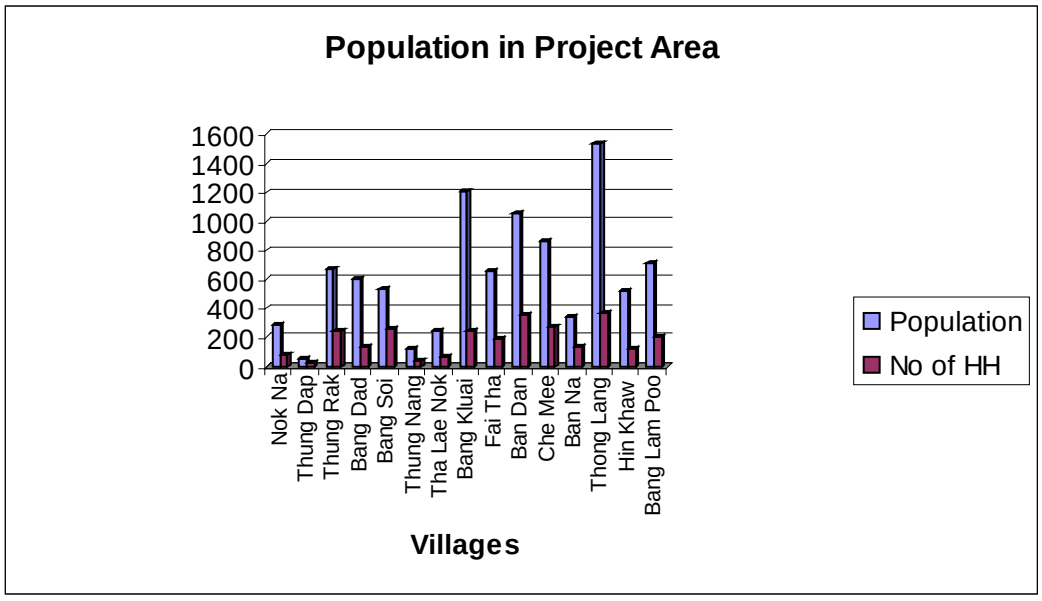
[3] Local government unit in Thailand below district

surrounding the river mouth primarily depend on fishery based livelihoods. However, the system is under pressure from over-fishing by local people as well as from commercial fishing by non locals. Wastewater, oil, garbage from the commercial pier and surrounding shrimp farms threaten the mangrove and sea grass beds.

Koh Khor Khao (KKK) island is located in Ta Kua Pa District, Phang Nga Province. The geography of the island is varied and consists of mountains in the north, mangrove forests along the eastern side and beach along the western side. Most of the island is flat and has sandy soil. There are many issues relevant to local livelihoods and ecosystem management on the island. These include the clearing of forest land for agriculture, tourism development and increased development activities from both government and private sectors.

There are 1,800 households and 6,500 people in the project area, including 150 stateless persons. The project works with 20 government agencies, including scientific experts, nine tambons (local government unit) in four districts and 32 villages. It engages 170 community leaders and 240 schoolchildren in its activities.

Figure 2 Population Distribution



2.5 The Drivers of Change affecting the Ranong and Phang Nga Catchment

Land use patterns in both Ranong and Phang Nga have seen changes due to development activities, agricultural expansion and other human activities. Conversion of land from traditional more integrated agricultural practices to monoculture and encroachment into forests and even protected areas to further expand agricultural output and river dredging to reduce flooding, have all resulted in degradation of the watershed as well as the coastal areas. Illegal hunting is also one of the possible threats as is the impact of migrant workers.

As is common with coastal areas they face threats not only from activities that occur within the coast but also from impact due to upstream activities, which result in pollution and sedimentation. Fishing is an important activity and pressure on fisheries resources due to excessive competition has impacted not only the fisheries productivity but also the coastal and marine biodiversity. Indirect drivers of change include ineffective enforcement and implementation of laws and regulations.

Specifically, the Ka Poe watershed faces major threats due to forest clearing for commercial mono-crops, unclear forest boundaries, water shortage, river sedimentation and erosion, degradation of mangrove forests and decrease in sea grass beds, pollution, overexploitation of species and loss of habitat.

Similarly, the Kuraburi watershed faces major threats due to the high rate of expanding cash crops into forest land due to unclear forest boundaries, illegal hunting, erosion and sedimentation, threats to the water onion, solid waste pollution, overfishing and degradation of marine resources (such as turtles, dugongs, sea grass and corals).

2.6 BMZ Investments[vi]

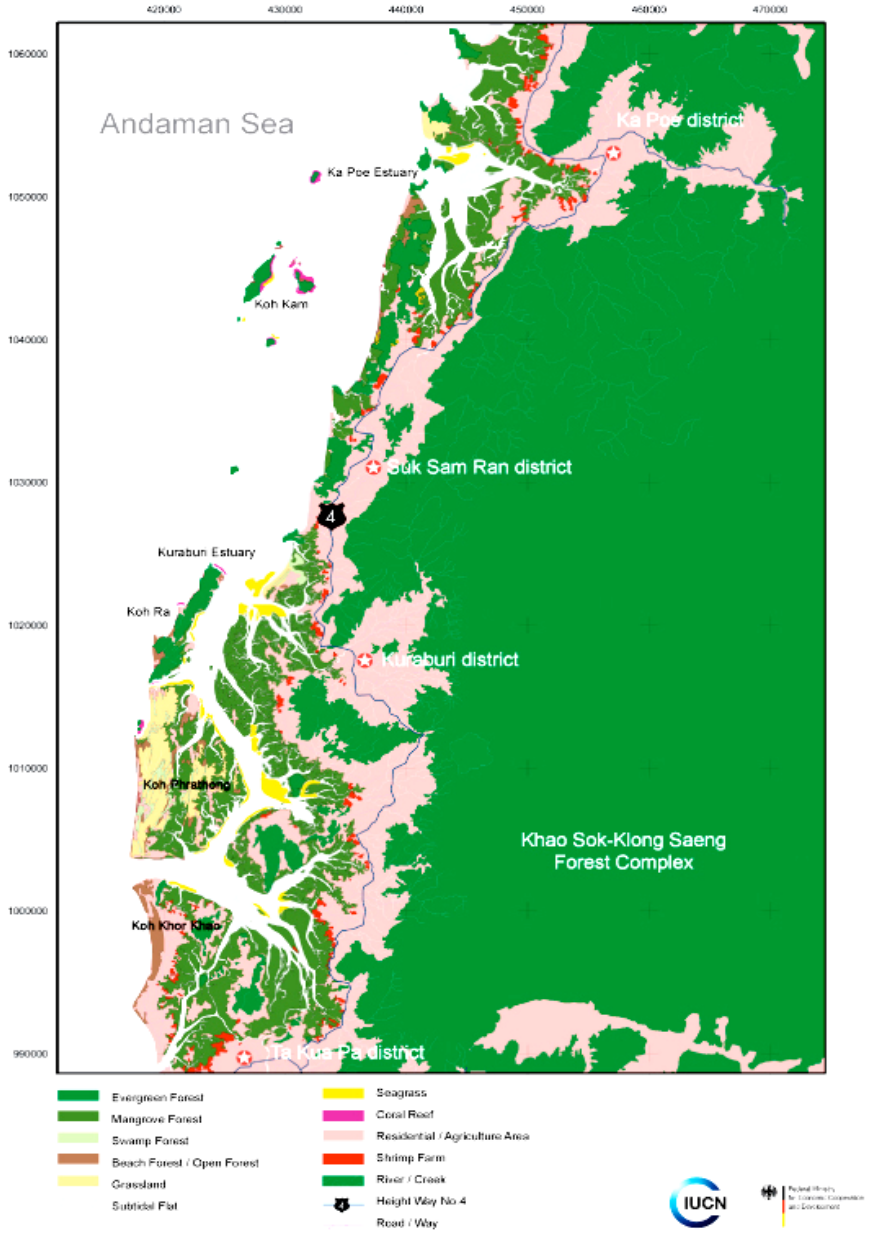
The BMZ project aimed to work in these two watersheds by providing investments for ecosystem rehabilitation and sustainable management for community livelihoods and benefits in the post tsunami context. The various drivers of change affecting the area and the increasing risk of ecosystem degradation were targeted by investing in these ecosystems. Investments were made into community based activities, building on existing initiatives to ensure an integrated management approach within Thailand's complex regulatory and policy frameworks. The investment criteria were based on the three major ecosystems; forest ecosystems (upper watershed), riverine ecosystems (intermediate watershed) and coastal ecosystems (lower watershed). The investment goals for both watersheds aimed to protect and preserve areas of high ecosystem value, support species management, restore damaged/ degraded ecosystems, and identify sustainable development opportunities by generating income, especially through eco-tourism.

The interventions also aimed to support mechanisms to build capacity and relationships among the various stakeholders and also to garner support from other projects and partners. Furthermore, although the primary focus of the investment were the communities and associated CBOs, due to their understanding of the local issues and commitment to the area; government institutions and NGOs were also supported to ensure a more integrated and participatory process. Grantees were provided training on using budgeting and financial management tools. Many CBOs have locally available revolving funds and so were provided training in fund management. Capacity building efforts also included technical skill training such as in organic farming.

Networking, coordination and cooperation amongst the varying CBOs were also supported to ensure an integrated approach and common understanding of the issues, to promote cross-fertilization of ideas and learning of best practices for livelihoods and natural resource management. Building local level partnerships for project planning and implementation formed a key component of the investments. Institutional engagement thus was also part of the investment strategy and included creating partnerships at all levels. For example to promote the conservation and management of C*rinium sp (*water onion)*,* dialogues and discussions were held with local government organizations at the provincial and tambon levels as well as at the village level. River management is another area where institutional engagement was necessary due to the fact that many rivers are threatened due to activities such as building of weirs, and excavation of soil and rock from rivers for construction. The Phuket Marine Biological Centre was engaged and provided funding to support sea grass ecosystems. Furthermore, new networks were also established.

Grants were disbursed to carry out a wide range of conservation related activities including: habitat and species restoration work, education, development of management mechanisms/ networks, livelihoods development, policy advocacy and long-term ecosystem monitoring. The whole process was complemented by support to sharing of lessons learned and adapting of practices through communication and advocacy both within and outside target areas.

Figure 3 Investment Map



A total of 13 grantees were short listed for the two categories of grants distributed; those less than 500,000 baht (approximately US $ 14,500) and those up to a maximum of 862,500 baht (USD 25,000), and was based on the MFF grants facility structure. The total value of sub-contracts is Thai baht 6.3 million (~ USD 185,000), approximately 70% of the total available for disbursement. The final grantees represent 6 community based organizations, two government departments, three non governmental organizations, 1 NGO consortium and a private sector entity.

Conservation Groups in Ka Poe

Naca Conservation Group, Naca, Suksumran district in Ranong, has 109 adult members and 75 youths, primarily engaged in water onion rehabilitation and conservation as well as ecotourism. It has been in existence for eight years and has a youth group that is responsible for water quality monitoring. In addition, the CBO functions as a barrier to hunting in the wildlife sanctuary. The Naca River contains the biggest patch of Water lily and is being impacted severely by river dredging.

Ban Lang Poo village is where the stateless women are being supported to use water palm (Nypa) to weave thatch for roofs, and which enables them to earn 60-80 Baht (US$ 1.7 – 2.3) per day.

Ban Na watershed is located in the upper Ka Poe river, the local CBO here has established an education centre in addition to undertaking activities for eco-tourism, supporting women's group, organic farming and water quality monitoring. Women's groups are making herbal medication and weaving cloth sarongs, which are sold at the education centre at 100 Baht (US$ 3) each.

Ka Poe estuary conservation group is concentrating on mangrove rehabilitation and replantation through the establishment of a nursery. The youth groups here are also involved in water quality monitoring as well as sea grass monitoring. Over-collection of mud crab is managed through the use of cage culture.

Conservation Groups in Kuraburi

Thung Nang Dam group's work focuses on water quality and seagrass monitoring, Venus shell assessment, orchid identification and establishing a nature trail in the swamp forest. Awareness material has been put up in the pier, which is a local, public place through which there is plenty of people traffic. Water quality monitoring is being carried out by the youth and thirty species of orchids have been identified and photographed. One rare species – *Dendrobium cruentum* - is being sold by collectors at 300 baht (US$ 9) per plant. This species is not on the global redlist, but it is on CITES Appendix I.

Ban Bang Soi Conservation Groups are from the villages in the watershed area of Kuraburi. They work with youth groups on seagrass and river monitoring as well as reed plantation to stop river erosion. They also work on water lily rehabilitation but this has not been successful due to the fact that river flow has increased uprooting newly planted bulbs. Organic farming and catfish culture are also carried out by this group.

The **Khao Mae Nang Khao** mountain area, 615 metres above sea has the **Ban Thung Rak** CBO that links six villages in the area. They work together to raise awareness, undertake conservation activities, coordinate stakeholder organizations, solve land boundary issues, undertake surveys and support ecotourism. Mainly there are eight key people each of whom establishes a group of ten people to carry out activities. Meetings are held every month between heads of villages and the TAO (Tambon Council or Tambon Authority) and relevant government officers are also engaged when specific problems are identified.

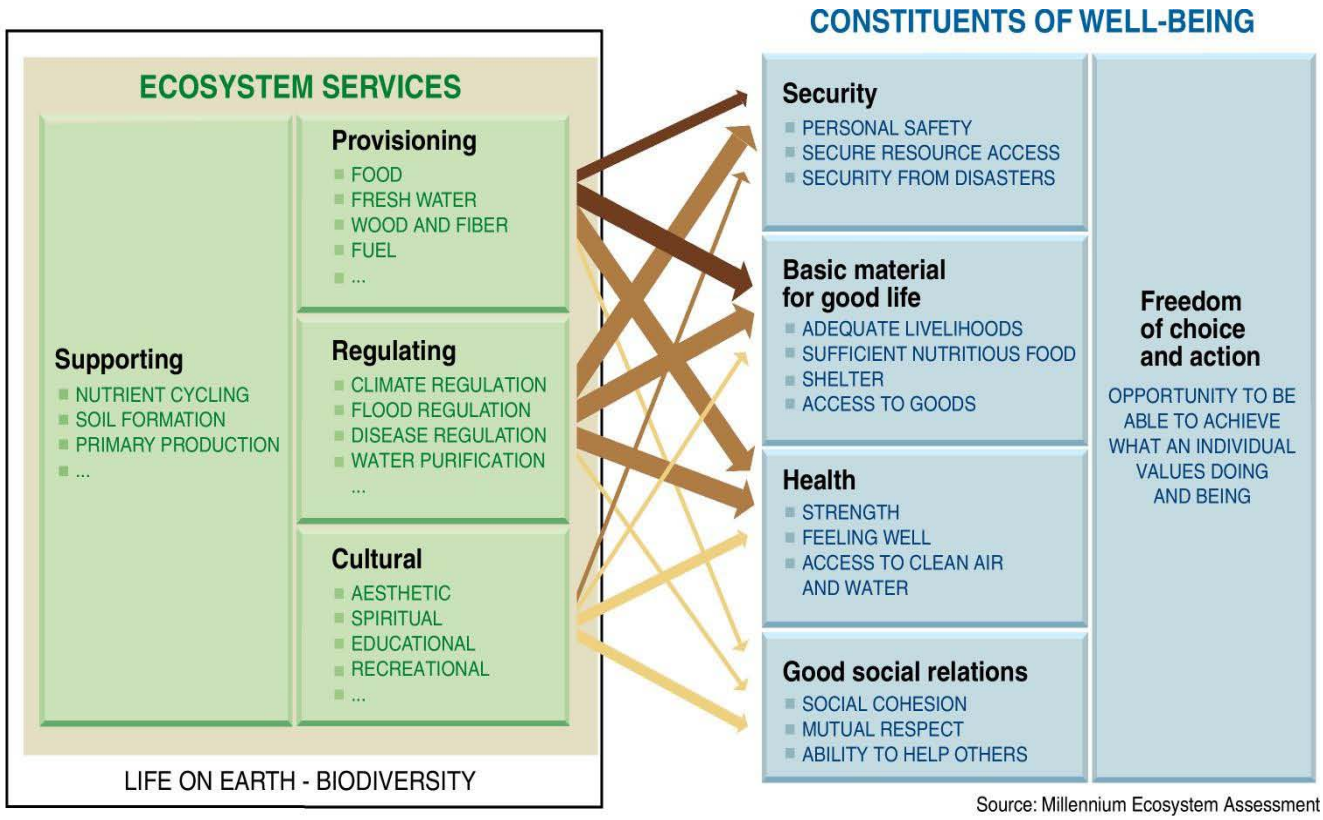
NGOs working in the Area

The **Thailand Environmental Institute** (TEI) focus on restoring damaged mangrove sites, increase awareness about the local environment to people, and enhance income generation through ecotourism. They have established a mangrove nursery and have also carried out coral and seagrass surveys. There is also a plan to set up a learning centre.

Andaman Discoveries works to promote community based tourism in Kuraburi. As part of the project investment they established a network N-ACT (North Andaman Community Tourism network) to bring together community based tourism groups and build capacity in CBT.

3. Economic Benefits of the ecosystems in the project area

It is now widely acknowledged that ecosystems – and specifically coastal ecosystems provide various goods and services that contribute to human and economic well-being.



According to the MA 2005, ecosystems and their associated biodiversity provide provisioning, supporting, regulating and cultural services. The ecosystems in the project area thus also provide services that are tightly linked to the livelihoods and well being of the local populations and also contribute to the larger economy. These are:

- *Provisioning services or direct values:* these include food, fuel, medicines, building materials, handicrafts and other products that are used and consumed by the population.
- *Regulating services or indirect values:* these comprise processes and functions which protect and enable human settlement and economic activity, such as climate regulation, storm buffering, coastline protection, disease prevention and so on.

- *Supporting services or indirect values:* these include ecosystem services which underpin and maintain economic production \, such as the provision of primary production, fisheries and wild bird habitat, nutrient cycling, tourism landscapes, and so on.

- *Cultural services or existence values:* these comprise the non-material aesthetic, spiritual, educational, bequest and heritage significance of the biodiversity locally, nationally and globally.

The goals of conservation and development both require that the benefits arising from conservation (and the associated opportunity costs of conservation to local communities) and costs associated with ecosystem loss are distributed equitably. Ecosystems and their associated biodiversity provide benefits to people – access and use rights and poverty define who gets what.

Ecosystem loss also manifests in costs to communities and at the regional and national levels. This loss occurs as:

Production and consumption opportunities foregone: Since coastal and marine resources provide the raw material for production and consumption activities, if this biodiversity is lost the raw material available will also decline. As a result fisheries and tourism outputs will decline.

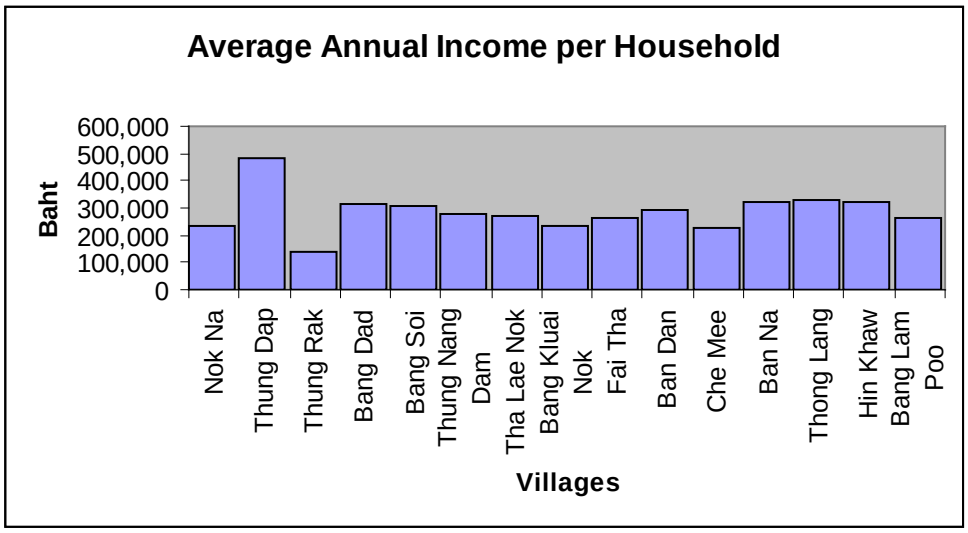
Replacement, preventive or avertive expenditures: The ecological services provided by coastal and marine resources such as coastal protection, storm and erosion control and waste sinks would either decline or be completely unavailable.

Finally, conservation itself also has costs and it is important to understand and acknowledge this cost and who bears it. This is in the form of operation and management costs, and opportunity costs.

The coastal areas of Thailand provide a continuous supply of environmental goods such as fish, oil, gas, minerals, salt, and construction materials and environmental services such as shoreline protection, sustaining biodiversity, water quality maintenance, transportation, recreation, and tourism. These ecosystems thus have an economic value, which though not explicitly established in market transactions is nevertheless crucial to local livelihoods and the larger economy. For example, one study conducted by IUCN in 2006 has estimated the value of fisheries in mangroves 11.16 million Baht (US$ 323,478), mollusks 4.1 million Baht (US$ 118,841) and crustaceans 10.24 million Baht (US$ 296,812) per year for the Naca village households who engage in fisheries in Ranong province, (IUCN 2006).

The value of mangrove goods was estimated at 0.131 million Baht (US$ 3,797) for the Naca village. Since there are 480ha of mangroves within Naca village, per hectare value of direct uses was derived at 53,423 Baht (US$1,548) per year (IUCN 2006).

Figure 4 Annual Incomes in Project Area



The main activities of the majority are agriculture and fisheries. This shows that the local economy is almost entirely dependent on ecosystem services and that people derive direct benefits from these ecosystems.

4. Making the investments sustainable – A Sustainable Financing Strategy

The project was able to make a concrete impact on the two watersheds on the Andaman coast. Although the lack of an effective governance structure and an enabling environment was a challenge, the project objectives met this challenge by concentrating on building capacity of communities and institutions at the local level. Investments also supported local livelihoods striving towards a more equitable approach to conservation. This important groundwork laid out by the project clearly needs to be supported. The activities that are currently ongoing need to be continued and to achieve the larger conservation agenda need to be broadened. The question of the moment is – how can the interventions be sustained? The simple answer to this question is that sustainability requires planning and management. Sustainability in the long run means that the resources invested in area for conservation have had an impact, such that the goals and objectives that were envisioned are now on their way to being achieved. Most importantly it means that conservation is on government mandate and adopted by the community, such that conservation, ecosystem management and sustainable use of resources are a priority in the national, regional and local decision making processes. This is what long term sustainability demands.

In the short and medium term however, it is most important that funding that is sustainable is available to continue activities and also to ensure that the costs associated with conservation are accounted for. Unless these costs, whether borne by communities, conservation organizations, and other actors, are taken care of, conservation will not be on the agenda of economic decision making. This means not just getting financial resources, but also ensuring that the risk associated with them are minimized. A low risk funding portfolio would be a diverse mix of funding sources, available in a timely manner and stable over a period of time. The following sections provide a broad sustainable financing strategy for the project activities in the two watersheds in Thailand. This strategy can be tailored to fit with the requirements of specific project objectives and interventions.

4.1 Prerequisites of sustainability - General Requirements

For an effective financing strategy it is necessary that some broad elements are also considered that impact the general economic, policy and conservation environment. It should be noted these are the larger national issues that impact the project investments both directly and indirectly and it is within this backdrop that any project exists. Therefore, for the purpose of sustainability – whether financial or otherwise – these need to be assessed understood and if needed streamlined and made more effective.

Policy and legal framework: Innovative, stable and sustainable financial arrangements require a mix of economics/ financial and other policies to support conservation. In the case of Thailand overall and for the project area, a mix of financial strategies and approaches are required at the policy level to support conservation at large and specific project intervention in particular. This would help to set up conservation priorities, build capacities and ensure equitable benefit sharing. More importantly, a transparent, accountable, effective and stable regulatory framework is necessary for the range of financial instruments to be available and implemented.

For the moment in Thailand, the complexities of regulations and the lack of effective implementation can hamper the sustainability of any financing strategy. Therefore there is need to promote the development and implementation of positive incentives for good environmental behaviour. This means making conservation of ecosystem more economically attractive in addition to implementing regulations, laws and policies. Fiscal instruments such as taxes and subsidies can be used to divert part of the revenues collected for conservation – in effect investing in ecosystems. Existing policies can be reformed to provide concrete economic incentives the reward environmentally friendly behaviour. Penalties can be instituted for those activities that lead to ecosystem degradation and loss and fees can be set up for ecosystem use. Some of these can be in the form of user fees and payments for ecosystem services, which are

market based instruments that in combination with regulation can help to promote conservation. In particular, regulations/ penalties can be put in place of non-local landowners by ensuring community based tourism. For the purpose of benefit sharing, a distributive mechanism can be developed for these instruments to generate and redistribute funds at the local level.

The sustainable financing options are to be implemented under the current legal system; therefore a prerequisite is to undertake an analysis to assess if the legal system provides room to establish the financing options. In the eventuality that the legal system does not support the establishment of various options (say for example market based instruments cannot be used due to certain laws), a framework can be developed to institute the required changes in the law. In particular, it is important to understand the challenges posed by land use and property rights laws. For example, in the project area private land owners buy coastal land for tourism development in the two districts and this could be a potential problem for community based tourism activities as well as other livelihoods at a later stage.

Institutional set up: A good knowledge of local, regional and national institutional set-up under which a project or investment will be implemented is necessary. This would ensure that government and non-government buy-in is present in the project and that project activities are supported. The institutional set up also helps in allocations and distribution of funds. In the project areas, CBO networks and many NGOs were involved in activities, as were organisations promoting community based tourism. This provided a good variety of local actors contributing to the overall goals of the project. For example, The Phuket Marine Biology Centre was instrumental in supporting ecological assessments; Andaman Discoveries established a network to promote community based tourism (an important livelihood source) and the Naca Group promoted the conservation of the water onion. Village and tambon (local) level government organisations were also part of the process.

However, a clear understanding and involvement of higher level government organisations is required to institute long term conservation paradigms and encourage environmentally friendly behaviour. This means expending, time, effort and resources and developing upward linkages from the local government to the provincial and national level in order to be able to impact the larger environmental agenda and ensuring that funding from government and non-government organisations can be brought down to the local levels.

Furthermore, the private sector is one of the actors that can and should be brought into the picture to deliver on the interventions not only by providing funding but also by being involved in the decision making processes. In this case the key actors are the tourism and aquaculture sectors whose activities have the potential of causing harm to the coastal environment.

Capacity building: Skills and capacity development are crucial to not only implement and sustain projects but to develop and implement any sustainable financing strategy. In particular the capacity of local communities needs to be built to develop financing plans, target funding opportunities and sources and undertake financial management. The capacity of the institutions to effectively administer the financing process also should be enhanced. The success of the activities will be determined by the efficient role of the institutions involve in the sustainable financing.

Economic Valuation and livelihoods assessments: Investment in conservation and sustainable use suffers due to the fact that conservation is not seen as profitable. This is because ecosystems and many goods and services, as well as their prices are not reflected in market transactions. The economic value of ecosystem degradation and loss are not considered in the decision making processes. Often local communities, industries and other entities that use and manage biodiversity, give a higher regard to short term gains and as such degrade resources because it seems more profitable to do so. Private sector institutions as well as government organizations in particular favour short term economic gains and as such in the trade-off between conservation and development decisions, the latter generally wins. The general perception is that there are few private economic gains from conservation and sustainable management. As a result threats to biodiversity continue. Economic valuation of natural resources can provide in dollar value, the benefits the resources provide to society and also can point to costs that

would be incurred due to their degradation; and help to internalize environmental benefits and costs. Livelihoods assessments based on strong economic values would also help to develop a benefit sharing mechanism. Under this overall environment, the following section provides a sustainable financing strategy for the two watersheds.

4.2 A sustainable financing framework

It is important to keep in mind that while soliciting funds for the project is an important part of any sustainability strategy, there are other aspects that must be considered. This requires the following steps, which are then explained in the context of the project area in later sections:

- The first step is to assess the value addition provided by the project, i.e a look at the current initiatives and understanding what worked and what needs improving.

- From all the activities that were supported by the project, there is first a need to set realistic short, medium and long term investment priorities based on community preferences, government priorities and donor interest. For the purpose of the project activities these have been identified in terms of short and long term priorities.

- Once the priorities are set the next step is to assess what the expenditures and income are and what gaps exist. This requires a financial gap analysis to understand funds required to sustain both the short term and long term activities are laid out.

- The gap analysis will help to understand the short and long term funding requirements for specific activities and this information can then be used to set realistic sustainable financing goals. Developing a budget that includes direct and indirect costs, costs of management and opportunity costs is a necessary step for this.

- The next step is to identify, evaluate and select funding sources. Short and long term funding sources have been identified for the project to be assessed in the face of the economic environment. A diverse portfolio would be more sustainable in the long run so a mix of funding sources would be beneficial. Furthermore, the stream of funding opted for should be timely and stable over a period of time.

- Effective financial management also requires that existing revenue collection is improved, and that part of the revenues generated from the area is invested back. Furthermore, a mechanism should also be put in place to capture offsite funding.

- In addition to strategic funding mechanisms, formulation and implementation of financial plans is necessary. This requires mechanisms for resource allocations and redistribution mechanisms, management and capacity needs and an implementation plan.

- Evaluation of the investment and measuring progress are needed so that the sustainable financing strategy can be adapted on a regular basis.

- A redistributive and benefit sharing system must be put in place to ensure that pro-poor conservation in the project areas is funded.

These steps are discussed in detail in the following sections.

4.2.1 Value addition – Current Project Investments

Ecosystems and biodiversity conservation is complicated and a host of tools and methods can be applied to move towards sustainable management. These approaches should ideally be integrated and should include overall environmental governance (including policies, laws and institutions), stakeholder participation (at all levels), and community based management, all supported by a clear understanding and knowledge of the biophysical, socio-economic and institutional conditions that exist at all levels. Therefore, it is crucial that sound science, techniques and approaches are made available to enable informed decisions and most importantly that such decisions are socially and economically acceptable and that they are sustainable.

However, the above cannot always be addressed together all the time and often conservationists, investors and decision makers have to make choices and trade-offs regarding the best course of action open to them and to the beneficiaries. In Thailand, due to the complex governance structures, Community Based NRM was deemed the best option. The Thailand component invested in community capacity building and demonstrated that the activities implemented by CBOs can achieve greater positive outcomes in a limited period of time in comparison with NGO implemented projects, which tend to take longer to mobilize, but offer different strengths/ opportunities based on experience and technical skills. The CBOs in the project areas understand the local realities, are more representative (although not completely) of the total population and can show themselves to be good stewards of the resources in terms of management as well as costs.

In Thailand the project interventions thus looked at strengthening local CBO capacity, build institutional engagement at all levels and developing strong networks. The last one particularly was important as many communities and their CBOs work in various sectors and for different NRM and conservation activities without sharing knowledge and collaborating. The project therefore concentrated in strengthening these networks. This also helped in ensuring that community based knowledge formed a part of the decision making system. It is clearly evident that the networking approach has been successful from watershed to coast. Although the CBOs existed before, they are no longer working in isolation but are sharing experiences and learning and are collaborating effectively. Furthermore, this approach has strengthened youth groups as well. The networks supported by the project have proved successful in the absence of an overall enabling environment and generally complicated governance structure. It is clear that these need to be sustained to ensure that they continue to work in the area; and generate the critical mass required to have a larger national and provincial level impact. In terms of broader institutional engagement, establishing community forests through participatory boundary marking and using ecotourism as a tool for conservation has strengthened the links among government officials and villagers.

Key achievements of the project

The question therefore is not only what can be sustained but what ***needs*** to be sustained. There are clear good examples of initiatives that were supported by the project and which showed success. These include the Kuraburi Management Network, the various capacity building and support mechanisms for CBOs and livelihoods development, youth groups that were engaged and involved at all levels, strengthening the effectiveness of the statutory provincial government body for integrated planning, national and provincial level advocacy for species conservation. These are some of the initiatives that would require further investment.

The project also ensured that marginalized groups were included in livelihoods investments and as such included stateless women from Ban Lampoo village. Ethnic groups such as muslim women from another village were also included.

Another key achievement was the engagement with the marine police who trained community patrols to ensure local level enforcement.

What needs improving?
There is a provincial level committee that have been engaged into the project from the start of the project and who have been influential in making investment decisions and developing management partnerships. The Thailand NCB is also recognizing and 'monitoring' the BMZ project and the water onion is recognized at the national level as an important flagship species for conservation of the area and a special plant area has been declared. Although the project engaged with government actors there is a need to influence provincial and national level decision making/ policy. Additional community stewardship agreements such as those for Venus shell fishery need to be agreed upon.

Migrant workers (Burmese nationals) come to the area to work as labourers. The next phase of the project could ensure their inclusion.

4.2.2 Moving forward – Setting priorities

It is important to reiterate that the complex governance structure and working in sensitive ecosystems provided a big challenge to the project - i.e what can be achieved and how? - in the face of the lack of an enabling environment. The project thus chose to work on strengthening CBOs in the absence of governance. In this the project was successful, however, continued success demands that these CBOs and their networks are not only sustained but that the local impact that has resulted is brought up to the regional and national level. Good lessons can also be learned from the livelihoods activities that were supported by the project and these can be used as models to be replicated in other areas. Sustainability doesn't only mean continuing ongoing activities – it also means increasing the magnitude and scale of activities. For this purpose the project can look at both short and long term objectives for which long and short terms funding would be required.

Short term and medium term objectives
Capacity building of CBOs: A continuation of capacity building efforts is needed to ensure the communities are kept engaged into the various conservation efforts. A wide range of stakeholders were involved that helped to provide a more integrated mechanism to achieve the overall goals of the project.

Specific Groups such as the Naca conservation Group, Ban Na conservation Group and Ka Poe Estuary conservation group have all done exceptional work in Ka Poe and they need to be given priority support. Kuraburi Management network and Khao Mae Nang Khao from Kuraburi especially should be supported.

Andaman discoveries is a local NGO that works on community based tourism and this needs to be kept engaged in terms of continuing advocacy and more support for CBT in Kuraburi[vii].

Strengthening existing institutional engagement: The organizations and institutions engaged in project activities should continue to be strengthened and supported to ensure that ongoing activities continue. The district and tambon (local) level engagement should be strengthened and a network formed to scale up the influence to provincial and national levels.

Livelihoods Activities: These were organized for specific groups such as the stateless women of Ban Bang Lampoo village who were supported for Nypa collection for weaving thatch roofs; and women in a Muslim village. It is imperative that these are continued in the short and medium terms. In Ban Na Watershed women's groups are making herbal medication and weaving cloth sarongs, which are sold at their education centre at 100 Baht (US$ 3) each.

Long term objectives

Institutional engagement needs to be scaled up: The project was successful in engaging government and non-government institutes at the local level. This needs to be scaled up to include the private sector especially those engaged in aquaculture and tourism. Most importantly in the long term the governance system needs to be strengthened. In the absence of this the project chose to empower communities with information and as a result some CBOs are now taking up issues such as river dredging (generally top down decisions) with their TAOs (Tambon Council or Tambon Authority). Another need for sustainability would be to engage provincial councils and TAOs and take up advocacy at the national level.

Advocacy: There is a need to ensure that local knowledge starts flowing into regional and national decision making. Furthermore, while there was some engagement with provincial and national level organizations – influencing government, NGOs and private sector for conservation needs to be made stronger. Advocacy needs to be undertaken with them to ensure that the information from local communities, environmental issues from the project area and the value added by the project reaches provincial and national actors. The water onion has become a flagship species of this project and its profile has been raised due to this project globally. There is a need to develop an advocacy strategy for its conservation to target the provincial government. The first step in this direction is to ensure that the economic value of this species is assessed and understood and communicated at all levels to effect policy (specifically river dredging). Orchid management and use also would need a similar strategy. For the purpose of advocacy economic valuation of ecosystem services and in particular return on investment of the project investments should be undertaken to assess the value it has added to the local livelihoods and environment and use that as an advocacy tool for sustainable financing and equitable benefit sharing.

Community stewardship agreements: such as those for the Venus shell fisheries by TND group and crab culture by the Ka Poe estuary conservation group are examples that can be replicated for other such agreements.

Livelihoods activities supported by the project should be replicated in other areas and in addition, new ecosystem based livelihood activities need to be promoted, especially those targeting the stateless and new ones for migrant workers.

4.2.3 Gap analysis, funding requirements and setting goals

Capacity of communities needs to be built in gap analysis, funding requirements and setting goals. To some level this was undertaken by the project. Many organisations/ networks benefited from this learning and some already have successful financing mechanisms.

Once priorities are set and before actually evaluating and identifying funding sources, it is necessary to do a financial gap analysis and set out finance requirements and goals. That means how much money is needed every year for conservation management of coastal and watershed ecosystems/resources after the BMZ project ends. Based on the planned activities, ground realities, and experience in the area, budgetary requirements need to be workout with the participation of the stakeholders.

The investments in the area that were provided by the project amounted to a total of US$ 185,000. So it is clear that in the interim to keep the project activities going, this is the minimum amount of funding required. From the longer term activities this amount can be used as a baseline. However, an analysis of cost effectiveness, return on investment and specific funding requirements of activities chosen would need to be undertaken.

The project investment plan developed investment criteria under which the overall investments were disbursed; this should be evaluated to see whether each investment met these criteria.

It is equally important that a feasibility study be undertaken for all priority investment options to see which ones can be implemented sustainably over a longer time horizon. It must be ensured at this time investment requirement is aimed towards fulfilling the objective of ecosystem based interventions.

Conservation and NRM thus requires investment and financing. All of the above long and short term sustainability goals require long and short term funding for implementation.

- For short and medium term there is a need to continue the existing and ongoing activities and garner funding for these.

- In the long term, up-scaling of activities is required and this would mean a much broader portfolio of funding.

4.2.4 Funding Sources

The first and perhaps the most important step towards the sustainability of conservation efforts is to get funding. A sustainable financing strategy looks at identifying various funding sources to meet the financing needs and shortfalls of projects. However, sustainable financing doesn't only mean that funding is secured – it also means that funding is diverse, stable and is available at the right time. A sustainable financing strategy also looks at the various approaches that can be used to ensure continuity. A core element of sustainability is thus to look towards increasing and sustaining existing funding sources by identifying available financing mechanisms to increase the amount of funding allocated for conservation; but also to ensure that such funding is from a diversity of sources, is retained over a period of time and is part of financial analysis and management.

In effect the BMZ investments served as sustainable financing options for the CBOs already working in the project area. The project provided the funding that was needed to strengthen the already existing local structures. Now there is a need to see how the activities supported by the project can be continued.

There are a number of funding options that can be tapped (Box 1).

Box 1

Financing Options

Government budgets/ allocation: Funds allocated by national governments for environmental conservation. Could be overall broad allocations as part of the budget or could be allocation for specific interventions

Overseas Development Assistance/ International Aid: Assistance provided by international aid agencies as both multilateral and bilateral assistance. Multilateral assistance/ funds are those provided by organization such as EU, international banks, UN agencies, GEF etc earmarked specifically for conservation activities. A large part of the global conservation funding comes from multilateral donors. Bilateral funds on the other hands are those provided by specific countries to another country.

Environmental Trust Funds: These can be permanent endowments from varying sources whereby an initial outlay forms a part of the investment into the project and which can be tapped later as a source of funding for specific activities. The initial outlays can be supplemented through user fees or adding in portions of taxes earmarked for conservation activities.

Private investment/ funds: Funds are also provided by businesses and other private entities for conservation activities as part of their corporate social responsibility. This is particularly in the case of the tourism and hotel industries, which rely a lot on natural resources such as coastal and marine ecosystems. In addition various foundations and enterprises provide funding to small scale local communities for conservation. In addition, charitable and philanthropic organsations/ foundations can also be tapped to provide conservation funds.

NGO Funding/ grants: Both international and local NGOs specifically those working in conservation and sustainable development are one of the major sources of conservation funding.

Community funds: Often communities also provide funds themselves such as through membership fees for joining a network or CBO, part of which can be used to fund activities. More often though, community contributions tend to be in-kind, whereby time and skills are provided for specific activities.

Microcredit: These are loan facilities provided locally by specific organizations. These could also be in the form of village funds which could be started with an initial loan.

Taxes/ subsidies: Taxes and subsidies are applied in every country for various services provided by the public sector. Part of this funding can be diverted for pro-poor conservation. These are ongoing revenue sources that can be tapped into and can come from many sources. In addition, part of fines instituted to penalize illegal activities can be used.

Market and tax incentives: These reward environmentally friendly behaviour and thus can be one way of promoting specific activities. So these can be financial incentives given to the various actors for actions that improve conservation.

User fees: Fees applied for the use of a resource such as a protected area. It can also mean fees for the use of specific services provided by the resource.

Payment for Ecosystem Services: This is a scenario whereby voluntary payments are made by users of an ecosystem service to communities that are caretakers, by establishing economic values of the service. For example downstream commercial or domestic users of a service pay upstream communities to cover the opportunity costs of conserving an ecosystem such as a watershed.

Joint ventures and partnerships: These can be a good source of funding gained by partnering with organizations and pooling funds to finance conservation activities. Communities can get into joint ventures with other funding sources by providing in-kind contributions. There can also be public private partnerships.

Product certification: This is a process where criteria are set for the production and sale of goods. This could be a viable source of funding where a local product (for example a medicinal herb) can be certified and marketed to a particular market. The idea is to develop locally available products for an international market after getting it certified as environmentally friendly or “green”. “Fair Trade, Forest Stewardship Council, and shade grown are all examples of product certification and this could be a source of funding.

Emissions trading: This is called cap and trade, and is a market based instrument, where economic incentives are provided to reduce pollution. In effect one party pays the price of polluting by “buying” credits from another party that pollutes less (and is thus rewarded).

Offsets: Biodiversity and carbon offsets are also market based instruments. In this case activities such as land conversion or deforestation are offset by compensating for ecosystem loss or reducing the amount of carbon in the atmosphere through activities in another area.

Debt-for-nature swaps: Countries that provide loans to other countries can negotiate the terms of the debt (or even write it off) to fund conservation activities.

Ecosystem conservation comes with both direct and opportunity costs that need to be offset for conservation to be sustainable. Direct costs are those that are expended on salaries, infrastructure, equipment etc. In the case of the project these would constitute the costs that the CBOs are incurring to undertake conservation activities and which were initially offset by the project. Opportunity costs can be all the economic activities forgone by the people who are managing the resources or even using them.

As mentioned before, the fact that the project was able to have an impact at the local level through capacity building and engagement of the CBOs shows that a bottom-up approach can be a useful first step to gather momentum and the critical mass to institute changes at higher levels also. It is therefore necessary that the networks created/ strengthening and the interventions that were supported are sustained in both the short and long term. For this a diverse and innovative funding portfolio is required to ensure the sustainability of the investments and especially of the networks that have been established at the project site.

Government budgets, investment and funding: Conservation in Thailand has traditionally relied on government funding and projects have benefited from the benevolence and ideas of the monarchy. However, there also has been a lot of emphasis on community based natural resource management, accompanied by a decentralization process. That said, the disconnect between national level policy and provincial, district and village level action and implementation is quite apparent. For the most part this makes it difficult for local level realities and needs to change national level policy; and on the other hand national policies hardly seem to be implemented at the local levels in the face of local realities.

As mentioned before there is the added problem of the overall governance structure made complicated through a complicated property rights regime with varying titles that can be owned for a host of different reasons. Land use planning has gone through varying trends over the years and always seems ad hoc especially in coastal areas. Thailand is not considered a least developed country any longer and as such donor funding is not as readily available as in the past.

As mentioned before the country relies on government funding, which is likely to continue. The country has a National Action Plan with 3-5 year time period allocated for implementation. It is expected that national strategies for financing will also be developed.

Government funding therefore will be available. For the interim however, a bridging mechanism is required to ensure that funding is available for activities already taking place till such time that government funding can also be accessed. This means that a number of funding options can be looked at to ensure that all eggs are not put in one basket. Out of the gamut of options available (Box 1) following are some options that can be considered. These can be considered altogether or as sets of 2 or more options depending on ground realities.

Short and medium term funding sources

Environmental Trust Funds: A permanent trust fund/ endowment can be set up at the watershed level to access part of the funding. Seed funding can be obtained from the project and/ or from other sources such as from village funds (see below). Seed funding from other projects such as LLS and MFF would be a good start to set up the trust fund. Setting up and maintaining environmental trust funds means developing a mechanism that outlines how they would be set-up, managed and supplemented. The interest from these can be used to fund conservation and livelihoods activities.

Community Membership fees: A proportion of the fees that are taken as part of membership to a CBO network can be put back into the environment trust fund. They can also be earmarked for specific

activities. At the moment not many CBOs are charging this fee but this can be promoted as a good short term source of funding to keep the CBO activities ongoing. However, often members provide their time on a voluntary basis and this is another way of continuing conservation activities started by the project – i.e by ensuring that the time volunteered before is continued after the project ends.

Existing community models: The Ka Poe conservation group has instituted crab banking, where they exchange 3 kg of undersized crabs which are deposited into a crab bank for 3 kg of edible and good sized crabs at a preferential cost. Similarly, other community based models can be used.

Community based tourism: This is already being promoted by the project and other actors in the two watersheds and part of the revenue from this could be re-invested in conservation activities and can also be put into the environmental trust fund.

For example there are existing examples from community based networks that engaged with the project that already had their own sustainable financing strategies. These provide good models to be used by other networks:

Naca Conservation Group: This group has good model for sustainable financing for conservation monitoring and youth group capacity building. They get income from rafting and have plans to include other community based tourism activities. There is also a separate revolving fund mechanism set up by the youth group which generates income from the souvenir trade. Even without project investment this group is financially sustainable and will continue after the project ends. Importantly, the project intends to do this without increasing tourist numbers – a decision taken by the community. This model can be replicated for other groups promoting ecotourism such as those for wild orchids.

Andaman Discoveries: This community based tourism organisation has a financial model that can be another good example for funding from CBT. It has generated direct income of Baht 2.4 million (US$ 70,000) by organisation tourism activities such as study tours and from business from tour operators.

Study tours: Another area to explore would be to organise study, research tours as well as tours to take part in specific conservation activities on the payment of a small fee. For example, the Naucrates Conservation Project is based in Phra Thong Island and works on turtle, mangroves and coral reef conservation. The project invites volunteers who pay a small fee which enables them to be a part of the conservation/ research/ assessment activities. A similar activity could be undertaken for marketable activities such as water onion and orchid conservation.

Partnerships: Organisations such as from the academia can be engaged by showcasing the assessments that were undertaken during the course of the project. An example is the Phuket Marine Biology Center, which contributed Baht 400,000 (US$ 11,594) towards the project. Partnerships with ongoing projects in the area such as LLS and MFF would also be a good source of short term funding.

Various other projects are being undertaken in the area. For example Coastal Biodiversity in Ranong is a collaborative project between Kasetsart University, The Natural History Museum, London, Centre for Coastal Marine Science - Plymouth Marine Laboratory, Wildlife Fund Thailand and Kampuan Fisheries Co-operative. The project is centred in Ranong in South West Thailand and is supported by funding from the European Union. Partnership could be explored with project.

Long term funding sources

Environmental Trust Fund: While the fund can be accessed in the short and medium term, the main objective is to ensure its continuity for the longer term.

User Fees: Both Ranong and Phang Nga provinces are not only rich in biodiversity but have a large network of protected areas. In Phang Nga particularly local tourists abound and therefore a user fee can

be instituted for tourism related activities. In addition, user fees can also be instituted for the use of other ecosystem services such as water use for agriculture. Part of the amount can be put into the environmental trust fund. In There is also potential for the government to charge for the use of biological resources and ecosystems. This is a popular means of raising funding for marine and coastal conservation in other parts of the world.

User fees are charged for the use of natural resources such as protected areas, the problem is that the income is usually transferred into national accounts and there is no local benefit sharing. A mechanism is required and can be developed that would ensure that part of the monies are brought back into the community. This would be supplemented by advocacy at all levels of government.

Private donations/ funds: Attempts can be made to solicit funding from the private sector such as from tourism and aquaculture. Private sector agriculture investors can also be a part of this and could be asked to invest in specific conservation areas (such as riverside buffer zones). This can be done both through advocacy and getting their buy-in by showcasing project activities. A range of opportunities can be tapped such as through advertising and corporate sponsorship, cost-sharing and in-kind contributions, and direct payments for goods and services used. In particular, the water onion and orchid conservation activities would be a good sell to the corporate sector which they could be invited to sponsor. In particular tourism and aquaculture revenue could be tapped either as user fee or as part of their corporate social responsibility in the form of offsets.

Government Support: As mentioned before, the Thai government provides funds for environmental conservation and this could be another good source of funding in the long term. In the medium term government sponsored village funds such as the Thailand Village and Urban Revolving Fund and Social Investment Fund, could be tapped to implement specific activities related to ecosystems based livelihoods. In addition in the long run, the national plan and financial strategies must be considered. These have funds earmarked for certain environmental sectors such as mangrove conservation and can provide valuable source of funding. In the longer term, economic instruments such as taxes and fees can be accessed after making sure that a solid scientific basis has been established for these. At the smaller level also the government has provided support for example the Ministry of Natural Resources and Environment (MONRE) has partnered with IUCN to fund seagrass conservation for a period of three years. The aim is to continue the collection of local information and include it in to a national database.

Donor funding: There may be elements of a 'future needs/ investment plan that can be pitched to donor community with the right strategy.

4.2.5 Financial Management

The success of a sustainable financing strategy depends on the formulation and implementation of financial plans and on stable management mechanisms which include people with the relevant skills for strategic and financial planning, implementation and management. These plans help in identifying resource allocation options and redistribution mechanisms as well as management and capacity needs.

Although there are several revenue sources, there may be fluctuations in revenue generation due to various reasons. These must be taken into account during the financial planning phase to ensure that the activities do not collapse. So, risk and revenue fluctuation assessments must be carried out during the planning phase. These assessments would provide the basis of a back-up financing plan. As before investment and implementation plans are key requirements for effective implementation and for later monitoring and evaluation.

Effective financial management also requires that existing revenue collection is improved, and that part of the revenues generated from the area is invested back. Furthermore, a mechanism should also be put in place to capture offsite funding.

4.2.6 Evaluation, progress and lessons learned

As a part of the financing strategy, a participatory monitoring and evaluation mechanism should be established to monitor the process of collection and disbursement so that the strategy and options can be adapted on a regular basis. An action plan for the implementation of this proposed strategy needs to be developed with the monitoring plan which can be used in monitoring the environmental and social and economic impacts of implementing this financing strategy

Collecting necessary information from primary and secondary sources at the beginning and analyzing them can help resolve some of the issues such as inequity and feasibility etc'. Establishing a proper baseline using the collected information will assist in monitoring the process and in verifying the success in achieving objectives.

It is important also to have a return on investment assessment to show the value added – in both qualitative and quantitative terms- to the project. For example the livelihoods of various groups were supplemented and this was a quantitative benefit provided by the project. But in qualitative terms the value added through capacity building and institutional engagement would be useful in creating advocacy to get funding as well as achieving the longer term objectives of the project. This return on investment can lay the groundwork for a communication and marketing strategy.

5. Benefit Sharing

The poor are impacted disproportionately as a result of ecosystem degradation because they are the ones who depend the most on ecosystems for their livelihoods. Therefore pro-poor conservation is required to achieve national goals and address local priorities. To address this the Tenth National Economic and Social Development Plan (2007-2011) of Thailand has set the target of reducing poverty from 13 percent in 2004 to 4 percent by 2011 (World Bank 2007). To achieve the twin goals of ecosystem conservation and poverty reduction, there is a need to make sure the conservation benefits are contributing to improve the well-being of the poor.

Often industrial and private stakeholders use coastal and watershed services as inputs for their industry and make substantial amount of profits without taking into account the sustainability of the ecosystems. More often than not, they do not allocate resources or invest in ecosystems to ensure sustainable flow of ecosystem services through conservation. For the most part they are far removed from the local populations who bear the opportunity cost of conservation. There is thus a need to ensure that these communities are compensated for this opportunity cost and thus the objective of benefit and cost sharing is to compensate for the opportunity cost incurred by the local communities due to the conservation of coastal and watershed ecosystems.

Most importantly, inequitable distribution of cost and benefits may influence conservation of these valuable coastal and watershed ecosystems. This is because some groups may bear the cost of conservation, while other more influential groups may reap the benefits. For example, the local people protect or conserve their watershed or the coastal ecosystems with the aim of enhancing ecosystem services, but the benefits may be absorbed by the regional or national stakeholders. If the watersheds/ ecosystems are rehabilitated and conserved, part of the benefits are transferred downstream or to regional or national level stakeholders as ecosystem services such as continuous flow of water, less sedimentation of the lower water bodies etc., with no or low cost. Coastal ecosystem rehabilitation and conservation also may have similar consequences. As a result of enhancing the coastal ecosystem services, a range of benefits such as increasing fish yield, enhanced recreational value, protection of coastal infrastructure and properties etc, might be obtained, but the benefits may be go to the tourism operators who contribute no or little for the conservation or fisheries operators who have no contribution at all for the enhancement of coastal ecosystem services. It must be ensured that a high cost of conservation is not imposed on local communities or they would be reluctant to support restoration and conservation activities. And the bottom line is that the support of the communities living in the project area, or the local resource managers is key in the implementation and continuation of the project activities.

5.1 A Strategic Framework for Benefit Sharing

Equity and benefit sharing are defined differently by different groups. Broadly speaking it generally means that benefits from a resource or an intervention are distributed in a fair and just manner. How the principle is applied depends on policies, regulations, formal and informal laws, the specific ecosystem, economic sectors and other ground realities. What is needed for any benefit sharing strategy is to:

- Identify and assess the types of ecosystems used by all stakeholders and the benefits accrued from these;
- Identify the beneficiaries of the ecosystem services and how they use the services;
- Identify groups that do not benefit due to access, rights or other issues and including gender roles;

- Identify the existing benefit sharing mechanisms;
- Assess the institutional and legal framework that governs access and rights; and
- Ensure participation of all stakeholders, which is a critical element of benefit sharing.

Before the implementation of a sustainable financing strategy there is a need to have a good overall understanding of the social impact of implementing it. While the proposed strategy may be very efficient and cost effective, the impact it may have at the local level may lead to inequalities and inequities. Therefore, identification of all actors and stakeholders internal and external, their roles and responsibilities, impact on them of the investment and an equitable redistribution and benefit sharing mechanism must be developed (see Box 2).

Various activities are taking place in the Ka Poe estuary and watershed in Ranong and the Kuraburi watershed in Phang Nga coastal provinces. This means that cost and benefit distribution at the local, regional and national levels may be impacted, in particular for groups that may already be marginalised. If there is no effective mechanism to ensure the fair distribution of benefits of the investment impacts, unequal distribution of benefits as well as cost of the coastal ecosystems management is inevitable. It is crucial therefore to understand the cost benefit distribution between different stakeholder groups before and after implementing project activities. This would help to understand who gains and who loses from conservation management after project implementation, because any significant changes of cost and benefits flows and distribution may result in unexpected socio-economic issues and thereby the sustainability of the project initiatives also will be adversely affected.

The project currently and in its future implementation needs a benefit sharing strategy to ensure that investments are beneficial to all groups. This strategy lays out the groundwork for a benefit sharing mechanism that can be instituted in the area and defines the benefit sharing mechanism at two levels (see Box 2):

- The longer term strategy would be to develop mechanisms for equitable benefit sharing at the broader watershed level targeting all user groups
- In the short and medium term the strategy promotes providing project benefits to marginalised groups and ensuring equitable benefit sharing within the selected groups

Long term benefit sharing at the watershed level

When the area is looked upon from the provincial scale there are clear indications that external influences and the use of resources have underlying costs that are borne by the local communities. For example policies that influence change in upland land use, such as cultivation of bio-fuel plantations leading to forest encroachment, erosion, sedimentation of rivers, use of chemical inputs for agricultural lands leading to down stream and coastal pollution, mid catchment canal ‘dredging’ as flood prevention strategies. All of these are examples of decisions being made at a level external to the level where negative impacts resulting from these decisions is felt and paid for. Local level communities and particularly downstream communities are paying the direct price for decisions they are generally not able to influence. Benefit sharing thus needs to start from this scale.

As a first step there is a need to assess how distribution of ecosystem benefits across all groups and scales. The project employs an integrated reef to ridge approach and the area is rich in coastal, riverine and mountain ecosystems and resources used by local communities and those that live external to the area but benefit from the resources. All of the resources are used by different user groups for livelihoods, health and other economic purposes that contribute to general human well-being. There are agriculture groups, coastal fishermen, people involved in tourism and aquaculture and various other activities. The magnitude of use and access to these benefits and their quality differs across different groups. There are clear differences between local and non-local users and the distribution of benefits is not necessarily

equitable even across the range of local groups. Local people employed in tourism and aquaculture, benefit more as do those engaged in mono-crop agriculture. Often benefits sharing is limited by 'position in society' and affected by limitation of access and rights to manage or have a sense of ownership/ responsibility for open access / common property resources. These are people who lose out on the ecosystem benefits and are in fact impacted with costs of pollution, vulnerability and face opportunity costs. However generally, in the project area the socio-economic status of communities is relatively good. What is important to note is that the ecosystem resource base currently shared by local level communities as a whole is under threat from external factors. These include decisions being made at the provincial and national levels. Furthermore, the onset of climate change attributed impacts is already being witnessed in terms of even higher than usual rainfall in Ranong and Phang Nga. These factors will in the long run lead to further differences in the socio-economic status and natural resource access and use of the local communities.

The long term goal of the benefit sharing strategy is thus to assess statutory and formal and informal community property, access and use rights and then:

- work towards creating an enabling environment for equitable benefit sharing through policy advocacy, institutional strengthening and capacity building across scales (not only within the watersheds but outside influences on the watershed)

- promote a rights based approach by increasing opportunities and options for community management rights and stewardship arrangements

Benefit Sharing for the short term and for project investments

In the backdrop of the current environment it is clear that costs and benefits of project investments would also be different for different groups and one strategy for further investment would be to select groups that are marginalised and do not reap high benefits from local resources. Therefore, information of the major beneficiaries, who are both internal and external to the area, is needed, that describes the magnitude and scale of revenue they generate from various activities such as tourism, aquaculture, fisheries, agriculture and forests. In addition to these direct beneficiaries there are also groups that benefit indirectly due to these activities such as service providers who may have set up businesses to cater to the tourism industry. Identification of the groups who are net gainers from the above activities would help in identifying niches for putting in place a mechanism for sharing the benefits of project investments.

While at the local level there is somewhat of a socio-economic homogeneity among communities and the socio-economic status compared to coastal areas of many parts of the world is fairly high, there are exceptions to this homogenous group for example the Ban Lampoo stateless poor community (who are marginalized as a result of their national identity status, which results in limitations with regards to state benefits including education and employment opportunities), and the predominantly Burmese migrant community inhabiting the area around Kuraburi pier. There is also a perception that the coastal fishing communities are marginally less well-off in socio-economic terms than the predominantly farming communities in the upper catchment. This is one scale internal to the area that needs to be targeted.

Identification of the groups who bear the cost of conservation management of coastal ecosystems from the BMZ project activities leads to identifying groups who can be targeted for compensation. This would also include assessing who are the groups that lose out due to lack of access and property rights for example the stateless groups and migrant workers. The project investments chose a diverse range of beneficiaries such as stateless women as well as varying ethnic groups such as Muslim women for the livelihood activities and this is a good starting point for a wider benefit sharing system. Other groups such as migrant workers need to be considered also as they have an impact on the environment but have no inherent connection to the natural resources. In the next phase these workers must be brought into the fold of project activities also.

The second aspect of the strategy would be thus to ensure that an effective benefit sharing mechanism is instituted for the project investments. The key benefits from the area were in the form of livelihoods to certain groups as well as capacity building. Understanding the distribution of costs and benefits of the project activities, by identifying gainers and losers and quantifying their gains and losses, presents a clear statement of needs and niches for the generation of finance for future benefits sharing. Identification and assessment of the economic values of the coastal and watershed benefits and providing cost estimates would give clear signals for financing needs and areas of compensation or payment to counter the opportunity costs of different groups. All of these require participation, access, rights and transparency to be integral parts of the mechanism and for laws, institutions and processes to support it (see Box 2). These influence the larger environment under which any benefit sharing strategy exists.

In the end the intention of this desired benefits distribution are:

- To improve community well-being and development
- To promote the sustainable utilization of resources and efficiency
- To introduce alternative livelihoods for destructive livelihood activities
- To improve the fairness of benefits distribution among the communities
- To improve the direct participation of local communities on activities such as tourism and aquaculture etc

Box 2 Benefit Sharing

	Access	Rights	Participation	Transparency
Project Investments	Vulnerable groups have access to project investments and intervention benefits (migrant workers, stateless especially women) Other groups that benefit less from the overall ecosystem use and benefits are chosen and have access to benefits (this also requires that benefits are accessed by all within a group)	Certain groups have no or very few rights in the broader use and benefit scenario. The stateless are part of this and thus should benefit more from project investments to compensate for that lack. Within the groups that were chosen under the project, there are possibilities and that rights are not equally distributed at all levels.	Not all groups participate in the decision making process. And also not all groups that did participate are representative of the whole population.	Institutions, policies and processes need to support access to project benefits, are conscious of people's right and ensure participation at all levels
Reef to ridge benefits and external influences	Certain groups have more access to resources (such as agriculture and fishing sectors) however this access is not uniform and may differ across sectors and scales. Other groups have access that differs across scales for example cultivators who do not engage in mono-crops may not have limited access to land. Finally, the stateless may have very limited access to some natural resources and since they have no rights their dependence is the highest. This is the same with migrant workers.	Rights are defined by laws and polices and this is very complicated in the area. Aquaculture, fisheries and agriculture policies and laws drive the economic decision making limiting the rights of people engaged in other activities.	Not all groups participate in the decision making process. And also not all groups that did participate are representative of the whole population.	Need of the hour dictates institutional decisions, policies and processes that support conservation and pro-poor initiatives. Although there are rules and regulations most of the time they are not transparent and are impacted by corruption

References

[i] BMZ Project Progress Report 2009

[ii] Environmental and Natural Resource Law: Tools for Change in Kuraburi - IUCN

[iii] For more details see Governance in a Spatial Context: Analysing and Mapping Regulatory Regimes Governing Natural Resources in Kuraburi, Phang Nga, Thailand. Ryan Knight, Kate Watson, Jennifer Dill and Patricia Moore.

[iv] Investment and Management Framework – BMZ Thailand Component – IUCN and Demonstrating Ecosystem Rehabilitation; and Management using an Reef to Ridge Approach: Field experience from the North Andaman Coast, Somsak Soonthornawaphat, Petchrung Sukpong and Janaka de Silva IUCN Thailand Programme

[v] For details on project area see http://www.iucn.org/about/work/initiatives/about_work_global_ini_mangr/bmz/resources___thailand/

[vi] Investment and Management Framework – BMZ Thailand Component

[vii] For more information on Andaman Discoveries and its model see http://cmsdata.iucn.org/downloads/lessons_learned___the_north_andaman_community_tourism_network.pdf

[vii] http://www.eeu.uct.ac.za/thematic-areas/biodiversity-commercialisation-trade-and-social-justice/analysis-of-benefits-from-coastal-resources-and-mechanisms-for-equitable-benefit-sharing-in-selected-wio-countries

ADPC 2005: The economic impact of the 26th December 2004 earthquake and Indian Ocean tsunami in Thailand.

FAO 2001: Small scale fishery in South East Asia: A case study in Southern Thailand; RAP publication 2001/19

FAO 2005: A Technical Assessment for Determining the Level of Fishing Capacity, Impact of Tsunami on Fishery Resources and Identification of Resources Access and Other Fishery-Related Issues in the Impacted Area. Policy Briefing Note Report No. 2

FAO 2005: A Technical Assessment for Determining the Level of Fishing Capacity, Impact of Tsunami on Fishery Resources and Identification of Resources Access and Other Fishery-Related Issues in the Impacted Area. LOA/RAP/2005/39

FAO 2006: A Technical Assessment for Determining the Level of Fishing Capacity, Impact of Tsunami on Fishery Resources and Identification of Resources Access and Other Fishery-Related Issues in the Impacted Area Report on the Review of Existing Information Report No. 7

IUCN 2006: Ecological and socio-economic values of Mangrove ecosystems in tsunami affected areas: Rapid ecological-economic-livelihood assessment of Ban Naca and Ban Bangman in Ranong Province, Thailand

Nakthon, N. 1992: Marine territory of Thailand and neighboring countries. Hydrographic Department, Royal Thai Navy.

NACA 2005: Mangrove Ecosystems, Communities and Conflict: Developing Knowledge-based Approaches to Reconcile Multiple Demands

Sathirathai, S. and Barbier, E.B, 2001. "Valuing Mangrove Conservation In Southern Thailand," Contemporary Economic Policy, Western Economic Association International, vol. 19(2)

Sustainable Financing POW 10.1: A Regional Financing Strategy for Coastal and Marine Ecosystems in the Indian Ocean Countries – MFF- Meadors Laura April 2008

Thanawood et al 2006: Effects of the December 2004 tsunami and disaster management in Thailand. Faculty of Natural Resources; Prince of Songkla University, Hat Yai, Songkhla. 90110. Thailand.

UNEP. 2005: After the Tsunami. Rapid Environmental Assessment. UNEP. Bangkok. 140 pp.

University of Hawaii 2005: Assessment of the potential tourism of Kampuan, Ranong province. The Southeast Asia Office of the School of Travel Industry Management, University of Hawaii at Manoa

World Bank 2007: Thailand Economic Monitor , April 2007; World Bank Office - Bangkok

Workshop on Promoting Sustainable Financing for the Protection of the Marine Environment from Land-based Activities Learning from Past Experiences with Innovative Financial Arrangements and developing recommendations to replicate lessons learned. Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) UNEP. The Hague, The Netherlands, 9-11 July 2001. www.gpa.unep.org/document.html?id=179

http://conserveonline.org/workspaces/patools/finance

http://www.epa.gov/watertrain/sustainablefinance/

www.**naucrates**.org