

HEPU SEAGRASS DEMONSTRATION SITE

SUMMARY SHEET

<p>1. SITE NAME AND GEOGRAPHIC CO-ORDINTES:</p> <p>Hepu. The central geographic co-ordinate is 21°28.5'N, 109°40.2'E.</p>
<p>2. COUNTRY IN WHICH THE SITE IS LOCATED</p> <p>China</p>
<p>3. PROVINCE IN WHICH THE SITE IS LOCATED</p> <p>Guangxi</p> <p>The province government has approved Hepu seagrass bed as demonstration site on 28, July 2003. The local government has been involved in the selection process, and also agreed to co-finance in kind.</p>
<p>4. LINKAGE TO NATIONAL PRIORITIES, ACTION PLANS AND PROGRAMMES</p> <p>Central government supports the selection of the demonstration site. Hepu seagrass bed has been approved as the most important seagrass bed for priority protection by the central government. The central government will co-finance in cash more than US\$. 400,000</p> <p>National nature reserves for <i>Dugong dugong</i> in Hepu Guangxi and Shankou national nature reserves for mangrove have been set up in Hepu County. The dugong national nature reserve covers 350 km², with a central zone of 132 km². The objectives are to protect Dugongs (<i>Dugong dugong</i>), green turtle (<i>Chelonia mydas</i>), Indo-Pacific hump-back dolphin (<i>Sousa chinensis</i>) and mangroves. The seagrass beds provide food for dugongs. Shankou nature preserve for mangroves was set up by the state in September 1990, and consists of the western and eastern coastal sides of Shatian peninsula and enclosed waters. The Mangrove preserve extends along the coastal zone for 50km. The mangroves cover 8000ha including 4000ha of water and 4000ha of land. These nature reserves assist in the protection of seagrass beds in Hepu. "Action Plan of China for the Conservation of Biodiversity" was issued in 1994. This area is one of the priorities site in the action plan.</p>
<p>5. DATE OF NATIONAL TECHINICAL WORKING GROUP MEETING WHICH CONSIDERED THE PROPOSAL AND RECOMMENDATION</p> <p>The national technical working group meeting has considered the proposal and provided a recommendation on 28, August 2003.</p>
<p>6. NATIONAL FOCAL POINT AND/OR NATIONAL TECHNICAL FOCAL POINT ENDORSMENT AND/OR COMMENTS:</p> <p>Comments:</p> <p>As National Focal Point, I would like to endorse this proposal to Dr. John Pernetta, Project Director of UNEP/GEF project "Reversing Environmental Degradation of South China Sea and Gulf of Thailand". The proposal is quite comprehensive and tangible. Although this project is the first experience in managing the seagrass habitat in China, I believe, under the supervision of South China Sea Institute of Oceanology, the seagrass demonstration site program in the proposed area will be executed as outlined in this proposal.</p> <p>Signature:</p> <p>Mr. Minjian Chen, National Focal Point</p> <p>Date:</p>

DEMONSTRATION SITE PROPOSAL

7. SITE DESCRIPTION

AREA

The area of Hepu seagrass bed was 540ha in 2003.

ENVIRONMENT

The seagrass bed, including the adjacent area, is complicated, consisting of a deep slot and sand ridge arrangement. There is a strong current along this part of the coast, which causes erosion due to the tides and wave action. The topography of the seabed includes tidal shoal, tidal and deep slot, tidal sand ridge, and seabed plain.

The weather is influenced by the south subtropical ocean quarter breeze. Influence of the atmospheric-circulation and the geographic location results in some favourable weather characteristics, for example, winter has no frost, summer is not hot, spring and autumn are short, and the quarter breeze is extensive. Average air temperature is 22.9 °C, with a high of 38.2 °C, and a low of 1.5 °C. Wind direction varies with the season throughout the year with prevailing winds in the winter from the northeast and from the southwest in summer, with an average wind velocity of 3.7m/s. The average annual rainfall was 1573.4 mm in recent years, with 83% occurring in the summer half of the year. The rain falls on average for 144 days per year. Influence of typhoons is important, with two or three occurring every year, usually between July and September, (CCCB, 1993).

The average tide range in the area is approximately 2.5m, and is an irregular diurnal or half diurnal tide. The maximum flood tide velocity is 65cm/s inside the bay, and at the mouth of the bay is 71cm/s in a N- NNE direction. The maximum ebb tide velocity is 62-77 cm/s inside the bay, and 106 cm/s at the mouth, where the current direction is South. Maximum wave height is 3.2m at the mouth of Tieshan bay, from the S-SSW direction. The minimum wave height is 0.65 m, from the NE-ENE direction. Maximum wave height is 3.41 m inside the bay, from the S-SSW, while the minimum wave height is 0.18 m, from the N- NNE direction. The average seawater temperature is 23.49° in the area, with the extreme highest of 34.4° in summer, and the extreme lowest of 8.4° in winter. Seawater salinity at the mouth of bay is 26-31‰ and 20-28 ‰ at the top of bay (CCCB, 1993).

Regarding water quality, generally the water quality is good (Jinyi Lan, et. al. 1999). The sediment quality is also good.

HABITATS

There are 4 seagrass species growing in the area: *Halophila ovalis*, *Halodule uninervis*, *Halophila beccarii* and *Zostera japonica*. *H. ovalis* is the dominant species, and occupies 75% of the whole seagrass bed. The coverage of *H. ovalis* is more than 80%, the average biomass is 25.5g/m², and the density is 1385 shoot/m² (Xiaoping Huang, et. al. 2003)

The other main species is *H. uninervis*. Its roots lie buried in the sand, and may shoot up and grow all the year round. When the seagrass has been growing up for a long time, the old foliage dies back and turns yellow, and the new foliage will grow. From March to April each year *H. uninervis* will flourish, with many pairs of leaves growing up from the sand, but at other times, much of the plant lies buried in the sand.

H. ovalis sprouts from November to February, and flourishes from March to June every year. It is difficult to find after July because it dies back and the leaves fall off. The roots sprout again from November (Jinyi Lan, et. al. 2001; Weilin Zhang, et. al.2002).

H. uninervis and *H. ovalis* inhabit the inter-tidal level, where they are able to survive in muddy. *H. ovalis* may also sprout and grow in 5m deep water though *H. uninervis* has not been found to survive at these depths. Both can undergo full submersion by flood tides with no ill-effects.

Seven subsidiary beds of seagrass were found during surveys, located at Dianzhousha, Beimu Salt Field, Yingluo Bay, outside of Yingluo Bay, Danshuikou, Gaoshatou and Shanliaojiuhejingdi.

Research surveys conducted from April 1987 to July 2003, have determined the distribution of seagrass at the 7 beds. The visible area of seagrass in summer and spring is bigger than in winter and autumn, and seagrass growth is better in summer and spring than in winter and autumn.

There are 5 penaeid, 12 gastropod, and one seahorse species reported in Hepu seagrass bed. There are also a number species of urchins, siganids, holothurians, starfish, and the green turtle *Chelonia mydas*. A species list is provided as Annex 1.

The major habitat of the dugong in China is in the Shatian waters, Hepu Guangxi. Dugongs inhabit the seabed where the water depth is less 20m. They move to the seagrass bed, to feed when the tide is flooding and move away on the ebb tide (YanJun Pang, et.al. 1987; Yun Zhi, 1996; Guijing Li, 2002).

Feeding habits of dugong vary following seasonal changes to the growth of seagrass. They feed on *Halodule* in July to October when *Halophila* is shriveled. In the typhoon season, *Halodule* in the middle tidal zone is covered by sand and mud which has been carried by tidal current. This makes it difficult for dugong to feed, so they feed on *Halophila*, which grows in the low tidal zone. The seagrass beds at Dianzhousha, Beimu salt field, Yingluo Bay, outside of Yingluo Bay, Danshuikou, Shanliaojin provide suitable food for dugongs.

Shankou preserve for mangrove was set up by the state in September 1990. It consists of the western, eastern coastal sides of Shatian peninsular and enclosed waters, including Shankou, Shantian and Baisha town, bordering on the mangrove in Zhanjiang City of Guangdong (YanJun Pang, et.al. 1987; Yun Zhi, 1996; Guijing Li, 2002).

The Mangrove preserve extends along the coastal zone for 50km. The mangroves cover 8000ha including 4000ha of water and 4000ha of land. The original zones were: central zone, with an area of 800ha, buffer zone with an area of 3600ha, and a transition zone with an area of 3600ha. The central zone is located on the east coast of Shantian peninsula from Xianmi river mouth to Yingluo, and covers 220ha areas of mangroves. The buffer zone includes 510 ha area of mangrove. The transition zone is the watershed above high tidal zone within 1km and the external waters of preserve region. Shankou mangrove area has also been included as a demonstration site in a new UNDP/GEF funded project designed to help maintain biodiversity, which will also start in 2005, and run for 8 years.

PRESENT USE

The seagrass bed is distributed in coastal areas adjacent to Shankou and Shatian townships of Hepu county. In the East to Zhangjiang city, Guangdong province, and north to Bobai county, the coastline is extensive, and fish culture is the main economic activity, together with agriculture.

The total population of Shankou town was 65,881 in 1999, and the birth rate is 9.5‰. The labour force is 42,677 people, the plantation area is about 2267 ha, and the average per capita income was 2,321 RMB in 1999. Fish culture production is worth 30 million RMB annually.

Shantian town includes 6 villages, Haizhang, Shatian, Shangliao, Shangxin, Duida and Danshui; The total population of Shatian town was 16,387 in 1999, and the birth rate is 11.8‰, the labour force is 7795 people, the rice plantation area is about 535.6 ha, and the average per capita income was 3,145 RMB in 1999. Fish culture production is the main component of the Shatian economy. There are 486 powerboats in the town, and the area under marine aquaculture is 510.8 ha, with fresh water aquaculture occupying 10.2ha. The total fish culture production was valued at 21.181 million RMB in 1999.

The rich fishery resource in the seagrass bed provides an important input to the local economy, and the main activities in the seagrass bed are fishing and aquaculture. The main fishery activities are: digging for gastropods, catching fish, and cultivating shrimp and pearl oysters. The seagrass bed is also an important nursery for fish of this area.

MANAGEMENT REGIME

The present management is under two separate entities:

- The Shatian Town Government has the management rights to the sea; and
- The Management Station of National Nature Reserves for Dugong, Hepu Guangxi, under the control of the Guangxi province environmental protection bureau, has the duty to protect seagrass

8. STAKEHOLDERS

Stakeholders include native fishers, local inhabitant, fishery management, local city planning department, environmental protection branch and government, dredging company.

The seagrass bed is located adjacent to Shankou town and Shatian town, Along the coastline fish culture is common, and is one of the main economic activities. The total fish culture production is worth 21.181 million RMB. The main fishery production methods of local residents are: trawling, culturing shrimps, culturing pearls, and digging for siphon-worms *Sipunculus nudus* marine snails *Phascolosoma esculentaes* and various shellfish. The seagrass beds in the area attract rich fishery resources to the surrounding sea region, and the local residents gain substantial benefit from these fishery resources.

During the development of the local economy, there is likely to be conflict between local innovative economic development plans and conservation of the seagrass bed. Time will be needed for consultations to reach compatibility between the demonstration site development of the seagrass bed and the local government departments, in order to minimise these conflicts.

During the initial period of developing the demonstration site, the related local departments and inhabitants should be encouraged to provide input. If the local administration authorities are supportive of the projects goals, they will be more likely to offer substantive support. If the local inhabitants were also behind the project, they are more likely to cooperate in efforts to protect the seagrass environment. More detail of strategies intended to encourage the participation of these stakeholders are provided in Annex 2.

9. THREATS

Natural and Extreme events

The storm tide and the waves caused by typhoons erode the seagrass entirely. A nerite snail *Clithon oualaniensis*, then reproduces rapidly, colonizing the space previously occupied by the seagrass. This results loss of the seagrass seasonally.

Human Activities

Seafood is popular in the market. To increase income, more and more local people go to the beach to dig *Sipunculus nudus* (siphon-worms) and snails net for fish, and undertake other activities. Areas also continue to be reclaimed for aquaculture purposes.

In order to obtain profits, the fisherfolk use many production and harvesting methods which seriously damage the seagrass bed

Digging siphon-worms snails and shellfish: Digging is popular with more than 2000 people active every day in the seagrass beds throughout most of the area. Digging sometimes results seagrass' rhizomes being uprooted or broken, negatively impacting growth. Digging may also cause the sand to become more fluid, and seagrass could be submerged by the flowing sands, also disturbing the growth.

Aquaculture: Aquaculture can cause damage to the seagrass. There are about 100ha of seagrass bed being used for cage culture of oysters. The seagrass in the feeding area has been damaged seriously. There is an accumulation of rubbish, including used wood; and old shells lying in the feeding areas that had been abandoned.

Trawling: There are more than 400 trawlers working mainly in the areas which are less than 10 meters deep near Dianzhousha, Gaoshatou and Yingluo Bay of Shankou Town and Shatian Town. During the trawling operation, the seagrass shoots are pulled out with their roots and completely destroyed. There is no regulation to prohibit trawling in the area.

Waste water polluting the sea is also a threat for the seagrass. Local sewage, waste water for fish processing, engine oils from fishing boats, and industrial run off are all disposed of into the sea and pollute the seagrass site. To resolve this problem there is a need to strengthen the enforcement of sewage standards for factories and fishing boats through local environmental protection bureau, and to recycle waste water where possible.

Fish fences: These have been erected throughout more than 150ha of seagrass beds in Hepu. Seagrasses are destroyed when these fences are established, due to trampling and digging up the seagrass bed.

More details can be seen in the causal chain analysis (see Annex 3).

10. GOALS & PURPOSE

The goal of the project is to establish a demonstration site of community based management, with the aim of maintaining the existing biodiversity and environmental condition and utilize the seagrass resources rationally and sustainably. This is to be accomplished through maintaining the balance between utilization and conservation, based on community and government involvement. Experiences in the research, protection and utilization of seagrass beds in the site will be useful for other seagrass beds in China and hopefully other parts of the world.

11. RATIONALE AND OBJECTIVES

To date, no other seagrass demonstration sites or reserves have been established in China. Hepu seagrass bed demonstration site, to be established adjacent to the existing Hepu National Reserve for Dugong, and Shankou National Reserve for Mangrove, will help to protect the seagrass. The central and local government plan to set up this area as a seagrass reserve.

Hepu seagrass bed demonstration site intends to prevent the degradation of seagrass in the area, restoring the biological diversity and ecological environment resulting in a high quality seagrass ecosystem. It also aims to encourage people from the communities to participate in and cooperate with the demonstration site activities.

The global marine ecosystem is a connective and dynamic system. The establishment of Hepu seagrass bed demonstration site adjacent to the Shankou National Reserve for Mangrove and the National Reserve for Dugong will not only improve the marine ecological environment where seagrass beds are located but will also benefit the global ecological environment. The objectives are following:

1. Establishment of cross sectoral management framework for the sustainable use of the Hepu seagrass site;
2. Sustainability of site management;
3. Conservation of seagrass bed ecosystem as major habitat in the site (biodiversity conservation, dugong protection, etc.);
4. Education and training for increased involvement of all stakeholders in preserving the seagrass habitat.

12. OUTCOMES

1. There are several outcomes expected from this project:
2. Local community participation on seagrass management.
3. Increased awareness, protection and sustainable use of seagrass by government and local people.
4. The protection of seagrass beds is included into local socio-economic development plans.
5. Coordination of the various departments and local public responsible for the protection and management of seagrass.
6. A seagrass site demonstrating community-based management for the other parts of the world.

13. PLANNED ACTIVITIES TO ACHIEVE TO ACHIEVE OUTCOMES:

The activities are grouped into four major components as follows:

- Establish cross-sectoral management framework for the sustainable use of the Hepu seagrass site (Management);
- Sustainability of site management (Sustainability Mechanism);
- Conservation of seagrass bed ecosystem as major habitat in the site (Conservation Plan);
- Education and training for increased involvement of all stakeholders in preserving the seagrass habitat (Education & Training).

The framework work plan and timetable are presented in Table 1.

Component 1 - Management

The primary actions under this component focus on the establishment of Hepu seagrass site management board (MB); establishment of website; and preparation of the management plan. The activities included in the action of establishment of Hepu site MB are as follows:

- Identification of the members of Hepu site MB;
- Appointment of manager;
- Draft TOR and rules of the MB.

The action of establishment of website include:

- Establishment of project website;
- Appointment of consultants to prepare demonstration site website with UNEP/GEF Project and demonstration site information materials;
- Establishment of linkage with SCS website & other demonstration site websites.

An important aspect of establishment of cross-sectoral management is, the need to prepare effective site management plan in consultation with all stakeholders. The project management will be checked up and evaluated by Guangxi provincial Govt., NTWG and UNEP, using the ways are as follows: publication of meeting reports, hard copy & via project website; regular reports from MB; half yearly progress reports and expenditure statements.

Component 2 - Sustainability Mechanism

In order to protect the Hepu seagrass bed effectively, establishing a sustainable management mechanism is very important. The primary actions under this component focus on the stakeholder analysis, economic valuation and identification of revenue streams & financial management. Through evaluating the economic value of Hepu seagrass bed and the participation of the stakeholders in the management, an agreement of using seagrass resources in a sustainable way will be reached. This will involve: preparation of a stakeholder participation plan, assembling necessary information on economic valuation according to agreed procedures, and discussions with stakeholders to provide inputs to and clearance of economic valuation.

Identification of revenue streams & financial management also play an important part in this component. The primary activities under this action include identification & analysis of potential revenue generation activities, preparation of quantified potential revenue generation and income projections, identification & estimation of costs of implementing the Management Plan for Hepu seagrass and dugong, and; establishment of necessary financial management mechanisms.

Component 3 - Conservation Plan

The primary activities under this component focus on expanding the existing Dugong Reserve, legislation & enforcement, and collection of information for sound management.

The existing Dugong National Reserve is not large enough and only a few species are protected. Greater benefit can be achieved by expanding the existing reserve. For this, it is necessary for a re-evaluation of the existing criteria for the National Dugong Reserve, and to prepare and implement a workplan.

At the same time, there must be effective legislation and enforcement to carry out the protected plan. The primary activities of legislation and enforcement will involve preparation of new legislation or amendments to existing laws and regulations, and pilot activities in reducing destructive fishing activities.

The collection of information will provide significant support for sound management. The collection of information will include surveys of the environmental and bio parameters of the demonstration site; evaluation of the effect of intervention; survey & evaluation of public and governmental awareness on seagrass.

Component 4 - Education & Training

As a way of protecting the biodiversity of the seagrass bed, the benefit of active involvement of stakeholders cannot be underestimated. Through education and training, the awareness of protecting seagrass of local communities will improve quickly, and the agreement of using seagrass in a sustainable way will be more easily reached. The actions under this component include a training programme, education, raising awareness of community & resources users, and capacity building. Organizing the training courses is the primary activity of training programme. To publicise the importance of protecting seagrass in local schools and among the communities, a short (20min) video will be produced, posters & brochures printed, notice boards erected, and additional public awareness materials (such as radio, television spots and newspaper articles etc.) will be used, as well as establishing the site's webpage. In addition, attention will be given to the capacity building, to improve monitoring capacity for seagrass and dugong. An education and interpretation center will also be established.

The detail of the monitoring and evaluation plan is provided in Annex4.

14. SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT

Sustainability

For a successful seagrass demonstration site in Hepu , a management council must be formed to take charge of the management of the seagrass bed. In addition, long-term protection and administration should be put in place; and the investigation and monitoring of the seagrass bed resources must be carried out regularly. All of the above requires funding and personnel. With the support of GEF funds, government funds and in kind contributions, the project should have proceed smoothly in the early stages. The management council should ensure these initial resources are used to produce further funds for the future activities in the demonstration site. For example, the management council could develop tourism to increase economic return. This could be assisted by an "interpretation center" with an exhibition on seagrass bed, in which the biological samples, and photos of the seagrass ecosystem would be shown. Through this the income will be generated which will help the long-term viability of the demonstration activities. If the demonstration site is set up as a national or local seagrass natural reservation zone, then it could access funds from the government regularly.

Risks

The major risks include:

1. The enforcement of new regulation may face many difficulties. The related mitigating action is to raise public awareness, strengthen compliance with local management institutions, environmental protection unit and fishery management institutions.
2. Preventing destructive fishing activities on seagrass will, in the short term, reduce the income of local residents. The related mitigating action is to widely disseminate information on the significance of the demonstration site, and the long-term benefit of protection of the seagrass bed to fishery production. In addition local government should increase employment prospects for residents to increase their income, by introducing them to alternative professions.

15. ESTIMATED BUDGET (IN US\$ OR LOCAL CURRENCY)

The total budget is US\$806,550, with US\$415,200 from the Chinese Government, and US\$391,350 from the GEF. See Tables 1 and 2 in annex 5 for details

16. IMPLEMENTATION PLAN

Table 1 Framework Workplan and Timetable.

[illegible]

Framework Workplan and Timetable.

[illegible]

Framework Workplan and Timetable.

[illegible]

17. PROPOSED MANAGEMENT OF THE ACTIVITIES:

The execution of project activities will be conducted by South China Sea Institute of Oceanology (SCSIO), Chinese Academy of Sciences, providing oversight and monitoring on a regular monthly basis. Half-year reporting of activities and financial aspects will be monitored by the UNEP/GEF Project Co-ordinating Unit on behalf of the Implementing Agency (see Annex 4). The project activities in Hepu will be directed by, a Project Management Board with representatives from Guangxi Province, Beihai City, Hepu County, SCSIO, Hepu Dugong Natural Reserve and local communities, etc.. A site manager from Hepu Dugong Natural Reserve will be responsible for daily management of the project activities. The site manager will be supported by consultants and sub-contract unit. The wider network of organizations involved in project execution will be linked through workshops, seminars, field-work, training courses as well as community based meetings, to which all stakeholders will be invited and which will serve to provide advice and inputs to management. SCSIO will report the activities and progress to Inter-ministry Committee through National Technical Working Group. Through Regional Working Group on Seagrass and PCU, Hepu seagrass demonstration site will be linked with other demonstration sites in the region. The management framework is outlined in Figure 1.

18. INFORMATION ON PROPOSED EXECUTING AGENCIES:

(1) South China Sea Institute of Oceanology, Chinese Academy of Sciences.

With 525 staff members, the South China Sea Institute of Oceanology (SCSIO), Chinese Academy of Sciences(CAS), is one of the largest oceanographic research institutes in China. There are 389 researchers, including 35 professors, 114 associate professors and senior engineers. SCSIO is authorized to grant doctoral degrees in marine biology, physical oceanology, marine geology, and master's degrees in physical oceanography, marine environment, marine geology, marine biology, and marine chemistry. SCSIO is well known in China and abroad for its systematic and comprehensive data collection and research achievements on the South China Sea and adjacent tropical waters. In the fields of marine biology, environment, chemistry, geology meteorology and hydrology, SCSIO has completed 458 projects, of which 192 have won awards. Currently SCSIO is undertaking a series of major and key research projects and continuing to play an important role in marine sciences and development in China. SCSIO also actively serves national and local marine economic development by undertaking tasks such as monitoring and assessment of marine environment investigation and analyses of marine biology, hydrology, etc. SCSIO has established academic exchanges and collaboration with 38 nations, including USA, Japan, Germany and Britain. Over 30 collaborative projects have been finished or are being carried on, including responsibility for the seagrass sub-component in China of the project "Reversing Environmental Degradation Trends in South China Sea and Gulf of Thailand".

(2) National Dugong Natural Reservation Zone Management Station In Hepu Of Guangxi

The National Dugong Natural Reservation Zone Management Station was established in Hepu Guangxi province in Oct 1986. It lies in Hepu county, Beihai city, Guangxi province. The reserve spans 43 kilometres of coastline, from the Yingluo port in Shankou town to the sea area of Shatian town. The national nature preserve manager station has 20 members, among them 12 college graduates, 3 senior engineers and 3 engineers. The graduates majored in environment biology, biology technique, ecology etc. The station consists of a stationmaster office, ecology research station and Shatian preserve station, which implement the tasks associated with daily management, research and education, and others. The station has 3400 sq. meters of laboratories, research equipment, and other support equipment such as 1 motorboat, 1 vidicon, 4 cameras, 2 telescopes and 2 satellite navigation systems.

Since the station was established, a great deal of work has been accomplished in order to protect the dugong and white dolphin resources. This has included production of some rich and colourful awareness raising materials, and extensive research on seagrass, dugong and white dolphin resources. The station has increased patrols in the preserve in order to discourage illegal activities and protect the dugong and seagrass resources effectively.

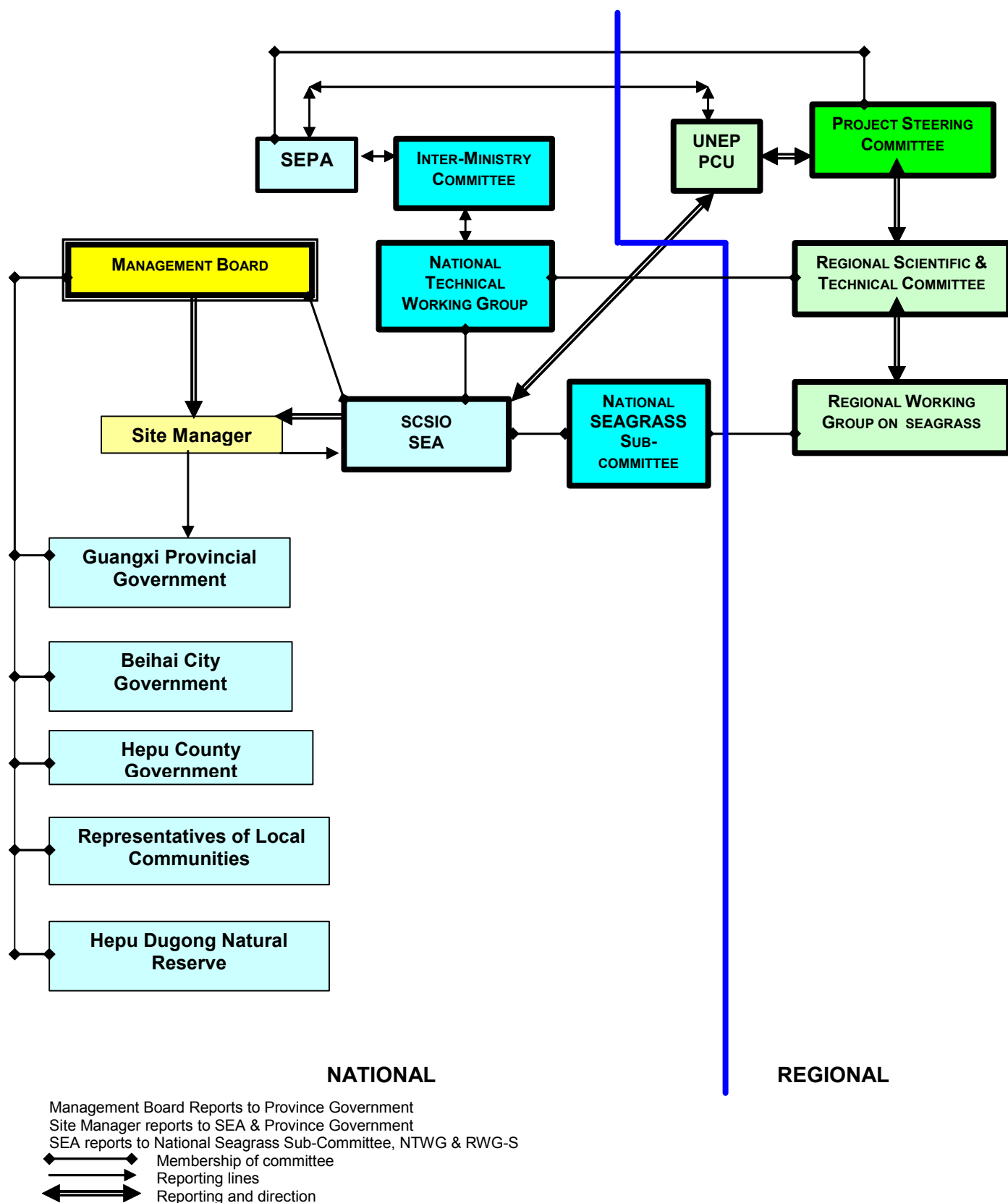


Fig. 1. Proposed Management Framework for Hepar Seagrass Demonstration Site

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Annex 1 - Species List

The following species list is taken from the full site characterization table, and includes confirmed species from the Hepu seagrass beds. Other species will be added following additional research associated with the demonstration site project. The full site characterization table is available at the PCU, and the South China Sea Institute of Oceanology.

Penaeids
<i>Penaeus penicillatus</i> Alock
<i>Penaeus (Marsupenaeus) japonicus</i> Bate
<i>Metapenaeus intermedius</i> (Kishinouye)
<i>Metapenaeus ensis</i> (de Haan)
<i>Metapenaeus affinis</i> H. Mine-Edwards
Gastropods
<i>Cerithidea cingulata</i> (Gmelin)
<i>Thais gradadta</i> Jonas
<i>Nerita japonica</i> Dunker
<i>Turritella bacillum</i> Kieuer
<i>Thais mutabilis</i> (Link)
<i>Mitrella bella</i> (Reeve)
Pyramidellidae
<i>Bullacta exarata</i> (Philippi)
<i>Siphopatella walshi</i> (Reeve)
<i>Clithon oualaniensis</i> (Lesson)
<i>Acrilla acuminata</i> (Sowerby)
<i>Mitra</i> sp
Holothurians
<i>Holothuria scabra</i> Jaeger
<i>Pentacta anceps</i> (Selenka)
<i>Opheodesome</i> sp
<i>Phyrella fragilis</i> (Ohshima)
Others
<i>Siganus fuscescens</i> (Houttuyn) (rabbit fish)
<i>Temnopleurus reevesii</i> Gray (urchin)
<i>Arachnoides</i> (urchin)
<i>Astropecten monacanthus</i> Sladen (starfish)
<i>Archaster typicus</i> Muller et Troschel (starfish)
<i>Hippocampus kuda</i> (seahorse)
<i>Dugong dugon</i> (dugong)
<i>Chelonia mydas</i> (green turtle)

Annex 2 - Stakeholder Participation Plan

During the establishment of the seagrass bed demonstration site, stakeholder participation is expected to consist of: native fishers, local inhabitants, fishery management personnel, the local city planning department, the environmental protection branch and government, The executing agency. Implementing agency, PCU of the SCS project.

In order to gauge the public attitudes, 38 consultation questionnaires were distributed. The results showed:

- 84% of people have seen seagrass, and 95% of people thought that seagrass is beneficial for fishery.
- 84% of people found that the area of seagrass bed is decreasing rapidly.
- The main fishery activities are: digging snail, catching fish, cultivating shrimp and cultivating pearl.
- 39% of people realised that the seagrass bed was degraded.
- 95% of people thought that degeneration of seagrass bed had a negative impact on the fishery.
- 95% of people support that the seagrass bed would be established as demonstration site.
- 50% of people thought that it would have a negative influence to their livelihood if digging snail, other destructive fishing practices were forbidden.

In the preserve of seagrass, non-destructive fishing has been conducted for many years, with little impact on the seagrass bed. However more recently destructive fishing practices have damaged the seagrass. The targets for the fisheries were usually shrimp and kinds of seashell. It is necessary to raise the level of education and awareness as soon as possible in the villages and towns. This will assist the fisherfolk to recognize the importance of seagrass biodiversity and the need for protection of the seagrass. Thereby, the enthusiasm of fisherfolk for seagrass protection will be enhanced, and the overall situation improved.

The plans for improvements in the seagrass demonstration site should include close cooperation with the local government. Some fisherfolk who exploit the seagrass area may be encouraged to engage in industry and agriculture, and some favourable policies should be introduced to encourage them. Those fisherfolk who engage in aquaculture in the area can be encouraged to cultivate away from the seagrass area. Much of the labour force are women, and suitable alternative income generation activities should be made available to them as well.

When the seagrass demonstration site is established, effort should be put into coordination between local residents and the administrative department. For the administrative department, major responsibilities are: to help the management council of the demonstration site to put into effect concrete measures, dispatch regular enforcement patrols, punish persons who break the law and destroy seagrass, and publicize the protection policies for seagrass. Local residents, including students, should be encouraged to improve their knowledge on any policies for protecting seagrass. The administrative department also needs to create more employment opportunities for fishermen, persuade them to give up the destructive fishing methods and take other jobs.

The function of stakeholders in the activities

Stakeholders	Function
Executing Agencies	Supervising, leading and managing the project.
Management Board	Operating and managing the demonstration site activities.
Local fisherfolk	Decreasing the destructive behaviours to seagrass bed when fishing.
Local habitants	To publicise the significance of seagrass beds and protect them.
Local government	To ensure that the protection of seagrass is included in the economic developing plans
Environmental bureau	To supervise and deal with the environmental pollution around the seagrass bed.
Fishery bureau	To supervise the fishing and mariculture activities in the seagrass bed.
Dredging company	To supervise the actions of dredging and shipping such that they have minimal effect on the seagrass bed.

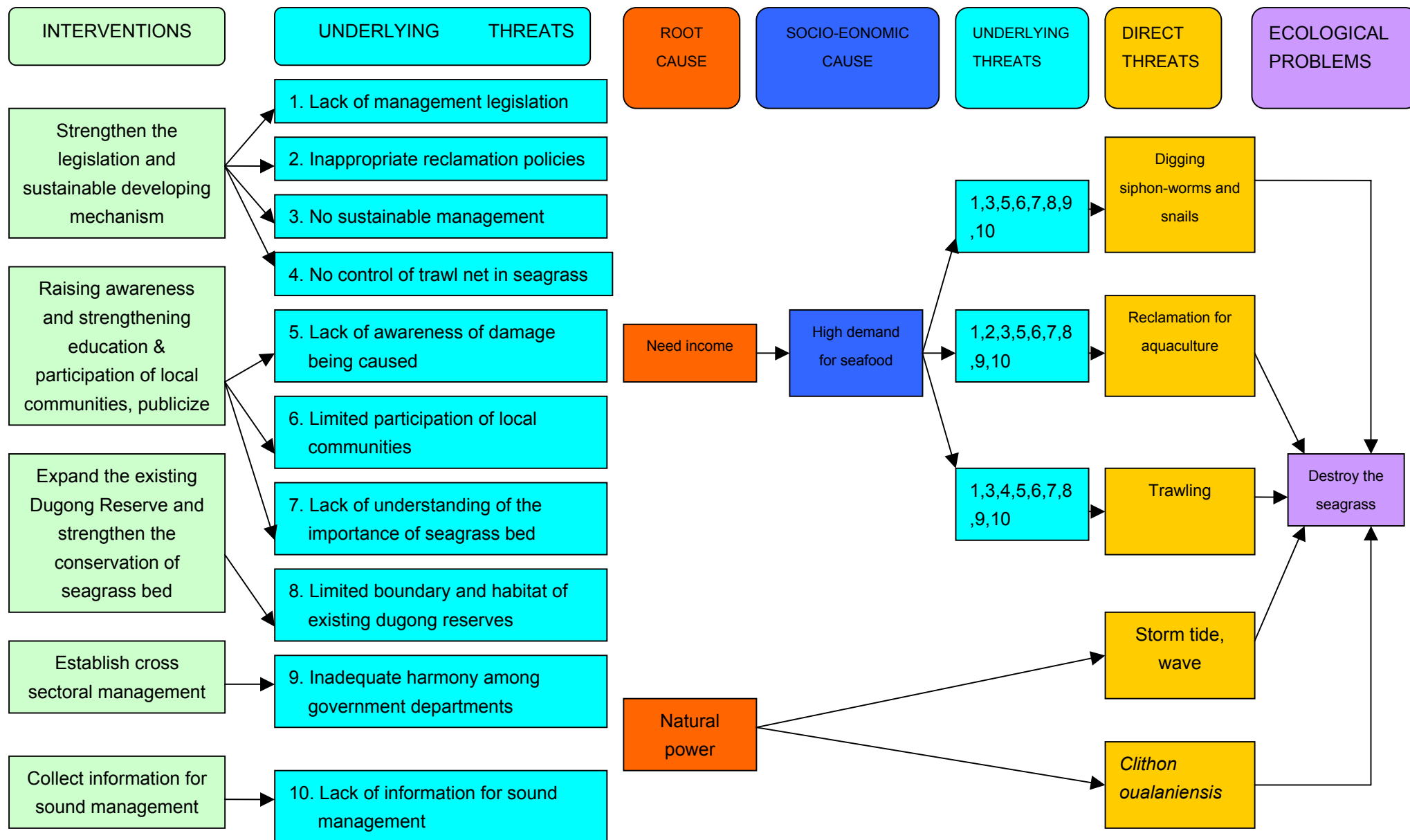
Annex 3 - Causal Chain Analysis

Hepu seagrass bed has been degraded due to human activities and forces of nature.

Human Activities: Seafood is popular in the market. To increase income, more and more local people go to the beach to dig siphon-worms and snails, reclaim areas for aquaculture, net for fish, and others. All these activities destroyed the seagrass.

Forces of Nature: Natural Power

The storm tide and the waves caused by typhoons erode the seagrass entirely. *Clithon oualaniensis* a nerite snail, reproduces rapidly on the beach, colonizing the space previously occupied by the seagrass.



Annex 4 - Monitoring and Evaluation Plan

Objective	Action	Key Performance Indicators
Establish cross sectoral management framework for the sustainable use of the Hepu seagrass site	Establish Hepu seagrass site management board (MB)	·Membership list of MB approved by TOR by Guangxi Provincial. ·TOR of MB approved by Guangxi Provincial. ·Regular meeting reports of management board (12)
	Prepare site management plan, in consultation with all stakeholders	·Stakeholders meeting reports (2) ·Management Plan
	Establish & publicize website for demonstration site	·Seagrass website
	Oversight of project management	·Half yearly progress reports and expenditure statements for UNEP
Sustainability of site management	Stakeholder Analysis	·Stakeholder participation plan.
	Economic valuation	·Meeting reports of stakeholder discussion, inputs and clearance of economic evaluation (2). ·Report on economic valuation
	Revenue streams & financial management	·Report on stakeholder meetings to discuss the draft of business and financial management plan ·Business and financial management plan
Objective	Action	Key Performance Indicators
Conservation of seagrass bed ecosystem as major habitat in the site (biodiversity conservation, dugong protection, etc.)	Expand the existing Dugong National Reserve, to cover wider ecosystem	·Reports on stakeholder meetings to discuss the draft function zoning plan of seagrass reserve (2) ·Report of seagrass reserve zone ·Result of seagrass reserve approved by local government
	legislation and enforcement	·Reports on stakeholder discussions regarding legislation and enforcement (2) ·New legislation or amendments to existing laws and regulations approved by the local government ·Pilot activity in reducing destructive fishing activities
	Collection of information for sound management	·Statistics on the social environment (population and economy etc) ·Reports on Monitoring & evaluation of environmental quality (water quality, sea bottom quality and hydrology etc) of the seagrass habitat ·Reports on the evaluation of bio-characteristic (species, coverage and biomass etc) of seagrass ·Reports on monitoring & evaluation of associated marine resources in seagrass bed
Education and training for increased involvement of all stakeholders in preserving the seagrass habitat	Training Programme	· Number of facilitators trained · Number of other staff trained
	Education	· Number of educated students school teachers · Number of educated residents · Number of educated government offices
	Raising awareness of community and resource users	· Number of watching seagrass protection video · Number of distributed seagrass posters and brochures · Number of notice boards · Number of distributed newsletter · Number of the accessing to the seagrass web site. · Statistic of the information of awareness before and in after the demonstration site actions
	Capacity building	·Education centre ·Number of visiting the centre

Annex 5 - Detailed Budget

Table 1 Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
1. Establish Cross Sectoral Management Framework for the Sustainable Use of the Hepu Seagrass Site													
1.1 Establish Hepu Seagrass Site Management Board (MB)													
1.1.1 Identify members of Hepu site management board													
1.1.2 Select and appoint site manager													
1.1.3 Draft TOR and rules of the MB													
1.1.4 Approval of membership and TOR by Guanxi Provincial Govt													
1.1.5 Regular meetings of management board (12)			19,200			19,200			10,200			10,200	29,400
1.2 Prepare site management plan, in consultation with all stakeholders													
1.2.1 Consultation with all stakeholders regarding responsibilities, future uses, and controlled activities at the site		2,000				2,000		1,200				1,200	3,200
1.2.2 Drafting of initial site management plan		3,000				3,000		1,000				1,000	4,000
1.2.3 Formal review of site management plan via stakeholders meetings (2 meetings)			2,000			2,000			1,000			1,000	3,000
1.2.4 Revision of initial draft plan for submission to MB		1,000				1,000		500				500	1,500
1.2.5 Submission and approval of management plan by Beihei City Government (meeting)						0			1,500			1,500	1,500
1.2.6 Publish Management plan via local press						0						0	0
1.2.7 Publication of 300 copies of management plan					1,500	1,500					2,500	2,500	4,000

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
1.3 Establish & publicize website for demonstration site													
1.3.1 Establish project website						0						0	0
1.3.1.1 Purchase of computers and equipments						0				10,000		10,000	10,000
1.3.1.2 Software				1,000		1,000						0	1,000
1.3.1.3 Page design		2,000				2,000		3,000				3,000	5,000
1.3.1.4 Equipment maintenance & repair					2,200	2,200					800	800	3,000
1.3.2 Consultants to prepare demonstration site website with UNEP/GEF Project and demonstration site information materials						0						0	0
1.3.3 Establish linkage with SCS website, & other demonstration site websites						0						0	0
1.4 Oversight of project management													
1.4.1 Publication of meeting reports, hard copy & via project website					9,000	9,000					600	600	9,600
1.4.2 Regular reports from management board to Guanxi Provincial Govt., and NTWG					2,000	2,000					2,000	2,000	4,000
1.4.3 Half yearly progress reports and expenditure statements for UNEP					0	0	0					0	0
1.4.4 Project evaluation at mid term and end of GEF support phase for project, by independent regional expert					11,000	11,000						0	11,000
1.4.5 Prepare and submission of final project summary report to UNEP/GEF (50 copies)					250	250					2,000	2,000	2,250

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
1.5 Implementation of the demonstration activities													
1.5.1 Management of Local Executing Agency						0						0	0
1.5.1.1 task manager 36w/m	10,800					10,800	7,200					7,200	18,000
1.5.1.2 assistants (two persons) 72w/m	14,400					14,400	14,400					14,400	28,800
1.5.1.3 Travel on official business (108 person trips)	3,000					3,000	6,000					6,000	9,000
1.5.1.4 Office expendable supplies 36month				6,000		6,000				1,000		1,000	7,000
1.5.1.5 Office non-expendable equipment (computers, laser printer, duplicating machine, etc.)						0				10,000		10,000	10,000
1.5.1.6 rent and maintenance office						0				8,000		8,000	8,000
1.5.1.7 cost of communication 36month					2,000	2,000					1,000	1,000	3,000
1.5.1.8 Translation					5,000	5,000					3,000	3,000	8,000
1.5.2 Management of General Executing Agency						0						0	0
1.5.2.1 Project Coordinator 12w/m	6,000					6,000	6,000					6,000	12,000
1.5.2.2 Project assistant 18w/m	7,200					7,200	2,400					2,400	9,600
1.5.2.3 P/t secretariat (including book keeper, and other administrative support) 24w/m	5,000					5,000	10,000					10,000	15,000
1.5.2.4 Travel on official business (36 person trips)	10,800					10,800	11,880					11,880	22,680
1.5.2.5 Office expendable supplies 36month				4,000		4,000				1,000		1,000	5,000
1.5.2.6 Office non-expendable equipment (computers, projector, duplicating machine, electrograph, desks, sofa, etc.)						0				15,000		15,000	15,000
1.5.2.7 rent and maintenance office						0				12,000		12,000	12,000
1.5.2.8 cost of communication 36month					6,000	6,000					1,000	1,000	7,000
1.5.2.9 Audit expenses 3years					2,000	2,000						0	2,000
1.5.2.10 Translation					9,000	9,000					2,000	2,000	11,000

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
2. Sustainability of Site Management													
2.1 Stakeholder Analysis													
2.1.1 Preparation of initial draft of stakeholder analysis	1,000					1,000	1,500					1,500	2,500
2.1.2 Discuss and clear initial draft of stakeholder analysis with stakeholder groups			2,500			2,500			500			500	3,000
2.1.3 Based on the stakeholder analysis, Prepare stakeholder participation plans	1,000					1,000	1,000					1,000	2,000
2.1.4 Formal approval of stakeholder participation plan						0						0	0
2.1.5 Publish stakeholder participation plan via website & local press					1,000	1,000					500	500	1,500
2.2 Economic valuation													
2.2.1 Assemble necessary information on economic valuation according to agreed procedures	2,000					2,000	2,000					2,000	4,000
2.2.2 Preparation of a draft economic valuation of Hepu Seagrass	1,500					1,500	1,500					1,500	3,000
2.2.3 Stakeholder discussion, inputs and clearance of Economic Valuation (2 meetings)			2,500			2,500			500			500	3,000
2.2.4 Finalisation of report on economic valuation	1,000					1,000	1,500					1,500	2,500
2.2.5 Publish economic valuation on website and local press, in hard copy					500	500					500	500	1,000
2.3 Revenue streams & Financial management													
2.3.1 Identification & analysis of potential revenue generation activities	2,000					2,000	2,000					2,000	4,000
2.3.2 Preparation of quantified potential revenue generation and income projections	1,500					1,500	1,500					1,500	3,000
2.3.3 Identification & estimation of costs of implementing Management Plan for Hepu seagrass and dugong	1,000					1,000	1,000					1,000	2,000
Preparation draft business and financial management plan for Hepu seagrasses and dugong	1,500					1,500	1,000					1,000	2,500

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
2.3.4 Stakeholder meetings to discuss the draft of business and financial management plan (2 mtgs)			2,800			2,800			200			200	3,000
2.3.5 Submission of the business plan, including procedures for financial management for approval by the Management Board					0	0						0	0
2.3.6 Establish of necessary financial management mechanisms (revenue collection, disbursement procedures)	1,500					1,500	1,000					1,000	2,500
3. Conservation of Seagrass Bed Ecosystem as Major Habitat in the Site (biodiversity conservation, dugong protection, etc.)													
3.1 Expand the existing Dugong National Reserve, to cover wider ecosystem													
3.1.1 Evaluation of the existing criteria for the National Dugong Reserve, to improve the functions of the Reserve	2,000					2,000	1,500					1,500	3,500
3.1.2 Preparation of a draft workplan to expand the existing Dugong National Reserve to cover wider area						0						0	0
3.1.2.1 To collect seagrass information		8,000				8,000		4,000				4,000	12,000
3.1.2.2 To collect marine biology and biodiversity information		9,000				9,000		6,000				6,000	15,000
3.1.2.3 To collection water and sediment quality information		9,000				9,000		4,000				4,000	13,000
3.1.2.4 To collect social and economical information		3,000				3,000		1,000				1,000	4,000
3.1.2.5 To carry out function zoning analysis, and prepare draft function zoning plan		13,500				13,500		21,000				21,000	34,500
2.1.2.6 Stakeholder meetings to discuss the draft function zoning plan (2 meetings)			2,500			2,500			500			500	3,000
3.1.3 Submission the draft workplan of reserve to the Guangxi provincial government for approval (including 2 expert evaluation meetings)			2,000			2,000			7,000			7,000	9,000

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
3.1.4 Publish the report and results of seagrass reserve					500	500					1,200	1,200	1,700
3.2 Legislation and enforcement													
3.2.1 Collection and analysis of national and local seagrass legislation	900					900	900					900	1,800
3.2.2 Preparation of draft recommendations on harmonisation of the legislation to the local government	3,000					3,000						0	3,000
3.2.3 Stakeholder discussions regarding legislation and enforcement (2 meetings)			2,500			2,500			500			500	3,000
3.2.4 Based on the comments and the results of analysis, preparation of new legislation or amendments to existing laws and regulations	3,000					3,000						0	3,000
3.2.5 Submission of proposals to the appropriate government agency for approval						0						0	0
3.2.6 Pilot activity in reducing destructive fishing activities		12,000				12,000		8,500				8,500	20,500
3.3 Collection of information for sound management													
3.3.1 Half year site surveys of area, biomass, biodiversity and main environment factors to determine the effects of interventions (6times)		37,200				37,200		8,620				8,620	45,820
3.3.2 Seasonal seagrass watch at a fixed transects (11times)		9,500				9,500		2,000				2,000	11,500
3.3.3 Evaluation of the effect of intervention		5,700				5,700		1,000				1,000	6,700
3.3.4 Survey & evaluation of public and governmental awareness on seagrass during the process of site demonstration		5,000				5,000		3,000				3,000	8,000
3.3.5 Workshop on discussion of natural and social survey results			5,000			5,000			3,000			3,000	8,000
3.3.6 Publication natural and social survey results to improve the management					900	900					1,000	1,000	1,900

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
4. Education and Training for Increased Involvement of All Stakeholders in Preserving the Seagrass Habitat													
4.1 Training Programme													
4.1.1 Prepare draft programme of training (training for trainers, training for managers, etc.)						0						0	0
4.1.2 Approval of the training plan by MB						0						0	0
4.1.3 Organisation of training courses						0						0	0
4.1.3.1 Training for trainer on seagrass ecology, value, conservation and management			2,000			2,000			1,000			1,000	3,000
4.1.3.2 Training for trainers in carrying out Seagrass Watch regularly			4,000			4,000			2,000			2,000	6,000
4.1.3.3 Training course for management staff			3,000			3,000			2,000			2,000	5,000
4.1.3.4 Training course on preparing technical report			2,000			2,000			1,000			1,000	3,000
4.2 Education												0	0
4.2.1 Initiate education on seagrass & dugong at the local schools for teachers and students.		2,500				2,500			1,000			1,000	3,500
4.2.2 Education seminars for villagers and urban residents		2,500				2,500			1,000			1,000	3,500
4.2.3 Training for the local government staff in management of marine & coastal resources, with focus on seagrass & dugong		2,500				2,500			1,000			1,000	3,500

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
4.3 Raising Awareness of Community and Resource Users													
4.3.1 Produce short (20 min) video on sustainable use, value, and threats to seagrass ecosystem.						0						0	0
4.3.1.1 Preparation of necessary materials	2,000					2,000	1,000					1,000	3,000
4.3.1.2 Production of video					1,000	1,000					500	500	1,500
4.3.2 Produce and distribute posters and brochures to raise awareness of the status and significance of the seagrass ecosystem													0
4.3.2.1 Preparation documents for poster and brochures						0						0	0
4.3.2.2 Publish 20 copies of posters and 500 brochures					8,000	8,000					2,000	2,000	10,000
4.3.3 Produce notice boards						0						0	0
4.3.3.1 Prepare and design notice	1,000					1,000	1,000					1,000	2,000
4.3.3.2 Production of the notice boards (10)		7,800				7,800		3,600				3,600	11,400
4.3.4 Produce public awareness materials, to be used by radio, television, and newspaper media						0						0	0
4.3.4.1 Preparation of necessary articles to be broadcast by local radio	1,000					1,000	1,500					1,500	2,500
4.3.4.2 Use the short movie prepared by the project, to be introduced by the local TV programme	1,000					1,000	1,500					1,500	2,500
4.3.4.3 Publication of the project news in local press					1,000	1,000					1,500	1,500	2,500
4.3.5 Use the established site webpage to provide information on seagrass to the publics						0						0	0
4.3.6 Publishing regular newsletter (12)					1,000	1,000					1,000	1,000	2,000

Table 1 *continued*

Budget by component and activity.

Objectives/Components	GEF						Co-finance						Total
	1000	2000	3000	4000	5000	Total	1000	2000	3000	4000	5000	Total	
Sub-component													
Activities													
Sub-activities													
4.4 Capacity Building													
4.4.1 Establish an education and interpretation centre (production of specimen, exhibition posters, etc.)						0						0	0
4.4.1.1 Construction of the education centre						0				120,000		120,000	120,000
4.4.1.2 Planning of the education centre		2,000				2,000		2,000				2,000	4,000
4.4.1.3 Collecting & Creating biological specimens of seagrass bed ecosystem													
4.4.1.4 Assistance to draft commentary for specimens	2,000					2,000						0	2,000
4.4.1.5 Preparation of the posters & frames		5,000				5,000						0	5,000
4.4.1.6 Collection and preparation of other documents	2,000					2,000	1,500					1,500	3,500
4.4.2 Improve monitoring capacity for seagrass & dugong				4,700		4,700				30,000		30,000	34,700
Total	95,100	182,700	70,000	39,700	93,850	391,350	86,780	82,420	51,900	231,000	53,100	415,200	806,550

Table 2 Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total		
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total
1000 PROJECT PERSONNEL COMPONENT																															
1100	Project personnel																														
1101	Task manager of Local Executing Agency 36w/m	1,800	1,200	3,000	1,800	1,200	3,000	3,600	2,400	6,000	1,800	1,200	3,000	1,800	1,200	3,000	3,600	2,400	6,000	1,800	1,200	3,000	1,800	1,200	3,000	3,600	2,400	6,000	10,800	7,200	18,000
1102	Assistants of Local Executing Agency 72w/m	2,400	2,400	4,800	2,400	2,400	4,800	4,800	4,800	9,600	2,400	2,400	4,800	2,400	2,400	4,800	4,800	4,800	9,600	2,400	2,400	4,800	2,400	2,400	4,800	4,800	4,800	9,600	14,400	14,400	28,800
1103	Coordinator of General Executing Agency 12w/m	1,000	1,000	2,000	1,000	1,000	2,000	2,000	2,000	4,000	1,000	1,000	2,000	1,000	1,000	2,000	2,000	2,000	4,000	1,000	1,000	2,000	1,000	1,000	2,000	2,000	2,000	4,000	6,000	6,000	12,000
1104	Project assistant of General Executing Agency 18w/m	1,200	400	1,600	1,200	400	1,600	2,400	800	3,200	1,200	400	1,600	1,200	400	1,600	2,400	800	3,200	1,200	400	1,600	1,200	400	1,600	2,400	800	3,200	7,200	2,400	9,600
1199	Total	6,400	5,000	11,400	6,400	5,000	11,400	12,800	10,000	22,800	6,400	5,000	11,400	6,400	5,000	11,400	12,800	10,000	22,800	6,400	5,000	11,400	6,400	5,000	11,400	12,800	10,000	22,800	38,400	30,000	68,400
1200	Consultants																														
1201	Consultants to preparation of initial draft of stakeholder analysis	500	750	1,250	500	750	1,250	1,000	1,500	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	1,500	2,500
1202	Based on the stakeholder analysis, prepare stakeholder participation plans	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000	0	0	0	1,000	1,000	2,000	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000
1203	Assemble necessary information on economic valuation according to agreed procedures	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000	1,000	1,000	2,000	2,000	2,000	4,000	0	0	0	0	0	0	0	0	0	2,000	2,000	4,000
1204	Preparation of a draft economic valuation of Hepu Seagrass	0	0	0	0	0	0	0	0	0	0	0	0	1,500	1,500	3,000	1,500	1,500	3,000	0	0	0	0	0	0	0	0	0	1,500	1,500	3,000
1205	Finalisation of report on economic valuation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	750	1,250	500	750	1,250	1,000	1,500	2,500	1,000	1,500	2,500
1206	Evaluation of the existing criteria for the National Dugong Reserve, with a view to improve the functions of the National Reserve	1,000	750	1,750	1,000	750	1,750	2,000	1,500	3,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,500	3,500
1207	Collection and analysis of national and local seagrass legislation	0	0	0	900	900	1,800	900	900	1,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	900	900	1,800

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total		
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total
1208	Preparation of draft recommendations on harmonisation of the legislation to the local government	0	0	0	1,500		1,500	1,500	0	1,500	1,500		1,500	0	0	0	1,500	0	1,500	0	0	0	0	0	0	0	0	0	3,000	0	3,000
1209	Based on the comments and the results of analysis, preparation of new legislation or amendments to existing laws and regulations	0	0	0	0	0	0	0	0	0	0	0	0	3,000	0	3,000	3,000	0	3,000	0	0	0	0	0	0	0	0	0	3,000	0	3,000
1210	Preparation of necessary materials for video	2,000	1,000	3,000	0	0	0	2,000	1,000	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,000	3,000	
1211	Prepare and design notice	1,000	1,000	2,000	0	0	0	1,000	1,000	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000	
1212	Preparation of necessary articles to be brocasted by local radio	0	0	0	1,000	1,500	2,500	1,000	1,500	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	1,500	2,500		
1213	Assistance to draft commendatory for education base	0	0	0	0		0	0	0	0	2,000		2,000	0	0	0	2,000	0	2,000	0	0	0	0	0	0	0	0	2,000	0	2,000	
1299	Total	4,500	3,500	8,000	4,900	3,900	8,800	9,400	7,400	16,800	5,500	2,000	7,500	5,500	2,500	8,000	11,000	4,500	15,500	500	750	1,250	500	750	1,250	1,000	1,500	2,500	21,400	13,400	34,800
1300	Administrative support																														
1301	P/t secretariat of General Executing Agency 24w/m	800	1,700	2,500	850	1,650	2,500	1,650	3,350	5,000	850	1,650	2,500	850	1,650	2,500	1,700	3,300	5,000	850	1,650	2,500	800	1,700	2,500	1,650	3,350	5,000	5,000	10,000	15,000
1399	Total	800	1,700	2,500	850	1,650	2,500	1,650	3,350	5,000	850	1,650	2,500	850	1,650	2,500	1,700	3,300	5,000	850	1,650	2,500	800	1,700	2,500	1,650	3,350	5,000	5,000	10,000	15,000
1600	Travel on official business																														
1601	Travel on official business of Local Executing Agency (108 persons trips)	500	1,000	1,500	500	1,000	1,500	1,000	2,000	3,000	500	1,000	1,500	500	1,000	1,500	1,000	2,000	3,000	500	1,000	1,500	500	1,000	1,500	1,000	2,000	3,000	3,000	6,000	9,000
1602	Travel on official business of General Executing Agency (36 persons trips)	1,800	1,980	3,780	1,800	1,980	3,780	3,600	3,960	7,560	1,800	1,980	3,780	1,800	1,980	3,780	3,600	3,960	7,560	1,800	1,980	3,780	1,800	1,980	3,780	3,600	3,960	7,560	10,800	11,880	22,680
1603	Collection and preparation of necessary documents for education centre	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,500	3,500	2,000	1,500	3,500	0	0	0	0	0	0	0	0	0	2,000	1,500	3,500
1699	Total	2,300	2,980	5,280	2,300	2,980	5,280	4,600	5,960	10,560	2,300	2,980	5,280	4,300	4,480	8,780	6,600	7,460	14,060	2,300	2,980	5,280	2,300	2,980	5,280	4,600	5,960	10,560	15,800	19,380	35,180
1999	Component total	14,000	13,180	27,180	14,450	13,530	27,980	28,450	26,710	55,160	15,050	11,630	26,680	17,050	13,630	30,680	32,100	25,260	57,360	10,050	10,380	20,430	10,000	10,430	20,430	20,050	20,810	40,860	80,600	72,780	153,380

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total		
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total
2000 SUB-CONTRACT COMPONENT																															
2200	Sub-contract with non profit organisations																														
2201	Identification & analysis of potential revenue generations	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000	1,000	1,000	2,000	2,000	2,000	4,000			0			0	0	0	0	2,000	2,000	4,000
2202	Preparation of quantified potential revenue generations and income projections	0	0	0	0	0	0	0	0	0	0	0	0	1,500	1,500	3,000	1,500	1,500	3,000			0			0	0	0	0	1,500	1,500	3,000
2203	Identification & estimation of costs of implementing Management Plan for Hepu seagrass and dugong management	0	0	0	0	0	0	0	0	0	0	0	0	1,000	1,000	2,000	1,000	1,000	2,000			0			0	0	0	0	1,000	1,000	2,000
2204	Preparation draft business and financial management plan for Hepu seagrasses and dugong	0	0	0	0	0	0	0	0	0	0	0	0	750	500	1,250	750	500	1,250	750	500	1,250			0	750	500	1,250	1,500	1,000	2,500
2205	Establish of necessary financial management mechanisms (revenue collection, disbursement procedures)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	1,500	1,000	2,500	1,500	1,000	2,500	1,500	1,000	2,500
2206	Evaluation of the effect of intervention	0	0	0	0	0	0	0	0	0	1,500	250	1,750	1,400	250	1,650	2,900	500	3,400	1,400	250	1,650	1,400	250	1,650	2,800	500	3,300	5,700	1,000	6,700
2207	Use the short movie prepared by the project, to be introduced by the local TV programme	0	0	0	500	750	1,250	500	750	1,250	500	750	1,250	0	0	0	500	750	1,250			0			0	0	0	0	1,000	1,500	2,500
2208	Consultation with all stakeholders regarding responsibilities, future uses, and controlled activities at the site	2,000	1,200	3,200	0	0	0	2,000	1,200	3,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,200	3,200	
2209	Drafting of initial site management plan	1,500	500	2,000	1,500	500	2,000	3,000	1,000	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,000	1,000	4,000		
2210	Revision of initial draft management plan for submission to management board	0	0	0	1,000	500	1,500	1,000	500	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	500	1,500		
2211	Page design for website	2,000	3,000	5,000			0	2,000	3,000	5,000			0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	3,000	5,000		
2212	To collect seagrass information	0	0	0	4,000	2,000	6,000	4,000	2,000	6,000	4,000	2,000	6,000	0	0	0	4,000	2,000	6,000	0	0	0	0	0	0	0	8,000	4,000	12,000		
2213	To collect marine biology and biodiversity information	0	0	0	4,500	3,000	7,500	4,500	3,000	7,500	4,500	3,000	7,500	0	0	0	4,500	3,000	7,500	0	0	0	0	0	0	0	9,000	6,000	15,000		

Table 2 continued **Budget by object of expenditure.**

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total			
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	
2214	To collection water and sediment quality information	0	0	0	4,500	2,000	6,500	4,500	2,000	6,500	4,500	2,000	6,500	0	0	0	4,500	2,000	6,500	0	0	0	0	0	0	0	0	0	0	9,000	4,000	13,000
2215	To collect social and economical information	0	0	0	1,500	500	2,000	1,500	500	2,000	1,500	500	2,000	0	0	0	1,500	500	2,000	0	0	0	0	0	0	0	0	0	0	3,000	1,000	4,000
2216	To carry out function zoning analysis, and prepare draft function zoning plan	0	0	0	5,000	7,500	12,500	5,000	7,500	12,500	5,000	7,500	12,500	3,500	6,000	9,500	8,500	13,500	22,000	0	0	0	0	0	0	0	0	0	0	13,500	21,000	34,500
2217	Pilot activity in reducing destructive fishing activities	0	0	0	0	0	0	0	0	0	0	0	0	2,000	2,500	4,500	2,000	2,500	4,500	5,000	3,000	8,000	5,000	3,000	8,000	10,000	6,000	16,000	12,000	8,500	20,500	
2218	Half year site surveys of area, biomass, biodiversity and main environment factors to determine the effects of interventions (6times)	6,200	1,510	7,710	6,200	1,400	7,600	12,400	2,910	15,310	6,200	1,400	7,600	6,200	1,400	7,600	12,400	2,800	15,200	6,200	1,400	7,600	6,200	1,510	7,710	12,400	2,910	15,310	37,200	8,620	45,820	
2219	Seasonal seagrass watch at a fixed transactions (11 times)	900	200	1,100	1,750	350	2,100	2,650	550	3,200	1,750	350	2,100	1,750	350	2,100	3,500	700	4,200	1,750	350	2,100	1,600	400	2,000	3,350	750	4,100	9,500	2,000	11,500	
2220	Survey & evaluation of public and governmental awareness on seagrass during the process of site demonstration	400	300	700	950	500	1,450	1,350	800	2,150	950	500	1,450	950	500	1,450	1,900	1,000	2,900	950	500	1,450	800	700	1,500	1,750	1,200	2,950	5,000	3,000	8,000	
2221	Initiate education on seagrass & dugong at the local schools for teachers and students	0	0	0	2,000	500	2,500	2,000	500	2,500	500	500	1,000	0	0	0	500	500	1,000	0	0	0	0	0	0	0	0	0	0	2,500	1,000	3,500
2222	Education seminars for villagers and urban residents	0	0	0	2,000	500	2,500	2,000	500	2,500	500	500	1,000	0	0	0	500	500	1,000	0	0	0	0	0	0	0	0	0	0	2,500	1,000	3,500
2223	Training for the local government staff in management of marine & coastal resources, with focus on seagrass & dugong	0	0	0	2,000	500	2,500	2,000	500	2,500	500	500	1,000	0	0	0	500	500	1,000	0	0	0	0	0	0	0	0	0	0	2,500	1,000	3,500
2224	Production of the notice boards (10)	0	0	0	7,800	3,600	11,400	7,800	3,600	11,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,800	3,600	11,400
2225	Planning of the education centre	2,000	2,000	4,000	0	0	0	2,000	2,000	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	2,000	4,000
2226	Collecting & Creacting biological specimens of seagrass bed ecosystem	0	0	0	14,250	0	14,250	14,250	0	14,250	14,250	0	14,250	0	0	0	14,250	0	14,250	0	0	0	0	0	0	0	0	0	0	28,500	0	28,500
2227	Construction of the education centre		90,000	90,000		15,000	15,000	0	105,000	105,000		15,000	15,000	0	0	0	0	15,000	15,000	0	0	0	0	0	0	0	0	0	0	0	120,000	120,000

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total		
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total
2228	Preparation of the posters & frames for education base	0	0	0	0	0	0	0	0	0	0	0	0	5,000	0	5,000	5,000	0	5,000	0	0	0	0	0	0	0	0	5,000	0	5,000	
2299	Total	15,000	98,710	113,710	59,450	39,100	98,550	74,450	137,810	212,260	47,150	35,750	82,900	25,050	15,000	40,050	72,200	50,750	122,950	16,050	6,000	22,050	16,500	6,860	23,360	32,550	12,860	45,410	179,200	201,420	380,620
2999	Component total	15,000	98,710	113,710	59,450	39,100	98,550	74,450	137,810	212,260	47,150	35,750	82,900	25,050	15,000	40,050	72,200	50,750	122,950	16,050	6,000	22,050	16,500	6,860	23,360	32,550	12,860	45,410	179,200	201,420	380,620
3000 TRAINING COMPONENT																															
3200	Group training																														
3201	Training for trainer on seagrass ecology, value, conservation and management	2,000	1,000	3,000	0	0	0	2,000	1,000	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,000	3,000	
3202	Training for trainers in carrying out Seagrass Watch regularly	4,000	2,000	6,000	0	0	0	4,000	2,000	6,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,000	2,000	6,000	
3203	Training course for management staff	0	0	0	3,000	2,000	5,000	3,000	2,000	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,000	2,000	5,000		
3204	Training course on preparing technical report	2,000	1,000	3,000	0	0	0	2,000	1,000	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,000	3,000		
3299	Total	8,000	4,000	12,000	3,000	2,000	5,000	11,000	6,000	17,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,000	6,000	17,000		
3300	Meeting/Conference																														
3301	Meetings of Manage Board (12)	3,200	1,700	4,900	3,200	1,700	4,900	6,400	3,400	9,800	3,200	1,700	4,900	3,200	1,700	4,900	6,400	3,400	9,800	3,200	1,700	4,900	3,200	1,700	4,900	6,400	3,400	9,800	19,200	10,200	29,400
3302	Meetings to review site management plan via stakeholders (2)	0	0	0	2,000	1,000	3,000	2,000	1,000	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	1,000	3,000		
3303	Meeting to approve management plan by Beihai City Government	0	0	0	0	0	0	0	0	0	0	1,500	1,500	0	0	0	0	1,500	1,500	0	0	0	0	0	0	0	0	1,500	1,500		
3304	Workshops to discuss and clear initial draft of stakeholder analysis with stakeholder groups (2)	0	0	0	0	0	0	0	0	0	2,500	500	3,000	0	0	0	2,500	500	3,000	0	0	0	0	0	0	0	2,500	500	3,000		
3305	Stakeholder discussion, inputs and clearance of Economic Valuation (2 meetings)	0	0	0	0	0	0	0	0	0	0	0	0	1,250	250	1,500	1,250	250	1,500	1,250	250	1,500	0	0	0	1,250	250	1,500	2,500	500	3,000
3306	Stakeholder meetings to discuss the draft of business and financial management plan (2 meetings)	0	0	0	0	0	0	0	0	0	0	0	0	1,400	100	1,500	1,400	100	1,500	1,400	100	1,500	0	0	0	1,400	100	1,500	2,800	200	3,000

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total			
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	
3307	Stakeholder meetings to discuss the draft function zoning plan (2 meetings)	0	0	0	0	0	0	0	0	0	0	0	0	2,500	500	3,000	2,500	500	3,000	0	0	0	0	0	0	0	2,500	500	3,000			
3308	Experts evaluations of the draft work plan of reserve to the Guangxi provincial government for approval (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	7,000	9,000	0	0	0	2,000	7,000	9,000	2,000	7,000	9,000	
3309	Stakeholder discussions regarding legislation and enforcement (2 meetings)	0	0	0	0	0	0	0	0	0	2,500	500	3,000			0	2,500	500	3,000			0	0	0	0	0	2,500	500	3,000			
3310	Workshop on discussion of natural and social survey results	0	0	0	0	0	0	0	0	0	0	0	0	5,000	3,000	8,000	5,000	3,000	8,000	0	0	0	0	0	0	0	5,000	3,000	8,000			
3399	Total	3,200	1,700	4,900	5,200	2,700	7,900	8,400	4,400	12,800	8,200	4,200	12,400	13,350	5,550	18,900	21,550	9,750	31,300	7,850	9,050	16,900	3,200	1,700	4,900	11,050	10,750	21,800	41,000	24,900	65,900	
3999	Component total	11,200	5,700	16,900	8,200	4,700	12,900	19,400	10,400	29,800	8,200	4,200	12,400	13,350	5,550	18,900	21,550	9,750	31,300	7,850	9,050	16,900	3,200	1,700	4,900	11,050	10,750	21,800	52,000	30,900	82,900	
4000 EQUIPMENT & PREMISES COMPONENT																																
4100	Expendable equipment																															
4101	Software for website	1,000	0	1,000	0	0	0	1,000	0	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	0	1,000			
4102	Office expendable supplies of Local Executing Agency 36month	1,000	150	1,150	1,000	200	1,200	2,000	350	2,350	1,000	150	1,150	1,000	200	1,200	2,000	350	2,350	1,000	150	1,150	1,000	150	1,150	2,000	300	2,300	6,000	1,000	7,000	
4103	Office expendable supplies of General Executing Agency 36month	1,000	300	1,300	750	200	950	1,750	500	2,250	750	150	900	750	200	950	1,500	350	1,850	750	150	900	0	0	0	750	150	900	4,000	1,000	5,000	
4199	Total	3,000	450	3,450	1,750	400	2,150	4,750	850	5,600	1,750	300	2,050	1,750	400	2,150	3,500	700	4,200	1,750	300	2,050	1,000	150	1,150	2,750	450	3,200	11,000	2,000	13,000	
4200	Non Expendable equipment																															
4201	Purchase of computers and equipments for website	0	10,000	10,000	0	0	0	0	10,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,000	10,000		
4202	Office non-expendable supplies of Local Executing Agency (computers, laser printer, duplicating machine, etc.)	0	5,000	5,000	0	1,250	1,250	0	6,250	6,250	0	1,250	1,250	0	1,250	1,250	0	2,500	2,500	0	1,250	1,250	0	0	0	0	0	1,250	1,250	0	10,000	10,000

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total			
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total				
4203	Non-expendable supplies of General Executing Agency (computers, projector, duplicating machine, electrograph, desks, sofa, etc.)	0	5,000	5,000	0	2,500	2,500	0	7,500	7,500	0	2,500	2,500	0	2,500	2,500	0	5,000	5,000	0	2,500	2,500	0	0	0	0	0	2,500	2,500	0	15,000	15,000
4204	Equipment to improve monitoring capacity for seagrass and dugong	4,700	30,000	34,700	0	0	0	4,700	30,000	34,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,700	30,000	34,700
4299	Total	4,700	50,000	54,700	0	3,750	3,750	4,700	53,750	58,450	0	3,750	3,750	0	3,750	3,750	0	7,500	7,500	0	3,750	3,750	0	0	0	0	0	3,750	3,750	4,700	65,000	69,700
4300	Premises																															
	Rent and maintained office of Local Executing Agency 36month	0	1,500	1,500	0	1,250	1,250	0	2,750	2,750	0	1,250	1,250	0	1,250	1,250	0	2,500	2,500	0	1,250	1,250	0	1,500	1,500	0	2,750	2,750	0	8,000	8,000	
	Rent and maintained office of General Executing Agency 36month	0	2,000	2,000	0	2,000	2,000	0	4,000	4,000	0	2,000	2,000	0	2,000	2,000	0	4,000	4,000	0	2,000	2,000	0	2,000	2,000	0	4,000	4,000	0	12,000	12,000	
4399	Total	0	3,500	3,500	0	3,250	3,250	0	6,750	6,750	0	3,250	3,250	0	3,250	3,250	0	6,500	6,500	0	3,250	3,250	0	3,500	3,500	0	6,750	6,750	0	20,000	20,000	
4999	Component total	7,700	53,950	61,650	1,750	7,400	9,150	9,450	61,350	70,800	1,750	7,300	9,050	1,750	7,400	9,150	3,500	14,700	18,200	1,750	7,300	9,050	1,000	3,650	4,650	2,750	10,950	13,700	15,700	87,000	102,700	
5000 MISCELLANEOUS COMPONENT																																
5100	Operation and maintenance of equipment																															
5101	Equipment maintenance &repair for website	350	150	500	400	100	500	750	250	1,000	350	150	500	400	100	500	750	250	1,000	350	150	500	350	150	500	700	300	1,000	2,200	800	3,000	
5199	Total	350	150	500	400	100	500	750	250	1,000	350	150	500	400	100	500	750	250	1,000	350	150	500	350	150	500	700	300	1,000	2,200	800	3,000	
5200	Reporting Costs																															
5201	Publication of 300 copies of management plan	0	0	0	0	0	0	0	0	0	1,500	2,500	4,000	0	0	0	1,500	2,500	4,000	0	0	0	0	0	0	0	0	0	0	1,500	2,500	4,000
5202	Publication of meeting reports	1,000	100	1,100	1,500	100	1,600	2,500	200	2,700	1,500	100	1,600	1,500	100	1,600	3,000	200	3,200	1,500	100	1,600	2,000	100	2,100	3,500	200	3,700	9,000	600	9,600	
5203	Regular reports from management board to Guanxi Provincial Govt.	200	200	400	400	350	750	600	550	1,150	350	400	750	400	350	750	750	750	1,500	350	400	750	300	300	600	650	700	1,350	2,000	2,000	4,000	
5204	Publish stakeholder participation plan via website & local press	0	0	0	0	0	0	0	0	0	0	0	0	1,000	500	1,500	1,000	500	1,500	0	0	0	0	0	0	0	0	0	1,000	500	1,500	
5205	Publish economic valuation on website and local press, in hard copy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	500	1,000	500	500	1,000	500	500	1,000	
5206	Publish the report, results of seagrass reserve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	1,200	1,700	500	1,200	1,700	500	1,200	1,700	

Table 2 continued Budget by object of expenditure.

		1 st half year			2 nd half year			2005			3 rd half year			4 th half year			2006			5 th half year			6 th half year			2007			Total			
		GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	GEF	Co-fin	Total	
5207	Publication natural and social survey results to improve the management	0	0	0	0	0	0	0	0	0	0	0	0	900	1,000	1,900	900	1,000	1,900	0	0	0	0	0	0	0	900	1,000	1,900			
5208	Production of video	0	0	0	1,000	500	1,500	1,000	500	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	500	1,500				
5209	Publish 20 copies of posters, 500 brochures	0	0	0	8,000	2,000	10,000	8,000	2,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000	2,000	10,000				
5210	Publication of the project news in local press	200	250	450	150	250	400	350	500	850	150	250	400	150	250	400	300	500	800	150	250	400	200	250	450	350	500	850	1,000	1,500	2,500	
5211	Publishing regular newsletter (12)	200	200	400	150	150	300	350	350	700	150	150	300	150	150	300	300	300	600	150	150	300	200	200	400	350	350	700	1,000	1,000	2,000	
5212	Printing final project report (50 copies)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	250	250	0	250	250	0	250	
5299		1,600	750	2,350	11,200	3,350	14,550	12,800	4,100	16,900	3,650	3,400	7,050	4,100	2,350	6,450	7,750	5,750	13,500	2,150	900	3,050	3,950	2,550	6,500	6,100	3,450	9,550	26,650	13,300	39,950	
5300	Sundry																															
5301	Communication, Local Executing Agency 3 yrs	300	150	450	400	150	550	700	300	1,000	300	200	500	400	150	550	700	350	1,050	300	200	500	300	150	450	600	350	950	2,000	1,000	3,000	
5302	Translation of Local Executing Agency	500	500	1,000	750	500	1,250	1,250	1,000	2,250	750	500	1,250	750	500	1,250	1,500	1,000	2,500	750	500	1,250	1,500	500	2,000	2,250	1,000	3,250	5,000	3,000	8,000	
5303	Communication, General Executing Agency 3 yrs	1,000	150	1,150	1,000	200	1,200	2,000	350	2,350	1,000	150	1,150	1,000	200	1,200	2,000	350	2,350	1,000	150	1,150	1,000	150	1,150	2,000	300	2,300	6,000	1,000	7,000	
5304	Translation of General Executing Agency	1,000	300	1,300	1,500	350	1,850	2,500	650	3,150	1,500	350	1,850	1,500	350	1,850	3,000	700	3,700	1,500	350	1,850	2,000	300	2,300	3,500	650	4,150	9,000	2,000	11,000	
5399		2,800	1,100	3,900	3,650	1,200	4,850	6,450	2,300	8,750	3,550	1,200	4,750	3,650	1,200	4,850	7,200	2,400	9,600	3,550	1,200	4,750	4,800	1,100	5,900	8,350	2,300	10,650	22,000	7,000	29,000	
5500	Evaluation																															
5501	Mid-term and final (consultants fees/travel/DSA)	0	0	0	0	0	0	0	0	0	0	0	0	5,500	0	5,500	5,500	0	5,500	0	0	0	5,500	0	5,500	5,500	0	5,500	11,000	0	11,000	
5502	Final project report	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	2,000	0	2,000	2,000	0	2,000	2,000		
5503	Audit expenses 3 years	300	0	300	350	0	350	650	0	650	350	0	350	350	0	350	700	0	700	350	0	350	300	0	300	650	0	650	2,000	0	2,000	
5599		300	0	300	350	0	350	650	0	650	350	0	350	5,850	0	5,850	6,200	0	6,200	350	0	350	5,800	2,000	7,800	6,150	2,000	8,150	13,000	2,000	15,000	
5999	Component total	5,050	2,000	7,050	15,600	4,650	20,250	20,650	6,650	27,300	7,900	4,750	12,650	14,000	3,650	17,650	21,900	8,400	30,300	6,400	2,250	8,650	14,900	5,800	20,700	21,300	8,050	29,350	63,850	23,100	86,950	
9999	Total	52,950	173,540	226,490	99,450	69,380	168,830	152,400	242,920	395,320	80,050	63,630	143,680	71,200	45,230	116,430	151,250	108,860	260,110	42,100	34,980	77,080	45,600	28,440	74,040	87,700	63,420	151,120	391,350	415,200	806,550	