

# **Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand**

*Cambodia, China, Indonesia, Malaysia,  
Philippines, Thailand, Viet Nam*

**United Nations Environment Programme**

**International Waters Project  
GEF Project ID: 885  
UNEP Project ID: 248**

## **Terminal Evaluation**

22 May 2009

## **Evaluation Team**

Dr. Helen T. Yap, Evaluation Team Leader

Mr. Josh Brann, Evaluation Specialist

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## **I. Key Findings and Recommendations**

According to Global Environment Facility (GEF)<sup>1</sup> evaluation policies, all GEF funded projects must undergo an independent terminal evaluation. This report is the terminal evaluation of the project “*Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand*” (SCS project). It seeks to assess the actual performance and results of the SCS project against the planned project activities and outputs at the regional, national and local levels. The evaluation focuses on the seven-year implementation phase, but includes an assessment of project design, and also makes recommendations related to the project’s post-implementation period.

There are three key questions for this evaluation:

1. To what extent has the project improved regional co-ordination of the management of the South China Sea marine and coastal environment?
2. To what extent was the project successful in improving national management of the marine and coastal habitats?
3. How effective was the project in improving integration of fisheries and biodiversity management in the Gulf of Thailand?

The evaluation report is structured around the GEF evaluation criteria of Relevance, Effectiveness, Efficiency, Results, and Sustainability.

The evaluation assesses the project’s performance by comparing answers to the questions “What happened?” and “What would have happened anyway?” In the absence of a counter-factual example, the evaluation relies, to the extent the information is available, on baseline data and the status quo situation prior to project implementation.

The project officially began implementation in February 2002. All national level operations were planned to be completed in June 2008, and all regional activities by December 2008. The project reached formal closure at the end of January 2009. It was funded by GEF, with national co-financing from the seven participating countries.

According to the project document, the project’s objectives were “to create an environment at the regional level, in which collaboration and partnership in addressing environmental problems of the South China Sea, between all stakeholders, and at all levels is fostered and encouraged; and to enhance the capacity of the participating governments to integrate environmental considerations into national development planning.”

In addition, “The medium term objective of the project is to elaborate and agree at an intergovernmental level, the Strategic Action Programme<sup>2</sup> encompassing specific targeted and costed actions for the longer-term, to address the priority issues and concerns” (UNEP, 2001).

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<sup>1</sup> See Annex II for the explanation of acronyms used in the evaluation report.

<sup>2</sup> This evaluation has been written by individuals primarily familiar with American English spelling and grammar conventions. The evaluation text uses such conventions except in quotations and where British spelling or grammar conventions are specifically applicable in the context of the SCS project, such as Strategic Action *Programme*, and *Specialised* Executing Agency.

## **A. Key Questions**

### **i. To what extent has the project improved regional coordination of the management of the South China Sea marine and coastal environment?**

This key question is answered in the context of the project's contribution to improved regional management compared to what was anticipated at project approval. At the time of project approval, the main existing mechanisms for regional coordination of environmental management of marine and coastal resources were the Coordinating Body for the Seas of East Asia (COBSEA) established by the United Nations Environment Programme (UNEP), and the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), a GEF-United Nations Development Programme (UNDP) project.

The project has significantly contributed to regional coordination of management of the South China Sea marine and coastal environment by further developing regional networks of environmental management institutions, non-government organizations, and professionals from the seven participating countries, over and above what already existed. During the project's lifetime these networks have functioned well, with regular meetings held and documents produced containing data on environmental status as well as issues important for ecosystem management. Project mechanisms such as the Project Steering Committee (PSC) and Regional Scientific and Technical Committee (RSTC) facilitated information exchanges between participating countries, and provided a forum for discussion of regional management issues and possible approaches to addressing or solving them.

An excellent tangible example of enhanced regional coordination is the Memorandum of Agreement (MOA) on management of transboundary coastal habitats and resources signed by Kampot province in Cambodia and Kien Giang province in Viet Nam. The Mayor's Round Table meetings and the regional scientific conferences are further specific examples of project outputs that contributed to regional information exchange to enhance management coordination.

The main indicator of success in regard to this key question would be implementation of the Strategic Action Programme (SAP), a major output of the project. Most of the seven countries have indicated readiness to be part of such a regional endeavor. As of the time of the evaluation, however, the full participation of at least China and Malaysia remains uncertain.

Prior to project implementation, professional networks did exist from the many ongoing regional initiatives to improve environmental conservation and management, but the SCS project provided additional resources and mechanisms to regularly bring relevant professionals together to discuss issues at the regional level. Following the end of the current project, there is no specifically identified source of resources available to continue supporting this kind of activity at the level that existed during the SCS project.

### **ii. To what extent was the project successful in improving national management of the marine and coastal habitats?**

This key question is answered in relation to the project's level of achievement compared to what was anticipated at project approval. Environmental status cannot be used as an indicator of management effectiveness because ecosystems are subjected to influences from many sources, including natural phenomena, and not just management actions.

The project successfully developed in-country capacity; increased knowledge of the status of natural resources within national boundaries, and of various problems affecting them; increased access to information; and contributed to the development of mechanisms for improved management of coastal and marine habitats at the national level. National Action Plans (NAPs) were developed and adopted for nearshore coral reefs, mangroves, seagrass beds and wetlands. In some cases, implementation of some components of the NAPs has already begun through programs initiated and funded by the governments themselves. NAPs for land-

based pollution were also developed, and their implementation is expected to contribute to the goal of improving environmental quality.

At the demonstration site level, management of the relevant coastal habitats was significantly improved and yielded important results. Some demonstration sites were more successful than others, however, and two of thirteen demonstration sites or pilot activities did not meet all of their objectives within the expected timeframe. Because of the limited period of time allotted for demonstration site activities, there was not much scope for replication to other localities within the project's lifetime. Replication is hoped to take place through the adoption and application of disseminated lessons learned from the projects.

Overall, with some small exceptions, the project met its anticipated level of achievement to improve management of coastal and marine habitats at the national level. At the same time, the relevant local and national institutions with which the project interfaced are continuously involved in multiple initiatives and processes that contribute to increased capacity and improved management effectiveness over time. It can be said that the project contributed to this process, but it is impossible to distinguish the project's influence relative to other influences. The project's relative contribution also varied by country, based on initial levels of management capacity and the number/scale of other initiatives.

### **iii. How effective was the project in improving integration of fisheries and biodiversity management in the Gulf of Thailand?**

The key outcome of the project in this regard is the development of the fisheries refugia concept and its incorporation into ongoing and planned management efforts in the South China Sea and Gulf of Thailand. If widely implemented, it would be expected to enhance the integration of biodiversity concerns in fisheries management, and improve long-term recruitment of fish stocks. This is a significant achievement that has the potential to lead to long-term impacts in terms of biodiversity conservation in the fisheries sector. Other outcomes from the project included increased awareness of the United Nations Food and Agriculture Organization (FAO) Fisheries Code of Conduct, and some specific examples of improved management for biodiversity considerations at the demonstration site level.

The development of fisheries refugia was the primary intended outcome of the project with respect to fisheries. However, on its own it is not enough to significantly alter the situation of fisheries and fisheries management in the South China Sea and Gulf of Thailand. By design the project did not directly address other major issues related to fisheries and biodiversity, other than through promotion of the FAO Fisheries Code of Conduct. For example, the project did not attempt to institute measures to reduce levels of commercial harvest within the region, or deal with issues of by-catch. Correspondingly, fisheries management, harvesting and enforcement practices have not improved at the regional scale as an outcome of the SCS project. The evaluation recognizes that other bodies, such as Southeast Asian Fisheries Development Center (SEAFDEC) and FAO, continue to work on these issues. Regionally, important commercial stocks continue to be overfished and Illegal, Unregulated and Unreported (IUU) fishing remains a significant threat to biodiversity, and to those who depend on fisheries for their livelihoods. In just one representative example, a local fisherman in Koh Chang, Thailand noted that ten years ago the village had 30 anchovy boats, and now due to the scarcity of stocks the fishery can only support one boat from the village. The threats to fisheries (and associated biodiversity) in the South China Sea and Gulf of Thailand are critical, and due to socio-economic and demographic shifts within the region, continue to grow.

## **B. Relevance**

The SCS project had four main components:

1. Habitat Degradation and Loss
2. Over-exploitation of Fisheries in the Gulf of Thailand

3. Land-based Pollution
4. Project Co-ordination and Management (UNEP, 2001)

The project objectives and components are highly relevant to the environmental threats in the South China Sea, as a result of the consultative project design process, and the fact that the project was an output of development of the Transboundary Diagnostic Analysis (TDA) (Talaue-McManus, 2000). In addition, the project was in-line with the environmental and development priorities of the participating countries, since the draft TDA was crafted from individual country inputs. The project also fully conformed with GEF policies and objectives in the International Waters (IW) focal area. On the issue of fisheries, however, there are a number of key issues that the project did not attempt to address.

### C. Effectiveness

The project succeeded in creating a formal structure for consultation at the inter-governmental level regarding environmental issues of regional concern in the South China Sea. This regional consultation process was developed from the previously existing regional coordination mechanism – COBSEA. The project design promoted efforts within each participating country to coordinate activities among institutions, government agencies and non-governmental organizations.

The anticipated concrete output from improved regional coordination was the SAP. The SAP was developed through an iterative process in conjunction with development of the NAPs. It was then revised through multiple drafts during extensive deliberations at the PSC and RSTC meetings (UNEP, 2004a). Its present form was agreed on in August 2008 (UNEP, 2008a).

The first three project components were implemented at the national level through Specialised Executing Agencies (SEAs), and at the regional level through Regional Working Groups (RWGs) made up of focal points from each country. Major elements of the project components were implemented at the local level through demonstration sites and pilot activities. Key project lessons are summarized in Box 1.

The national management strategies for marine and coastal habitats were improved through the demonstration site activities and the development of NAPs related to each of the habitat sub-components.

Thus, one of the project's goals, "to enhance the capacity of the participating governments to integrate environmental considerations into national development planning," was effectively addressed.

#### Box 1. Summary of Key Lessons

*(See Section VII.A. for all lessons)*

- Unresolved geopolitical issues will continue to limit success in establishing multilateral agreements covering regionally important marine and coastal resources
- Conflicts between national agencies in jurisdiction over habitats or resources should be considered and resolved in the early stages of project design and implementation
- Decision-making is more efficient and objective when there is a separation between political and technical decision-making bodies
- Directly engaging local political leaders in site-level activities is an effective way to build ownership and sustainability
- Selection of demonstration sites through objective criteria can lead to successful achievement of objectives
- Tracking in-kind co-financing comprehensively from the beginning of a project provides a clear understanding of the in-kind contribution to a project
- Internet connectivity has sufficiently progressed in the region so that online resources can be extremely valuable for project implementation

The fisheries component contributed to the project's third objective through the development and dissemination of the fisheries refugia concept, promotion of the FAO code of conduct for responsible fisheries including development of regional guidelines, and contributions at the demonstration site level.

#### **D. Efficiency**

The project's original budget was \$34.1 million US, with \$16.4 from the GEF and \$17.7 in government and UNEP co-financing (UNEP, 2001). The project's estimated actual total disbursement was \$16.0 million in GEF funds, with \$20.2 million in cash and in-kind co-financing, for a total of \$36.2 million (UNEP, 2009a). With a project of this size and duration there can be a risk of inefficiency in implementation of the many different activities, but the SCS project management was exceptionally scrupulous in ensuring that this did not happen.

For the majority of the project's lifetime, the Project Coordinating Unit (PCU) was understaffed. On the one hand this allowed some cost savings, but the net effect on the project may not have been positive, since having the originally planned number of staff could have increased the effectiveness of the PCU. At the very least, having sufficient staff would have reduced the significant burden on the individual PCU staff members.

#### **E. Results: Outputs, Outcomes and Impacts**

##### **i. Strategic Action Programme**

The primary regional output of the project is the SAP. The SAP was agreed upon by all participating countries at the final PSC meeting in August 2008, following an extended period of review and revision. The PSC accepted the decision of COBSEA that the SAP be implemented under the purview of COBSEA. In consideration of the current low-level of capacity within the COBSEA Secretariat, it was recommended that a project implementation unit be set up under COBSEA to oversee implementation of the SAP (UNEP, 2008a). These operational recommendations from the PSC assume that there is sufficient political and financial support for SAP implementation.

As of December 2008, a Memorandum of Understanding (MOU) to implement the SAP had not been signed at the ministerial level by all the countries involved. As with the current SCS project, countries such as China and Malaysia have not yet committed to participate in all aspects of SAP implementation.

##### **ii. National Action Plans**

The NAPs that have been adopted, or that are intended for adoption, in the participating countries contribute to the second over-all objective of the project, "Improved national management of the marine and coastal habitats." Approximately 92% of the expected NAPs were completed by the end of the project.<sup>3</sup> The adoption and implementation of NAPs is considered an important indicator of government support and commitment to implementation of the SAP (UNEP, 2008b).

##### **iii. Demonstration Sites**

The project included demonstration sites under the coral reef, mangrove and seagrass habitat sub-components, and pilot activities in the land-based pollution (L-bP) component. The results at the level of the individual demonstration sites are numerous. Almost all demonstration site projects successfully completed their planned activities, despite initial delays at multiple sites. One demonstration site project was not fully completed, and one pilot activity was dropped. Implementation of demonstration site activities was planned for

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<sup>3</sup> Twenty-five of 27 habitat NAPs anticipated at project approval were completed, and 31 of 34 total anticipated NAPs were completed including those in the land-based pollution component.



approximately two years (though most projects took up to three years), which did not allow sufficient time for active replication efforts.

Since the SAP has not yet been implemented, the primary documented environmental impacts from the project are at the demonstration site level. Even though the demonstration site projects were relatively short in duration, scientists and local stakeholders at sites in Cambodia and the Philippines, for example, have reported anecdotal evidence of positive environmental impacts in terms of increased fish biomass around reserves and protected areas established under the project. This encouraging development is reinforced by the continued voluntary participation in resource management by groups of individuals from the local communities, whose primary motivation is economic. Another example can be found in the Batu Ampar site (Indonesia) where the project contributed to the reduction of mangrove cutting for fuel wood and charcoal production. To quantitatively document impacts over a longer time horizon requires continuation of monitoring programs at each site, following correct field and statistical methodologies.

#### **iv. Technical Publications**

Key outputs of the project are the technical publications and knowledge documents produced during the course of implementation. These cover the range of components addressed in the project: coral reefs, seagrass, mangroves, wetlands, fisheries and land-based pollution, as well as economic valuation of coastal ecosystem goods and services, and relevant legal frameworks.

These individual documents are of high quality, incorporating the efforts of numerous well-qualified individuals who have engaged themselves during meetings, workshops, and during their own personal time in their home institutions. As noted in the recommendations below, this evaluation strongly encourages the publication and broad dissemination of the work contained in these documents.

#### **v. Project Website**

The creation, use and popularity of the website, <http://www.unepscs.org>, is a significant achievement of the project, in particular because it was not envisioned in the original project document. The majority of the English language documents and data produced under the project have been collected and catalogued on the website, which has played a major role in dissemination of project information, and in the remarkable transparency of the project. The website recorded approximately 110,000 site visits per month, and has received hits from more than 120 countries. The website has also earned recognition from Google Earth, the GEF Secretariat, and the International Waters Learning Exchange and Resource Network (IWLearn) (UNEP, 2008b).

#### **vi. Project Proposal on “Development and Operation of the Regional Fisheries Refugia System” for GEF Funding**

The second overall component of the SCS project addressed fisheries in the Gulf of Thailand, and sought to develop sub-regional and national management plans for the spawning and nursery areas of species of regional and transboundary significance. The concept of fisheries “refugia” was introduced to the region through this component. Fisheries refugia in the context of the project are defined as “Spatially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species (fisheries resources) during critical stages of their life cycle, for their sustainable use” (UNEP, 2007a). The refugia concept has been incorporated into the national fisheries management plans of some of the participating countries, and has gained interest among other organizations (e.g. FAO).

The main output of this project component is the GEF project proposal to implement fisheries refugia in selected locations within the national territorial waters of the South China

Sea. At the time of this evaluation, a number of countries planning to participate in this project had yet to obtain endorsements of the proposal from their respective national GEF focal points.

### **vii. Linkages with Other International Programs within the Region**

The SCS project collaborated with many other regional initiatives, including SEAFDEC, the UNDP Yellow Sea project, the Mekong River Commission Water Utilization Project, and the Asia-Pacific Fisheries Commission. In addition, the SCS project communicated with the other major GEF international waters project in the immediate region – the UNDP/GEF PEMSEA project. The SCS and PEMSEA projects utilized complementary approaches to addressing environmental issues in the South China Sea region, but there was some overlap in participation among individuals at the national level. Representatives from the SCS project and the PEMSEA project occasionally attended meetings of the other project, but there was no consistent mechanism for communication and synergy. The lack of significant coordination between these two important complementary programs implemented by two different UN agencies likely reduced their effectiveness in terms of achieving mutual goals.

## **F. Sustainability**

There are multiple aspects to the sustainability of the SCS project. Since a major goal was to develop an SAP (the procedural equivalent of an enabling activity in the GEF's biodiversity or climate change focal areas), it was always anticipated that a follow-on GEF project would be required to implement the SAP. Thus, the sustainability of the SCS project is dependent on the countries involved agreeing to move ahead with an implementation project, and a decision from the GEF and UNEP to provide support and funding. However, partner institutions are already implementing some aspects of the SAP through ongoing national-level activities.

The regional and national networks developed through the course of the project will be sustained in a majority of cases. The long-term implementation of the habitat national action plans, on the other hand, is dependent on continued government support and commitment. At the 10<sup>th</sup> meeting of the RSTC, it was noted that the participating countries, with the possible exception of Cambodia, were capable of and in many cases were already co-financing site-specific activities that related directly to the achievement of NAP and SAP targets (UNEP, 2009b).

The demonstration sites' results have good prospects for sustainability. Some sites have received additional follow-on funding from national, provincial and local governmental sources, or from donors. Some project outcomes have been incorporated in ongoing local initiatives for sustainable resource management. Enforcement of management policies will continue to be required, but the local communities at each project site are supportive of the demonstration site projects' objectives.

The matter of technological sustainability pertains mainly to the project website. It was agreed that COBSEA would assume full responsibility for its maintenance and update. Initial arrangements were made to this effect between the COBSEA Secretariat and the PCU, whereby an individual was contracted to provide this service for 18 months following project closure. Similarly training was provided to staff of SEAFDEC with respect to the continued updating and maintenance of the fisheries component of the website (UNEP, 2009a).

## G. Summary Ratings Table

Note: The evaluators' summary comments for ratings are included in the full ratings table in Section VII. An explanation of the rating system is included in the TORs to this evaluation (Annex I).

Criterion	Evaluators' Rating
<b>Attainment of project objectives and results (overall rating)</b>	S
Sub criteria (below)	
Effectiveness	S
Relevance	S
Efficiency	HS
<b>Sustainability of project outcomes (overall rating)</b>	ML
Sub criteria (below)	
Financial	L
Socio-political	ML
Institutional framework and governance	ML
Technical	ML
Environmental	L
<b>Achievement of outputs and activities</b>	S
<b>Monitoring and evaluation (overall rating)</b>	S
Sub criteria (below)	
M&E design	MS
M&E plan implementation (use for adaptive management)	S
Budgeting and funding for M&E activities	S
<b>Catalytic role</b>	S
<b>Preparation and readiness</b>	S
<b>Country ownership / drivenness</b>	S
<b>Stakeholders' involvement</b>	HS
<b>Financial planning</b>	S
<b>UNEP supervision and backstopping</b>	MS
<b>Overall Rating</b>	S

## H. Key Recommendations

**Recommendation:** This evaluation recommends implementation of the SAP. At the time of this evaluation, the MOU to implement the SAP had not been signed at the ministerial level by all participating countries. Once endorsed by the participating countries, if UNEP and the GEF are prepared to financially and administratively support the SAP, a decision to fund and support project implementation should be clearly expressed as quickly as possible. Implementation of the SAP starting in 2009 would have higher potential for positive political, social and environmental impact and be much more efficient than a project begun two or more years later. [UNEP and GEF]

**Recommendation:** During an implementation phase there should be close cooperation between the project implementation unit and the COBSEA Secretariat to build the institutional capacity of the COBSEA Secretariat and improve the long-term sustainability of project results. The COBSEA Secretariat currently operates with an insufficient level of funding to develop technical or operational capacity that can be sustained over the long term. Furthermore, as with the current project, the potential success of an SAP implementation project, due to its scale and complexity, will be highly dependent on the experience and capacity of the staff and size of the project implementation unit. [UNEP and COBSEA]

**Recommendation:** An SAP implementation project should include further development of regional scientific and technical indicators on the environmental quality and status of the South China Sea in areas beyond coastal habitats, or apply appropriate previously existing indicators. The work initiated on nutrient carrying capacity could be extended in this regard, and other potential transboundary / regional indicators, such as those related to fisheries, could

be further developed. Such indicators would facilitate a better understanding of the effects of conservation measures and management actions on the South China Sea on a basin-wide basis, reflecting the actual intent of the project, and the rationale for GEF support under the international waters focal area. Using indicators, and aggregating basin-wide baseline data, would provide an improved scientific foundation for discussion of coordinated regional management. [Participating Countries]

**Recommendation:** For the greatest likelihood of success, discussions on the potential development of a regional South China Sea management framework must involve all relevant national-level stakeholders. The large number of diverse issues facing the South China Sea implies that relevant stakeholders include not only environment ministries, but also ministries responsible for foreign affairs, trade, agriculture, fisheries, transport and national security. Under an SAP implementation project, to the extent possible, these stakeholders should be included in discussions on regional cooperation. Such discussions are critical for the long-term cooperation among countries towards effective environmental management of the South China Sea based on mutual interests. [UNEP, COBSEA and Participating Countries]

**Recommendation:** Where appropriate, and where national participants have the requisite capability, project research outputs and experiences should be published in the international, peer-reviewed literature to ensure broader dissemination and longevity of results. Technical aspects could be published in scientific journals, while best practices and lessons learned from demonstration sites could be published in environmental management or policy journals. [Participating Countries]

**Recommendation:** Urgent measures should be taken to secure the long-term sustainability of the project website, which is an internationally recognized resource on marine and coastal conservation for the South China Sea region. The PSC recommended that COBSEA take over the management of the website. In case COBSEA is unable to develop the capacity to do so in the near future, other options should be urgently explored and contingency measures put in place. [COBSEA and Participating Countries]

## **II. Evaluation Scope and Methodology**

According to GEF evaluation policies, all GEF funded projects must undergo a terminal evaluation. This terminal evaluation seeks to assess the actual performance and results of the SCS project, against the planned project activities and outputs, at the regional, national and local levels. The evaluation focuses on the seven-year implementation period, but includes an assessment of project design, and makes recommendations related to the project's post-implementation period. The Terms of Reference for the terminal evaluation of the SCS project focused on three key questions:

1. To what extent has the project improved regional co-ordination of the management of the South China Sea marine and coastal environment?
2. To what extent was the project successful in improving national management of the marine and coastal habitats?
3. How effective was the project in improving integration of fisheries and biodiversity management in the Gulf of Thailand?

As noted in the evaluation terms of reference, the evaluation seeks to provide insight to the questions “what happened?” and “what would have happened anyway?” To unambiguously answer the latter question would require a full set of data on social, economic, institutional and environmental baseline conditions and trends. The scope and scale of this evaluation do not allow for an unambiguous answer to this question, nor would it be possible since a counterfactual does not exist. However, this evaluation will attempt, when possible, to identify specific outcomes or impacts that would have occurred anyway without the SCS project. In this context, it is necessary to make assumptions about the state of regional coordination for marine and coastal environmental management had the project not existed. It is assumed that, for example, in the absence of the SCS project alternate mechanisms supporting regional coordination for management of the South China Sea would not have come into being.

It is also pertinent to briefly discuss the social, economic and political context in which the project was implemented. The SCS TDA developed prior to project implementation discusses a number of key trends affecting environmental management and cooperation in the South China Sea. Among the most important of these are coastal population densities and population growth rates among the seven countries covered by the project. In the mid-to-late 1990s the population of the coastal subregions in these seven countries was approximately 270 million people, with population densities ranging from 31 to 472 persons per sq km. The overall weighted mean population growth rate was 2.17%, indicating a doubling of the population in approximately 32 years. The national population growth rates for the seven countries were greater in the coastal regions than the overall national level (UNEP, 2001). The TDA was not revised and updated along with the SAP, so current estimates of these figures are not available. However, there is no evidence to suggest that the situation with respect to regional population trends have changed dramatically in the past decade.

If anything, the effects of population trends on the environment of the South China Sea are more dramatic, as the region has continued to increase its economic well-being over the past decade. Although, as noted in the TDA, the participating countries are at various stages of industrialization (Talaue-McManus, 2000), according to International Monetary Fund data, each of the seven countries have increased GDP per capita during this period, some by double-digit compound annual growth rates (IMF, 2008). Unfortunately, a statement from the 2001 project document remains equally relevant today: “The rapid economic development that has occurred in this region over the last decade has taken place largely at the expense of the environment” (UNEP, 2001).

The TDA points out that another important factor are the unresolved territorial disputes that remain as a source of sensitivity in the region (Talaue-McManus, 2000). This influenced

the project in multiple ways, most importantly in that the project did not undertake activities in any disputed areas. As noted in Section VI.A.ii., political relations in the region have generally improved during the life of the project.

The revised SAP identifies a number of ongoing obstacles to regional cooperation, which include financial constraints, lack of understanding of root causes of environmental problems, lack of a regional and global perspective, lack of a regional political consensus, and lack of understanding of the benefits of regional cooperation (UNEP, 2008c).

The evaluation relied on three primary methodological elements: a desk review of relevant documents, interviews with project participants, and field-verification site visits. Annex III provides a list of documents cited as well as others reviewed for the evaluation; Annex IV lists the persons interviewed.

The evaluation team was contracted by UNEP's Evaluation and Oversight Unit (EOU). Multiple attempts to initiate the terminal evaluation with previous sets of evaluators were made before the current evaluation team was constituted. It was originally planned that the evaluation would be completed by mid-2008, in order for participating countries to have sufficient time to review the evaluation report, provide feedback, and make factual corrections. For various reasons this original timeframe was not maintained. The current evaluation team was able to begin the evaluation in late September 2008, and the field-visit portion of the evaluation was completed at the end of November 2008. The evaluation team spent a total of 47 person days<sup>4</sup> meeting with the PCU and national stakeholders, and visiting field sites. Annex V provides a detailed schedule of the evaluation, including field visit dates. The evaluation team provided preliminary findings for discussion at the final RSTC meeting in December 2008 (UNEP, 2008d). A draft of the evaluation report was produced in January 2009, and stakeholders provided comments on the draft by March 2009.

One or both of the evaluators conducted field visits in all seven participating countries. The evaluation team consulted with the PCU at the beginning and end of the field visit portion of the evaluation. During the country visits, the evaluation team met current technical focal points covering 50 of the 59 national components that made up the Regional Working Groups (RWGs) / Task Forces (RTFs),<sup>5</sup> and 12 of 13 demonstration site or pilot activity site managers. Overall, more than 200 individuals involved with the project were met in person, as well as dozens of local community members at the site level. The evaluation team also solicited views from relevant persons not directly involved in project implementation.

At the beginning of the evaluation, objective criteria for selection of field sites to visit were developed. The primary aim was to inspect demonstration sites covering each of the habitat types, at least one transboundary site, and a site in each country. Time and logistical constraints limited the actual number of sites the evaluation team was able to visit. The evaluators covered eight demonstration project field sites, representing each of the habitat types, and including one transboundary site:

- Trat Mangrove Demonstration Site (Thailand)
- Koh Chang Coral Reef Demonstration Site (Thailand)
- Fangchenggang Mangrove Demonstration Site (China)
- Hepu Seagrass Demonstration Site (China)
- Phu Quoc Coral Reef/Seagrass Demonstration Site (Viet Nam)

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<sup>4</sup> Exclusive of days of international travel

<sup>5</sup> Some technical focal points covered two habitat types, so the total number of individual focal points met was less than 50.

- Kampot Seagrass Demonstration Site (Cambodia)
- Bolinao Seagrass Demonstration Site (Philippines)
- Masinloc Coral Reef Demonstration Site (Philippines)

There were a number of challenges and limitations faced in conducting the terminal evaluation. The time frame described above, constrained by the need to produce preliminary findings in time for the final RSTC meeting in December 2008, was a limiting factor for a project of this size and duration for multiple reasons. The project scope was significant, including hundreds of individuals and organizations across seven countries. Time was also a limitation in relation to the amount of project information and documentation to be assessed: over the project's seven-year life, more than 1,800 documents were produced consisting of tens of thousands of pages. The same amount of time was available for the terminal evaluation as was used for the mid-term evaluation, which only covered the preparatory phase of the project, and did not cover demonstration site activities. The terminal evaluation required significantly more time in the field to collect evaluative evidence at the demonstration site level. The time spent gathering evaluative evidence at demonstration sites and at the national level partially corresponds to project budgeting, since these activities accounted for a significant portion of project funds, as discussed in Section V.D below.

The evaluation report is structured around the GEF evaluation criteria of Relevance, Effectiveness, Efficiency, Results, and Sustainability. The evaluation report also assesses the project in the context of the GEF's operational principles (see Annex VI).

This evaluation has been conducted in accordance with the norms and standards of the United Nations Evaluation Group (UNEG, 2005a, UNEG, 2005b), and GEF evaluation policies and guidelines (GEF EO, 2006a).

### **III. Project Background**

The South China Sea project was implemented under the umbrella of COBSEA. According to COBSEA documents, "The Intergovernmental Meeting on the East Asian Seas Action Plan which was held in Bangkok during 9-11 December 1981, inter alia, established the Coordinating Body on the Seas of East Asia (COBSEA) in order to serve as the overall authority to determine the contents of the Action Plan, to review the progress of the Action Plan and to approve its programme of implementation in the annual meetings of the governments (intergovernmental meetings) that participate in the action plan" (UNEP, 1996). The East Asian Seas Action Plan originated from the UNEP Regional Seas Program, which was established in 1974 (UNEP, 2008e). The East Asian Seas Action Plan has been supported by UNEP from its inception, with counterpart funding from the original five Association of Southeast Asian Nations (ASEAN) countries. Later, the membership of COBSEA was expanded to ten, and now comprises Australia, Cambodia, China, Malaysia, Indonesia, the Philippines, the Republic of Korea, Singapore, Thailand and Viet Nam.

The current project formally originated more than twelve years ago, at a meeting of national focal points for the East Asian Seas Action Plan. Following the request of the focal points at the July 22-26, 1996 meeting, the GEF approved a Project Development Facility-B (PDF-B) grant of \$325,000 in October 1996 (under the GEF procedures at that time, the approval of a PDF-B was typically the first step in project development). The PDF-B grant was to develop the draft Transboundary Diagnostic Analysis/Strategic Action Programme (TDA/SAP). The GEF IW focal area considered a TDA/SAP as the foundation for a GEF funded IW project. COBSEA approved project development activities at its 12<sup>th</sup> meeting in December 1996 (UNEP, 1996).

The initial TDA/SAP was based on country-level assessments submitted by the national focal points. A draft TDA/SAP was endorsed at COBSEA's 13<sup>th</sup> meeting in September 1998 (UNEP, 1998), which allowed the continued development and refinement of the SAP, and the

development of a project proposal document to be submitted to the GEF. It was initially planned that the GEF Secretariat would approve the project document in March 1999. However, not all of the participating countries had agreed to the details of the project proposal by that time, and UNEP undertook an intensive period of negotiation with the countries involved. The main concerns surrounding the project proposal at that time had to do with various disputed territories in the South China Sea. During UNEP's bi-lateral negotiation process it was clarified that the project would not address any disputed areas, including coral reefs outside of national coastal waters. A revised project proposal was approved by the 15<sup>th</sup> meeting of COBSEA in September 2000, and approved for funding by the GEF Council in December 2000 (UNEP, 2008f).

The project began operations at the end of January 2002. Overall, the project development time, from PDF-B approval to GEF Council approval was approximately 63 months. Against comparable GEF projects, the SCS project stands out as having an extremely long period of development. Eighteen months was the average amount of time for this development phase for full-sized GEF projects during GEF-2 (the GEF phase during which the SCS project was approved) (GEF EO, 2007). The long development time for the SCS project reflects the highly complex geographic and political landscape addressed by the project, which led to difficulties in obtaining regional consensus on various components and issues. Annex VII outlines the project's full chronology.

#### IV. Project Objectives, Relevance and Design

There are multiple aspects examined to assess the relevance and design of a project. First, were the project objectives relevant to the environmental threats in the South China Sea region? Second, was the project relevant to the priorities and policies of the participating countries? And third, was the project relevant to GEF priorities and strategies?

The overall goals as stated in the project document are reproduced below (paragraphs 17-19 of the section headed "**Rationale and Objectives [Alternative]**"):

17. *The overall goals of this project are: to create an environment at the regional level, in which collaboration and partnership in addressing environmental problems of the South China Sea, between all stakeholders, and at all levels is fostered and encouraged; and to enhance the capacity of the participating governments to integrate environmental considerations into national development planning.*

18. *The medium term objective of the project is to elaborate and agree at an intergovernmental level, the Strategic Action Programme encompassing specific targeted and costed actions for the longer-term, to address the priority issues and concerns. More specifically the proposed activities (Table 1) are designed to assist countries in meeting the environmental targets specified in the framework SAP that was developed over [the] period 1996-1998 (Annex D).<sup>6</sup>*

19. *Some of the specific environmental targets set within the framework SAP extend beyond the projected life of the present project. These targets are summarised in Annex D whilst the logical framework matrix presented in Annex B outlines the milestones and indicators that can be used to measure progress towards achieving these targets over the life of the project. (UNEP, 2001)*

As drawn from the logframe contained in Annex B of the project document, the short-term objectives are:

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<sup>6</sup>The "Table 1" specified in paragraph 18 is the original work plan and timetable.



- Improved regional co-ordination of the management of the South China Sea marine and coastal environment;
- Improved national management of the marine and coastal habitats; and
- Improved integration of fisheries and biodiversity management in the Gulf of Thailand (UNEP, 2001).

As previously mentioned, the project had four main components:

1. Habitat Degradation and Loss
2. Over-exploitation of Fisheries in the Gulf of Thailand
3. Land-based Pollution
4. Project Co-ordination and Management

### **A. SCS Project Relevance**

The project objectives and components are highly relevant to the environmental threats in the South China Sea, as a result of the consultative project design process, and the fact that the project was an output of development of the TDA and SAP. The TDA was compiled from national inputs from each of the participating countries, and focused on three main environmental threats to the South China Sea: Modification of habitats; Over-exploitation of living aquatic resources; and Pollution of aquatic environments (Talaue-McManus, 2000). Thus the project objectives and components correspond directly to the threats identified in the TDA.

The SCS project proposal document does not contain an in-depth assessment of relevant participating countries' policies and priorities. However, as previously mentioned, the TDA was compiled from country-specific reports prepared by national committees (Talaue-McManus, 2000). The national reports followed a standardized outline to ensure full coverage of relevant issues for each country, and included a section on ongoing and planned national level activities that were relevant to the identified environmental issues. Because the TDA was based on this direct input from the participating countries, it should reflect national priorities. Additional cross-checking reveals that this is indeed the case. For example, in Viet Nam, the country's National Strategy for Environment Protection for 2001 – 2010 includes objectives on the sustainable use of fisheries, and improved coastal and marine management (VEPA, 2001). In the Philippines, the National Marine Policy is the guiding document for the overall management of marine resources. The Philippine National Marine Policy includes a policy area on environmental conservation, which seeks to manage marine resources based on the principle of sustainable development, and to manage resources within an integrated coastal zone management framework (Anonymous, 1994).

The project was also relevant to GEF strategies and priorities in the international waters focal area as set out in the Operational Strategy of the GEF, which was the most relevant document at the time the SCS project was developed. The Operational Strategy states that priority will be placed on threats including:

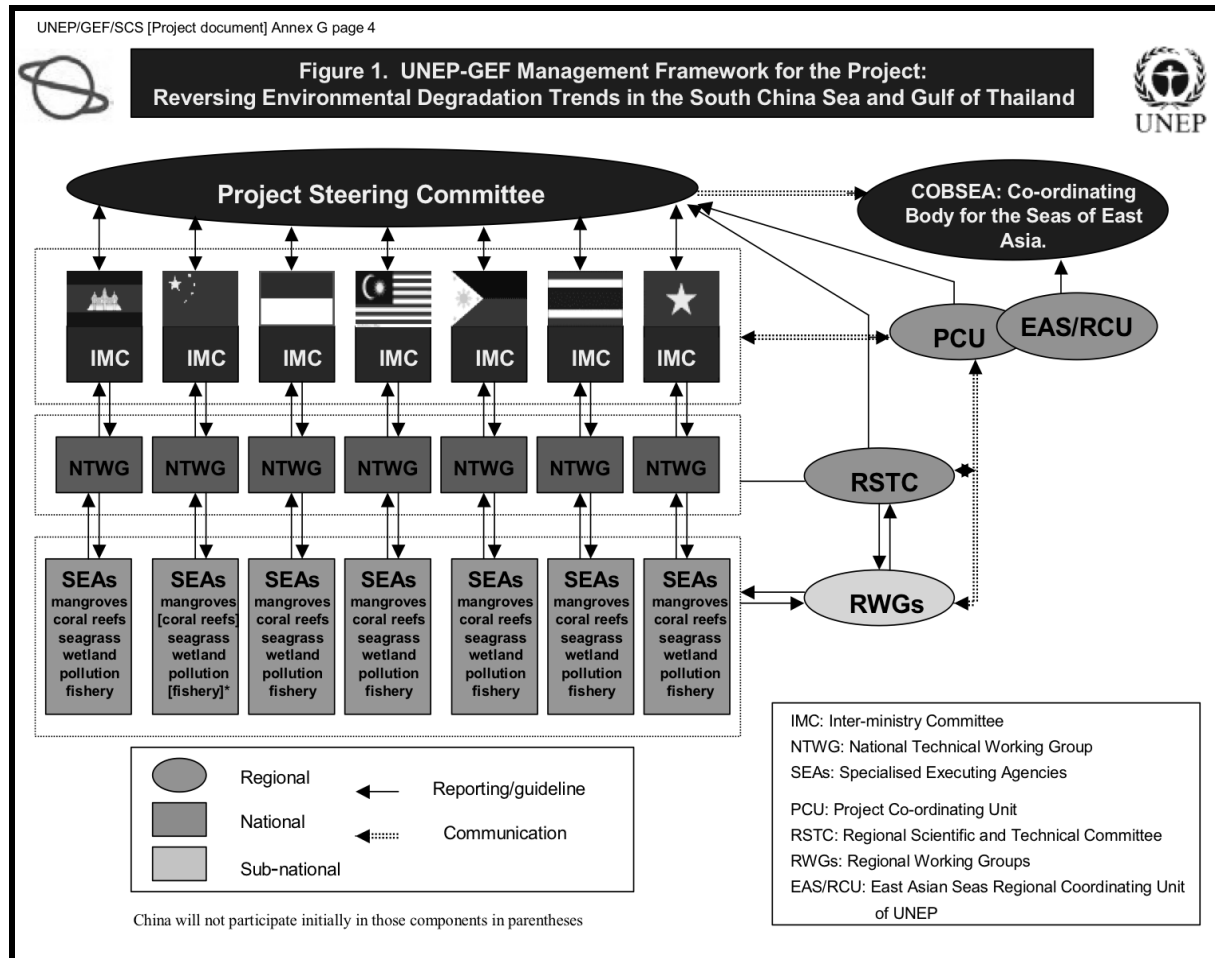
- Control of land-based sources of surface and groundwater pollution;
- Control of unsustainable use of marine living resources as well as nonliving resources;
- Prevention of physical or ecological degradation, and hydrologic modification, of critical habitats (GEF, 1994).

### **B. SCS Project Design and Management Structure**

The project successfully produced its expected outputs without significant restructuring or adaptive management measures, indicating that it was well-designed. The institutional

structure and management framework set up by the project was highly complex and required extensive coordination and communication with multiple organizations and agencies in each of the participating countries. Figure 1 below illustrates the project management structure (UNEP, 2005a).

**Figure 1. SCS Project Management Structure**



The responsibilities for implementation of activities under each sub-component were assigned to specific institutions or agencies within each participating country, designated as “Specialised Executing Agencies” (SEAs). Technical experts from each SEA were identified as the focal point for the sub-component at the national level in consultation with the national focal point and national technical focal point.

An important aspect of the project was the coordination and networking of the focal points for each sub-component with their counterparts from the other countries. The country focal points were organized into regional working groups for each sub-component, which were chaired by one of the members on a rotating basis.

The project engaged highly qualified and well-respected scientists and environmental practitioners from the respective countries. These individuals were nominated by the respective national focal points based on their professional qualifications. Additional experts from the region were also involved, either in the regional working groups or the task forces. In some of the components, however, the most relevant national experts were not engaged as part of the formal project structure.

This project design placed heavy demands on the PCU, but also yielded benefits. From almost every point in the network there were multiple points of contact with other parts of the

network, which facilitated communication and coordination. For example, a habitat technical focal point within a country had contact with their national committee, their regional technical working group (RTWG), their national technical focal point (NTFP), and the PCU. On the other hand, the large number of people involved meant that the structure was susceptible to the turnover of staff, which is inevitable in a project of this size and duration.

Both the mid-term evaluation and the Specially Managed Project Review (SMPR) recognized and highlighted the benefits of the project management structure. As described in the mid-term evaluation, “The apparent success of the project management structure appears to stem from two key factors that clearly underpinned the design of the management framework. The first is a clear separation between the policy and decision-making body, the PSC, and the scientific and technical forum, the RSTC. The second factor is that all the expertise used in the project is derived from within the region” (UNEP, 2004b). The SMPR states “The panel would in particular commend the management structure at national and regional levels that is seen as innovative, highly efficient and cost-effective” (GEF EO, 2004a), and further recognized the importance of the separation of political and technical decision-making bodies. Evidence gathered during this terminal evaluation regarding the design of the project management framework fully supports the conclusions drawn by previous evaluators.

The project document contains a realistic assessment of the potential risks faced by the project. Two main external risks were identified as potentially affecting project operations, A). Territorial disputes would disrupt smooth implementation of the project; and B). The Asian economic crisis of the late 1990s could affect project co-financing. Neither of these risks came to pass. Regarding the first point, the deliberate non-participation of China in the coral reef and fisheries components very likely precluded such risks to a large extent.

At least one external factor that did affect the project but which could not have been foreseen was the Severe Acute Respiratory Syndrome epidemic in early 2003, which caused a 4-6 month delay in project activities due to travel restrictions (UNEP, 2004b). Overall the project was initially scheduled to last 63 months, ending in March 2007. Due to the unforeseen delays from the epidemic and an initial slow rate of disbursement (UNEP, 2006a), the project’s revised date of closure was January 2009, 22 months later than originally scheduled.

The project development process could have benefited from an analysis and consideration of the experiences of externally funded projects on marine and coastal management in the South China Sea region, in particular the PEMSEA project (UNEP, 2007b). As discussed in Section V.D.vii the project document indicates that the project will coordinate with the World Bank/GEF project in the Mekong region, and the UNDP/GEF PEMSEA project.

Annex C. and C.1. to the project document provide the Scientific and Technical Advisory Panel review of the project, and UNEP’s response to this review, as well as GEF Secretariat (GEFSEC) and GEF Council comments received. The various reviewers raised some minor design issues, and UNEP appears to have made the requisite amendments to the project proposal.

Despite an overall strong design, there are some areas which could have been improved, and which can be taken as lessons for future projects. The first of these is the Inter-Ministry Committee (IMC) mechanism. This is a standing component of GEF IW projects, and thus was a required part of the SCS project design. There is understandable motivation for a mechanism to coordinate national activities at the highest level. However, as noted in the 2004 International Waters Program Study (IWPS), for IW projects, “A particularly difficult challenge has been the development of sustainable transboundary institutional mechanisms and Inter-Ministry Committees (IMCs) at a national level with the high-level participation of all relevant sectors” (GEF EO, 2004b). The IWPS noted that in the early stages of the SCS project, “most of the IMCs are working well and succeeding in engaging high-level representatives.” The experience in the SCS project over the full life of the project indicates that IMCs are most effective when integrated with existing national coordination mechanisms, and involving individuals at an

appropriate level. For example, Thailand's National Environment Board served as the IMC, and in Cambodia the previously existing National Coastal Steering Committee functioned as the IMC.

The experience of the IMC in the SCS project was varied. In the Philippines, Indonesia and Viet Nam, convening of IMC meetings was delayed by turnover within relevant ministries at the highest levels (UNEP, 2004c). Ultimately Indonesia and Malaysia held fewer IMC meetings, while Cambodia and the Philippines held at least four each, and China held at least seven (UNEP, 2005b; UNEP, 2007c; UNEP, 2007d; UNEP, 2008g). An analysis of the representation and level of national decision-making authority present during IMC meetings is not possible due to differences in national institutional structures. In some countries the NAPs were approved through the IMC directly, while some countries required consultations at higher levels of authority for national approvals, in particular regarding the SAP.

Participants in most countries indicated that it was not realistic to expect extremely high-level government officials to attend the meetings of individual projects. For example, in Indonesia it was noted "some members of the IMC did not attend the meetings, and sent representatives who could not make decisions on substantive issues" (UNEP, 2005b), while China "relied on a high level of national co-ordination, particularly the interaction between the Inter-Ministry Committees, National Technical Working Groups, and the Specialised Executing Agencies" and "similar success had been achieved in Cambodia" (UNEP, 2008g). According to one NTFP, IMC meeting attendance by mid-level officials was "more practical."

Another area for improvement was the structure of the MOUs between the PCU and SEAs. The standard structure for these agreements was a direct MOU between the PCU and an SEA. However, in Viet Nam the national focal agency, the Viet Nam Environmental Protection Agency, requested that the MOUs be three-party MOUs. It is impossible to say what the experience in Viet Nam would have been with only bilateral agreements between the PCU and the SEAs, but in countries where some SEAs were slow to produce their agreed deliverables (or did not deliver at all), a three-way MOU would have allowed for an in-country mechanism to provide an additional level of oversight, as was facilitated by the three-way MOU in Viet Nam. This is particularly true in cases where the SEAs selected were non-governmental organizations (NGOs) or institutions. In Indonesia, the Ministry of Environment ended up involved at length to resolve an issue that had arisen with an SEA.

The scope of the project's wetlands component caused some bureaucratic difficulties. All of the SCS countries are parties to the Ramsar Convention on wetlands, which defines wetlands as "areas of marsh, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six meters" (Ramsar Convention, 1971). Therefore, the coral reef, seagrass and mangrove habitat sub-components could have been included under the operational definition of wetlands. At the same time, the wetland sub-component actually focused on five additional habitat types: estuaries, lagoons, intertidal mudflats, peat swamps, and non-peat swamps. Project design could have been improved with a clearer rationalization for the breakdown of habitat types under the project in the context of the Ramsar definition. Project participants felt that an unnecessary amount of time was spent in the RWG on Wetlands discussing definitions. The majority of countries managed to deal with this conflicting disaggregation by choosing SEAs that were responsible for the management of coral reefs, seagrass, and mangroves without worrying about which agency was technically mandated to cover wetlands as defined by Ramsar. However, the "definitions issue" did cause problems for some countries such as Viet Nam, and may have been a diversion from the lack of output delivery in the case of Indonesia.

A partnership with the GEF's SGP to support local-level activities for implementation of the SAP was formed towards the end of the project (UNEP, 2007e). A portion of the unused funds from the SCS project has been transferred to the SGP, as noted in Section V.D. However, since the SCS project is now complete, there is little opportunity for active synergy between the

SGP and the broader SCS activities. SGP projects supported by SCS funds will now be implemented outside of the purview of the larger SCS project. Both the SCS project and the SGP program would have benefitted if the partnership with the SGP had been incorporated as part of the original project design.

Finally, there are elements of the M&E system for which the design could have been improved. These are discussed in Section VI.C. on the project's overall M&E design and implementation.

## **V. Project Performance and Impact (Effectiveness)**

### **A. Component 1: Habitat Degradation and Loss**

This was the largest of all project components with a planned budget allocation of \$21 million according to the original project document (UNEP, 2001), or approximately 2/3<sup>rd</sup> of the total project budget.

This component was divided into four sub-components: coral reefs, seagrass, mangroves and wetlands. These sub-components represent the major habitats found along the coastlines of countries bordering the South China Sea. China did not participate in the coral reef sub-component, and Malaysia did not take part in the mangrove sub-component.

The participating countries have varying levels of organizational and administrative capacity. In some countries personnel from line agencies or government research institutions were the focal points responsible for the activities under each sub-component. In other countries, project participants represented a mix of individuals from academia (professors, researchers, instructors, graduate students), from the government sector (e.g., heads of government departments or their deputies), and NGOs.

The PCU and the PSC ensured that the best available scientific advice and information was used in planning and executing interventions at national level, as well as in producing the various products from the project. This can be seen in the demonstration site selection process: to select demonstration sites, rigid environmental, social, political and economic criteria were established, and a rigorous process of selection followed established statistical methodology (UNEP, 2007f).

#### **i. National Action Plans**

For each component and sub-component, one of the first major activities was the compilation of available data at the national level pertaining to distribution and status (in the case of habitats), or of sources and levels of pollution in representative geographic areas (in the case of land-based pollution). All countries have produced national reports aggregating the available data, which was an intensive and comprehensive exercise, involving various ministries and other institutions contributing information from their respective archives. For some countries the national reports on habitat quality and distribution represented the first such compilations at the national level. Where necessary, surveys of selected habitats (coral reefs, seagrass, mangroves and wetlands) were carried out to establish quantitative baselines for monitoring change in status and quality over time (e.g., Vo et al., 2008). The characterization and selection of sites for the demonstration projects also contributed to the development of the national reports and corresponding action plans for each of the habitat types.

Cambodia has completed all habitat NAPs, and they have been formally adopted at the ministerial level (UNEP, 2008b).

China held a national workshop on the NAPs for the SCS project in November 2007. The final NAPs approved by the IMC were presented, and arrangements for their implementation incorporated into the socio-economic development plans of the central and provincial governments (UNEP, 2008b).

In Indonesia, the NAPs are at “various stages of adoption” (UNEP, 2008b). The NAP for the wetlands sub-component in Indonesia has not been completed.

In Malaysia, the IMC has adopted the NAPs for all four components that it is implementing (UNEP, 2008b).

In the Philippines, the NAPs are complete except for the Land-based Pollution component. It was agreed that this NAP would be included in an integrated NAP covering all components (UNEP, 2008b).

In Thailand, the NAPs for all habitat sub-components have been incorporated into the National Biodiversity Strategic Action Plan for the country, which was formally approved by the cabinet in January 2008 (UNEP, 2008b).

In Viet Nam, the individual NAPs have been completed and are to be combined into an integrated NAP prior to approval and adoption. At the time of the evaluation fieldwork, the government had not formally adopted the integrated NAP (UNEP, 2008b).

Although the SAP is not yet under implementation, in some cases countries are already incorporating the NAPs in their ongoing ecosystem management policies and practices.

## **ii. Demonstration Sites**

The establishment of demonstration sites in each country (with the exception of Malaysia) may be considered a long-lasting impact of the project. The demonstration sites represent a range of major habitats characterizing the environs of the South China Sea and Gulf of Thailand. A representative selection of the sites was visited for the evaluation (see Section II). The management structure for the demonstration sites is described in Section V.D.v.

The process of selecting demonstration sites was widely regarded as effective and fair. The selection process was objective and based on the scientific data for each site within the pool of proposals. The assessments for the habitat components contributed to the identification of the demonstration sites. A review of candidate sites was carried out through cluster analysis and ranking to arrive at a final set of recommended sites (UNEP, 2007f). Final PSC selection of demonstration sites placed importance on “all countries participating in the demonstration site activities in order to promote regional co-operation” (UNEP, 2004d). Tun Mustapha National Park in Malaysia was recommended as a demonstration site, but a project document was never finalized in an acceptable format (UNEP, 2007d), and funding was not approved.

Demonstration site implementation was from two to three years. Demonstration site budgets ranged from \$290,443 (Kampot, Cambodia) to \$1,579,247 (Trat, Thailand). GEF funding for demonstration sites ranged from \$118,000 (Masinloc, Philippines) to \$391,350 (Hepu, China). The delayed start of activities in Trat resulted in the full GEF contribution to this demonstration site not being disbursed. See Annex VIII for a summary of demonstration site goals, objectives and planned budgets.

The demonstration projects have yielded highly satisfactory results among the direct project participants, such as local government authorities, and local community members. As noted by one demonstration site final evaluation, “Resulting impacts are generally MEDIUM to HIGH as seen through a change in attitudes and behavior of fisherfolk (e.g. dynamite fishers becoming Marine Protected Areas (MPA) leaders); working institutions at the micro (MPA/community), meso [Local Government Unit] (LGU) and macro (provincial) levels; and positive prospects for improved livelihood associated with healthy reefs and increased fish catch” (Cruz Trinidad, 2008). This is partially a result of the demonstration site selection process, which took into account the potential for local support, and took advantage of sites that had a history of positive environmental stewardship. In most, if not all, of the demonstration sites there is strong community support for the objectives of the demonstration projects.

Local communities have benefited in various ways from project activities. Training activities have been carried out at the local level, particularly in monitoring techniques and

habitat restoration, and in many sites projects have contributed to the local environmental education curriculum. However, the diffusion of awareness of the value of habitat conservation has been relatively slow within the broader community, even the one directly adjacent to a demonstration site, as noted by project participants in Phu Quoc and Kampot, for example.

Unauthorized entry into MPAs as well as illegal fishing activities are reported to be continuing in many locations. For example, on the day of the evaluation visit to Masinloc, Philippines the MPA monitors had intercepted a fisherman using illegal fishing methods near one of the reserves. The Salak Petch village fishing monitors in Koh Chang, Thailand indicated that illegal commercial fishing vessels enter the area with regularity and impunity. In both Phu Quoc and Kampot, illegal trawling continues to cause damage to the seagrass beds. These violations are perpetrated either by members of the local communities themselves, or by outsiders from other municipalities, provinces or even countries. Thus, public awareness campaigns and enforcement of regulations at all levels and in all sectors must continue with as much vigor as during the project's lifetime.

An important early activity consisted of public awareness and education campaigns involving people who lived directly adjacent or in close proximity to a demonstration site (for example, activities of the Fangchenggang Mangrove Friendship Association). Another important activity was the engagement of public officials directly responsible for human activities in the localities where the demonstration sites are situated, involving local village leaders and town mayors. For example, the Mayors' Roundtable meetings implemented by the project were considered highly valuable, and an innovative mechanism for replication. The Mayor's Roundtable meetings helped draw linkages between local level activities such as shared experiences, and regional objectives.

## **B. Component 2: Over-Exploitation of Fisheries in the Gulf of Thailand**

Individual focal points were also designated in the countries that participated in the fisheries component. As with the habitat sub-components, these country focal points were organized into a regional working group on fisheries (RWG-F). The fisheries component included four main activities: 1. Development of a system of fisheries refugia; 2. Promotion of the FAO code of conduct for responsible fisheries; 3. Evaluation of a prototype blast fishing detection device; and 4. "develop[ment] and implement[ation of] programmes to provide information, at the community level, on fish stock conservation and sustainable fishery practices among small and artisanal fishing communities" (UNEP, 2002a). In addition, countries were to develop and update national management action plans to protect endangered species. As with all of the project working groups, the RWG-F provided direct input on the development of the draft SAP.

An important consideration regarding the fisheries component is the lack of participation by China and Malaysia. China did not participate in the coral reefs and fisheries components of the SCS project, while Malaysia was not involved in the fisheries and mangrove components. Neither of these countries produced national reports for the project on "fish stocks and habitats of regional, global and transboundary significance in the South China Sea" (UNEP, 2007g). China's level of participation is consistent with its official position regarding engagement in multilateral agreements, particularly where these sectors (fisheries and coral reefs) are concerned. The Chinese position was made clear from the start of negotiations on the present project, so the non-participation of China does not represent a failure of the project to carry out originally planned activities. In the case of Malaysia, the National Technical Working Group (NTWG) indicated during the evaluation visit in November 2008 that the matter of fisheries should be under the FAO, rather than under UNEP. This would explain their country's non-participation in this component, although representatives did attend later meetings of the RWG-F. Malaysia also was involved in the review of species of transboundary importance and future proposed actions in developing the regional refugia system (UNEP, 2008h).

The lack of Chinese and Malaysian participation in the fisheries component affected the ability of the project to address sustainable management of transboundary fish stocks in the South China Sea and Gulf of Thailand. Many of these species spend parts of their life cycles in divergent areas of the ocean. In the South China Sea and Gulf of Thailand, this implies that some economically important species may be found in the territories of different countries during different stages of their life cycles (juvenile versus adult). Conserving economically critical stocks requires accounting for all of these life stages and the areas in which they occur. It is not helpful to apply strict controls to adult fish in one area, for example, if they are unprotected, while they are larvae or juveniles, in other areas. In addition, adults of some species may be found in different locations during different times of the year if they have migratory patterns that follow seasonal cycles.

The first and primary activity under the fisheries component was the development of the fisheries refugia concept within the region. According to project documents, this activity was expected to “lead to the establishment of a system of refugia to maintain important transboundary fish stocks in the Gulf of Thailand” (UNEP, 2002a). This activity produced the main output of the fisheries component of the SCS project, the proposal on “Development and Operation of the Regional Fisheries Refugia System” for possible GEF funding, as one component of the envisioned SAP implementation. The objective of the proposed project is “to operate and expand the network of fisheries refugia in the South China Sea and Gulf of Thailand for the improved management of fisheries and critical marine habitats (sic) linkages in order to achieve the medium and longer-term goals of the fisheries component of the Strategic Action Programme for the South China Sea” (UNEP, 2008i). According to the SAP, the target by 2012 is “to have established a regional system of a minimum of twenty refugia for the management of priority, transboundary fish stocks and endangered species” and; “to have prepared and implemented fisheries management systems in the identified refugia based on, and consistent with, the ASEAN SEAFDEC Regional Guidelines for Responsible Fisheries in Southeast Asia” (UNEP, 2008h).

Fisheries refugia in the context of the SCS project are defined as “Spatially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species (fisheries resources) during critical stages of their life cycle, for their sustainable use.” A clear distinction is made between refugia and MPAs (UNEP, 2007a). The project developed criteria to define fisheries refugia, and identified regional refugia sites (UNEP, 2008j). Some technical focal points felt that in practice the refugia concept is not very different than current fisheries management practices of fishing restrictions based on geographic area or time. Introducing the concept with the new term “refugia” created some confusion and initial resistance due to confusion between refugia and MPAs. Project participants indicated that if the concept is clearly communicated, then “refugia” are welcome as another tool for sustainable fisheries management. There is a directed effort in the fisheries refugia proposal to integrate fisheries and habitat management (UNEP, 2007a).

The proposed lead implementing agency for the refugia project is SEAFDEC, based in Thailand. SEAFDEC has an international reputation for advanced scientific contributions in the fields of fisheries assessment, management and culture. Hence, this organization is well-qualified to implement the project. Since China is not a member country of SEAFDEC, the likelihood of China’s participation in this project, should it be approved for GEF support, should be carefully explored and cultivated.

There is significant interest and enthusiasm within the region to continue testing and exploring the effectiveness of the fisheries refugia concept. For example, according to SCS project participants, at a recent meeting of the Asia-Pacific Economic Cooperation fisheries working group, policy makers identified further research on fisheries refugia as a top priority. An IWLearn Experience Note on fisheries refugia has been produced, which includes a discussion on potential replication of the concept in other regions in Asia (UNEP, 2008k).



In several participant countries the concept of fisheries refugia has been integrated in national fisheries management planning, which is an important achievement of the project. For example, in the Philippines the refugia concept has been incorporated into the Comprehensive National Fisheries Industry Development Plan, which is the blueprint for fisheries in the Philippines for the next 20 years. The Philippines has also already initiated piloting of the refugia concept in other fora. Furthermore, the refugia concept has been incorporated by FAO into some of their research on fisheries management.

The RWG-F also promoted the FAO Code of Conduct for responsible fisheries in collaboration with SEAFDEC, and developed a regional fisheries code of conduct. Activities included translation of the code of conduct into national languages, and awareness building activities in conjunction with the demonstration sites (UNEP, 2006b). One potentially highly valuable output from the RWG-F is the regionally agreed upon list of species of transboundary significance (UNEP, 2007h), which could contribute to a foundation for regional management and conservation measures of key economically valuable species. The activity regarding evaluation of a blast-fishing detection device was not undertaken because the proposal was determined by the RSTC to be scientifically and technically unsound. As an additional activity, the RWG-F developed a framework for assessing the effects of fishing and aquaculture in the context of the habitat demonstration sites.

### **C. Component 3: Land-based Pollution**

The anticipated activities of the SCS project under this component are outlined in documents from the first meeting of the RWG-L-bP (UNEP, 2002b; UNEP, 2002c). As with the other components, the initial activities for this component involved the compilation of data on sources and levels of pollution at the national level. National reports were produced based on these data, which were then used as an input to the development of national action plans for the prevention and control of land-based pollution in the participating countries. The RWG-L-bP agreed on criteria for identification of pollution hotspots, and identified 17 regional hotspots. Two of these were selected for pilot activities funded in part under the SCS project.

An important achievement of this component was the publication of the knowledge document “Modeling the Carrying Capacity of the South China Sea Marine Basin with respect to Nutrient Loading from Land-Based Sources” (UNEP, 2007i). This evaluation considers the content of this document among the highest priorities for publication in the peer-reviewed literature. This component of the project also sought to establish and maintain region-wide water quality standards. Progress was made in identifying and prioritizing threats and challenges, and in achieving agreement on some standards related to contaminant loading and sedimentation. Future targets for these standards were identified in the SAP. Project participants noted that standards addressing other key problems, such as heavy metals, are not yet in place in some countries.

This component was perceived by some participants as the least successful in terms of the level of activity. From the meeting reports of the RWG-L-bP it is evident that there were many delays in reporting to the PCU as well as in production of required outputs (UNEP, 2005c). A pilot activity originally planned in Ling Ding Yang, China encountered problems due to conflicts with development plans by the government in the locality concerned. On the other hand the other pilot activity, in Batam, Indonesia, had a high degree of success thanks to strong local government support. High turn-over of members of the regional working group may have affected activities.

It should be noted that efforts to document, monitor and control land-based pollution have been long underway in many countries. Participants in Malaysia noted that mechanisms for the control of land-based pollution were well-established long before the SCS project (Maritime Institute Malaysia, 2007). However, the RWG-L-bP noted, “Although these management practices are in place in most countries, there are many problems in their

implementation. Some countries lack the capacity to enforce the Environmental Acts due to limited budgets and lack of collaboration with waste producers” (UNEP, 2007j).

There were significant other activities being undertaken on land-based pollution outside the context of the project, under the framework of the “Global Programme of Action for the Protection of the Marine Environment from Land-based Activities” (UNEP, 1995). For example, a major regional workshop to identify regional pollution hotspots was organized by UNEP in Thailand one month before the second meeting of the RWG-L-bP (where a list of hotspots was also confirmed). Participating countries submitted national reports for this regional workshop, which were compiled into a large technical volume (UNEP, 2002d). Under the PEMSEA program, demonstration projects were established in three pollution hotspots, namely, Manila Bay, the Bohai Sea and the Gulf of Thailand, representing subregional areas that receive high pollution loadings and have complex transboundary environmental and jurisdictional characteristics (PEMSEA, 2007).

Hence, the introduction of this component within the South China Sea project did not play as significant a catalytic role as was the case with the other components in some of the countries.

#### **D. Component 4: Project Co-ordination and Management**

The SCS project (and associated participants) benefited from a highly competent and well-organized PCU. Although the SCS project was well designed and highly relevant, it would not have achieved the level of success it did without such a strong and cohesive PCU. The PCU staff was dedicated and diligent, and in all project components the PCU made every effort to attain project milestones according to schedule. As noted in Section VI.D. on co-financing, the PCU staff contributed more than \$400,000 of “personal” co-financing during the project’s lifetime, based on extra time worked, including weekends and holidays, but not including the extensive personal time to develop and maintain the website. The level of transparency, good faith and effort displayed by the PCU is highly commendable. The degree of organization, and quality and timeliness of reporting by the PCU was uncommon in many regards, setting a high standard for other GEF IW projects (UNEP, 2004b; GEF, 2004b).

From the outset of the project the PCU suffered from a shortage of full-time technical staff. During the first three years of the project, the PCU had 33% fewer person-months of professional time available than was originally envisaged (UNEP, 2006a). Some project participants felt that shortcomings in some of the countries could have been avoided or overcome more quickly if there had been the opportunity for more extensive contact with the PCU. The project’s mid-term evaluation noted the insufficient level of staffing, and the one recommendation of the evaluation was that staffing be increased. This recommendation was addressed, and additional human resources were added to the PCU. In the final stages of the project, the PCU consisted of five persons: the project director, a fisheries expert, a program assistant, a team assistant, and a consultant working on financial and legal matters.

Because of the particular history of the SCS project, there was a unique reporting structure within UNEP: the director of the SCS project reported directly to the director of the UNEP Division of GEF Coordination (UNEP DGEF). In addition, the PCU staff members were considered direct employees of UNEP DGEF, which obviated the “executing agency” function of the PCU, since UNEP was then acting as both the implementing and executing agency. During the SCS project implementation period UNEP DGEF revised its oversight policies so that this type of arrangement no longer occurs. There was initially frequent communication between the PCU and UNEP DGEF, and other institutional support from UNEP DGEF was made available when required. During the project’s life, however, there was turnover in the position of UNEP DGEF director, which resulted in disrupted project oversight for the SCS project. The PCU reported that, in the latter stages of the project, the interaction between UNEP DGEF and the PCU was reduced. This is supported by a review of the electronic communication record

between the PCU and UNEP DGEF in the last years of the project. It has been noted that there were also occasional telephone communications between UNEP DGEF and the PCU. The infrequent communication appears to have been a result of either too few or too many lines of responsibility due to the project's unusual administrative arrangement.

The project was nominally implemented under the auspices of COBSEA. The SCS project director reported to COBSEA annually on the project's progress. Similar to the situation with UNEP DGEF, the COBSEA Secretariat also went through a period of turnover in the coordinator position during the project's implementation. In the first years of the project, one PCU staff member worked 50% on the SCS project and 50% for the COBSEA Secretariat. This relationship facilitated good coordination between the project and COBSEA. In 2003 the COBSEA coordinator departed, and the position was not filled on a full-time permanent basis until two years later. During this interim period, coordination between the COBSEA Secretariat and the PCU diminished.

Throughout the seven-year implementation period, valuable technical and management capacity was built by and within the PCU. At the end of the project however, the PCU was disbanded without the developed capacity being integrated into COBSEA for SAP implementation. This is not a shortcoming of the SCS project, but a missed opportunity by all parties involved, including the SCS participant countries (that are also COBSEA members), and UNEP. COBSEA has been recommended as the implementing body for the SAP, but will be starting with extremely limited capacity and institutional knowledge of the SCS project. In addition, a new COBSEA coordinator has taken up the position in December 2008, shortly before the project's closure, which limited the possibility for a meaningful hand-off of critical project files and data, and activity transition period.

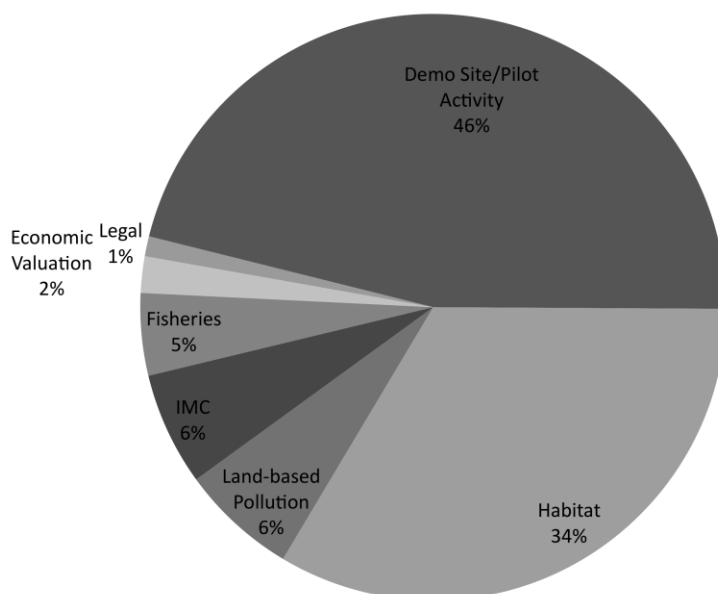
One of the operational principles of the GEF is full disclosure. The performance of the SCS project in this regard was highly satisfactory. The project made use of the website to make publicly available all project documentation; the project has been referred to as a "glass house." The project website holds over 1,800 documents, including annual project workplans and budgets. This allows all project participants (and non-participants for that matter) to see exactly where funds have been allocated in what amounts, including PCU personnel costs. This level of transparency has been highly valuable in two respects. Since participants in all countries can see exactly how much money has been allocated for each activity, there are no unjustified sentiments of inequity (although project funds have not been allocated equally between all participating countries). Second, full disclosure provides a form of peer-pressure to encourage participants to produce the outputs that are expected of them based on their respective MOUs. In cases of non-compliance, the PCU could and did, in the context of a regional meeting, clearly demonstrate a linkage between allocated resources and expected outputs.

The SCS project was highly effective in the area of financial planning and management. Financial records were meticulously kept, and fund disbursement and expenditure at the national level and among demo sites was closely tracked throughout the life of the project. The actual project expenditures did vary from the original planned budget in some areas. As noted in the project's terminal report, "Significant sources of variation in project costs resulted from the extension of project duration from five to seven years; significant under-staffing of the PCU for the first 3 years; [and] significant savings in meeting costs as a consequence of the decision of the Project Steering Committee to convene meetings at the demonstration sites from 2004 onwards" (UNEP, 2009a).

The project budget was dispensed through a variety of channels, but one of the main conduits was through the direct transfer of funds to national organizations and entities. Figure 2 below shows a breakdown of how cash funds were allocated amongst activities implemented at the national level. This does not include in-kind funding of these activities at the national level. Cash advances at the national level constituted approximately 49% of the total cash cost to the GEF Trust Fund. Another significant cash expense was the cost of the PCU (including

personnel and facilities), at more than \$3.5 million over the life of the project.<sup>7</sup> National cash and in-kind financing constituted an additional \$19.4 million (UNEP, 2009a).

**Figure 2. Cash advances to national entities by activity type, January 2002 though June 2008 (total \$7.8 million) (UNEP, 2008I)**



Despite the best efforts of the PCU, financial reports from the national level were often significantly delayed. In the few instances where activities were not completed, the PCU has requested the return of funds from the relevant SEAs. However, at the final RSTC meeting in December 2008 it was noted that over \$76,000 in funds had yet to be accounted for or returned to UNEP (UNEP, 2009b). UNEP should continue to monitor this issue to ensure that all funds are properly accounted for.

The project's financial planning was such that the project will be returning some unused funds to the GEF and "\$750,000 was transferred in 2008 to the GEF Small Grants Programme to support community based interventions at coastal sites identified as priority areas for SAP intervention" (UNEP, 2009a). Such circumstances are highly uncommon among GEF projects, and should be considered a best-practice example within the GEF portfolio.

### **i. Project Organization and Institutional Structure**

*Within-country coordination:* Within each country, relevant ministries and agencies were represented in the IMC established through the project. This body had the responsibility to oversee and provide advice on relevant national activities that would contribute, directly or indirectly, to the achievement of the project's objectives. A National Focal Point (NFP) designated by the government headed the IMC. This individual typically had a leading position in one of the key ministries or departments involved with the project. For example, in Viet Nam the NFP was the Deputy Minister for the Ministry of Natural Resources and Environment. The NFP also represented the country at the PSC (see below).

In consultation with the NFP, an NTFP was appointed to be responsible for matters of a scientific and technical nature. The NTFP undertook to coordinate all activities related to

<sup>7</sup> Financial documents indicating the exact total cost of the PCU were not available for this analysis.

project implementation within a country. The NTFP was also the national liaison with the PCU, although each SEA maintained direct communication with the PCU as well. The NTFP usually came from an SEA responsible for implementation of a subset of project activities at the national level. This same individual represented his/her country in the RSTC. The efficacy of this arrangement varied amongst participating countries.

A fundamental challenge of national project coordination that emerged in all participating countries was divergent mandates between government ministries or departments, and consequently different priorities and portfolios. A prime example of this is ministries responsible for fisheries versus those responsible for the environment. MOUs were signed between the PCU and multiple types of government agencies to act as SEAs in each country. The result was that agencies sometimes faced coordination challenges because of conflicts in jurisdiction, or at the other extreme, overlap in terms of project objectives and requirements. As an example, the conduct of surveys or regular monitoring in coral reefs, seagrass beds, mangroves and wetlands covers the entire habitat but also the various species of plants and animals found there. Hence, such activities fall within the responsibilities and interests of the departments of environment, fisheries, agriculture, and even tourism. Such practical considerations may not feature prominently in a project's design, but they become very real challenges during actual implementation.

## **ii. Roles of Committees and Specialised Executing Agencies**

*Regional Committees:* The over-all management oversight for the project was exercised by the PSC, which was composed of NFPs (who also headed the national IMC). The PSC structure was based on the principle that only representatives from the participating countries should be included, which is unique among GEF IW projects.

The over-all responsibility for scientific and technical activities at the regional level rested with the RSTC, whose members were the NTFPs from the different countries, as well as the chairs of the RWGs and RTFs. In addition to the East Asian Seas Action Plan, other regional activities have been supported over the years by a variety of international funding agencies from countries such as Australia, Canada, Japan, Korea, and the United States. Hence, at the time of project inception, networks of institutions as well as of individual scientists and other environmental practitioners were already in place. The project capitalized on these networks, and served to expand and strengthen them.

During the project both committees met at least annually; the PSC met eight times, and the RSTC met ten times. These meetings served as the main, regular monitoring mechanism for the project. It may be gleaned from the minutes of the meetings, as well as from interviews of the participants, that discussions were always open and frank, and focused on the success of the project.

*Specialised Executing Agencies:* Management of project activities on the ground was delegated to the SEAs, with which UNEP executed MOUs on an individual basis. In the course of the project, the performance of the various SEAs was uneven. The majority of SEAs fulfilled their obligations under their MOUs, although many SEAs' activities were completed beyond the originally planned timeframe. Regarding administrative and progress reports, compliance by SEAs has been high. For the preparatory phase of the project from 2002 – 2004, of 253 reports anticipated, 98% were received. Similarly high numbers were found for 2005 and 2006. As of the 8<sup>th</sup> PSC meeting in August 2008, compliance for fiscal year 2007 and 2008 was lower, but was expected to increase in time (UNEP, 2008).

## **iii. Project Website**

A significant and highly successful output of the project is its website, <http://www.unepscs.org>. The contribution of the website is remarkable, particularly in light of the fact that it was not an activity that was envisioned in the original project document. The development and maintenance of the website required substantial time and effort from the PCU,

primarily from a single individual. The website’s potential and utility as an integral coordination mechanism grew during the lifetime of the project thanks to the rapid advances in internet connectivity in the region. According to one source, internet usage in Asia grew more than 400% from 2000 to 2008; in Viet Nam internet usage grew 9,980% during this period (IWS, 2009). The website employed a number of advanced technological features including two-way data transfer, a Skype status box for PCU staff, a Google Earth layer, posting of video documentation of the project, and an RSS news feed.

The project website served many functions, but the most important was its role in expanding the reach and transparency of the project by serving as a repository of project documentation and a vehicle for dissemination of project information. The majority of the English language documents and data produced under the project have been collected and catalogued on the project website; over 1,800 documents are available to the public for download, facilitating the remarkable transparency of the project. Publicly available documents include all regional meeting documents, including project workplans and budgets. The website also stores more than five hours of project-related videos that can be viewed by visitors to the site (UNEP, 2008m). The project meta-database was operationalized through the website, in an interactive manner that allowed participants to upload data sets for exchange. As of June 30, 2008, the meta-database contained entries for 1,142 datasets (UNEP, 2008m). The website recorded approximately 110,000 site visits per month, and has received hits from more than 120 countries. The website has also earned recognition from Google Earth, the GEF Secretariat, and IWLearn (UNEP, 2008b).

Regarding future sustainability, it was agreed that COBSEA would assume full responsibility for its maintenance and update. The COBSEA Secretariat, in consultation with the PCU staff responsible for website development and management, identified a suitably qualified individual to facilitate the continued hosting and updating of the software platform supporting these online resources. This individual was contracted by COBSEA to provide this service for 18 months following project closure. Similarly, training was provided to staff of SEAFDEC with respect to the continued updating and maintenance of the fisheries component of the website. All project outputs have also been compiled on inter-active DVD ROMs and were distributed to all project partners (UNEP, 2009a). In the near future, COBSEA will need to establish the internal technical capacity to maintain the website to ensure its long-term sustainability.

#### **iv. Training Program**

One of the originally planned project activities was a regional training program, with workshops to build capacity held at the regional, national and local levels throughout the lifetime of the project. In 2006 a sub-committee of the RSTC developed a regional training program and a proposed schedule (UNEP, 2006c). Table 1 below summarizes the regional training courses, held in 2007 and 2008. For the regional training courses, institutions from participating countries that could offer high-level scientific expertise in particular fields (e.g., monitoring techniques, habitat restoration methods, numerical modeling) served as hosts. Training on a variety of topics was also conducted at the local level in many of the demonstration project sites.

**Table 1. Regional Training Workshops Held (UNEP, 2008n)**

<b>Training Workshop</b>	<b>Date and Location</b>	<b>Convening Institution</b>	<b>Participants</b>
Regional Training Workshop on Management Models and Strategies for Coral Reef and Seagrass Ecosystems	October 29 – November 10, 2007; Masinloc, Philippines	The Marine Science Institute, University of the Philippines	24
Regional Workshop on the Sustainable Use of Mangroves	25th April – 9th May 2007; Penang, Malaysia	USAINS, Universiti Sains Malaysia	20
Regional Training Workshop	5th – 20th November	Faculty of Environment	21

on Sustainable Use and Management of Coastal Wetlands	2007; Nakhon Pathom, Thailand	and Resource Studies, Mahidol University, Thailand	
Regional Training Workshop on the Economic Valuation of Coastal Habitats of the South China Sea	24th – 28th March 2008; Samut Songkram, Thailand	Faculty of Economics, Kasetsart University, Thailand	21
Regional Training Workshop on the Establishment and Management of Fisheries Refugia	8th October – 10th November 2007; Samut Prakan, Thailand	SEAFDEC Training Department	25
Regional Larval Fish Workshop	16th-31st May 2007, Samut Prakan, Thailand	SEAFDEC Training Department	24
Advanced Regional Training Workshop on Larval Fish Identification	25th May – 14th June 2008; Samut Prakan, Thailand	SEAFDEC Training Department	18

The training activities were designed to spread maximal benefit from national institutions with recognized expertise in particular fields to individuals in other institutions and countries requiring capacity development in these areas. For instance, field monitoring techniques and the management of coral reef and seagrass ecosystems were topics covered by scientists from the Philippines. Anecdotal evidence suggests the methods learned are being applied, particularly in the initial assessments and subsequent monitoring of demonstration sites, and in the development of their respective integrated management plans. Respected mangrove scientists offered training in the management and sustainable use of mangroves from Malaysia. This exposure was cited by project participants from China and Cambodia, for example, as having been of great benefit. The SEAFDEC Training Department made a significant contribution to the training program by conducting the sessions related to fisheries, which included highly technical topics such as the identification of larval fish.

Each training course also functioned as a “train-the-trainer” session, as participants in each workshop were required to organize “echo” training seminars at the national level to further disseminate the skills and knowledge learned. Thirty-seven national echo seminars were conducted, involving 1,592 participants and a total of 111 days of training (UNEP, 2008n).

The training program reached a significant number of people, with a substantive effort in terms of days of training. Evidence indicates that the training sessions were well organized, and conducted by highly capable technical resource persons. Technical focal points indicated the training was a valuable contribution. The training program produced a large volume of materials that can be used by others, some of which are posted on the project website’s “training portal.” Without further data provided on how or if program participants are applying skills and knowledge gained through the program it is impossible to completely assess its effectiveness.

#### **v. Management of Demonstration Sites**

The management of demonstration sites engaged members of the local community as well as government officials at the municipal and provincial levels. Each demonstration site instituted a local management board, with the number of members varying among sites (UNEP, 2007k; UNEP, 2007l; UNEP, 2007m). As previously discussed in Section V.A.ii, there were no demonstration sites in Malaysia. The local management board for each site was responsible for formulating a management plan that included:

- The collection of all available data on the local resources;

- Surveys of habitats within the boundaries of the demonstration site in order to establish baseline environmental conditions, to support future monitoring as well as to augment the initial data gathered as mentioned above;
- Planning for the zoning of habitats, with recommendations for uses of resources, and levels of such use, which may be allowed or disallowed;
- Recommendations for the enforcement of regulations;
- Activities to raise public awareness such as seminars, workshops and the production of print and/or audio-visual media;
- Where possible and appropriate, organization of training courses to enhance technical capacity within the local community.

The success of the management board mechanism varied due to occasional limitations in availability of board members. In situations when the management board could not convene when needed, management flexibility suffered in terms of being able to address problems.

Each demonstration site had a site manager appointed through the project. The site manager was a member of the local management board. He/she was in charge of direct liaison with the community regarding activities within the demonstration site. In all demonstration sites, the site manager was a dedicated, active individual who contributed significantly to the success of the project at the local level. In a majority of cases the site manager was based in the capital or another city, instead of at the project site, which decreased opportunities for direct communication with local participants. At the same time, being based in the capital allowed site managers to collaborate closely with the relevant national habitat focal point.

## **vi. Publications**

Key outputs of the project are the technical publications and knowledge documents produced over the years of project implementation. A listing of these documents, which served as an input to this evaluation, is included in Annex III.

The technical publications and knowledge documents cover the components and sub-components addressed in the project: coral reefs, seagrass, mangroves, wetlands, fisheries and land-based pollution. Also included are documents on economic valuation of coastal ecosystem goods and services, and relevant legal frameworks. These high quality documents incorporate the efforts of numerous well-qualified individuals from meetings, workshops, and their own personal time. Notable technical publications include the knowledge documents on economic valuation of the South China Sea ecosystem goods and services, and the modeling on nutrient carrying capacity in the South China Sea.

These products should be disseminated as widely as possible, which would be facilitated through publication in the international peer reviewed literature. This includes scientific, management and policy journals, and books by accredited publishers. Although publication was not planned in the original project document, and was not a requirement for project participants, it is highly encouraged to ensure that the intellectual products of this project are brought to the attention of the broader community of scientists, environmental practitioners, managers, policy makers and students of various disciplines, not only in the region, but in the entire world. In contrast to most publications from United Nations organizations and other international organizations, international peer-reviewed journals are subscribed to by thousands of institutions and individuals. Thus, their contents are more likely to be noticed, recognized, cited and absorbed into mainstream scientific thinking, policy formulation and decision-making. One of the key recommendations of this evaluation report encourages the future publication of project results and lessons learned in the international peer-reviewed archival literature.



The project also organized three regional scientific conferences, which were attended by a wide range of SCS project participants. The third regional scientific meeting, held in Bangkok in November 2007, for example, saw 160 participants including focal points, regional experts, mayors and governors, demonstration site managers, SGP national coordinators and NGO leaders, and representatives of UN and other organizations (UNEP, 2008o).

### **vii. Linkages with Other Regional Programs and Initiatives**

A notable example of linkages with other regional initiatives is the successful alliance with SEAFDEC, particularly in the development of the fisheries refugia proposal. The process of developing the fisheries refugia proposal also drew on collaboration with the UNDP Yellow Sea project. The SCS project collaborated with the World Bank-GEF Mekong River Water Utilization Project regarding habitat classification and economic valuation procedures. Together with UNDP, there was collaboration with the Asia-Pacific Fisheries Commission under FAO on fisheries-environment issues. In addition, the project hosted a joint meeting of project and task managers of all UNEP-implemented IW projects to share common experiences. The SCS project collaborated with the learning component of the GEF International Waters Learning Exchange and Resource Network Project, through the contribution of experience notes on SCS Project innovations. Various knowledge documents of the SCS project have been uploaded on the IW Learn website and widely shared with other GEF projects. As a final example, there were joint initiatives with existing Southeast Asian research programs such as the Global Change System for Analysis, Research and Training, one result of which is the effort to model the carrying capacity of the South China Sea basin with respect to land-based nutrient pollution (UNEP, 2007i).

However, the most significant opportunity for cooperative synergies was not fully taken advantage of. Another large GEF-funded international waters project in the region also focusing on improving environmental quality in the South China Sea was the PEMSEA project (UNEP, 2007b) implemented by UNDP, which ran from 1999-2004. This project's main outcome was the application of integrated coastal management at a series of sites located in eleven participating countries (including the seven SCS project participants). The SCS project document predicted, "By closely co-ordinating the two GEF funded projects, mutual value-added benefits will be derived" (UNEP, 2001).

There has been some limited communication between the two projects (UNEP, 2005d), but overall there has been a lack of synergy in areas of common interest. Both projects used similar networks of institutions and in some cases the same individuals played formal roles in both projects, including membership in steering committees. Closer cooperation between the two projects was discussed during the course of the project, but did not result in any substantive long-term linkages. In addition, according to project documents, the director of the SCS project "confirmed that evaluations of the PEMSEA project had also noted the need for greater collaboration with the South China Sea project but these had also not been explicit regarding the nature of such collaboration" (UNEP, 2005e).

The dearth of coordination detracted from the positive dynamics that could potentially have been built for mutual benefit. For example, a non-SCS participant suggested that the SCS project could have drawn on institutional arrangements put in place for the demonstration sites that had been established under the PEMSEA project and which had been running for several years at the time the SCS project commenced, which the evaluation team finds to be a reasonable suggestion. The SCS project could also have benefited from lessons learned from the demonstration sites since activities there were also focused on "reversing environmental degradation trends" at the level of habitats.

### **E. Additional Activities: Regional Task Forces**

It became apparent early in the project's execution that outputs of the NTWGs were weak in the areas of economic valuation and legal instruments (UNEP, 2005a). Thus, the RSTC

recommended to the PSC that two RTFs be constituted: one on legal matters (RTF-L) and one on economic valuation (RTF-E). The PSC approved the creation of these two additional bodies in December 2002 (UNEP, 2002e). Quoting from South China Sea Knowledge Document UNEP/GEF/SCS/Inf. 1: “each has specific terms of reference and work-plans designed to complement and strengthen the work of the national committees and regional bodies. In discharging their responsibilities under the terms of reference the Task Forces provide direct advice regarding national levels of analysis in each area of the project to the national committees and sub-committees whilst at the same time providing advice regarding the regional level of analysis to the Regional Scientific and Technical Committee and the Project Steering Committee.” The chairs of the two RTFs were members of the RSTC. This development was also an excellent example of adaptive management early in the project’s preparation phase.

### **i. Legal Matters**

As of the time of this terminal evaluation, the outstanding achievement of the RTF-L is the draft framework for cooperation among the original participating countries of the project during the anticipated implementation phase of the SAP. Historically, under COBSEA progress has not been made toward developing a regional convention covering matters related to environmental protection, conservation and management of shared bodies of water. The NTWGs of China and Malaysia also indicated during the terminal evaluation that they would be unable to participate in components of the SAP that would contain elements that might be “legally binding.” The RTF-L worked to craft an alternative option that would be acceptable to the countries, to UNEP and to the GEF so that funding for the future SAP is not jeopardized, and that the countries concerned can implement essential components. An alternative framework, however, will need to be further refined through negotiations during the course of SAP implementation, should this materialize (UNEP, 2008a).

In addition, the task force has produced a very useful compilation of existing legal instruments “Review of the Legal Aspects of Environmental Management in the South China Sea and Gulf of Thailand” (UNEP, 2007b).

Based on the experience of this component of the project, it seems likely that future negotiations to develop a politically acceptable legal framework for environmental management of the South China Sea basin will need to include a broader range of stakeholders. The diverse political, economic, social and environmental considerations facing the South China Sea indicates that discussions should include ministries related to defense, foreign affairs, trade, agriculture, fisheries, transport and national security. This outlook is reiterated in the main recommendations of this report.

### **ii. Economic Valuation**

The RTF-E was established with two main objectives. The first was to advise and support “the national committees, sub-committees and regional working groups by providing the appropriate expertise and assistance in completing the envisaged economic valuations and cost-benefit analyses.” The second objective was “the development of a regional valuation framework for use in evaluating the cost effectiveness of alternative interventions for implementation under the Strategic Action Programme” (UNEP, 2003).

The substantive outputs of this task force are the documents:

- Procedure for Determination of National and Regional Economic Values for Ecotone Goods and Services, and Total Economic Values of Coastal Habitats in the context of the UNEP/GEF Project Entitled: ‘Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand’ (UNEP, 2007n)
- Guidelines for Conducting Economic Valuation of Coastal Ecosystem Goods and Services (UNEP, 2007o).

The RTF-E reviewed previous national studies on the economic values of relevant ecosystems, and developed additional calculations to derive a regional valuation for the ecosystem goods and services of the South China Sea. The study resulted in an estimated annual production value of the four combined ecosystems of \$7.6 billion dollars (UNEP, 2007n). The results from the economic valuation component were fully incorporated in the SAP, with a cost-benefit analysis presented to compare the cost of conserving key habitats regionally with the potential economic benefits provided by these habitats. The consideration and incorporation of the economic valuation of ecological resources is an important achievement of the project, and sets the stage for the potential future introduction of schemes for payments for environmental services, which are an increasingly used mechanism for conservation and sustainable use of environmental resources (Jack et al, 2008; Daily and Matson, 2008).

The outputs of the task force are also now being applied in actual field situations in the region. One example is the case of a coal spill due to a vessel grounding on a Philippine seagrass bed. The municipal government successfully used the economic valuation approach as a basis for litigation. Another example is a coral reef in Sulawesi, Indonesia, where the same approach is being used in a cost-benefit analysis to determine whether or not a mining project is to proceed.

## **F. The Strategic Action Programme**

The SAP is one of the primary outputs of the SCS project. The SAP is intended to serve as the blueprint for continued regional cooperation on environmental management and conservation in the South China Sea region. The broad range of outputs at the national level and from the regional working groups were synthesized to develop the SAP. The draft SAP was developed, reviewed and critiqued by all participating countries through an iterative process.

The SAP is structured in essentially the same manner as the SCS project. It includes strategic priority actions for each of the four habitat types, a component on managing fish stocks, proposed regional actions on land-based pollution, and a component on economic valuation and regional cost/benefit analysis of SAP action. The SAP also contains an element on regional cooperation, which relates to the work of the regional legal task force. The fisheries component of the SAP consists primarily of actions related to the development of a system of fisheries refugia.

The draft SAP was approved at the 9th meeting of the RSTC, and subsequently at the 8th meeting of the PSC. While no countries have made public statements indicating that they will not participate in an SAP implementation project, evidence gathered during this evaluation indicates that some countries are ambivalent about this prospect. An objective assessment of actions (or lack thereof) taken by individual countries thus far to move toward SAP implementation also supports this view, as discussed further in Section VI.A.i. below. The fisheries and regional cooperation components appear to be the most problematic for all countries to participate in fully. As previously discussed, not all countries have signed on to the fisheries refugia project proposal. For example, as of the time of the terminal evaluation, Viet Nam had not yet obtained endorsement of this proposal from its GEF Operational Focal Point. The regional cooperation component of the SAP outlines a “Proposed Framework for Cooperation in the Management of the Marine Environment of the South China Sea and Gulf of Thailand” (UNEP, 2008a). Under this component it is anticipated that the countries would begin formal discussions on a regional environmental management agreement.

At the 7<sup>th</sup> PSC meeting, the participating countries decided that an MOU would be the most acceptable framework for coordination of SAP implementation (UNEP, 2008m). Included as an annex to the 8<sup>th</sup> PSC meeting report is the “Final Text of Memorandum of Understanding among the Countries Bordering the South China Sea Concerning Co-ordination of Actions Undertaken to Implement the Strategic Action Programme for the South China Sea.” The MOU is

the umbrella under which the SAP would be implemented at the regional, sub-regional, national and local levels, and would be signed by environment ministers of the participating countries.

Cambodia, Indonesia, the Philippines, Thailand and Viet Nam have all indicated that they would support or strongly support an SAP implementation project, based on the current SAP and draft SAP implementation project proposal (UNEP, 2008b).

In China the IMC agreed on the framework of the SAP, in addition to the draft MOU. China has outlined its envisioned participation in a future SAP implementation project. In the national report submitted to the 9th RSTC, China identified its priority projects for SAP implementation as follows:

- Reserves of mangroves, sea grass beds, and “important coastal and marine wetlands” that are within or near developing areas; emphasis is given on reserves of a “national and provincial nature;”
- Inventory of sea grass habitats;
- Ecological tourism in mangrove, sea grass, coral reefs and important coastal wetlands; and
- Prevention of marine pollution from land-based activities at the provincial and municipal levels.

The issue of fisheries, particularly transboundary fish stocks, is notably absent in the Chinese position described above.

Malaysia’s suggestions for amendments to the draft SAP were forwarded to the PCU. In Thailand, parliamentary approval of the MOU to implement the SAP is required, the length of time for which is uncertain given the current political dynamics in that country.

These country positions have remained virtually unchanged as reported at the 10<sup>th</sup> meeting of the RSTC. In the case of China, the national representative stated that that country’s position with respect to a GEF funded SAP implementation project was “not clear” (UNEP, 2009b).

## **VI. Key Performance Parameters**

### **A. Sustainability**

#### **i. Financial Sustainability**

Since the SCS project was intended primarily to develop an SAP (the procedural equivalent of an enabling activity in the GEF’s biodiversity or climate change focal areas), it was always anticipated that a follow-on project would be required to implement it. The sustainability of the SAP is dependent on the countries involved agreeing to move ahead with an implementation project, and a decision from the GEF and UNEP to provide support and funding.

A proposal for a GEF-funded SAP implementation project has been prepared, and discussed at the final RSTC meeting in December 2008 (UNEP, 2009b), but there remain multiple steps before an implementation project is funded. Although countries have expressed support for the SAP through approval by the PSC, the outstanding hurdle is for all of the countries to sign the MOU to move ahead with formal implementation of the SAP. The first high-level opportunity to discuss the MOU, the ASEAN environment ministers’ meeting in Hanoi in October 2008, passed without action (ASEAN, 2008). UNEP and the GEF also must support an implementation project, and agree to provide funding. The GEF has indicated an initial willingness to support additional activity in the region, if there is sufficient political commitment to move forward by the participating countries. UNEP is in the process of revitalizing the Regional Seas Programme, and it is anticipated that the South China Sea could be a priority region for future support.

Some sources interviewed for this evaluation indicated it was conceivable that an implementation project could move ahead without all of the countries participating. While this is theoretically an option, having less than 100% participation of the countries surrounding the South China Sea is not likely feasible in the long-term, politically or environmentally. Individuals interviewed expressed a range of outlooks for the political prospects of SAP implementation, with a significant number of opinions being negative.

The potential impact of SAP implementation decreases with a delayed start. As articulated in the main recommendations of this evaluation, all relevant parties are strongly encouraged to rapidly move forward with SAP implementation. The GEF project cycle processes currently in place would allow for approval by the GEF Secretariat of an SAP implementation project within a short time, possibly 2 – 3 months.

As mentioned in Section V.A.i., following approval at the national level, some countries are beginning to integrate the NAPs into their ongoing marine and coastal management activities. Improved management of resources based on the NAPs and the data collected under the project will help sustain project results. Capacity developed as a result of the project has been primarily at the individual level, but also at the institutional level in some countries (e.g. China). Where institutional-level capacity has been achieved, it is likely to be sustained. However, past experience has shown that high staff turnover in government agencies can undermine this.

In addition to the sustainability of regional and national level activities, the other important consideration is financial sustainability of the demonstration sites. At the time of this evaluation, the relevant local and provincial authorities and institutions have indicated varying degrees of ability to financially sustain the project outcomes. The limited provincial or municipal government budgets make it difficult to continue all activities initiated by the project at the demonstration sites. For example, in many cases the large-scale education and awareness campaigns will not be continued, although the benefits from the previous activities will remain. In all sites there are financial commitments to sustain. Some activities can be sustained to varying degrees, such as monitoring of habitat quality, and regular patrolling of protected areas. Table 2 below summarizes the prospects for sustainability at each site.

**Table 2. Sustainability of Demonstration Site Results**

Site	Sustainability Outlook
Trat, Thailand (Mangroves)	The limited level of demonstration project activity at the site means that there are fewer outcomes to sustain. The local government continues to provide financial support for community management of the mangroves. There is some discussion with the Thailand GEF SGP to further develop and implement the business plan that was developed under the project, but the prospects for funding are not known. Mangrove conservation work will continue to benefit from the inclusion of Trat province within Designated Areas for Sustainable Tourism Administration's (DASTA) support to the area.

<p>Koh Chang, Thailand (Coral Reefs)</p>	<p>There are two main activities implemented by the project that will require ongoing funding. The first is the local guide service, which is partially self-sustaining, but will also continue to receive support from the NGO Association of Marine Biodiversity Conservation and Education. The second is the regular monitoring of the coral reef at the previously designated monitoring sites. This activity will also be supported in the future through this NGO.</p> <p>At the broader scale, Koh Chang is Thailand's first DASTA site, and should continue to receive significant funding to continue activities for sustainable development. The security of this funding however is unknown, since Thailand is currently experiencing significant political turmoil, and DASTA is an executive initiative initiated under the previous government.</p>
<p>Belitung, Indonesia (Coral Reefs)</p>	<p>There is strong local support for project activities and outcomes regarding zoning and management, but this still has to be translated into financial support from the local government. The management board has continued operation thus far on a voluntary basis. Some aspects of project outcomes do not require ongoing funding, such as reserve monitoring, which is done on a volunteer basis by local communities. The contribution to the local education curriculum will be continued by the Department of Education. The alternative/improved livelihood components will continue to benefit project participants.</p>
<p>Batam, Indonesia (Land-based Pollution)</p>	<p>There is a strong commitment from the municipal government to continue and even expand monitoring and enforcement activities of industrial pollution. The organic waste collection program is self-sustaining since community members are making money from the composting of organic wastes. Once the project finished there wasn't immediate funding for continued inorganic waste collection, so a willingness-to-pay study was conducted with the beneficiaries, with positive results. There is an agreement in place for private sector sponsors to finance the installation of home sewage systems.</p>
<p>Batu Ampar, Indonesia (Mangroves)</p>	<p>In general, there is a need for continued external funding for project activities at the Batu Ampar site. Some activities related to the project objectives will receive funding from government-related sources, such as alternative livelihood support from the Forestry Office of West Kalimantan. There are also corporate social responsibility activities being conducted in partnership with two forestry companies. Project benefits will remain, but on-going management of the mangrove area requires additional support.</p>
<p>Fangchenggang, China (Mangroves)</p>	<p>The provincial and national governments have allocated funding for ongoing mangrove-related conservation activities at the site for the next three years. There is also a partnership with a private company to develop the municipal mangrove site into a multi-use site, with the mangrove area as a centerpiece. However, the long-term financial sustainability of this activity is dependent on the success of the real-estate development plan, which may be impacted by the current economic downturn in China (which in turn is related to global events).</p>
<p>Hepu, China (Seagrass)</p>	<p>The provincial and national governments have allocated additional resources to support the continued operation of the seagrass reserve. The latter was originally designated many years ago as a dugong reserve, but since these animals are no longer found in the area, efforts are underway to designate it specifically as a seagrass reserve, with the</p>

	expectation that dugong populations could eventually be reestablished.
Ling Ding Yang, Shenzhen, China (Wetlands)	There were multiple unexpected delays in the implementation of this demonstration site project, and the project eventually was disassociated from the SCS project because it wouldn't be completed by the time the SCS project finished. Although this demonstration site was not successfully implemented during the course of the SCS project, there is a strong chance that the wetland water treatment facility will become operational, and that it will be financially supported by the local government in the future. National pollution targets set by the central government continue to motivate local government support.
Phu Quoc, Viet Nam (Coral Reefs and Seagrass)	Activities are expected to be sustained by the recently established (2007) Phu Quoc Marine Protected Area Authority. This body is in need of substantial financial support, however, for example for infrastructure. A national MPA system has been proposed to the Prime Minister for approval. If successful, this is a potentially significant source of national government funding.
Kampot, Cambodia (Seagrass)	Continuation of conservation activities will be built into the annual, 3-year and 5-year plans of the provincial government, but they will also depend on assistance from other government departments and from NGOs. Many participants stressed that since Cambodia is a poor country and the government has limited resources, they are very much dependent on external sources of funding.
Peam Krasop, Cambodia (Mangroves)	Activities initiated under the project will be continued, as far as is feasible, under the purview of the Department of Nature Conservation and Protection, Ministry of Environment.
Bolinao, Philippines (Seagrass)	The municipal government has allocated funding in its annual budget to support the ongoing protection of the seagrass reserve. There is also ongoing funding for the municipal coastal resource management program.
Masinloc, Philippines (Coral Reefs)	The municipal government has demonstrated a strong commitment to the ongoing operation of the network of MPAs. There is an annual coastal resource management budget, which contributes to the maintenance of the MPAs. At the same time, the Bantay Dagat association, which provides the actual monitoring and protection, is a volunteer group that is anticipated to continue operations at each of the MPAs.

To increase the likelihood of future financial support for implementation of the SAP, the SCS project participants developed small project proposals for donor consideration. This was an extensive process through which proposals were developed at the national level, and then vetted at the regional level and by the PCU to determine their coherence with the SAP (UNEP, 2008b). Twenty-six concept papers were submitted to the PCU (UNEP, 2008m). The final ten proposals were presented at a “partnership forum” in Cambodia on October 16-17, 2008. Unfortunately this meeting was poorly attended by “partners” – representatives were present from the Australian Embassy, the World Bank and World Conservation Union (UNEP, 2008p). There is no indication that any of the proposals have secured financial support for implementation.

## **ii. Sociopolitical Sustainability**

As previously discussed in Section V, the project faces some difficult political challenges at the regional level. These are not a result of a failure of the project, but simply the reality in a diverse region with many countries occupying a relatively small area. Political relations between countries regarding the South China Sea have improved during the lifetime of the project (Economist, 2002; Economist, 2007). If the current uncertain political commitment regarding implementation of the SAP project can be overcome, the outlook for the long-term political sustainability of regional cooperation on environmental management of the South China Sea will be positive.

Other positive activities are taking place at the bi-national level. In March 2008 Kampot province of Cambodia and Kien Giang province of Viet Nam signed a Memorandum of Agreement, “to implement the policy and framework for cooperation in the management of coastal ecosystems and natural resources between the provinces in order to strengthen environmental protection, biodiversity conservation, and welfare of each province,” (Anonymous, 2008). A similar agreement between Trat province in Thailand and Koh Kong province in Cambodia is also under discussion.

At the level of the demonstration sites, as discussed in Section VI.F and VI.G, strong participation and support from local governments and communities was evident. There remain some sociopolitical uncertainties in all sites, but in the immediate future the sustainability of project results is not likely to be undermined by sociopolitical factors. Examples of remaining threats include the rapid influx of undocumented migrant workers in Koh Chang (Thailand), and continued incursions in protected areas in Masinloc and Bolinao (Philippines), Phu Quoc (Viet Nam), and Kampot (Cambodia), often by non-local individuals.

## **iii. Institutional Sustainability**

The SCS project was implemented under the institutional framework of COBSEA. As discussed in Section III, COBSEA has been in existence since 1981, and is expected to maintain operations in the near future. COBSEA has agreed to serve as the executing body for implementation of the SAP, once the participating countries agree to move forward. This was also agreed to by the PSC (UNEP, 2008a). However, as discussed in Section V.D, the SCS project did not result in an institutional strengthening of COBSEA, and thus COBSEA is not currently in a position to support SAP implementation without significant capacity additions.

Another important aspect of institutional sustainability is the regional, national and local networks that have been established during the project. Networks were also established at the national level as committees for each of the habitat sub-components. As with many aspects of the SCS project, there was a wide variation among countries in the functionality of these national committees, but in many cases they have remained active after the project activities were completed. The mangrove and seagrass national committees in Indonesia are one example.

One project activity highlighted as a key success was the opportunity for demonstration site managers and other local community leaders to travel to other participating countries to visit similar demonstration sites to share experiences with their counterparts. Through this process informal networks of individuals and local institutions have also been established.

In some cases, once the demonstration site activities have been completed, management responsibility has been turned over from site managers to local government counterparts. Examples of the latter are the Phu Quoc Marine Protected Area Authority in Phu Quoc island (Viet Nam), the Kampot Fishery Office in Kampot province (Cambodia), and the Beilun National Natural Reserve (China) and the Environmental Protection Bureau of Beihai City (China).



#### **iv. Environmental Sustainability**

The primary tangible environmental benefits thus far have been at the site level with each of the demonstration sites. In some cases demonstration sites have helped maintain or increase environmental quality through the establishment of marine protected areas (Bolinao, Philippines), and through reforestation of mangroves (Trat, Thailand). For most sites there are no immediate acute threats to their environmental integrity, except for plans to build a major port in the vicinity of the seagrass bed in Kampot, Cambodia. A site with significant urgent ongoing risks is the Koh Chang coral reef demonstration site in Thailand, where DASTA, the Koh Chang National Park management, and local authorities are in a race to manage rapid development in a sustainable manner, as the coral reef ecosystem faces continued pressure from illegal trawling and increasing tourism. Thus far, trends in environmental quality of monitored coral reef areas in Koh Chang have been stable. Other demonstration sites also face ongoing threats, such as large-scale solid waste management in Batam, Indonesia, and cyanide fishing in Masinloc, Philippines. In Phu Quoc, Viet Nam, the rapid pace of tourism development poses challenges for the conservation of seagrass and coral reef habitats. The demonstration projects included the development of integrated management plans for the sites in order to address the identified threats in a systematic manner.

The long-term sustainability of fish stocks in the region remains a grave concern. As noted by the RWG-F, “Fish stocks in the South China Sea and Gulf of Thailand are subject to high levels of fishing effort, such that stocks of most economically important species are considered to be fully fished or overexploited” (UNEP, 2007g).

One critical aspect of environmental sustainability is the impact that predicted climate change will have on habitats in the South China Sea, which has received little attention under the SCS project. The final SAP implementation plan includes two small activities relating to climate change, under the proposed regional actions for the mangrove sub-component. In at least one of the demonstration sites it was noted that the greatest threat to mangroves is not illegal cutting, but erosion from winter storms which have been increasing in intensity in recent years, possibly due to climate change. There is little that SCS project participants can do directly to stop climate change, but much more could be learned about the potential impacts so adaptive measures can be taken in the future. There will need to be continuous evaluation, for example, of the on-going effectiveness of MPAs under various climate change scenarios. Furthermore, there needs to be long-term planning to provide assistance to the millions of people living in coastal communities who may likely be affected by impacts associated with climate change such as sea-level rise and more frequent storm surges, temperature increases (leading to coral bleaching, for example, and changes in breeding and migratory patterns of marine species) and ocean acidification.

#### **v. Technological Sustainability**

Project participants have agreed and committed to the long-term maintenance and sustainability of the project website, and the PSC agreed that the COBSEA Secretariat should take over management of the website (UNEP, 2008a). However, there is currently limited capacity in COBSEA to handle such technical responsibility. Recognizing that the website was not originally envisioned in the project document, it has been developed into an extremely valuable resource and its long-term sustainability is of critical importance. Financial support for the anticipated website costs (hosting fees, etc.) has been provided through 2010 by the PCU (UNEP, 2008q). COBSEA has contracted an individual to maintain the website for an 18-month period while it presumably secures internal capacity to handle this task. Training was provided to staff of SEAFDEC with respect to the continued updating and maintenance of the fisheries component of the website. All project outputs have also been compiled on inter-active DVD ROMs and were distributed to all project partners (UNEP, 2009a).

Another important consideration for technical sustainability is the continued maintenance and operation of equipment that has been acquired to undertake project activities.

For example, in some demonstration sites there have been purchases of environmental monitoring equipment (Koh Chang, Thailand), or patrol boats (Belitung, Indonesia). There appears to be, in all instances identified by this evaluation, strong likelihood of continued maintenance and operation of relevant equipment.

## **B. Catalytic Role: Replication / Scaling-Up**

Project participants from the newer members of COBSEA, notably China, Viet Nam and Cambodia, indicated that the project was the first significant international initiative on the South China Sea to foster cooperation among governments at the regional level. It established a forum for consultation and negotiation on environmental issues of common concern.

This is particularly relevant in situations where habitats straddle boundaries between nations (i.e., are of a “transboundary” nature), such as the extensive seagrass beds shared by Kampot province (Cambodia) and Kien Giang province (Viet Nam), and the mangrove forests along the border shared by Koh Kong province (Cambodia) and Trat province (Thailand).

The prime opportunity for replication is at the demonstration site level. The scale of the South China Sea ecosystem is such that the demonstration sites are not likely to have a regional (and therefore global) impact. Their value and greater impact comes from the potential replication and massive scaling up of the “demonstrated” approach or intervention, achieved through sharing the experience of demonstration sites. However, none of the demonstration site project documents contained a replication strategy or plan, beyond the primary local education and awareness activities. The demonstration projects were implemented over a two to three year period. According to several site-managers, the time available for implementation was barely sufficient to complete the activities planned at the sites, and there was therefore insufficient time to actively promote replication on a broader scale.

Despite the time limitations, there were some preliminary examples of replication. In Zambales province in the Philippines, the Masinloc demonstration site catalyzed a province-wide initiative to develop local-scale MPAs. In the Trat (Thailand) site, the neighboring province became interested in mangrove conservation after officials heard local radio and TV promotions about the Trat experience with mangrove conservation. Project participants in Cambodia and China believed that replication was likely to occur within the relevant provinces, because provincial level officials involved with the demonstration sites could share the experience with other municipalities within the province, or even with other provinces. It was noted that staff from eight of the 20 other national mangrove reserves in China had come to visit the Fangchenggang site. Although the demonstration projects included few or no activities to actively promote replication, other activities, such as the Mayors’ Round Tables and the publications produced, promoted replication through information sharing.

Section VI.D below outlines the planned and actual financing received by the project. The SCS project’s verified, direct leveraged co-financing was \$2.5 million greater than planned. The project’s method of tracking in-kind co-financing set an excellent example for other GEF projects. The process was meticulous, but allowed a well-substantiated estimate of actual in-kind co-financing received by the project. This kind of substantiation is normally severely lacking in GEF projects. Co-financing exceeded the originally anticipated amount by 13.9%. The project’s ratio of GEF funding to co-financing was 1:1.26 (UNEP, 2009a).

The undocumented, unverified leveraged associated financing is likely much greater than the verified co-financing. China provides the most significant example of catalytic financing – during the demonstration site implementation periods the central and provincial governments provided millions of Yuan of additional financing. Approximately \$4 million dollars in financing has been provided by the government for the operation of the Hepu site for the next two years. In addition, the Xindi Company’s planned investment for the municipal mangrove site in Fangchenggang is \$1.8 billion Yuan, which includes hotel and convention center development, as well as ecotourism related to the mangrove habitat.

### **C. Monitoring and Evaluation**

The project document contains the required elements of an M&E plan, and provides an overview of how each activity will be carried out. The M&E plan includes the following elements:

- Follow UNEP guidelines on project M&E
- PSC to monitor annual progress
- Annual progress report at COBSEA meeting
- Quarterly operational reports prepared and submitted
- Annual Project Implementation Reviews (PIR) prepared and submitted
- PCU responsible for submission of financial reports
- Terminal desk evaluation undertaken by UNEP DGEF
- Independent mid-term evaluation
- Independent terminal evaluation
- Post-hoc evaluation two years after project closure (UNEP, 2001)

The project document indicates that the PCU will develop process indicators during the appraisal phase to serve as benchmarks during project execution. Annex B of the project document, the project logframe, included some indicators by which to gauge achievement of project objectives, outcomes and results. The project document also indicates that the technical working groups will develop threat and environmental status indicators (UNEP, 2001). The TDA represents a kind of baseline regarding environmental status at the start of the project. Annex IX provides a summary of project results based on logframe indicators.

The logframe – normally a critical element of project design – was not adequately developed at the point of project approval. The logframe was broken down into sections on “objectives,” “outcomes,” “results,” and “components/activities.” The rationale for this breakdown is not clear – typically “outcomes” are considered part of “results,” and the “results” section of the logframe includes a mix of outputs and outcomes. Some entries in the logframe are unclear; for example, one of the “activities” listed is “Determination of criteria, preparation of priority actions and investment portfolios.” There is no indication of which project activity this refers to. The indicator for this activity is also unclear: “Preparation of drafts and convening of regional expert and subsequent COBSEA meetings according to the agreed workplan.” The logframe indicators are primarily output and process indicators, and would not meet the “SMART” guidelines of the current GEF M&E policy. Although the logframe was part of the overall project document approved by the GEF Secretariat and GEF Council, at the time the project was designed there was less attention to M&E within the GEF than there is currently, which may account for the logframe’s shortcomings.

The insufficient logframe and indicators may have contributed to an overemphasis in some instances of reporting on outputs, without demonstrating linkages to expected outcomes and impacts. For example, the 2008 PIR reports that the outputs of the regional training program included “192 PowerPoint presentations containing 5,612 slides; 571 pages of text in 17 lecture notes; 61 recommended readings with a total 2,231 pages of text; 7 training videos; and a package of larval fish identification resource materials” and “104 days of regional training and the participation of 153 individuals” in the initial round of training, with “echo” seminars including “1,592 participants and 111 days of training.” (UNEP, 2008m). There is no information presented on the percentage of individuals who found the training valuable, or examples of increased capacity achieved. Without a framework of relevant outcome-level indicators, information on the utility of the training outputs, and how/if they are being used to improve management, is naturally not reported.

To supplement the project logframe, the 2007 and 2008 PIRs are accompanied by “results templates,” as required for annual reporting of GEF IW projects. The results template for the “Foundational/Capacity Building” type of project, applicable to the SCS project, consists of three main sections: “Process Outcomes and Indicators,” “Stress Reduction Outcomes and Indicators,” and “Environmental/Water Resources (& Socioeconomic) Outcomes and Indicators.” The SCS results templates provide a more logical re-organization of the original project logframe, with clearly identified expected outcomes (UNEP, 2008m). Under the “indicators” portion of the Process-outcomes-results-template section, elements of the logframe are re-organized to provide indicators for the newly articulated outcomes, as can be seen in Annex IX.

In the 2007 and 2008 results templates, the section on process outcomes is completed using logframe indicators when applicable, or a note that for particular process outcomes there were no indicators in the logframe. The section on “Stress Reduction Outcomes and Indicators” is completed with a small amount of information on activities at the demonstration/pilot activity sites, with a note under indicators that there were no indicators in the project logframe. The section on “Environmental/Water Resources (& Socioeconomic) Status Outcomes and Indicators” is left blank (UNEP, 2007p; UNEP, 2008m).

The example of the results template is mentioned because this is the most likely place to find reporting on project outcomes or impacts. As a “foundational” type project, it is not anticipated that regional environmental impacts would occur by project-end. As is further noted below, the project produced copious amounts of reporting documentation, including reports to various bodies such as COBSEA, the PSC, and UNEP DGEF. The results template example should not be construed to imply that project participants should have spent more valuable time and effort on filling in various reporting templates. As noted in the 2007 PIR on the issue of reporting, “High reporting load since PCU responsible for monitoring all reports from 44 SEAs and 7 focal ministries. Annual reports produced for PSC and lodged on project website; end year reports for Nairobi produced; semi-annual reports on expenditures to Nairobi; PIR to GEF” (UNEP, 2007p). Rather, the lesson is that without an adequate results-based M&E framework including quality indicators, outcomes and impacts are unlikely to be adequately reported on. Sufficient time for results to be achieved and documented is also necessary; for example in the SCS project in some countries NAPs only achieved national approval at the end of the project, and there has not yet been time for the NAPs to be implemented and contribute to improved management at the national level.

The SCS project M&E budget was sufficient, and was included as part of the project management budget, as it is not broken out as a separate line item in the project budget overview included in the project document. It is not clear if budgetary provisions have been made for the post-hoc evaluation envisioned in the project document, or if this activity has been eliminated.

Overall the M&E plan has been carried out as designed. The PCU provided operational reports, project implementation reviews, and financial reports to UNEP in a timely and comprehensive manner. PCU reports were informed by national component focal points’ and SEAs annual progress and financial reports. Similar procedures were prescribed for the demonstration site projects. National focal points and technical focal points also reported on national activities at the annual PSC and RSTC meetings (see, for example, UNEP, 2006d and UNEP, 2008r). Not all progress reports were submitted on time, however.

The PSC annually approved project workplans and budgets. The project coordinator reported progress to the annual COBSEA meetings (see, for example, UNEP, 2004). An independent mid-term evaluation was carried out as planned. The present document is the output of the independent terminal evaluation. However, plans are not in place for a terminal desk evaluation by UNEP DGEF, or for a post-hoc evaluation. A desk review of UNEP DGEF project oversight has been carried out by UNEP’s EOU. A post-hoc evaluation, 2 – 3 years hence,

could provide additional insight regarding project impact and sustainability. The M&E process also facilitated and was successfully used for adaptive management, as discussed in Section VI.E below.

Independent terminal evaluations were carried out for all but one of the demonstration site projects (see Beasca, 2008; Cruz Trinidad, 2008; IIMRD, 2008; Solieng, 2008; Sour, 2008; Tran, 2008). Although some of these reports require extensive English editing, they are extremely valuable resources that document key lessons from experiences at the local level. In addition to the mid-term evaluation, the project was also reviewed in 2004 as part of the GEF Secretariat's SMPR mechanism.

Long-term habitat monitoring will be carried out at the local, national and regional levels as a continuation of activities initiated during the project, particularly in the demonstration sites. In some cases these activities involved local community members who had been trained in monitoring techniques. For example, in Belitung (Indonesia), the project trained community members in Reef Watcher techniques, and in Koh Chang (Thailand) people were trained in the Reef Check methodology. In Koh Chang (Thailand) the NGO Association of Marine Biodiversity Conservation and Education will continue the monitoring efforts started under the project. In Fangchenggang (China) the Guangxi Mangrove Research Center will continue using the demonstration site for mangrove research. In Bolinao (Philippines), on-going research and monitoring of seagrass is carried out by the Marine Science Institute of the University of the Philippines. Overall, indications are that monitoring of environmental status will continue to be carried out at each of the sites, at least at a minimal level.

Training and implementation of community-based monitoring provides an excellent opportunity to build capacity of the local inhabitants. Community-based monitoring, however, has limitations for rigorously collecting scientific data for trend analysis. The science of monitoring of natural systems must be regularly refined as system dynamics become better understood. A good monitoring program should be able to capture changes on different time scales, and separate changes due to natural variability from those due to anthropogenic impacts. In this light, both field methods and statistical techniques come under continuous scrutiny as to their validity under different local conditions, and also with respect to observer error. The involvement of local communities should take these aspects into account. At the very least, training of participants should ensure that the minimum of background knowledge, and technical as well as practical skills (e.g., proper underwater behavior to avoid unnecessary damage) is imparted.

Research and monitoring activities under the SCS project were conducted exclusively in coastal and national waters. This was a conscious decision to avoid political conflict over disputed territories. As a consequence, the project did not increase the understanding of the environmental status in international waters of the basin-wide ecosystem. The Philippines, Viet Nam, and possibly China have engaged in scientific monitoring at the basin scale through research cruises, but a region-wide set of environmental status indicators is required to actually understand the basin-wide environment.

The SCS project worked in two areas that could be further developed to implement regional indicators: fisheries, and nutrient loads. As previously discussed, fish stocks are a resource commonly found in "international" waters. Documents produced by the SCS project include a compendium of national reports on fish stocks (UNEP, 2007g), including the status of species in national waters. However, no regional assessment of fish stocks was produced, which would require identification of and agreement on indicators to be used. Work carried out by SEAFDEC is contributing to the development and understanding of regional indicators for fisheries (SEAFDEC, 2006; see below). Some relevant information can also be found from other sources, such as the FAO-produced semi-annual report on the state of the world's fisheries and aquaculture that provides some regional data (FAO, 2006). Another example of fisheries indicators is the Fish Stock Sustainability Index which tracks fishing pressure on selected

economically important fish stocks, used by the US National Oceanic and Atmospheric Administration (NOAA, 2008).

A promising start for the South China Sea is the list of “performance assessment criteria” listed in Table 19 of the SAP (UNEP, 2008c). These include abundance of eggs, larvae and juveniles in specific areas, biomass trends of fish caught or sampled, and average fish size relative to the historical average. These parameters have the potential to be developed into regional indicators for fisheries on a basin-scale. As noted by SEAFDEC, however, a key constraint is the information required to drive such indicators, so that resort may be made to a limited number of “fishery-specific indicators with some integrated properties (i.e., reflecting the status of more than one component of fishery)” (SEAFDEC, 2006).

The work conducted on nutrient carrying capacity in the South China Sea (UNEP, 2007i) could also be included in a set of regional indicators. Examples of environmental status indicators for GEF international waters projects include trophic status; improved recruitment of targeted fish species; amount of persistent organic pollutants in the food chain; and status of keystone and flagship fish, marine mammal, or marine turtle species (GEF, 2002). The further development of regional indicators is a recommendation of this report.

#### D. Efficiency / Cost-Effectiveness

The project’s original budget was \$34.1 million US, with \$16.4 million from the GEF and \$17.7 million in government and UNEP cash and in-kind co-financing (UNEP, 2001). Table 3 below includes a summary of estimated project expenditures as of December 2008. A breakout of estimated final project expenditure is included as Annex X. With a project of this size and duration there can be a risk of inefficiency in implementation of the many different activities, but the SCS project management was exceptionally scrupulous in ensuring that this did not happen. For example, regional meetings were held in locations outside of capital cities, thereby reducing the costs associated with the meeting venue, as well as economizing on the necessary reimbursements to participants.

**Table 3. SCS Project Estimated Actual Financing (\$ million USD)**

	Original Budget	Actual	Percent of Total (Actual)	Percent of Original
<b>GEF Financing</b>	\$16.4	\$16.0	44.1%	97.2%
<b>Government Financing (cash and in-kind)</b>	\$17.1	\$19.4	53.6%	113.9%
<b>Cost to UNEP<sup>8</sup></b>	\$0.6	\$0.8	2.3%	132.7%
<b>Total</b>	\$34.1	\$36.2		106.2%

For the majority of the project’s lifetime, the PCU was understaffed. On the one hand this allowed some cost savings, but the overall effect on efficiency was not positive, since having the originally planned number of staff could have increased the effectiveness of the PCU. At the very least, having sufficient staff would have reduced the significant burden on the PCU staff members. The PCU documented 5,769 days of uncompensated input, equivalent to \$403,809 of personal co-financing from the PCU staff, based on an analysis of “all individuals working 50 hours per week instead of the required 35 hours” as well as the additional loss of 733 days of holidays and weekends (UNEP, 2008s).

<sup>8</sup> Since the PCU staff were considered part of UNEP, PCU co-financing has been included here as cost to UNEP.

## **E. Flexibility and Adaptive Management**

The SCS project used adaptive management to maintain focus on results through changing conditions and revised assumptions. One of the GEF operational principles is flexibility – at the project level this refers to flexibility to respond to changing implementation conditions. Extensive regional communication and monitoring procedures in the project allowed quick identification of challenges requiring adaptive management.

There were two main mechanisms to facilitate changes to project implementation. The first was through the PSC, which oversaw project implementation and approved annual work plans. This arrangement was valuable because it obviated bureaucratic oversight procedures within the UN system. However, the PSC only met once a year, thus PSC approval of changes was not immediate. Major adaptive management actions are identified in the PIRs. For example in the 2008 PIR it is noted that the PSC adopted the revised workplan and budget re-allocation recommended by the RSTC which were then lodged on the project website (UNEP, 2008m).

The second mechanism for changes was through direct approval by the PCU, which could respond more rapidly to requests from focal points and SEAs for small modifications to activities.

Examples of adaptive management measures taken during project implementation include:

- Creation of the regional task forces on economic valuation and legal matters, and reallocation of funds to support the work of these bodies (UNEP, 2005a);
- Abandonment of the blast fishing research project (UNEP, 2007c);
- Research on nutrient carrying capacity of the South China Sea following withdrawal of a pilot activity proposal in Thailand (UNEP, 2005b);
- Advantageous use and expanding capabilities of the project website far beyond what could have been envisioned at the start of the project.

Another innovation was the convening of Mayors' Round-Table meetings at regular intervals to directly engage local community leaders in the project's activities. These meetings helped increase local ownership and the effectiveness of local governance. Four Mayors' Roundtable meetings were held:

1<sup>st</sup> Mayors' Roundtable Meeting: 2005 (exact date and location not available)

2<sup>nd</sup> Mayors' Roundtable Meeting: June 6 – 8, 2006; Beihai, China

3<sup>rd</sup> Mayors' Roundtable Meeting: November 26 – 27, 2007; Bangkok, Thailand

4<sup>th</sup> Mayors' Roundtable Meeting: December 3-5, 2008, Nha Trang, Viet Nam

Another noteworthy innovation of the PCU was the implementation of an internship program, which was not planned in the project document. Young professionals from the countries spent six months working with the PCU, which imparted valuable experience with and insight into the SCS project, and project management within the UN context. This was an excellent and highly valuable approach to build capacity in the participating countries. The positive experience of the SCS intern program is worthy of replication throughout the GEF portfolio. One potential missed opportunity, however, is that an intern was not brought in to learn about the operations of the website (as discussed in Section V.D.iii), which would have mitigated the potential for single-point failure in website operations.

## **F. Country-Drivenness and Ownership**

It is difficult to make a broad assessment of country ownership for a project involving multiple countries. As with many aspects of the project, there were varying degrees of

ownership and country-drivenness exhibited by the participating countries. Some indication of country-drivenness at the early stages of this project can be drawn from the fact that the project originated from a request from national representatives engaged in the East Asian Seas Action Plan.

Countries that participated in all project components demonstrated a higher level of country ownership. Countries with a level of national capacity and prior extensive experience in marine and coastal management considered the project more of a supplementary activity. Countries with lower baseline capacity integrated the project as a critical component of their national activities. Over its lifetime, the project received expressions of support from representatives of the participating countries, at all levels of government, in particular during the PSC and RSTC meetings. This level of support was partially induced by the project management structure, which fostered regional ownership. As previously discussed, the PSC included representation only from governments of the participating countries.

A lower level of country-drivenness was initially seen in the two countries that did not participate in all components. Extensive consultations with China were required to reach initial project approval. However, during the course of the project China demonstrated an increasing level of country-ownership, as indicated by the additional co-financing provided by the central and provincial governments to expand and continue project activities, as discussed in Section VI.A.

In contrast, the NTWG of Malaysia expressed reservations about future participation in the SAP. Since Malaysia ranks as the most developed among the participating countries, in recent history it has committed a significant amount of national funding for the protection and conservation of key marine habitats, as well as to the control of land-based pollution (Straits Times, 2006; International Herald Tribune, 2007; PERHILTAN, 2007). There is currently a perception, even among some development agencies, that Malaysia does not have the same need for donor funding as other countries in the region.

The sense of ownership at the demonstration site level was strong, as conveyed by the high level of support from municipal representatives. There are several instances where project outcomes were supported by municipal funding, such as in Batam (Indonesia) and Masinloc (Philippines). The strong local ownership was partially a positive outcome of the demonstration site selection procedure, which considered the commitment of the local government in the site selection process: indicators for site selection included land-use planning, stakeholder co-ordination, and institutional framework (UNEP, 2007f).

## **G. Stakeholder Involvement**

Stakeholder involvement was among the strongest aspects of the project, featuring a full range of relevant stakeholders participating in various components. Government line agencies, government research institutes, and academic institutions were the primary participants during the preparatory phase of the project. Stakeholders were engaged as political and technical focal points, and as SEAs. Annex XI contains a breakdown of SEAs by type. Only one SEA was an NGO (Wetlands International Indonesia). However, the national committees organized by each national habitat technical focal point often involved a wide range of stakeholders, including NGOs (see Box 2 below). It was not possible for the purposes of this evaluation to do a complete analysis of representation among all national committees, because information on the exact number and type of stakeholders involved in national committees was not available. The PCU attempted to conduct an analysis on this issue but has incomplete results.

The RWGs included the most relevant national experts, when available. In some countries, there were no national experts on a given topic. For example, Cambodia lacked recognized national technical experts in seagrass and mangroves, so representatives from the government ministries had to act as the NTFPs. In a few cases, the most relevant national experts were not chosen as country representatives to participate in the RWGs. However, to



partially address this issue, the PCU directly engaged experts to participate in the RWGs. This was the case with noted Malaysian mangrove scientists who were not otherwise able to participate since Malaysia did not take part in the mangrove component of the project.

During the operational phase of the project, the excellent stakeholder participation was extended to the local level in each of the demonstration sites, as shown by the following examples:

- Seven villages in the Trat (Thailand) mangrove demonstration site are engaged in a community-based management network. The least prosperous of these villages has multiple volunteer members participating in the mangrove conservation group.
- In Koh Chang (Thailand) coral reef demonstration site, members of Klongson village initiated the local guide center group, which was made operational with support of the project. Several members of Salekpetch village make up the Salekpetch Coral Reef Protection Volunteer Group, which undertakes monitoring and enforcement activities.
- In the Masinloc (Philippines) coral reef demonstration site, more than 70 individuals from several local villages are deputized as Bantay Dagats, and are actively involved in voluntary monitoring of the MPAs on a 24-hour basis.

**Box 2. Example of Stakeholder Involvement: Philippines National Wetlands Committee**

- Protected Areas and Wildlife Bureau (2) [National Government]
- Wildlife Conservation Society of the Philippines [NGO]
- Laksambuhay Conservation, Inc. [Private]
- Department of Environment and Natural Resources (2) [National Government]
- Tanggol Kalikasan [NGO]
- University of the Philippines Diliman [University]
- Palawan Council for Sustainable Development [Provincial Government]
- Resources, Environment & Economics Center for Studies [Educational and Research Organization]

## VII. Lessons and Recommendations

### A. Key Lessons

**Lesson:** The project covered a very complex geographic and political region, comprising countries with widely divergent histories, cultures, development trajectories and national priorities. It proved to be particularly difficult to achieve consensus regarding resources in marine waters subject to conflicting territorial claims. Because of this the project preparatory phase took an unusually long time. In the end, there still was no success in getting China and Malaysia involved in issues that would involve multilateral agreements, notably in the case of transboundary fish stocks.

For future GEF and similar projects, such sensitivities, particularly those with a relatively long historical record, should be carefully considered before approaches to countries are made at high governmental levels. In the end it is highly desirable, and in the mutual interest of all countries concerned, to enter into multi-country agreements involving shared resources, particularly fisheries. In order to achieve this, however, the climate and stage for negotiations should be carefully studied and planned beforehand.

**Lesson:** A characteristic feature in most government structures in the participating countries is compartmentalization of responsibilities even where the same habitats or resources are concerned. A typical example is the division of jurisdiction between “environment” and “fisheries” into separate ministries or departments. This was the case for coral reefs, seagrass beds, or mangrove forests, which as habitats fall under the domain of environment ministries. Yet, the exploitable resources within them are the responsibility of

“fisheries,” or even “agriculture” in some countries. This situation has created some substantial difficulties for project implementation within countries.

For similar projects in the future, UNEP or other implementing organizations should execute contracts with the most appropriate national or local institutions in such a way that conflict or overlap with the jurisdictions and responsibilities of other bodies is minimized or avoided as much as possible.

***Lesson:*** The approach employed by the PCU, which was to execute MOUs directly with each SEA, generated benefits in terms of efficiency in the disbursement of funds, and, indeed, in the direct monitoring of achievements calibrated as project milestones. Each SEA was directly responsible to, and reported directly to, the PCU, both in terms of substantive results, as well as financial accounting. A necessary byproduct of this arrangement, however, was the excessive workload imposed on the limited staff of the PCU.

In addition, the PCU had no authority to impose sanctions on non-performing SEAs. This is another possible disadvantage of the arrangement. A corollary lesson could be derived from the experience of Viet Nam, which mandated a national institution, the Viet Nam Environmental Protection Agency, to act as the centralized body for liaison with the PCU regarding project matters, as well as a clearinghouse for all reports submitted by the SEAs to UNEP. Such a body serves as an oversight mechanism to ensure that all SEAs within a country strive towards satisfactory performance, and to call delinquent SEAs to account.

The PCU was able to exert pressure on non-performing SEAs by relying on the principles of transparency and disclosure, particularly during regional meetings of the PSC and RSTC, and by disseminating information judiciously through the project website.

***Lesson:*** The overall management structure of the project allowed for a distinct separation of technical from political functions in decision-making at the national and regional levels. This was realized by the creation of national and regional committees concerned solely with matters of a scientific and technical nature, versus committees responsible for policy formulation. The decision-making process was designed in such a manner that scientific and technical issues were first resolved (at the regional level by the RSTC), after which recommendations were presented to the policy-making body which was composed of national government representatives (the PSC). Within each country, matters of a scientific and technical nature were under the responsibility of the NTWG composed of the different component and sub-component focal points and task team representatives, which formulated recommendations for consideration by the IMC composed of the appropriate government representatives.

This management structure proved effective in the implementation of project activities and may be considered a model for future projects.

***Lesson:*** The direct engagement by the project of local community leaders, such as municipal mayors or provincial governors, proved to be an effective strategy in the attempt to tightly couple existing local governance structures to project goals and activities. In many instances, the project introduced dimensions and ways of thinking that had not previously existed in the localities involved, especially where environmental protection and conservation are concerned.

The institution of regular meetings known as the “Mayors’ Roundtable” was a worthwhile strategy adopted by the project. In this manner, the local community leaders gained a sense of more direct involvement in several directions, viz., towards the communities over which they had responsibility and jurisdiction, towards the project management from which they received guidance to implement project activities, and horizontally, with their counterparts from the different participating countries, with which they shared experiences and lessons learned.

In many demonstration sites, the municipal or provincial governments are assuming the costs of continuing activities after the termination of the project, at least at a minimum level. Such costs would include, for example, salaries for regular personnel engaged in conservation work, the maintenance of boat and equipment (such as for diving and for measurement of environmental parameters), and logistic support for regular monitoring of field sites.

***Lesson:*** The project's method of tracking in-kind co-financing set an excellent example for other GEF projects. The process was meticulous, but allowed a well-substantiated estimate of actual in-kind co-financing received by the project. This kind of substantiation is normally severely lacking in GEF projects.

***Lesson:*** At the time of project approval the GEF's project M&E requirements were less rigorous than they are currently. Although well-developed at the time, international best-practices related to project M&E frameworks, including logframes, have continued to improve. Although it received approval from the GEF, the SCS project logframe was insufficiently developed to facilitate comprehensive results-based reporting. The experience of the project shows that without an adequate results-based M&E framework including quality indicators, outcomes and impacts are unlikely to be adequately reported on.

***Lesson:*** In the identification of major habitat sub-components for the project, some confusion arose regarding the definition of "wetlands." All of the SCS countries are parties to the Ramsar Convention on wetlands, which defines wetlands as "areas of marsh, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six meters" (Ramsar Convention, 1971). According to the operational definition of this term, therefore, all other components, viz., coral reefs, seagrass and mangroves, would include some aspect of wetlands as well. This lack of clarity caused some difficulties in the coordination of the work of the different sub-components within a country, and caused problems even in the standardization of research and monitoring methodologies to apply within each sub-component.

Clarity of technical definitions should have been factored in at the earliest stages of project design, including agreement on the practical applications of such definitions.

***Lesson:*** Over the past several decades, environmental management projects have been conceived and implemented in many parts of the world, and the resources poured into them by various local, national and international organizations now run in the billions of US dollars. The documentation of the results and achievements of such initiatives, however, still calls for improvement. In the majority of cases, especially in developing regions of the world, such documentation is mostly in the so-called "gray" literature; e.g. technical reports, newsletters, proceedings of conferences and workshops. As such, they are not properly indexed by accredited information services such as the Institute for Scientific Information. They are, thus, not readily accessible through the indexing services and search engines utilized by the broader community of scientists, environmental practitioners, managers, policy-makers, not to mention students in various disciplines. Material in the gray literature has a finite lifespan and circulation, and is thus of limited utility. The huge investment in material resources poured into the environmental projects whose intellectual products end up in the gray literature is not justified, because the results benefit only a limited circle, namely, the direct project participants, and those who have direct access to technical outputs of the project.

It is vital that lessons learned from the South China Sea should benefit practitioners, scientists and students in other regions of the world as well, especially developing ones in Africa, the Americas and other parts of Asia. In this way, mistakes made over decades would not be repeated, and achievements emulated. It certainly takes more effort to subject the outputs of a project to anonymous, international peer review, which is what publishing in the open or primary literature entails and which leads to the generally high quality, reproducibility and replicability of the products. Technical outputs can be published in scientific journals, and

management-related material in management or policy journals (or books by accredited publishers). This additional step should be built into a project's design, and should be part of the training of prospective project leaders. This will help ensure that the experiences and achievements of environmental projects through the years are properly assimilated into a growing body of knowledge that benefits a greater portion of humanity, not to mention justifying the enormous costs such projects entail.

***Demonstration Site Lessons:*** As gleaned from the report of the ninth meeting of the RSTC (UNEP, 2008b), examples of lessons learned from the demonstration sites include:

Private sector involvement in mangrove management at the Fangchenggang mangrove site. The private sector in many countries can be tapped as a source of financial support and even of manpower to help in the management of coastal resources. Since the private sector represents stakeholders with direct interest and use of such resources as well, then their involvement should help achieve management goals more effectively.

Operation of a network of small-scale sanctuaries at the Masinloc coral reef site. A network of smaller marine reserves, rather than few large ones, covers a larger area and more effectively encompasses the habitats even of highly mobile species. Furthermore, they engage fisherfolk from a larger number of coastal communities to help in their management. This experience from the Philippines is worthwhile replicating in similar coastal regions of the world.

Integrating fisheries and habitat management at the Phu Quoc coral reef and seagrass site. The conservation and management of habitats cannot be separated from that of fisheries. Habitats provide the physical structure within which organisms live, shelter and reproduce, and must be managed along with the species they contain. The integration of fisheries and habitat management should be applied in all coastal areas that require protection and conservation.

Public education and awareness for sustainable use of mangroves at the Trat mangrove site. It is important to educate the public on how to use mangroves and other coastal resources sustainably, since it represents a major stakeholder that directly exploits these resources. By increasing public awareness of the importance of ecological resources, significant stakeholder ownership can be built. The methods applied at the Trat mangrove site in Thailand are worth replicating in other regions of the world.

Integrating traditional wisdom on coral reef management planning at the Belitung coral reef site. Local communities that have inhabited coastal areas over many generations have accumulated valuable knowledge about the dynamics of natural resources. Such knowledge typically includes the different kinds of species, especially those that are commonly exploited, their movements, their life cycles and the kinds of habitats in which they are found. Interventions such as at the coral reef site in Belitung, Indonesia, benefit greatly from such traditional wisdom, as relevant management practices and enforcement can be applied by local communities to maintain the abundance of stocks at sustainable levels.

Developing sustainable coral reef based tourism at the Mu Koh Chang coral reef site. The experience at Mu Koh Chang in Thailand has demonstrated that expanding tourism markets, for example through local fisherman guide services, can create incentives for effective coral reef conservation. The continued influx of tourists depends on the health and aesthetic quality of the natural environment, and in turn tourism revenue can help support conservation efforts. One feeds on the other in what is ideally a sustainable, positive symbiosis that can be replicated in other coastal regions.

Joint management of transboundary waters at the Kampot and Phu Quoc demonstration sites. A fundamental remit of the project has been to address problems of a transboundary nature in the South China Sea and Gulf of Thailand. The success of two countries, Cambodia and Viet Nam, in reaching agreement through their two provinces towards jointly managing shared marine resources therefore represents a significant achievement. The process by which this was

realized should be replicated among other concerned countries in the region in relevant locations.

## **B. Recommendations for an SAP Implementation Project**

Below are the main recommendations of this evaluation report, based on the findings as previously discussed. The intended primary audience is noted in parentheses at the end of each recommendation.

**Recommendation:** This evaluation recommends implementation of the SAP. At the time of this evaluation, the MOU to implement the SAP had not been signed at the ministerial level by all participating countries. Once endorsed by the participating countries, if UNEP and the GEF are prepared to financially and administratively support the SAP, a decision to fund and support project implementation should be clearly expressed as quickly as possible. Implementation of the SAP starting in 2009 would have higher potential for positive political, social and environmental impact and be much more efficient than a project begun two or more years later. [UNEP and GEF]

**Recommendation:** During an implementation phase there should be close cooperation between the project implementation unit and the COBSEA Secretariat to build the institutional capacity of the COBSEA Secretariat and improve the long-term sustainability of project results. The COBSEA Secretariat currently operates with an insufficient level of funding to develop technical or operational capacity that can be sustained over the long term. Furthermore, as with the current project, the potential success of an SAP implementation project, due to its scale and complexity, will be highly dependent on the experience and capacity of the staff and size of the project implementation unit. [UNEP and COBSEA]

**Recommendation:** An SAP implementation project should include further development of regional scientific and technical indicators on the environmental quality and status of the South China Sea in areas beyond coastal habitats, or apply appropriate previously existing indicators. The work initiated on nutrient carrying capacity could be extended in this regard, and other potential transboundary / regional indicators, such as those related to fisheries, could be further developed. Such indicators would facilitate a better understanding of the effects of conservation measures and management actions on the South China Sea on a basin-wide basis, reflecting the actual intent of the project, and the rationale for GEF support under the IW focal area. Using indicators, and aggregating basin-wide baseline data, would provide an improved scientific foundation for discussion of coordinated regional management. [Participating Countries]

**Recommendation:** For the greatest likelihood of success, discussions on the potential development of a regional South China Sea management framework must involve all relevant national-level stakeholders. The large number of diverse issues facing the South China Sea implies that relevant stakeholders include not only environment ministries, but also ministries responsible for foreign affairs, trade, agriculture, fisheries, transport and national security. Under an SAP implementation project, to the extent possible, these stakeholders should be included in discussions on regional cooperation. Such discussions are critical for the long-term cooperation among countries towards effective environmental management of the South China Sea based on mutual interests. [UNEP, COBSEA and Participating Countries]

**Recommendation:** Where appropriate, and where national participants have the requisite capability, project research outputs and experiences should be published in the international, peer-reviewed literature to ensure broader dissemination and longevity of results. Technical aspects could be published in scientific journals, while best practices and lessons learned from demonstration sites could be published in environmental management or policy journals. [Participating Countries]

***Recommendation:*** Urgent measures should be taken to secure the long-term sustainability of the project website, which is an internationally recognized resource on marine and coastal conservation for the South China Sea region. The PSC recommended that COBSEA take over the management of the website. In case COBSEA is unable to develop the capacity to do so in the near future, other options should be urgently explored and contingency measures put in place. [COBSEA and Participating Countries]

### C. Ratings with Summary Comments

Note: An explanation of the rating system for each element of the table below is provided in the TORs for the evaluation (Annex I).

**Table 4. SCS Project Ratings with Summary Comments**

Criterion	Evaluators' Summary Comments	Evaluators' Rating
<b>Attainment of project objectives and results (overall rating)</b> Sub criteria (below)	The SCS project, to a large extent, achieved its anticipated objectives of creating an environment in which collaboration in addressing environmental concerns in the South China Sea could be fostered. The project also was successful in producing the updated SAP, for future action by the participating countries. The project was effective, relevant, and highly efficient in achieving its objectives, and in some areas exceeded original expectations. However, there were also a limited number of outputs and outcomes that were not fully achieved in the lifetime of the project, although the project was extended two years beyond its original timeframe.	S
Effectiveness	The project was effective in producing its planned outputs, which contributed to the achievement of project objectives. The project had four components, each of which were carried out within the planned project budget. The project was extended beyond its originally planned timeframe, and a small number of planned outputs were not completed in the project's lifetime, including some of the NAPs and the full execution of some of the demonstration site and pilot activities.	S
Relevance	The project was relevant in terms of addressing key environmental threats to the South China Sea marine basin and coastal habitats, the environmental priorities of the countries involved, and GEF policies and objectives. On the issue of fisheries, however, there are a number of key issues the project did not attempt to address.	S
Efficiency	The project outputs were achieved and in some cases exceeded with less than the planned resources. Few projects in the history of the GEF have produced the expected outputs and then returned unused funds. In almost all cases where some outputs were not fully completed at the national level, the funds have been or will be returned to	HS

Criterion	Evaluators' Summary Comments	Evaluators' Rating
	the PCU. There were some shortcomings among sub-component activities at the national level. Within the demonstration sites there were some significant achievements with few resources.	
<b>Sustainability of project outcomes (overall rating)</b> Sub criteria (below)	Long-term sustainability of project results hinges on implementation of the SAP (which is not certain) and the fisheries refugia project. The capacity developed through the project is likely to be sustained, but the sustainability of some key project results, such as the website, are less certain. Sustainability at the demonstration site level varies.	ML
Financial	From the very start of the project it was anticipated that additional GEF funding would be required for an SAP implementation project when the present project came to an end. It is likely that this funding will be approved at some point in the future. The majority of demonstration sites have managed to secure at least the minimal level of financial support necessary to maintain project achievements.	L
Socio-Political	The implementation of the SAP depends on agreement by the countries involved to move ahead. Currently some countries are not prepared to participate fully in SAP implementation, and the MOU on implementation has yet to be signed at the ministerial level. SAP implementation may proceed even if not all countries choose to participate.	ML
Institutional framework and governance	<p>During the period of project implementation the COBSEA Secretariat suffered from a flux and even hiatus in leadership. This resulted in little coordination between the COBSEA Secretariat and the PCU, which was a missed opportunity to build the capacity of the COBSEA Secretariat. However, the PSC has accepted that the SAP should be implemented under COBSEA, and thus a new project implementation unit will have to be set up under the COBSEA Secretariat to support SAP implementation. Successful SAP implementation under COBSEA remains uncertain.</p> <p>The regional and national networks of experts cultivated by the project are likely to be sustained at least informally, and will continue facilitating improved regional communication on</p>	ML



Criterion	Evaluators' Summary Comments	Evaluators' Rating
	management of the South China Sea and national coastal habitats. It is anticipated that capacity developed at local levels will be sustained. Capacity developed within national institutions is also likely to be sustained, though there is always a struggle with staff turnover.	
Technical	The PSC agreed that the COBSEA Secretariat should take over management of the website, but there is currently limited capacity in COBSEA to handle such a technical responsibility for the long-term. SEAFDEC has agreed and taken steps to take over a portion of the website. In the near term, maintenance of the website will be on a limited basis until COBSEA can develop the technical capacity to take on this responsibility. The present situation indicates that sustainability of the website is moderately likely.	ML
Environmental	The environmental benefits gained thus far have been at the local level in each of the demonstration sites. A very few sites face acute threats to their environmental integrity, though general threats (such as sedimentation and pollution of coral reefs; erosion of mangroves; and continued overfishing) may have long-term effects.	L
<b>Achievement of outputs and activities</b>	The project achieved the majority of the planned anticipated outputs and activities, and also produced some unplanned outputs and activities. A small number of planned outputs were not produced in particular in relation to some of the NAPs and demonstration sites / pilot activities.	S
<b>Monitoring and evaluation (overall rating)</b> Sub criteria (below)	Despite some design shortcomings, project M&E was carried out at a level to satisfactorily meet project needs and support adaptive management, and was sufficiently budgeted for.	S
M&E design	The project document outlines the M&E plan, which contains the necessary elements and is well-conceived. The project document logframe, the foundation for ongoing monitoring of results, was insufficiently developed at project approval.	MS
M&E plan implementation (use for adaptive management)	The M&E plan was carried out as envisioned in the project document. The M&E process was also used successfully for adaptive management.	S
Budgeting and funding for M&E activities	Funding for M&E activities was included within the project management budget, and was sufficient to carry out the planned M&E activities.	S

Criterion	Evaluators' Summary Comments	Evaluators' Rating
<b>Catalytic role</b>	<p>The SCS project received much more co-financing than originally planned, and significant additional funding was received by project participants during the course of the project to support continued or expanded project-related operations.</p> <p>Replication strategies were not sufficiently included in demonstration site activities, but the potential for replication activity was limited anyway by the short duration of the demonstration site projects. Despite the short time frame there are some examples of replication at the local level.</p>	S
<b>Preparation and readiness</b>	<p>Experience from the project, and the viewpoint of many participants, is that the project was well designed, particularly the management structure. Due to the long project preparation process, by the time the project was approved the necessary conditions to begin implementation were in place. There were some issues in ramping up the staffing of the PCU to sufficient levels up to the point of the mid-term review.</p>	S
<b>Country ownership / drivenness</b>	<p>As with many aspects of the project, the level of country-ownership was uneven amongst all the countries. For the majority of countries involved, there was strong country-ownership. This was particularly true for activities at the demonstration site level, where project activities received strong support from local governments and communities. In addition, the project originated through the country-coordination mechanism of COBSEA.</p>	S
<b>Stakeholders involvement</b>	<p>There was involvement of stakeholders at all levels, and from all types of organizations. The national committees convened for each habitat component involved stakeholders from various types of organizations. Activities at the demonstration sites were highly participatory, involving local community members in consultation and implementation.</p>	HS
<b>Financial planning</b>	<p>Financial records were meticulously kept, and fund disbursement and expenditure at the national level and among demo sites closely tracked. Despite the best efforts of the PCU, financial reports from the national level were often significantly delayed. In</p>	S

Criterion	Evaluators' Summary Comments	Evaluators' Rating
	<p>cases where agreed activities were not completed, the PCU requested the return of funds to UNEP. However, by December 2008 over \$76,000 had yet to be returned or otherwise accounted for.</p> <p>Due to successful financial management and cost savings achieved throughout the life of the project, the project was able to return unused funds to the GEF and has transferred an additional \$750,000 to the UNDP SGP to support local-level implementation of the SAP. Such circumstances are highly uncommon among GEF projects, and should be considered a best-practice example within the GEF portfolio.</p>	
<b>UNEP supervision and backstopping</b>	<p>The level of supervision and backstopping from UNEP DGEF varied over the course of the project. This was partially due to staff turnover in UNEP DGEF during the project, in combination with the unique management / reporting structure of the project, in which the PCU was part of UNEP.</p>	MS
<b>Overall Rating</b>	<p>The evaluators' assessment is that the evaluative evidence indicates the project deserves a rating of satisfactory.</p>	S

## **VIII. Annexes**

Annex I: Evaluation TORs

Annex II: Acronyms

Annex III: List of Documents Considered

Annex IV: List of Persons Interviewed

Annex V: Evaluation Schedule (dates for field visits, etc)

Annex VI: GEF Operational Principles

Annex VII: Project Chronology

Annex VIII: Summary of Demonstration Site Project Objectives

Annex IX: Logframe with Summary of Achievement Toward Anticipated Project Outcomes

Annex X: Detailed Table of Estimated Expenditure

Annex XI: Breakdown of SEAs by Type

Annex XII: Evaluation Team CVs

Annex XIII: Photographic Evaluation Documentation

Annex XIV: Management Response to Terminal Evaluation [IF ANY]