United Nations Environment Programme

Terminal Evaluation Report of the project Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia (GEF Project ID 3188)

Seagrass sanctuary, marked by buoys, along the coast of East Bintan, Indonesia (Photo: Annadel S. Cabanban)

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ACRONYMS

AIG	Alternative Income Generation
BAPEDALDA	Badan Pengendalian Dampak Lingkungan Daerah (Regional Agency for Pollution and Environment Impact Control)
BAPPEDA	Badan Perencanaan Pembangunan Daerah (Regional Development Planning Agency)
BKSDA	Badan Konservasi Sumberdaya Alam (Office of Natural Resources Conservation)
BSDS	Bolinao Seagrass Demonstration Site (Philippines)
CbMG	Community-based Management Group
CITC	Community Information and Training Centre
COBSEA	Coordinating Body on the Seas of East Asia
COREMAP	GEF/IBRD Coral Reef Rehabilitation and Management project
CSMP	Community-based seagrass management programme
DENR	Department of Environment and Natural Resources (Philippines)
EA	Executing Agency
EBCoMBo	East Bintan Collaborative Management Board
EBCRMP	East Bintan Coastal Resource Management Plan
EBPSD	East Bintan Plan for Sustainable Development
EBSTP	East Bintan Sustainable Tourism Plan
GEF	Global Environment Facility
GIS	Geographic Information System
GT	Gulf of Thailand
IA	Implementing Agency
IBRD	International Bank for Reconstruction and Development
IIS	Indonesian Institute of Sciences
IMCAM	Integrated Marine and Coastal Area Management
IW: LEARN	International Waters Learning Exchange and Resource Network
LIPI	Lembaga Ilmu Pengetahuan Indonesia
LME	Large Marine Ecosystem
MMAF	Ministry of Marine Affairs and Fisheries
MPA	Marine Protected Area
NGO	Non-Government Organization
PIR	Progress Implementation Report
PIU	Project Implementing Unit
PMU	Project Management Unit
PSAMPSE	Policy, Strategy and Action Plan for the Management of Seagrass Ecosystem in Indonesia
PSC	Project Steering Committee
RoTI	Review of Outcomes to Impact
RSTC	Regional Scientific and Technical Committee (of the SCS project)
RWG	Regional Working Group
SAP	Strategic Action Programme
SCS	South China Sea
SP	Strategic Programme
ToR	Terms of Reference
TRISMADES	Trikora Beach Seagrass Management Demonstration Site
UMRAH	Universitas Maritim Raja Ali Haji
UNEP	United Nations Environment Programme

Project General Information

Project Title	Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Archipelago Province, Indonesia		
Executing Agency	Research Center for Oceanography (LIPI), Indonesian Institute of Sciences		
Project partners	Regional Development Planning Agency (BAPPEDA); BAPPEDA Kabupaten, Bintan Timur Sub-district Government		
Geographical Scope	Indonesia		
Participating countries	Indonesia		
GEF project ID	3188	**IMIS Number**	GFL/2328-2730-4986
Focal Area(s)	International Waters	**GEF OP**	OP8
GEF Strategic Priority/Objective	IW-1	**GEF Approval Date**	26.06.2007
UNEP Approval date	26.06.2007	**First disbursement**	14.11.2007
Actual start date	09.2007	**Planned duration**	36 months
Intended completion date	08.2010	**Actual or Expected completion date**	10.2010
Project type	Medium-sized project	**GEF Allocation**	US$397,800
PPG GEF costs	Nil	**PPG Co-financing**	Nil
Expected MSF Co-financing	US$391,950	**Total Cost**	US$789,750
Mid-term review/eval. (planned date)	10.2009	**Terminal Evaluation (actual date)**	April 2012
Mid-term review/eval. (actual date)	01.2010	**No. of revisions**	Nil
Date of last Steering Committee meeting	01.2010	**Date of last revisions**	N/A
Disbursement as of 30 June 2010	USD 338,500	**Date of financial closure**	30.8.2012
Date of completion	10.2010	**Actual expenditures reported as of 30 June 2011**	US$ 325,855
Total co-financing realized as of June 2011	US$ 629,798	**Actual expenditures entered in IMIS as of 30 June 2012**	US$ 385,730[1]

[1] Based on total of cash advances 1 to 7 (GFL 4986): source – UNEP Fund Management Office

I. Executive Summary

1. **Context –** The South China Large Marine Ecosystem (LME) provides ecosystem services to the nations surrounding it. The area is an important source of food (marine fisheries production was reported to be about 6 million tons[2] in 2007), and a tourist destination. The coastal waters of South China Sea (SCS) and the Gulf of Thailand (GT) have 18 of the 60 seagrass species existing worldwide and the extensive seagrass beds serve as nurseries for many commercially important species of fish, crustaceans, and invertebrates, including tiger prawns. Seagrass habitats in the region are extensively declining. The primary causes of this decline include pollution (particularly eutrophication resulting from increased nutrient inputs), sedimentation, use of inappropriate fishing gear (trawls and push net), and coastal development (uncontrolled soil/sand mining, as well as increasing treated waste water discharge from both domestic and tourism sources). In 2002, the Coordinating Body for the Seas of East Asia (COBSEA), through the International Waters Programme of the United Nations Environment Programme (UNEP), received a grant from the Global Environment Facility (GEF) to tackle these transboundary problems. Within this framework, a Strategic Action Program (SAP) for the South China Sea was formulated, and three villages (Hepu/China, Bolinao/Philippines, and Phu Quoc/Viet Nam) chosen as demonstration sites for the implementation of community-based management of habitats. The Bintan site was ranked fourth by the Seagrass Regional Working Group (RWG) for management intervention. Given the limitation of funds in the SCS Project, the Project Steering Committee agreed to request for a different window of funding from GEF for this important seagrass meadow in the LME.

2. **The Project –** The GEF approved the project "*Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia (GEF 3188)"* in 2007. The project used a three-pronged approach to address the problems of ineffective management of seagrass in East Bintan: i) improving the management of the area through the establishment of appropriate institutional arrangements to ensure a wide range of relevant stakeholders participating in decision making; ii) increasing awareness of, and support for, the importance of seagrass habitats and associated ecosystems, and improving capacity for seagrass habitats management, and; iii) promoting environmentally sustainable economic activities, such as sustainable tourism and other types of alternative income generation (AIG) options. UNEP was the Implementing Agency (IA); the Institute of Indonesian Sciences (LIPI) was the Executing Agency; the District of Bintan, Riau Province, Indonesia, was the local partner.

3. **Findings.** The project has satisfactorily attained most of outputs and immediate outcomes, except in regular monitoring of seagrass sanctuaries, which have ultimately contributed to the desired goal of "reversing environmental degradation trends of the South China Sea". A 2,700 ha area of seagrass (almost double that expected) is managed through a plan supported by the community at large (governmental agencies, industry, villagers, academicians). The management of the area has improved from no management regime to having enabling conditions for effective management (Component 1). Three management plans have been finalised, including the East Bintan Coastal Resources Management Plan (EBCRMP) which has been then decreed by the District, with core seagrasss sanctuaries protected under village decrees. The East Bintan Collaborative Management Board (EBCMB) was formed with members from public, private, and academic sectors, and its members were trained in integrated coastal management. The public is now aware of the importance of seagrass in the ecosystem and supports the sustainable use of this habitat (Component 2). Public awareness on the diversity of seagrass, the importance of seagrass meadows for migratory and threatened species (dugong) and as habitats of edible species (shells, sea cucumber, fishes), has significantly increased. Villagers were trained in monitoring seagrass data, and actively participated in focus groups (more than 20 persons each time). Sustainable economic activities (Component 3) have been promoted, and they are likely to be sustained with the passage of the East Bintan Sustainable Tourism Plan. Berakit Village was identified as the focal area for sustainable tourism, and it has now a seagrass sanctuary protected by the community

[2] See Around Us Project, 2007

able to monitor the condition of the seagrass. Cross visits with other seagrass projects in the region were, however, not undertaken due to lack of funds (which were expected to have come from the SCS SAP implementation). Other AIG activities (such as dragon-fruit farming, dressmaking/tailoring, handicraft-making) were introduced to villagers in Berakit, Malang Rapat and Teluk Bakau.

4. Despite the positive results achieved, project implementation was partly affected by delays in the disbursement of funds, lack of financial resources to implement collaborative monitoring of the East Bintan seagrass, and disruption of the work-plan as a result of these funding issues.

5. The outcomes of the project will lead to reduced pollution, overfishing and destructive fishing provided that some assumptions hold true: i) the EBCoMBo, the Bintan District, and the villagers continue enforcing the regulations; ii) no transboundary threat (like increased pollution from outside) discourage the villagers, and; iii) coastal tourism is expanded to other villages. The increased income from sustainable tourism and AIGs would have an impact on the livelihood of the communities, assuming that these piloted activities prospered and economic conditions in Indonesia and Singapore remained stable. The institutional sustainability of the Board Management's arrangements is an issue of concern. The evaluator is afraid that, without further technical and financial support from LIPI, (see recommendations below) the EBCoMBO will not have the capacity to continue reporting activities on environmental threats, which is of utmost importance.

6. **The assessment**. Overall, the project implementation was evaluated as **moderately satisfactory (MS)**, using the evaluation criteria of the GEF. The project is country-driven and there was ownership of the project **(highly satisfactory – HS)**. The objectives and results of the project were satisfactorily attained **(S)** and the sustainability of the outcomes was found to be moderately likely **(ML).** The project was highly satisfactory **(HS)** in catalyzing activities on seagrass and dugong conservation in Indonesia and involved stakeholders at all levels (local, district, to national). The fiduciary responsibility of UNEP was overall assessed as **moderately satisfactory – MS.** The supervision of project activities by the Task Manager in Bangkok was **satisfactory (S)**: the required progress reports were submitted, but the mid-term review was conducted only 8 months before the planned end the project, leaving little time for correction in the implementation of activities. UNEP financial back-stopping was instead found **unsatisfactory (U)**, with delays in disbursement up to 6 to 9 months. These delays in disbursement have affected the efficiency, and to some extent the effectiveness, of implementation of the project.

7. **Recommendations** – The following suggestions are based on the findings of the evaluation.

   Implementing Agency - The consultant recommends that UNEP pursues, with the countries, the implementation of the SCS SAP[3] and seek funding from the Global Environmental Facility to finance the components which deal with transboundary issues of habitat loss, community modification and marine pollution, and the monitoring of stress reduction and impact indicators for the Large Marine Ecosystem. The SAP implementation is an integral part in the adaptive management framework of GEF in the Large Marine Ecosystems.

   Implementing Agency and Executing Agency

   The consultant recommends a second phase in the Bintan Seagrass Management Project to build on the outputs and outcomes of the project. The following activities are still needed to ensure that the management of seagrass beds contributes to the desired impact in the Large Marine Ecoregion:

[3] The Project Information Form (PIF) has been filled in by the GEF Task Manager for the implementation of the Strategic Action Program for the South China Sea. The PIF needs the endorsement of the countries. Resources are necessary to conduct consultations in the countries with their GEF Focal Points and stakeholders to find consensus on the scope and design of the implementation.

- **Guided implementation of monitoring and reporting on the East Bintan Conservation Plan** – The consultant recommends additional support to Bintan District and the East Bintan Collaborative Management Board to improve management effectiveness. Having a management plan is a very good foundation for management, but it is not all that is needed. Management-effectiveness includes the actual implementation of the management plan and the monitoring of indicators of the impacts, both ecological and socio-economic. A team of stakeholders, possibly within the EBCoMB, will conduct monitoring and reporting four times a year (following the Seagrass Watch methodology, see below) and make decisions based on the reports submitted by the monitoring team (adaptive management). The support of Implementing Agency and the Executing Agency is still needed to supervise and guide this process with the District of Bintan (see also recommendation 3).
- **Sustainable financing strategy for management effectiveness** – Sustainable financing (trust fund) for the activities of the EBCoMBo is recommended so that the operations of the EBCoMBo can be ensured. Establishing a trust fund requires costing of the management plan, business-planning, and regulations for the uses of the funds.
- **Dealing with local threats and transboundary threats** – The consultant also recommends that any follow-up initiative includes consideration of transboundary threats (tar balls, solid waste from offshore), not only local sources of threats, as the first can hamper the positive impacts of community-based management. It is recommended that a strategy be prepared with relevant national and district agencies to raise this concern with international agencies and involving private sector polluters and port authorities.

These activities might alternatively be funded within the context of the SCS SAP, or under the National Action Program for Biodiversity Strategies and Action Plan (GEF Indonesia).

<u>District of Bintan and East Bintan Collaborative Management Board</u>

- **Continued public awareness and communication campaign** – It is recommended to continue increasing public awareness to reach those members of the community who are still not supportive towards seagrass management, by using existing public awareness materials on the state of the seagrass meadows and the marine resources living in it. The campaign should be implemented in close collaboration by the District of Bintan and the EBCoMBo. The District can provide financial resources for awareness materials and the engagement of field facilitators, who are capable and trusted by the local villagers.

<u>District of Bintan, Monitoring and Reporting Mechanism Partnership, and Community-based Monitoring Group in Berakit</u>

- **Payment for ecosystem services for monitoring and management** – The District of Bintan and the EBCoMBO should work together in implementing the management and monitoring plan (Seagrass Watch). This can be established with budgetary allocations of the Bintan District and possibly from fees in tourism and educational visits as payment for ecosystem services. The funds will be used for monitoring of seagrass sanctuaries by UMRAH staff and students and other stakeholders (see below).

- **Collaborative monitoring and reporting –** It is recommended that regular monitoring (i.e., at least once during the 2 seasons, and following the Seagrass Watch protocol) of the Berakit Core Seagrass Sanctuary is led by UMRAH, with the support of the District of Bintan and the tourist operators and with the participation of the villagers who were trained in the protocol. Students of the university could assist in the monitoring and the preparation of the report. The monitoring data should be presented to the EBCoMCo and the District of Bintan in half-yearly reports (for use in public awareness campaign and replication of monitoring and reporting mechanism), and then communicated to the Indonesian National Seagrass Committee and to

the Regional Coordinating Unit, Coordinating Body for the Seas of East Asia (that will consolidate results all other protected areas, as part of monitoring towards the desired impact).

- The monitoring of the seagrass beds in Berakit should include both:
  - Environmental quality of coastal waters, increase in number of fish and shells that are important as food species and those that are important in the South China Sea and Gulf of Thailand region) and socio-economic indicators (e.g., number of fishermen, number of fishing households with members engaged in the ecotourism activities, income of fishermen). These indicators can be monitored with the governmental agencies that have the mandate to monitor the state of the environment and coastal resources.
  - stress (threats) indicators (e.g., number of blast-fishing per day, number of violations on the regulations of activities within the seagrass sanctuary by tourists or fishermen, amount of litter on the beach, number of tar balls per square/meter in the seagrass sanctuary). It is recommended further that the tour operators record the data gathered by the CbMG;

8. Lessons Learned

- **Effective management takes a long time** – Establishing an effective system to manage natural resources, such as seagrass meadows, takes a long time. The project has improved the management of the area, from zero management to a situation where there are management plans, a multi-sectoral management group, increased support for management plan, and increased capacity for monitoring and reporting. Effective management, however, implies continuous efforts in the enforcement of the measures approved, the monitoring of the threat (reduction) and/or the impact of the intervention on the status of the resource (for adaptive management), and sustainable financing to support management activities. At least another 3 years will be needed for the management plan to be fully implemented.
- **Scientific evidence can not only support management actions, but also be used to enhance community awareness –** Good scientific data and information and the involvement of scientists from IIS/LIPI underpinned the spatial planning, site-selection, public-awareness campaign, and governance. The importance of scientific information goes beyond the provision of rationale for management. The knowledge that community people have gained from the booklet summarising the surveys' results shared by staff of LIPI was acknowledged as the most important contribution of the project (village forum in April 2012). Community members take pride in the diversity of seagrass species they have, extent of seagrass beds, and the importance of this natural resource in coastal fisheries as well in the life-cycle of threatened species. Change in behaviour of fishermen was reported, and the occurrence of blast-fishing has decreased.
- **Effective communication between the IA/Fund Management Officer and EA/PIU is of utmost importance –** Any communication/request on cash advances need to responded to promptly. It is important that financial procedures, including schedules for disbursement, are clear at the inception of the project. Delays in disbursement pose risks in the implementation of activities and ultimately the outcome(s) of a project. A contingency fund (per disbursement) may cushion these impacts.

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results		**S**
1. Effectiveness	Management of area improved, with a management plan and multi-sectoral group; awareness and capacity to manage increased; sustainable ecotourism introduced, with guidelines; alternative (to fishing) income-generating activities introduced	**S**

Criterion	Summary Assessment	Rating
2. Relevance	Project site was 4th in selection in the SCS Project; core sanctuaries were selected based on ecological surveys conducted by IIS/LIPI; objective of project consistent with UNEP/EAS strategic plan, national laws and programs	**HS**
3. Efficiency	The project was implemented with only a month beyond the 36-month planned duration of the project at no additional costs. Cost-saving measures were put in place by conducting simultaneous trainings and events in Bintan. There were delays in disbursement of funds which caused the project to implement activities in bursts or catch-up mode and affected effectiveness. The team used existing methodologies (e.g., GIS, spatial planning, satellite imagery, Seagrass Watch, IEC) in all 3 components. The cost to time results ratio is about USD 10,571/month while in Bolinao, Philippines was USD 4,492/month.	**MS**
B. Sustainability of project outcomes		**ML**
1. Financial	National government has allocated funds for activities in the district (e.g., for the placement of markers; replacement of markers; enforcement; communication)	**L**
2. Socio-political	Regional planning office, communities, and other stakeholders have been extensively involved	**L**
3. Institutional framework	the District of Bintan takes ownership of the conservation program but the EBCoMBo needs strengthening	**ML**
4. Environmental	The project has addressed local threats however it was not designed to address transboundary threats of oil pollution from shipping (forming tar balls on coastlines and beaches). Persistent oil pollution does not only affect the aesthetics of the seagrass meadows but, more importantly, the ecological processes and so it could affect its environmental sustainability. Marine litter was also suspected to come from shipping or from adjacent islands, which could affect the biology of (diet and digestion) of marine turtles and dugongs (that can mistake plastics items as food).	**ML**
C. Catalytic role	The project catalyzed the preparation of the National Seagrass Strategy and inspired other initiatives in Indonesia and another project for dugong conservation funded by the CMS.	**HS**
D. Stakeholders involvement	The EBCoMBo was formed, which is composed of stakeholders from various sectors (29 members; attendance in meeting was 20 or more each meeting);	**HS**
E. Country ownership / driven-ness	The project was consistent with national policies and laws on environmental protection	**HS**
F. Achievement of outputs and activities	Spatial and conservation plan established; monitoring training conducted; monitoring mechanism organized but monitoring not conductive regularly; public awareness and village commitment very good; promoted environmentally AIGs	**S**
G. Preparation and readiness	All stakeholders involved in project formulation and with the desired levels of skills and capacities	**S**
H. Implementation approach	The project involved regional and local persons,	**S**

Criterion	Summary Assessment	Rating
	including national technical staff and district managers; the engagement of motivators is a novel approach ; partnerships with tourism sector and villagers established	
I. Financial planning and management	Financial planning and management was undermined by delays in disbursements of funds. At the outset, there was a delay in the initial disbursement of funds due to the lack of bank account for the EA. The EA submitted the second CA in July for the period August to December 2008 and the third CA in December 2008 for the period January to April 2009, which was late considering the average time of 3-month for the FMO to process the fund request. The EA requested for CA in January 2009 apparently for May to December 2009 (documentation provided to the consultant was incomplete), but the funds were disbursed only in October 2009 due to concerns of the FMO that they the EA is requesting funds higher than previous requests.	**MS**
J. Monitoring and Evaluation		**MS**
1. M&E Design	M & E (Annex 3, MSP Exec. Summ.) – clear and informative M & E logframe (Annex 8, MSP Exec. Summ.) – ; most indicator are SMART; baselines for indicators (quantitative indicators) not presented in logical framework, but it was required at inception of project; design of impact indicators is logical but unrealistic in a 3-year project; stress reduction indicators are more realistic to monitor	**S**
2. M&E Plan Implementation	M & E plan (implementation) was clear and operational; means of verification used (including newsletter) M & E (for stress reduction and status indicators) – baselines for stress reduction indicators not gathered; baselines of some indicators of status were collected (e.g., area of seagrass, cover, diversity (number of species) of seagrass, fishes, mollusks,	**MS**
3. Budgeting and funding for M&E activities	Funds were available for Mid-term Review and Terminal Evaluation. However, the amount is considered insufficient, especially for evaluation of ecological and socio-economic impacts of project (following the RotI framework).	**MS**
K. UNEP Supervision and backstopping	The fiduciary responsibility of UNEP is two-fold: supervision of project activities and disbursement of funds for project activities.	**MS**
Technical supervision	Most of the required progress reports were submitted. The mid-term review was conducted only 8 months before the planned end the project, leaving little time for correction in the implementation of activities.	**S**
Financial back-stopping	The financial back-stopping was found unsatisfactory, with delays in disbursement up to 6 to 9 months. These delays in disbursement have affected the efficiency and to some extent the effectiveness of implementation of the project.	**U**

II. Evaluation Background

A. Context

1. The South China Large Marine Ecosystem (LME) provides ecosystem services to the nations surrounding it. The area is an important source of food (marine fisheries production was reported to be about 6 million tons[4] in 2007), and a tourist destination. The coastal waters of South China Sea (SCS) and the Gulf of Thailand (GT) have 18 of the 60 seagrass species existing worldwide and the extensive seagrass beds serve as nurseries for many commercially important species of fish, crustaceans, and invertebrates, including tiger prawns.

2. Seagrass habitats in the region are extensively declining in area. The primary causes of this decline include pollution (particularly eutrophication resulting from increased nutrient inputs), sedimentation, use of inappropriate fishing gear (trawls and push net), and coastal development (uncontrolled soil/sand mining, as well as increasing treated waste water discharge from both domestic and tourism sources). Modification of habitats, overexploitation of marine resources, and marine pollution are transboundary problems that need to be addressed by the governments that have exclusive economic zone within the marine body of water[5]. Inappropriate anthropogenic activities are, by and large, the result of the lack of both effective and integrated area management, and of public awareness and capacity concerning coastal resource management. In addition, the local communities over-rely on fishing because of the poor economic conditions in the area, and of the absence of alternative income generation opportunities.

3. In 2002, the Coordinating Body on the Seas of East Asia (COBSEA), through the United Nations Environment Programme (UNEP), received a grant from the Global Environment Facility (GEF) to tackle these transboundary problems. The project "Reversing the Environment Degradation Trends in the South China Sea and Gulf of Thailand" (GEF Project ID 855, herein after 'UNEP/GEF South China Sea Project') aimed to "create an environment at 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 consideration into national development planning". The project focused on the formulation of a regional Strategic Action Program (SAP), and consisted of two phases. During phase 1, existing data and information on the marine habitats and ecosystem marine resources (fisheries), and land-based sources of pollution, were stock-taken. The results of this exercise were used for the selection of priority sites for demonstration of management tools that could reverse the degradation of these habitats and ecosystems, decline of fisheries, and reduce marine pollution from land. The selection of priority sites was an objective process, including cluster analysis to know which sites are similar, and using a set of criteria and weights to select a priority site from each cluster[6]. As planned and budgeted in the Project Document, the top 3[7] sites were included as demonstration sites and received funding for activities. The lessons learned in the first phase and in the demonstration sites were used in the formulation of the SAP for the South China Sea.

4. The goal of the regional SAP is to "conserve, manage, and sustainably utilize seagrass habitats and resource" (6th Regional Working Group Seagrass Meeting Report, SCS Project) and the targets to be reached by 2012 were set as:

[4] See Around Us Project, 2007
[5] South China Sea TDA Report
[6] Pernetta, J.P, Procedure for selection of demonstration sites in the context of the UNEP/GEF project entitled Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand, South China Sea Knowledge Document, UNEP/GEF/SCS/Inf. 2, 23 pp, 2007
[7] The top 3 sites were: Hepu, China; Cape Bolinao, Philippines; Bain Bon, Phu Quoc, Viet Nam

- "21 managed areas under sustainable management[8] (totaling to 26,576 hectares, about 33 % of the 78,332 hectares of seagrass in the SCS);
- 7 existing Marine Protected Areas (MPAs) on seagrass beds, with government recognition and seagrass-related actions;
- 7 new MPAs, specifically focusing on seagrass habitats in the prioritized listings.

5. The conservation of seagrass habitats is a relatively new concept in Indonesia. An Indonesian Seagrass Committee was organized in 2002, and it has since then convened a series of workshops and seminars to strengthen the cross-sectoral management of seagrass ecosystems in Indonesia. The Committee adopted in 2003 the "Policy, Strategy, and Action Plan for the Management of Seagrass Ecosystem in Indonesia (PSAPMSE)", which identifies the degradation being due to the rapid economic development of the island. The following law No. 31/2004 provided the legal background for the conservation of relevant ecosystems, including seagrass ecosystems, for the purpose of maintaining the fish stock. Until the project was approved, direct investments in the conservation and sustainable use of seagrass habitats in Indonesia had not occurred. The Office of Natural Resources Conservation (BKSDA) has not been active in East Bintan, since its responsibility is limited to MPAs. Some institutional strengthening, community-based management and awareness raising activities have taken place only for the conservation on coral reefs habitats, through for example the IBRD/GEF Coral Reef Rehabilitation and Management project (COREMAP I and II).

6. In 2007, within the context of the UNEP/GEF South China Sea project, the SAP for the South China LME was translated into the Indonesian National Plan of Action for Seagrass. The Plan includes measures for the management of the extensive seagrass beds in Bintan to address the following environmental issues (core problems) and the corresponding underlying threats (root causes):
   i. Seagrass bed degradation and loss (immediate threats: erosion, sedimentation, and siltation; organic pollution and eutrophication; underlying threats: lack of effective management; lack of proper regulations; weak enforcement of existing regulations; limited community participation and actions);
   ii. Fish and other biota decrease (immediate threats: destructive fishing and overfishing; underlying threats: overlying of communities on fish-harvesting; lack of alternative income-generation opportunities);
   iii. Local income from fisheries and tourism decrease (immediate threats: destructive fishing and overfishing; litter on the beach; solid waste from domestic and tourism sources; underlying threats: overlying of communities on fish-harvesting; lack of alternative income-generation opportunities; lack of public awareness on coastal resources management; lack of capacity on coastal resources management).

7. In the SCS selection process mentioned above[9], the seagrass meadow of East Bintan was ranked fourth priority for management intervention. Bintan Island is the largest of the 3,200 islands in the Kepulauan Riau Province of Indonesia. East Bintan is still rich in biodiversity, and its 10 species of seagrass habitats provide refuges and spawning areas for a multitude of marine species. Yet, the island ecosystem is under pressure, as the beautiful beaches along its northern part are subject to rapid resort development, because of the vicinity to Singapore, as well as of the high demand density. The local authorities face the challenge of conserving the

[8] Sustainable development definition in the South China Sea Project – "means that the management of the ecosystem in a way that the resource(s) can be used continuously in a cost-effective and ecologically-friendly manner" – see SAP of the South China Sea

[9] 26 potential seagrass demonstration sites were ranked on the basis of environmental and socio-economic indicators, such as: percentage seagrass cover, number of seagrass species, number of endangered aquatic species, reversibility of threats such as destructive fishing and pollution, high national priority, on-site commitment for stakeholders and local government. Trikora Beach was ranked as the 4th most important seagrass site overall, and second in terms of its biological and environmental significance.

seagrass and associated habitats, and at the same time strengthening local economic development.

8. The Regional Working Group (RWG) on Seagrass of the SCS Project agreed[10] that a different window of funding from GEF would be entered for this important seagrass meadow in the LME. The SCS Project Steering Committee (PSC)[11] considered and endorsed the RWG Seagrass decision. A proposal was submitted in 2007, towards the end of the SCS Project, for medium-sized funding and was approved in August 2007.

B. The Project

9. The project *"Demonstration of Community-Based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia*" (GEF Project ID 3188) ultimately aimed to contribute to the maintenance of seagrass and associated ecosystem services; the conservation of spawning and nursery ground function for fishes and other marine animals of transboundary significance, and improve livelihoods of the local population by:
   - reducing the area of uncontrolled soil/sand mining on land and seabed by 50%;
   - reducing the amount of solid waste littered on the beach by 20%;
   - reducing the number of destructive fishing reduced at least by 50%; and,
   - establishing at least one community-based seagrass sanctuary in each of three selected villages.

10. In order to achieve these objectives, the project planned to establish an integrated management system for a total of 1,500 hectares, which would ensure a cross-sectoral and participatory approach to address the threats and the root-causes of habitat degradation. The project focused on the following three inter-related components:

- ***Component 1. Improving the Management of Seagrass and associated Habitats***
  Expected Outcome: (i) Improved management of the area through the establishment of appropriate institutional arrangements to ensure a wide range of relevant stakeholder participating in decision making;
- ***Component 2. Awareness Raising and Capacity Building***
  Expected Outcome: (ii) Awareness and support for the importance of seagrass habitats and associated ecosystems increased and capacity for seagrass habitats management improved;
- ***Component 3. Promoting Environmentally Sustainable Economic Activities***
  Expected Outcome: (iii) Environmental sustainability of local economic activities increased through the creation of an environment for sustainable economic activities, such as sustainable tourism and other types of alternative income generation options.

11. The logical framework listed activities, outputs, indicators and process indicators for monitoring and evaluation. The financial input from GEF to implement this framework was USD 397,800 with a projected amount of USD 391,950 as co-financing from the Government of Indonesia.

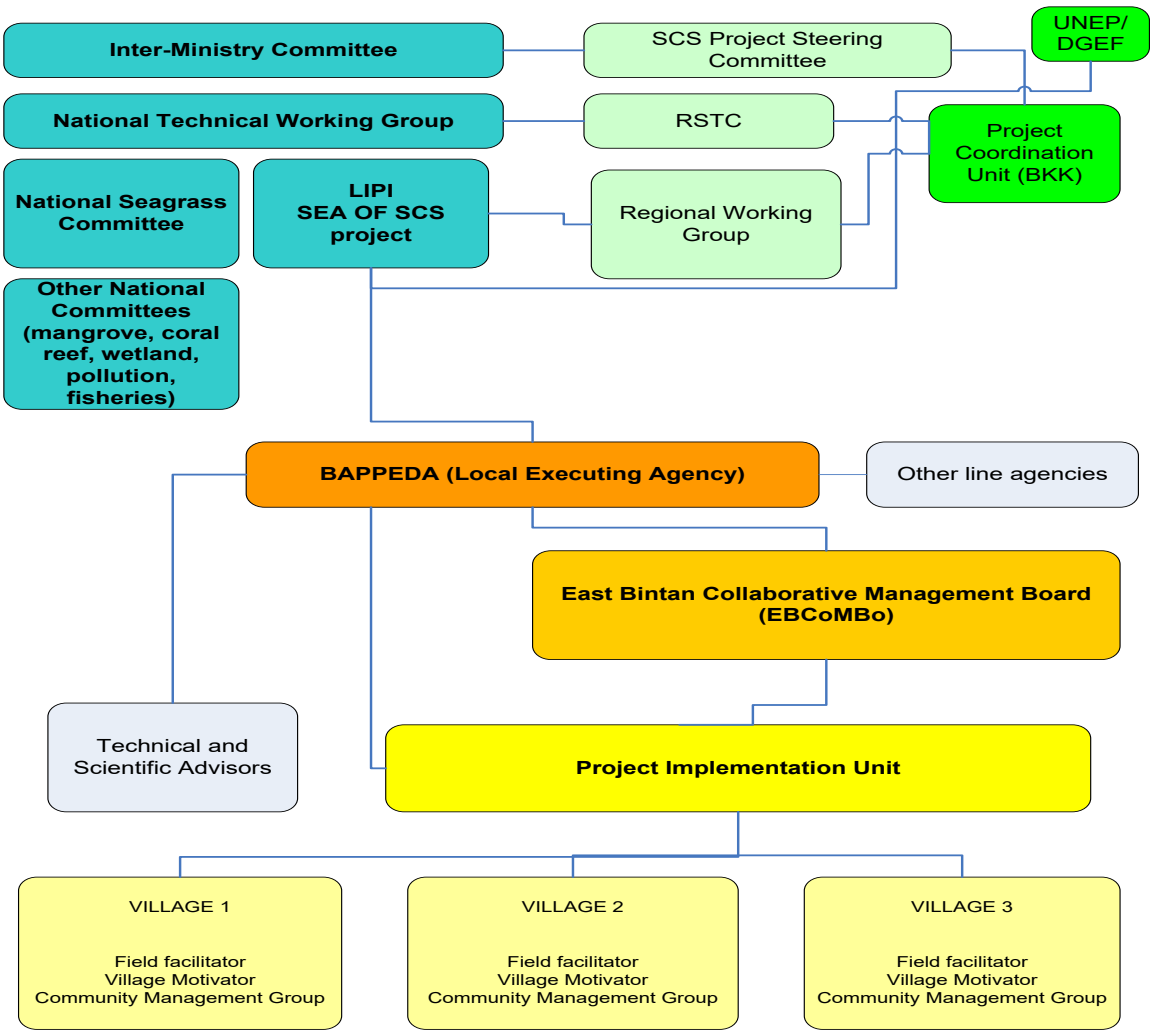
12. The Research Center for Oceanography, Indonesian Institute of Sciences (IIS or LIPI in Bahasa Indonesia) was designated as the Executing Agency (EA). LIPI was responsible for the operational guidance and the coordination of the execution of all project activities, preparing and submitting progress and financial reports to UNEP, and ensuring correspondence will all stakeholders at national and local level. LIPI was also tasked to keep constant communication with the Coordination Unit of the SCS project in Bangkok and the RWG on Seagrass of the SCS, which were meant to provide advice. The project would also

[10] Report of the 4th meeting of the Regional Working Group on Seagrass, Pattaya, Thailand, 15-17 February 2004
[11] Report of the 3rd Meeting of the Project Steering Committee, Manila, Philippines, 25-27 February 2004

receive scientific advice from the Indonesian National Committees on Seagrass and Other Habitats, and the National Technical Working Group.

13. At the local level, the Project Management Board (EBCoMBo), chaired by the Head of the Provincial Development Agency (BAPPEDA) Kabupaten, was responsible for ensuring collaboration and partnership among all stakeholders, monitoring the progress of project activities, and reviewing progress and financial reports. Its members would include representatives of relevant local government agencies, sector NGOs, academia and local communities. The Project Implementation Unit (PIU), still hosted by BAPPEDA Kabupaten, was responsible for the day-to-day project operations.

Box 1: Project Management Structure (from the South China Sea and Gulf of Thailand Project Document)



C. Evaluation objectives, scope, and methodology

14. The evaluation has two primary purposes: i) to provide evidence of results to meet accountability requirements; and ii) to acquire feedback and promote learning and knowledge-sharing, to ultimately improve operations of medium-sized projects funded by the GEF, implemented by an agency in the United Nations, executed by a national scientific agency in partnership with a planning agency and local community. The evaluation also verifies the adoption of the recommendations resulting from the mid-term review of 2010.

15. The evaluation focuses on the following key issues, based on the project objective and intended outcomes:

a. improvement in the management of the area;
b. awareness of the people on the importance of seagrass meadows, support of the community for its management, and capacity of the community to manage; and
c. environmental sustainability of economic activities, particularly tourism-related and Alternative Income Generation (AIG) activities.

16. The evaluation approach is modelled on the Terms of Reference (Annex 1), and it is based on document analysis, interviews of key staff and stakeholders, and site visits, as described here:

- Review of project documents and related reports (See Annex 2 – list of documents and reports);
- Technical briefing by the Executing Agency, the Institute of Indonesian Sciences (IIS or LIPI) in Jakarta;
- Technical briefing by the Project Team, Bintan;
- Visit to four (4) sites in Bintan: Berakit, Malang Rapat, Teluk Bakau – 3 sites in the project – and Pengutang, a village that volunteered to participate in seagrass management;
- General forum interviews with scientists and villagers, Jakarta and Bintan;
- Follow-up interviews with former project staff and other key personnel – (See Annex 3 – list of questions and persons interviewed)
- Analysis of the contribution of the activities carried out in the demonstration sites in Bintan to higher-level results and impact (following Theory of Change)

17. The evaluation included the assessment of the status of process, stress reduction, and impact indicators. The evaluation of impact indicators, however, was very limited due to the lack of available data and the limited time of the site visit for data collection. The consultant was able to snorkel at only one site outside of the seagrass sanctuaries (Berakit) and did not have the opportunity to evaluate reduction of stress and improvement of seagrass cover and maintenance of the species.

III. Project Performance and Impact

18. The Bintan Seagrass Demonstration Project has contributed to the achievement of environmental benefits in the SCS and GT LME through the improved management of one of the seven regionally-important seagrass areas in the LME (Annex 5; Figure 1, Theory of Change section). This was achieved through the outcomes of the three components of the project (Figures 2 to 4, ibid.): improvement of the area (Figure 2), increased awareness and garnered support for the management of the area (Figure 3), and incentives for sustainable use of the area (Figure 4). The impact of the project is further evaluated using the Review of Outcomes to Impact (RotI) criteria of the Global Environment Facility.

A. Attainment of objectives and planned results

19. **Attainment of project activities and Outputs** – The Bintan Seagrass Demonstration Site Project has implemented almost all the activities as per the plan and produced most of the expected outputs. The assessment of the quality and quantity and of the usefulness of the outputs is discussed by component.

20. **Component 1** – All the activities in Component 1 were undertaken and all the outputs were delivered, although not to a full extent as planned. The East Bintan Collaborative Management Board (EBCoMBo) was established in early 2008 and is composed of a broad range of stakeholders (Government agencies, industry, villagers, academicians, and scientists). The Board decided to revise the meetings' frequency from quarterly to semi-annual (every 6 month), as few substantive matters arose for review and decision-making at that frequency. The Board reviewed and adopted the East Bintan Coastal Resources Management Plan (EBCRMP), the Eastern Coastal Area of Bintan Zoning Plan, and East Bintan Plan for Sustainable Tourism Plan (EBSTP, also mentioned under Component 3). Ecological and socio-economic studies and legal reviews were conducted and results were useful. The Community-based Seagrass Management Plan (CSMP) was passed, and Community Management Groups were formed in Teluk Bakau, Malang and Berakit Villages, adjacent to the selected sites, by local decrees to implement the management plan.

21. The CSMP specifies that monitoring and reporting are to be conducted "6th monthly and annually afterwards"[12]. However, only one monitoring activity was conducted over the 3-year project in each of the 3 villages (March, June and September 2010, respectively), in partnership with the staff of the Fishery Department and lecturers of the Maritime University Raja Ali Haji (UMRAH), because the Seagrass Watch training was conducted only in 2009 and the East Bintan District Decree No.267 concerning the establishment of seagrass conservation area in the East Bintan and the designation of dugong as protected animal was passed only in 2010.

22. **Component 2** – Not all the activities were implemented as planned, but they were altogether successful in increasing public awareness and support at local and national levels. Community Information and Training Centers were established in 3 villages, and are now maintained continually by village councils and a school: they display the produced materials and newsletters, which are used by school children from Bintan and Singapore. The scientific findings of the ecological survey were translated in the local language in a booklet (*Lamun*), and posters were widely disseminated through a communication campaign in East Bintan. Project outputs under this component were also presented during national events (e.g., First National Workshop on Seagrasses: The Role of Seagrass Ecosystem in Biological Productivity and in Regulating Climate Change, November 2009), disseminated through the internet [(http://seagrass-indonesia.oceanografi.lipi.go.id, which was visited since its creation

[12] Adapted from the Seagrass Watch protocol, which is designed for communities to monitor and report on a quarterly basis

mostly by Indonesians (79.5%)], and also used in spatial planning[13] (See Components 1 and 3). These actions contributed to highlighting the importance of seagrass beds in biological productivity and in carbon sequestration. The PIU was awarded by the Ministry of Marine Affairs and Fisheries the "Coastal Award" for the improved management in an extensive and regionally-important seagrass ecosystem in East Bintan.

23. The outputs of the project were also shared with regional and international audiences at a regional meeting, and through the project website and IW:LEARN. The project staff participated in the Fourth Mayors' Roundtable Meeting (Nha Trang, Viet Nam, 2-5 December 2008) that was organized under the SCS Project (GEF Project ID 885). Participation of project staff in this meeting was very important as it contributed enhancing awareness of project activities (the website was accessed by visitors from fourteen countries for general information on seagrass ecology), and helped mayors better understanding issues related to decentralization of biodiversity conservation[14]. However, the (i) international training course on mapping, monitoring, and management of seagrass ecosystems; (ii) cross-visits of stakeholders of Bintan with other seagrass management sites in the SCS; and (iii) personnel exchange with other demonstration sites under the framework of the SCS Project were not undertaken as there were no funds available to the PIU. These activities were ought to be funded by the SCS Project but the project was closed in 2008. Instead, a comparative study tour to Pranuka Island, Seribu Islands National Marine Park (off Jakarta) was undertaken for 18 informal leaders from the villages during 10-15 April 2010. The purpose of the study tour was to provide an opportunity for the leaders to learn about marine protected area management, and AIG activities associated with marine ecotourism.

24. The annual Beach Clean-Up Program, which was launched on 23 August 2008, was not continued for the following reasons: i) it was mainly ceremonial; ii) it was conducted infrequently; iii) a large area was already under the responsibility of tourism operators, and; iv) it was acknowledged that marine litter did not only come from domestic source but also from offshore sources (shipping), and it was brought onshore by currents and monsoonal winds. Instead, the project conducted an educational campaign to improve solid-waste management and a training program for composting domestic waste.

25. **Component 3** – The activities under component 3 were all undertaken and the outputs were attained. The EBSTP was approved by the EBCoMBo and complemented the plan for conserving seagrass meadows, particularly in Berakit Village. The Government-Industry-Community monitoring and reporting mechanism was revised and changed into a Government-Industry Monitoring and Reporting mechanism only, due to the level of low literacy of villagers and the difficulty to engage them. This Monitoring and Reporting Mechanism is placed under the EBSTP. Several households, which are involved in fishing in the 3 villages, benefited from the implementation of AIG activities such as dragon-fruit farming, sewing/tailoring, and handicraft-making. A socio-economic profiling of villagers and a needs-assessment were conducted to identify participants in these AIG activities[15].

Rating – Satisfactory (S)

Table 1. List of project outputs by component

Component 1

[13] Spatial planning is one of the management tools available for coastal management . It can be defined as the "coherent and integrated intervention in the allocation of limited land and sea areas for various uses, taking into account the needs for socio-economic development and environmental protection". (from Foreword of Dr. Ellik Adler, p. 1. Spatial Planning the Coastal Zone of the East Asian Seas Region: Integrating Emerging Issues and Modern Management Approaches. Interim Edition, Nov. 2011, UNEP, CoBSEA, SIDA.)

[14] Principle 2 - Management should be decentralized to the lowest appropriate level (Ecosystem Approach - htt://www.biodiver.org)

[15] TRISMADES TECHNICAL REPORT NO.07/ISC-Tech.Rpt TRM/0508

Government Plans and Regulations

- East Bintan Coastal Resources Management Plan (EBCRMP)
- Guidelines for Development of Seagrass Community-based Management Plan and Activities
- Strategic Coastal Management Plan of Bintan District
- Coastal Zoning Plan of East Coastal Area of Bintan (adopted by the EBCoMBo in its Fifth Meeting, January 2010)
- Village decrees concerning the establishment of seagrass sanctuaries in three 3 villages
- Head of Bintan District Decree No.267/year 2010, concerning the establishment of seagrass conservation area in the East Bintan and designation of dugong as protected animal

Technical Report:

- *Potency of Important Ecosystems and its Hydrological Condition of East Bintan Coastal Waters*

Component 2

Capacity for environmental management:

- 3 Community Integrated Training Centers established
- EBCoMBo and other participatns representing relevant stakeholders trained in Integrated Coastal Management
- Community-members trained in Seagrass Watch monitoring
- Villagers trained in community-based coastal management
- Villagers trained in household-waste management, including composting household organic solid waste and biopore-making
- Villagers trained in leadership-skills

Technical report and public awareness materials:

- Proceeding of the National Seagrass Workshop
- *Lamun* Newsletter, Volumes I-III (7 issues, 2008 to 2010)
- *Let the seagrass sustain*
- Website: http://seagrass-indonesia.oseanografi.lipi.go.id
- Miscellaneous items, such as: calendars, posters, booklets, stickers, flyers, billboards, banners, hats, T-Shirts, jackets, bags, clocks, mugs, fans, trophy

Events

- Writing Competition on "Save the seagrasses and their environment, heritage to our future generation" (April 2010)
- World Environment Day (5 June 2010)
- Seafood cooking competition (7 November 2009) to attract audience for awareness campaign

Component 3

- Sustainable Tourism Plan in East Bintan (in Bahasa Indonesia)
- Spatial Plan of the Eastern Coast of Bintan (in Bahasa Indonesia)
- Monitoring and Evaluation Mechanism on the Implementation of Sustainable Tourism at Eastern Coast of Bintan Island
- Trained villagers in 3 AIG activities, agreed and adopted by EBCoMBo in its fifth meeting in January 2010

26. **Relevance** – The project is consistent with global, regional, and national environmental strategies and programs. The project was funded under the International Waters Focal Area (Operational Program 8, 2007-2010), as it contributed to meeting the long-term objective of "fostering international, multi-state cooperation, on priority transboundary water concerns" (Strategic Objective 1). The Bintan Seagrass Demonstration project also contributes to the Strategic Programs (SP) on "restoring and sustaining marine fish stocks and associated biological diversity" (SP 1) - by improving the management of seagrass and associated coastal

habitats of marine resources -, and on "reducing nutrient over-enrichment and oxygen depletion from land-based sources of pollution of coastal waters" (SP2, consistent with the Global Plan of Action) - by increasing public awareness on the importance of seagrass meadows and introducing waste management in coastal activities. The project also contributes to the attainment of targets in the following global and regional strategies and programs:

- Biodiversity Targets (Aichi Targets, 2010), Convention on Biological Diversity, particularly on the ecosystem approach in Integrated Marine and Coastal Area Management (IMCAM);
- UNEP Medium-Term Strategy 2010-2013, particularly on Ecosystem Management and Environmental Governance;
- New Strategy of the Coordinating Unit on the Seas of East Asia (2008-2012)[16], Regional Seas Programme, UNEP, particularly on land-based sources of pollution, marine pollution, and coastal and marine habitat conservation; and
- Goal and Targets in the Strategic, Priority Actions for Seagrass in the South China Sea[17].

27. The project is consistent with the Indonesia Biodiversity Strategy and Action Plan (2003-2020), and its approach fit with the devolution management of coastal and marine resources from central agencies to districts under Law 32/2009.

28. The project site was ranked fourth in priority for management intervention at the time of the SCS project analysis, based on its transboundary importance as habitat of migratory species (such as the sea-cow or dugong, potential nursery site of some shark species, that use seagrass blades for egg-cases) and as a source of food and livelihood for the local community which is being degraded by pollution (sediments, tar balls, solid waste, and waste water) and overexploitation. The Bintan Seagrass Project is therefore evaluated as very relevant to address reduction of stress at the local scale, and to contribute to regional targets in the SAP.

Rating – Highly Satisfactory (HS)

29. **Effectiveness** –The project achieved its outcomes (Figure 1 to 3; results to impact analysis, Annex 5). The finalisation of the EBCRMP and the CSMP contributed enhancing the management of the area (Component 1). These plans were endorsed by the EBComBo in 2010, and decreed by the Bintan District in 2012, and used to regulate coastal activities, to establish seagrass sanctuaries in four (one more than planned) villages (Berakit, Malang Rapat, Teluk Bakau, and Pengudang), and to guide monitoring and management. The report of the ecological study, "Potency of Important Ecosystems and its Hydrological Condition of East Bintan Coastal Waters", was used in spatial planning for East Bintan, particularly for the selection of specific sites for seagrass protection and for ecotourism development (Component 3). Yet, in order to have a fully effective management system, an adequate monitoring and reporting mechanism has to be put in place. The Bintan District Government is fully committed to implement the spatial plans, and a monitoring system involving governmental agencies, tourism sector, and UMRAH staff has been created. The baseline indicators for biodiversity (number of species, area, and abundance of fish, shells, corals, and other species in the seagrass meadows) had already been collected by scientists from LIPI[18], and the partners and community members were trained to monitor these indicators using the Seagrass-Watch methodology.[19] However, a regular schedule of monitoring and reporting, particularly in seagrass sanctuaries, has not yet been set up, and the evaluator is afraid that without further

[16] CoBSEA – New Strategic Direction for the Seas of East Asia
[17] SAP South China Sea
[18] Ecological surveys, including satellite imagery in 2008 and 2009, on coastal ecosystems along East Bintan Island
[19] Seagrass Watch methodology (www. seagrasswatch.org). The method includes: mapping of seagrass, collecting data on sediment, seagrass species, cover, height, epiphyte, presence and size of seeds. Monitoring is planned 4 times a year, using on 4 on fixed lines (Mackenzie, L.J. and S.J. Campbell, 2002)

external technical support from LIPI and UMRAH, the EBCoMBO will not be able to continue reporting activities.

30. Activities under Component 2 significantly enhanced awareness among communities and decision-makers. The public awareness materials have been produced and are still displayed in the Information Training Centers in Berakit, Malang Rapat, and Teluk Bakau, and used by students and visitors. The pride[20] of the community and the government staff about the extensive seagrass in East Bintan is evidenced not only in the many signals used (billboards, road arch at entrance of East Bintan seagrass conservation area) and the adoption of dugong as a logo, but more importantly in the enthusiasm of the locals to protect the seagrass sanctuaries. Villagers' widespread support to the management of the seagrass sanctuaries and the enforcement of regulations was visible at the time when strong monsoonal winds moved tar balls and litter from offshore on the seagrass bed and beaches: the community expressed concern that boundary markers were lost, and this could have impacted the seagrass beds as habitats of fish and endangered species (dugong and marine turtles). Awareness activities also contributed generating strategic actions at policy level in Indonesia, such as the establishment of Seagrass Forum and the inclusion of seagrass management in other local strategic coastal development plan (see section on Replication). Regional exchange of information was instead limited, due to lack of funds[21], to the website's set-up and the participation of key personnel to the Fourth Mayors' Round-table Meeting and the International Workshop on Dugong in Manado in 2010. Yet, information sharing on the extent of seagrass beds in Bintan as feeding area of migratory dugong, and the keen interest of the government and the community to protect this important ecosystem, on the occasion of that international workshop[22] has resulted in Bintan being one of the recipients of a grant facilitated by the Secretariat of the Convention on Migratory Species.

31. Under Component 3, the project has promoted environmentally-sustainable activities that contribute to the reduction of threats (such as destructive fishing, eutrophication) on seagrass meadows. These include eco-tourism activities in the areas identified by the Plan such as Berakit. There, environmental impact assessments were carried out, and the community was consulted before any decision about coastal development was taken. The spatial planning and community support in Berakit will redound to the sustainability of tourism activity. The project has also introduced AIGs that are alternatives to fishing, which will contribute to the reduction of exploitation on marine resources. The project was successful in introducing AIGs such as dragon fruit-farming, handicraft-making, mat-making, and dressmaking/tailoring. Those who are still engaged in dressmaking/tailoring have additional income; those who are engaged in handicraft-making and mat-making have stalled production for marketing in the tourist resorts in Lagoi (north Bintan) due to the lack of quality raw material. The economic benefits of these initiatives are unknown, because the training was only conducted in December 2009 and in the first quarter of 2010, and not enough time remained to study how income has increased in the households.

Rating – Satisfactory (S)

32. **Efficiency** – The project was planned to start in September 2007 and end in August 2010, with duration of 36 months[23]. The inception workshop was held in November 2007 when the first advance of funds became available. The Mid-Term Review was planned in October 2009,

[20] The Rare Pride campaign – http://www.rareconservation.org

[21] This activity was to be funded under the South China Sea SAP implementation. However, the PIF for the SAP has not been submitted for funding to the GEF because not all countries have endorsed it.

[22] International workshop - Workshop on Dugong Conservation Strategy and Action Plan for Indonesia convened at Sedona Hotel, Manado (North Sulawesi) on 3rd – 5th December 2008, organized jointly by the Research Centre for Oceanography of LIPI (Indonesian Institute of Sciences) and the Institute of Environmental Sciences of the University of Leiden, the Netherlands

[23] UNEP approved the project for GEF funding in June 2007. GEF approved the project in August 2007.

but was held only in April 2010, with remaining 6 months in the project. The project ended in October 2010, and a no-cost extension was requested in view that it was only 2 months past the planned end of project (i.e., 38 months, with no additional costs to UNEP or GEF). The terminal report was submitted in April 2011.

33. The project was cost-efficient. The cost-saving measures put in place, when funds were available, included conducting simultaneous workshops instead of independent workshops. The Bintan Seagrass Demonstration Site Project can be compared to the Bolinao Seagrass Demonstration Site Project. The Bintan had a budget of USD 397,800 for 37 months, compared to the Bolinao Seagrass Project which had USD 134,770 for 30 months. Both projects have the same number of components and about the same area of seagrass beds for management intervention.

34. The project has used pre-existing methods – such as Geographic Information System (GIS), spatial planning, satellite-images, and Seagrass Watch. The project has also used secondary data on the seagrass beds in Bintan to prepare the draft East Bintan Conservation Plan. This eliminated costs in developing methods. The use of satellite-imagery, which may be expensive, was very effective in finding changes in area of sand-mining and seagrass beds.

35. Some delays in project execution brought about a catch-up mode, rather than smooth implementation according to workplan. The project was able to achieve most of the expected outputs, but not within the time-frame indicated in the logical framework. For example, the East Bintan Collaborative Management Board was established in 10 months (rather than 6), and the Community Seagrass Management Plan (CSMP) was adopted in January 2010 (and not within 6 months). These delays were due to a too ambitious plan of achievements in the first year of implementation, and also to the delays in the first release of funds (please see relevant sections of the report). Some activities with the communities - such as consultations, meetings, trainings - were delayed or postponed (as reported in half-yearly reports).

36. Overall, the PIU proved a good degree of flexibility in taking measures to adapt to the delays and the lack of resources as planned. This is illustrated in the following examples:

- Clean Beach Programme – Only one beach clean-up was conducted because it was found inefficient by the PIU. The project instead replaced that activity to address the root cause of litter on beaches. The project conducted an educational campaign to improve solid-waste management and a training program for composting domestic waste;
- Cross-visits to other demonstration sites of the South China Sea Project – Cross visits to the 3 demonstration sites for seagrass management (Hepu, China; Kampot, Cambodia; Bolinao, Philippines) were not conducted as there were no funds available. In place of this activity, a comparative study tour to Pranuka Island, Seribu Islands National Marine Park (off Jakarta) was undertaken for 18 informal leaders from the villages during 10-15 April 2010.

Rating – Moderately Satisfactory (MS)

Review of Outcomes to Impacts

37. **Improvement in area management (and awareness support to it)** – The activities in Components 1 and 2 of the project led to the formation and functioning of the East Bintan Collaborative Management Board, which is a multi-sectoral body mandated to oversee the development of the area (Figure 1, Annex 5). Mapping of coastal habitats and ecosystems were conducted, using secondary information, and satellite-imagery and, based on the results, the East Bintan Coastal Resources Management Plan was prepared. East Bintan is now one of the 7 prioritized seagrass areas in the SAP of the SCS LME to have a management plan. The East Coast of Bintan was declared a Seagrass Conservation Area (Bintan Decree 267/2010) with the seagrass beds adjoining the 3 villagers marked as the core areas for protection

(seagrass sanctuaries). There is evidence that the project contributed to the higher level goals of reducing the area of uncontrolled sand mining and establishing four seagrass sanctuaries. In the sanctuaries, fishing is not allowed, while outside, destructive fishing practices are not allowed. A total of 2,700 hectares are now under sustainable management. The designation of the East Bintan as conservation area contributes at large to reversing degradation trends of seagrass in the South China LME (Figure 1, 4, and 5, Annex 5) and meeting the target of the Strategic Action Program for Seagrass in the SC LME (Figure 4).

38. **Ecotourism and AIG activities development** – The activities in Component 3 produced the East Bintan Sustainable Development Plan and introduced AIG activities for the fishing households. Berakit Village was identified as an ecotourism site within the EBSDP: the zoning of the village along the East Bintan coastline is a way to plan and regulate coastal development, which adds to the improvement of management in the area (Component 1 outcome). The introduction of dragon-fruit farming, dress-making/tailoring, and handicraft/mat-making economic activities has the potential to provide additional income to fishing households, reducing the dependence or exploitation of marine resources (overfishing) – hence indirectly meeting the objectives of the East Bintan Management Plan (Outcome 1). Engagement of some of the local fishermen in ecotourism activities can also reduce pressure on marine resources. Ecotourism is sustained as the natural capital (seagrass areas, beaches) related to these economic activities is managed well (Outcome 1) by aware and empowered local people (Outcome 2).

39. The intended outcomes of the project have all been achieved and measures to move towards intermediate states and impact have started but have not yet produced results (Figure 1). The measures that will result to the intermediate states were only put in place in 2010. The improvement of management, through spatial plans, seagrass sanctuaries, and management board will result in reduced overfishing, destructive fishing, and pollution, assuming that: i) the EBCoMBo, the Bintan District, and the villagers continue enforcing the regulations; ii) no transboundary threat (like increased pollution from outside) discourage the villagers, and; iii) coastal tourism is expanded to other villages. The increased income from sustainable tourism and AIGs will have an impact on the livelihood of the communities, assuming that these piloted activities prospered and economic conditions in Indonesia and Singapore remained stable.

40. The current evaluation of the project's impact on the environment is hampered by the lack of baseline data on water quality and the destructive fishing's intensity collected before the management intervention, and routinely after. Ecological and socio-economic benefits from the ecosystem services maintained by the project are expected[24] , but cannot be adequately quantified at this moment in time. Without long-term monitoring data on the indicators of these benefits - e.g., percent cover of species or increase in number of biota in a protected seagrass beds - the assessment of impact so far can only rely on anecdotal evidence of a reduction of destructive fishing practices reported by the project.
41. The overall rating toward achieving the impact of the project is "moderately likely". It is assumed that EBCoMBo will gain more experience in the next few years in integrated coastal management and apply adaptive management, with monitoring data gathered with the collaboration of villagers and university researchers. These monitoring data will be needed as evidence of the likelihood of achieving the ecological and socio-economic impacts and, more importantly, for adaptive management.

Rating – (overall likelihood to achieve impact): **Moderately Likely (ML)**

[24] Management interventions such as marine protected areas, seascape management, integrated coastal management, and Large Marine Ecosystem management have ecological and socio-economic benefits by reducing the threats to the species, seascape, or LME.

Table 2. Ratings on Outcome and Progress toward Intermediate States

Outcome Rating	Rating on progress toward Intermediate States
Component 1 – Improved management	
intended outcome was delivered – A	**C**
Component 2 – Increased awareness and support	
intended outcome was delivered – A	**C**
Component 3 – Promoted sustainable economic activities	
intended outcome was delivered – A	**C**

B. Sustainability and catalytic role

42. **Socio-political and financial sustainability** – There is strong support from the villagers and from government agencies that will likely sustain the management of seagrass meadows in East Bintan. The management regulations emanate from national laws and they are supported by District Officials. The National Government and the District Government of Bintan have allocated some amount for supporting the seagrass sanctuaries (e.g., for markers, buoys, monitoring parameters in the sanctuaries with partners). There is tremendous public support for the conservation of seagrass meadows (evident in signs, adoption of dugong – a marine mammal feeding on seagrasses – as the icon for Bintan District, local poetry).

Rating – Likely (L)

43. **Institutional framework and governance** – The protection of the seagrass meadows in East Bintan is likely to be sustainable under BAPPEDA. Several plans have been passed that will regulate coastal activities (sand-mining, tourism development) under a national law. The East Bintan Coastal Resources Management Plan is a spatial plan for the conservation of seagrass by zoning Berakit for ecotourism development and seagrass sanctuaries. Village decrees were passed, at the local level, to operationalize and support the protection of the sanctuaries. The public awareness campaign has resulted in the passage of these plans (see above).
44. The project has contributed to the attainment of the objectives of the regional SAP for the South China Sea, and removed barriers within the country for inter-agency cooperation at national and local levels. The project has provided the platform to gather secondary and primary data on seagrass diversity and distribution, and to discuss issues and management options within LIPI and the National Seagrass Committee and within the framework of the national strategy for seagrass conservation. The first National Seagrass Workshop (Jakarta, 18 November 2009), which was supported partially by the project with the Ministry of Marine Affairs and Fisheries and LIPI, was an important activity under this framework that yielded data and information and specific actions.
45. The East Bintan Collaborative Management Board, formed in the project, is a multi-stakeholder group that enables integrated coastal zone management. However, it is not clear in the East Bintan Coastal Resources Management Plan whether the EBCoMCo is institutionalized, and how much support the Board will get in the future. The EBCoMBo can monitor the compliance to the development plans and the effectiveness of community-based management of the seagrass sanctuaries, but would need strong leadership to meet regularly and address coastal management issues.
46. The evaluator is concerned about the future sustainability of EBCoMBo. Its last meeting was held in April 2010, and it is unlikely that it will continue to oversee the management of the East Bintan Seagrass meadows due to varied interests[25] and limited experience in running

[25] Terminal Report, 2011

environmental projects. There was insufficient time within the project to enhance the Board's awareness on the importance of monitoring the seagrass sanctuaries by the village leaders and the academicians, and its prospective role in adaptive management.

Rating – Moderately Likely (ML)

47. **Environmental sustainability** – Pollutants (tar balls) from shipping may hamper the persistence of benefits from integrated coastal zone management and the protection of core areas of seagrasses. Tar balls, possibly from discharge of ballast waters, appear to be common and increase in number during the period November to March each year[26]. They can be problematic because of their long-term persistence in the environment[27]. Tar balls can block blades of seagrasses from photosynthesizing and can stay in the sediment and beaches for many years. The components of the tar, some of which may be toxic, can be ingested by marine organisms, can then enter the food-chain and kill organisms, and the productivity of the system may be affected in the long-term. The villagers are concerned about the tar balls coming from offshore. Litter, from offshore, may also affect the aesthetics of the seagrass beds and diminish the ecotourism value of the place. Litter, particularly plastics, can be ingested by turtles as they feed on the seagrass meadows.
48. Climate change has also impacts on seagrass, which is not quite understood and research is still needed[28]. Effective management, monitoring, risk reduction, and ensuring connectivity with other seagrass beds can help mitigate and adapt to climate change.[29]

Rating – Moderately Likely (ML)

49. **Catalytic role and replicability** – The East Bintan Seagrass project is a replication of a community-based management system that has been widely-used in the Philippines since 1980s.[30] The project has created champions in institutions and individuals at the district and local levels, who continue to be committed and enthusiastic about seagrass management. BAPPEDA in Bintan has used spatial planning as a tool for coastal and marine management by zoning areas for tourism, conservation (seagrass), and limited sand-mining. The national government has provided allocations for coastal planning in its annual budget. The mechanism for the flow of these funds to the villagers (who protect core areas as sanctuaries) is available and being explained to villagers.
50. The project has to a small extent provided economic incentives to 41 households to participate in AIGs activities, which could (in the long-run) provide income that will reduce dependency on marine resources for livelihood. The assumption is that the AIGs will become economically viable. The identification of Berakit as an ecotourism site serves also as incentive to the adjacent local community. It is assumed that the ecotourism activity can employ villagers and can create economic activity in the trading of local handicrafts or delicacies as souvenirs. These were not explicitly mentioned in the project documents, but are known as a multiplier effect of tourism.
51. The project has the potential to play a strong catalytic effect in Indonesia and the region, and to some extent it has done already. The project staff participated in the workshop on Dugong Conservation Strategy and Action Plan for Indonesia convened at Sedona Hotel, Manado (North Sulawesi) on 3rd – 5th December 2008, organized jointly by the Research Centre for

[26] Based on interviews with villagers. Observerd tarballs on beach and shoreline during site visit in April 2012.
[27] [Plummer, 1996; Butler et al., 1998; Gabche at al 1998; GESAMP 1993] in: Oil in the Sea III: inputs, fates, and effects. National Research Council (US): Committee on Oil in the Sea, 2003
[28] Short, F. and H.A. Neckles, 1999. The effects of global climate change on seagrasses
[29] Bjork, M., F. Short. E. McLeod, and S. Beer, 2008. Managing seagrasses for resilience to climate change. IUCN Resilience Science Group Paper Series 3
[30] Promoted at present by DENR with support of bilateral donors (USAID/EcoGov)

Oceanography of LIPI/IIS and the Institute of Environmental Sciences of the University of Leiden (Netherlands), and shared information on Bintan seagrass diversity and ecology. The recognition of the Bintan Project in Manado by the Ministry of Marine Affairs and Fisheries to protect threatened species may well catalyze spatial planning and multi-sectoral involvement of the village and economic sectors for species protection and habitat management in other sites. This has also already resulted in a fourth village that volunteered to protect the seagrass adjacent to their village (Pengudung). The presentation at the workshop in Manado was also successful in the raising the attention of the Convention of Migratory Species, which has since then raised funds, with the collaboration of LIPI, for the conservation of seagrass beds for Bintan and Alor Islands.

Rating – Highly Satisfactory (HS)

C. Processes affecting attainment of project results

52. **C.1. Preparation and readiness** – The capacities of executing agencies and partners were considered in the preparation and design of the project. LIPI was part of the formulation of the SAP in the UNEP/GEF South China Sea Project and, as such, has the institutional memory and background knowledge necessary for the implementation of the SAP Goal and Targets. LIPI, as the premier institution for sciences in the country, has a division for marine and oceanographic research that would provide the sound scientific information for the project. The governmental offices of Bintan District have the mandate to implement national laws for coastal zone management and have the equipment for spatial planning and zoning. This partnership between a scientific institution and management bodies prepared the project for collaborative and community management.
53. The design of the project was ambitious in some of the targets in a 36-month period. The time-frame for the achievement of the outcomes was short and left little time for the establishment of the project management office, operationalization of the financial procedures and reporting, programming of the activities to achieve results (inception workshop with key actors), and conduction of the studies needed.
54. The three project's components were implemented simultaneously. Programming or preparing a coherent work-plan for the 3 components is important, as the outputs of one activity contribute to achieving the outcome of another: e.g., the results of baseline studies on seagrass beds are necessary for preparing a zoning plan and increasing knowledge, awareness, and support of stakeholders (Figure 1, Annex 5). It is ideal to have all these baseline studies conducted in the first 12 months of the project. The results of the ecological baseline study, both from primary and secondary information, can be used in preparing for raising public awareness materials in the first year. The public awareness campaign can then be launched in the second year for raising public awareness and to gain support.
55. The executing agency and its partners in the district have anticipated the implementation of the project, based on the approval of the project by the PSC of the SCS Project in 2007, and the approval of the GEF Grant in September 2007, and began providing co-financing both in-kind and in-cash in 2007. There were meetings organized and needs assessments conducted in 2008 before the public awareness campaign and in 2009 before the introduction of alternative income generation activities[31]. The availability of secondary data and information, collected prior to the project, has prepared the project for activities in component 1[32].
56. The project was designed in 2007, at the time the Bolinao Seagrass Demonstration (UNEP/GEF South China Sea Project) in the Philippines ended. The Bintan Seagrass Project has adapted to large extent relevant recommendations, and taken into account the lessons learned, from there (Annex 6).

[31] The baseline information on the households in the villagers are presumed to be in the socio-economic surveys and needs-assessment study. The completion of these surveys and reports (in Bahasa Indonesia) were reported in the Terminal Report. These reports were requested but were not available to the consultant.

[32] Hutomo, M. and T.E. Kuriandewa, 2004. Science for the conservation of coastal ecosystem: case study on the development of seagrass management demonstration site at the East Bintan Coastal Area, 1 p.

Rating: Satisfactory (S)

57. **Stakeholders' participation and public awareness** – The stakeholders of East Bintan seagrass meadows were adequately identified, as well as engaged in the project. The governmental agencies were identified during the design of the project: IIS/LIPI as the Executing Agency, and BAPPEDA as the host of the PIU. It was known at the outset that the BAPPEDA had the GIS that can hold and use data and information for spatial planning, which is a tool for conservation. This system, the skilled staff (in planning, with the use of GIS), and operational funds were in place from the beginning as counterpart support for the project. However, the agency lacks human capacity for technical (marine ecology) studies. Scientists of IIS (LIPI) filled the gap and conducted the baseline studies (e.g., ecology, socio-economic profile) and training (Seagrass Watch monitoring and reporting).
58. The multi-sectoral East Bintan Collaborative Management Board was formed with members from the coastal industries (resort operators, sand-mining companies), academics, governmental agencies, and village leaders. The EBCoMBo was informed by the PIU of the progress of activities, initially every 3 months and finally every 6 months (as per agreement and the revised plan), and reviewed and endorsed management plans (e.g., East Bintan Conservation Plan, East Bintan Sustainable Tourism Plan). This partnership among the scientific community, governmental agency (as manager), and the resource-users (fishermen, resort operators, mining industry) of the marine ecosystem is a factor that contributed to achieving the outcomes of the project and to the sustainability of community-based management. This approach, which relied strongly on scientific information, led to both the passage of decrees for the core seagrass sanctuaries in 3 villages and to a change in behaviour of the villagers and the Bintan community.
59. Overall, local communities were to a significant extent involved in the project, and informed (component 2) of the extensive and highly diverse seagrass in East Bintan's villages (Berakit, Malang Rapat, and Teluk Bakau). The villagers were consulted in the kind of AIG to be introduced (component 3). This approach is highly valued, in order to enhance the ownership of the project activities. Despite villagers were no longer considered as part of the monitoring-reporting mechanism, as initially planned, due to their low literacy level, they still played an important role as watch-dogs on the use of regulations of the Berakit Seagrass sanctuary by tourists.

Rating – Highly Satisfactory (HS)

60. **Implementation approach and adaptive management** – The project was designed to achieve the establishment of an effective management structure in a regionally significant seagrass meadow in East Bintan. The approach to achieve this outcome was three-pronged: i) establishing governance for management, within the context of national biodiversity policies and planning policies; ii) building stakeholder support by using scientific knowledge to raise public awareness of the importance of seagrass beds in fisheries and tourism; and iii) putting in-place enabling conditions for economic activities in the coastal zone to be sustainable: i.e., zoning for ecotourism development, developing alternative livelihoods for fishermen to reduce degradation of the seagrass that supports fishing as economic activity. The 3-pronged approach did not change, but some activities were revised in an effort to adapt to changing implementation conditions. The Bintan Seagrass Project was implemented after the SCS demonstration projects ended; as such, the regional exchange, which was supposed to be funded in the South China Sea Project, did not occur. The EA instead conducted many national activities with the Seagrass Committee of Indonesia, which promoted knowledge on seagrass, updates on the activities, and lessons learned (e.g., establishing of website – http://seagrass-indonesia.oseanografi.lipi.go.id.org; First National Workshop on Seagrass).
61. The implementation arrangements were followed as designed. Only the EBCoMBo revised the frequency of its meetings from quarterly to 6-monthly, as it was observed that were no new topics to be discussed as frequently. The EBCoMBo was expected to play two important roles,

i.e.: i) to steer the implementation of the project, and: ii) to review plans for the management of the extensive seagrass meadows in Bintan. It was not clear to the EBCoMBo that it would have acted as the project steering committee, and it was reported to have not contributed significantly to the implementation of the project (this was the first experience for most of the partners to run an environmental project). The representatives of the Indonesian National Committee on Seagrass and IIS/LIPI took over this role and supported the Board and the PIU throughout the implementation of the project. The Board, however, was effective in reviewing the drafts of plans submitted by BAPPEDA. The recommendations of the EBCoMBo on the reviews of management plans were accepted by BAPPEDA in the finalization of the plans.

62. The project implemented all the recommendations of the mid-term review, with the exception of 3.3 about "seeking new partnerships at the regional level to provide additional technical and financial resources for the development of a model standard practice for seagrass sanctuaries in the SCS/EAS as well as a regional forum for knowledge exchange". The recommendations and corresponding actions are presented in the Table 3 below.

Table 3. Assessment of actions in response to recommendations at mid-term review

Recommendations of the mid-term review (by UNEP Task Manager and Bintan Project staff, January 2010)	Actions of project staff in response to recommendations
1. engagement of members of the EBCoMBo in activities of the project by the PIU so that ownership of the project by the Board will be developed	1. EBCoMBo members were trained in Integrated Coastal Management. They were invited to witness the public awareness activities (Component 2).
2. EA and PIU to work closely with the UNEP Task Manager (UNEP, Bangkok) and Fund Management Officer (UNEP-Nairobi) and preparation of the financial and co-financing plans for the remainder of the project (to avoid further disruptions in project implementation)	2. The EA and PIU submitted a cash advance request on 31 August 2010 for the period September to October 2010. The funds were disbursed on 26 October.
3.1. sharing of knowledge gained in the project (including the EBCRMP and training materials) with other SCS demonstration site projects and to the general public	3.1. This was accomplished very well with the creation of the website (http://seagrass-indonesia.oseanografi.lipi.go.id) and uploading of newsletters and knowledge products. The Information Centers in the 3 villages were very useful in disseminating information to the local community and to school children from around Bintan Island and Singapore albeit not directly but indirectly through the website and IW:LEARN
3.2. development of knowledge management platform for monitoring and networking of good practices in sustainable seagrass and related habitats management	Knowledge management, based on monitoring of good practices, was based on only one monitoring activity, which was conducted in 2010. The knowledge gained from this monitoring is that no significant change was found between the baseline information on seagrasses and in 2010. This information can be used to support the idea that management will prevent more destruction of natural habitats. The knowledge management platform could be the EBCoMBo but there was little time left in the project to strengthen the Board on the importance of monitoring of the seagrass sanctuaries by the village leaders and the academicians and its role in adaptive management
3.3. seeking new partnerships at the regional level to provide additional technical and financial resources	There was no new regional partnership nor regional forum were established for knowledge exchange, due

for the development of a model standard practice for seagrass sanctuaries in the SCS/EAS as well as a regional forum for knowledge exchange	to lack of financial resources. (This will be discussed more in detail in the design of the project.)
4. preparation of terminal report began and project exit strategy that is endorsed by all project partners and incorporated in the full-sized project (FSP_ proposal for the SCS Project that will be submitted under GEF-5)	The exit strategy was presented by the Director, Research Center for Oceanography to the Head of Bintan District on 6 October 2010. The exit strategy was a series of recommended activities for each of the components of the project. The Bintan District in principle is supportive of the project and allocations from the national and district governments are available for these activities. The District officials continue to implement the spatial planning and zoning plan and have translated the concept of zoning for seagrass conservation in western part of Bintan Island. The zoning plan for the whole of Bintan is on display in the office of Bintan District. The Second District Head informed me in April 2012 in that the District will continue to use the plans as part of sustainable ecotourism development in East Bintan. The former Project Manager continues to champion seagrass conservation. The exit strategy was prepared by the EA and PIU to ensure the sustainability of the outcomes of the project. The management of East Bintan will be under the District Office, with the assistance of the EBCoMBo, who have been trained in Integrated Coastal Management. The protection of core seagrass sanctuaries are under the village leaders (both formal and informal) and residents. The monitoring and reporting of the status of seagrass was arranged with the governmental agencies and the Maritime University of Raja Ali Haji, who were trained in Seagrass Watch. The continuous public awareness campaign is lodged with the Department of Education. The monitoring and reporting mechanism for maintaining sustainable tourism has been arranged between the industry sector (tour operators) and the government only in Berakit Village. The villagers can contribute it enforcing regulations in the seagrass sanctuary and ensuring that the markers of the sanctuary are in place. All these arrangements were approved by the EBCoMBo. The exit strategy was not incorporated for funding in the FSP proposal for GEF-5. The Project Identification Form (PIF concept proposal) for the FSP to implement the SAP for the South China Sea and Gulf of Thailand was not submitted yet to the GEF Secretariat because not all countries surrounding the SCS LME have endorsed the PIF hence no funding to support management activities after the Bintan Project can be anticipated in the near future.

Rating – Satisfactory (S)

63. **Country ownership/driven-ness** – The Bintan Project is consistent with the PSAPMSE in Indonesia. The PSAPMSE covers the issues of: use of science (ecology) for management,

suitability of management to local culture and economic development, and institutional coordination. The Bintan Project satisfies these elements as follows:

i. science for management (ecology) – IIS/LIPI, as the premier scientific institution, has a great ownership and dedication to the project. Co-financing was provided for biological, ecological, and socio-economic surveys that produced the primary data and information for spatial planning and zoning by BAPPEDA. The District Planning Agency took ownership of the process and, as a result, the East Bintan Conservation Plan, covering a large area of seagrass with core areas as sanctuaries, was approved, as was the spatial plan for ecotourism, with guidelines for its implementation so as not to degrade the water quality of the near shore ecosystem where the seagrasses are found;
ii. socio-economically beneficial and culturally appropriate – The project has conducted needs-assessment and feasibility studies for environmentally-sustainable AIG activities so that the fishermen will not be solely dependent on the coastal and marine living resources;
iii. institutional coordination (to address institutional constraints) – The project cultivated the partnership between LIPI, a scientific organization, and BAPPEDA, a government agency, and formed the EBCoMBo, a multi-sectoral body with mandate and stakes on the coastal zone. The EBCoMBo members had undergone training in Integrated Coastal Management, thereby increasing capacity and coordination at district as well as national levels;
iv. legal instrument (to address legal constraint) – The project commissioned a review of existing national and local legislations for biodiversity conservation and coastal zone management. The results of the legal review guided the preparation of the laws and decrees passed by the District and villages. The BAPPEDA and the 4 villages now have the legal instruments, derived from national laws, to protect seagrass beds in Bintan.

Rating – Highly Satisfactory (HS)

64. **Financial planning and management** – Disbursement of funds in the project was always delayed of a few months (see Table 3 below). The first disbursement was delayed due to the lack of a bank account to remit the initial cash advance. The subsequent cash advances were delayed by 3 to 10 months, resulting in delays in the implementation of activities, especially those conducted with the community in Bintan. The activities in the work-plan and the disbursement of funds were thus not synchronized, i.e., the funds were not available as planned and needed by the EA.
65. The processing of cash advances by the Fund Management Office takes at least 3 months, requiring financial planning 9 months in advance, and requests submitted 3 months in advance of the period required. The delays in disbursements undermined the implementation of sequential activities, which were implemented as funds were available to the EA/PIU and in a "catch-up" mode. The local partner had expressed in 2008 that the delays in disbursements would have posed risks (reduce commitment of the local villagers to the project; reduced flow of co-financing from local government[33]). Delays in disbursement of funds were regularly reported in 2009 and 2010, and cited as the reason for delays in implementation of activities. The Project Manager provided personal funds, which were refunded later (which is not a good practice), to implement activities that were planned with the villagers. Only the partners' adaptive management and the flexibility to work in bursts of activities by the EA/PIU contributed to the successful attainment of most outputs of the project.
66. Despite these problems, the PIU did not experience any major problem in the procurement of staff and seeking the assistance and services of LIPI. The members of the EA and PIU were dedicated to the conservation of seagrass in Bintan during, and even after, the project has ended. The ecological and socio-economic surveys were funded by LIPI; the costs for public awareness materials were higher than planned, so the EA/PIU reprinted materials and used co-

[33] Power Point Presentation by Mr. Supriyono, Project Manager, at the Fourth Mayors' Roundtable Meeting, Nha Trang, Viet Nam, 2-5 December 2008

financing funds[34] (Annex 4). The EA/PIU also conducted simultaneously all necessary trainings (ICM, AIGs) in one event, as soon as funds were available in 2009, in order to minimize operational costs and to maximize the benefit of the travel of staff from Jakarta to Bintan.

Rating – Moderately Satisfactory (MS)

67. **UNEP supervision and back-stopping** – The supervision and back-stopping from the IA were from Task Manager (TM) and from the Fund Management Officer. There were two Task Managers: the first TM based in Nairobi from the project start to mid-2009, and the second based in Bangkok. The Fund Management Officer was based in Nairobi throughout the project implementation.
68. The second Task Manager has closely monitored the project after mid-2009, has emphasized results against activities through reporting, and has given fair evaluation in the Mid-Term Review. All the half-yearly reports and two Project Implementation Reports were submitted[35] as planned. The mid-term review, however, was scheduled 12 months later than planned (planned October 2009; actual date of evaluation – April 2010).
69. The financial back-stopping has been instead slow, taking 3 months to process requests for cash advances (please see financial planning and management section for details). There were some concerns and misunderstanding on the part of Fund Management Officer on 2 cash advances[36].

Table 3. Summary of cash advance requests and disbursements and remarks on length of delay

Date requested	Date disbursed	Purpose	Amount (USD)	Remarks
1-Sep-07	14-Nov-07	Initial Cash Advance	50,775	3 months late; no bank account to remit initial funds
31-Jul-08	19-Nov-08	2nd cash advance (for Aug - Dec 2008 activities)	50,775	4 months late; the following activities were delayed (2nd Half-yearly report): development of EBCRMP, CBSMP, training materials for capacity-building; study on sustainable ecotourism; feasibility study on AIGs;
31-Dec-08	5-Jun-09	3rd cash advance (for Jan - Apr 2009 activities)	84,172.73	6 months late and 1 month past the quarter funds were required; delay was due to concerns that amount requested was bigger than previously required; community-based management related activities delayed; 3rd Meeting of the EBCoMBo scheduled in March 2009 was postponed

[34] USD 16,666, reported by the former Project Manager, PIU, in a power point presentation. Funds were from the Bintan District Office.

[35] 5 First Half-yearly Reports – submitted June 2008 (for period December 2007 to May 2008); Second Half-yearly Report – (for period June to December 2008); Third Half-yearly Report (for period January to June 2009); Fourth Half-yearly Report (for period July to December 2009); Fifth Half-yearly Report (for period January to June 2010); Project Implementation Reports 2009 and 2010

[36] It is not clear to the consultant how this was resolved. Correspondence related to these cash advances has been requested but not yet available to date.

				since funds were not received and no community-based activities can be discussed; sustainable ecotourism study delayed; (3rd half-yearly report)
1-Jan-09	15-Oct-09	4th cash advance (no attachment for activities available with document provided to consultant)	109,478	10 months after request; the delay was due to a misunderstanding in the working of the cash advance (by the Fund Management Office) that no funds are needed; study on sustainable tourism delayed (to August 2009 for completion in December 2009; 4th half-yearly report);
31-Dec-09	21-Apr-10	5th cash advance (for Jan - Apr 2010 activities)	43,299	3 months late; Coastal Area Strategic Plan cannot be completed due to lack of funds;
31-Aug-10	25-Oct-10	6th cash advance (Sept - Oct activities)	40,000	3months late; at the end of required period; CA endorsed by Task Manager on 10/10/2010
	17-Feb-12	7th cash advance (Sept 2011 - April 2012)	7,299.27	as agreed -- on project completion
			385,799	

Rating - Moderately Satisfactory (MS)
(Satisfactory for technical backstopping and Unsatisfactory for financial backstopping)

70. **Monitoring and evaluation design** – The monitoring and evaluation (M&E) design is comprehensive (Annex 8 – Monitoring and Evaluation Plan, MSP document), including three tables on: indicators of the performance at different levels, the content of monitoring and progress reports, and description of roles and responsibilities for monitoring, evaluating, and reporting. The M&E tools included annual progress (through PIRs and Half Yearly Reports) and terminal independent assessment in the form of this report.
71. The logical framework (Annex 3 of the MSP Executive Summary) of the project lists verifiable indicators and assumptions for each output and outcome. The logical framework is generally sound. Indicators could have been better defined. Indicators for Outcomes 1 and 3 refer, respectively, to higher level results (e.g. number of destructive fishing or amount of solid waste to measure the improvement of management) or lower level outcomes (plans and guidelines for sustainable tourism discussed to measure the increase of the environmental sustainability of local economic activities). Indicators at output level are rather milestones.
72. A baseline scenario was presented in the MSP Executive Summary[37] and qualitative baselines were identified when the project was designed in 2007. The MSP project provided for additional ecological and socio-economic surveys to be undertaken at the onset of the project.

Rating – Satisfactory (S)

73. **M&E Plan implementation** – Environmental parameters[38] collected by BAPPEDA back in 2007 and by LIPI in the ecological and socio-economic surveys in 2008 and 2009, within the

[37] Page 16, MSP Executive Summary

context of the project, constituted the baseline for monitoring the project's long term benefits. The surveys provided a profile of the diversity of seagrass and the biota living in the habitat, levels of nutrients, and data on area of seagrass cover, diversity of seagrass, fishes and mollusks have been collected since. Yet, the project did not set specific baselines, and collect monitoring data later, for stress reduction on domestic pollution and destructive fishing (amount of litter on beach, number of destructive fishing events) which are also necessary to assess the impact of the project. The project also did not collect any data on the increase in income (improvement of the livelihood) of the local people.

74. As pointed out above (para. 57), the EBCoMBo did not perform its guidance role as expected, especially on activities other than the formulation of policies and environmental plans. It was also decided to reduce the frequency of its meetings to half-yearly (from quarterly), because of the cost of the meetings and the few matters to discuss.
75. Yet, the PIU has submitted to UNEP all the semi-annual project reports and to GEF the Project Implementation Reports (PIR, for 2009 and 2010 only), following the required formats, and in accordance with the logical framework. The reports contained sufficient data on progress and completion of activities and highlights of achievements, but did not include any summary of significant findings of surveys, particularly in the PIR. The reports also mentioned problems, particularly delays in the disbursement of funds and its consequences, but did not propose any solution.
76. The mid-term review was conducted albeit late (January 2010, which was only 8 months to the expected end of the project), leaving little time for adaptive management. The review used a participatory approach, where project partners, stakeholders and beneficiaries were involved. The recommendations of the Task Manager were acted on by the PIU and EA.

Rating: Moderately Satisfactory (MS)

77. **Budgeting and funding for M&E** – The project has allocated budgets for monitoring of progress, independent Mid-term review, and independent Terminal Project Evaluation[39]. More funds would be required to undertake evaluation of ecological and socio-economic impacts. The reduction of stress (sedimentation from sand-mining, eutrophication from households and tourist resorts) and the contribution of management measures towards it (e.g., seagrass cover, species diversity, species richness of associated biota) on the 3 seagrass sanctuaries require more time in the field (at least 2 days per sanctuary, village, tourist facility to be assessed).

Rating: Moderately Satisfactory (MS)

IV. Conclusions and Recommendations

IV.1. Conclusions

78. The project "Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia" established community-based management to achieve the improvement of the seagrass meadows. The approach to achieve this objective was 3-pronged: i) to improve management of the area; ii) to increase public awareness and support for management; and iii) to promote sustainable tourism and alternative income generating activities. These 3 pathways are interlinked: increased public awareness (component 2) will increase support to the implementation of the Plan (component 1); guidelines for sustainable tourism and livelihoods (component 3) complement the management plans in the East Coast of Bintan (component 1) and foster the implementation of environmentally sustainable activities.

[38] [from: from BAPPEDA Riau and PKSPL IPB 2001; BAPPEDAL Kepri, 2002; secondary information from: in SLHD Kapubaten Bintan 2007)]
[39] Managed by UNEP as IA

79. The project has satisfactorily attained its outputs and immediate outcomes, which have ultimately contributed to the desired goal of "reversing environmental degradation trends of the South China Sea". A 2,700 ha area of seagrass (almost double than expected) is managed through a plan supported by the community at large (governmental agencies, industry, villagers, academicians). The quality of the project results is high, and the intervention provided a good platform to link science-based data and information to the political discourse of regional conservation of seagrasses in the South China LME. Project implementation was however affected by delays in the disbursement of funds, lack of financial resources to implement collaborative monitoring of the East Bintan seagrass, and disruption of the work-plan as a result of the fund issues.
80. The management of the East Bintan seagrass meadows has improved significantly thanks to the set-up of the inter-sectoral East Bintan Collaborative Management Board and the finalisation of three management plans: the East Bintan Spatial Plan and East Bintan Ecotourism Plan are specific plans that zone and regulate coastal developments; the Bintan Conservation Management Plan created 4 seagrass sanctuaries under the protection of village decrees and villagers. Public awareness has significantly increased from the initial lack or little knowledge on the diversity of seagrass: the importance of seagrass meadows for migratory and threatened species (dugong) and as habitats of species (shells, sea cucumber, fishes) that are edible and collected for sustenance and livelihood, and the inter-linkage of seagrass beds with coral reefs in the province and in the region, are now well understood. The increased awareness has produced great pride in the community, which is a well-spring for effective community-based management of not only the seagrass sanctuaries but also of the East Bintan Seagrass, which have transboundary importance as feeding areas threatening dugong and marine turtles, and as growth areas of far-ranging fish species (groupers, wrasses). The capacity to manage the East Bintan seagrass area has also increased, since members of the EBCMB were trained in integrated coastal management and villagers and academic partners were trained in monitoring seagrass diversity, cover, and health (using the Seagrass Watch model).
81. Sustainable economic activities have been promoted, and they are likely to be sustained with the passage of the East Bintan Sustainable Tourism Plan. Berakit Village was identified as the focal area for sustainable tourism, and it has now a seagrass sanctuary protected by the community who is able to monitor the condition of the seagrass. The monitoring and reporting plan, which involves members of the tourism industry, villagers, and other stakeholders (universities, governmental agencies), is likely to succeed in this village, although it will take another 3-5 years to see the effectiveness of the model. AIG activities were developed for less than 10 % of the population of the 3 villages in East Bintan. An economic study on these AIGs is not available; as such, at this point in time, it cannot be assessed whether these contributed to increase the income of fishing households, and resulted in reduced pressure on the coastal fishery.
82. The summary of ratings and scores by criterion is presented in the table below:

Table 5. Ratings on aspects of project implementation and notes on assessment

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results		**S**
1. Effectiveness	Management of area improved, with a management plan and multi-sectoral group; awareness and capacity to manage increased; sustainable ecotourism introduced, with guidelines; alternative (to fishing) income-generating activities introduced	**S**

Criterion	Summary Assessment	Rating
2. Relevance	Project site was 4th in selection in the SCS Project; core sanctuaries were selected based on ecological surveys conducted by IIS/LIPI; objective of project consistent with UNEP/EAS strategic plan, national laws and programs	**HS**
3. Efficiency	The project was implemented with only a month beyond the 36-month planned duration of the project at no additional costs. Cost-saving measures were put in place by conducting simultaneous trainings and events in Bintan. There were delays in disbursement of funds which caused the project to implement activities in bursts or catch-up mode and affected effectiveness. The team used existing methodologies (e.g., GIS, spatial planning, satellite imagery, Seagrass Watch, IEC) in all 3 components. The cost to time results ratio is about USD 10,571/month while in Bolinao, Philippines was USD 4,492/month.	**MS**
B. Sustainability of project outcomes		**ML**
1. Financial	National government has allocated funds for activities in the district (e.g., for the placement of markers; replacement of markers; enforcement; communication)	**L**
2. Socio-political	Regional planning office, communities, and other stakeholders have been extensively involved	**L**
3. Institutional framework	the District of Bintan takes ownership of the conservation program but the EBCoMBo needs strengthening	**ML**
4. Environmental	The project has addressed local threats however it was not designed to address transboundary threats of oil pollution from shipping (forming tar balls on coastlines and beaches). Persistent oil pollution does not only affect the aesthetics of the seagrass meadows but, more importantly, the ecological processes and so it could affect its environmental sustainability. Marine litter was also suspected to come from shipping or from adjacent islands, which could affect the biology of (diet and digestion) of marine turtles and dugongs (that can mistake plastics items as food).	**ML**
C. Catalytic role	The project catalyzed the preparation of the National Seagrass Strategy and inspired other initiatives in Indonesia and another project for dugong conservation funded by the CMS.	**HS**
D. Stakeholders involvement	The EBCoMBo was formed, which is composed of stakeholders from various sectors (29 members; attendance in meeting was 20 or more each meeting);	**HS**
E. Country ownership / driven-ness	The project was consistent with national policies and laws on environmental protection	**HS**
F. Achievement of outputs and activities	Spatial and conservation plan established; monitoring training conducted; monitoring mechanism organized but monitoring not conductive regularly; public awareness and village commitment very good; promoted environmentally AIGs	**S**
G. Preparation and readiness	All stakeholders involved in project formulation and with the desired levels of skills and capacities	**S**
H. Implementation approach	The project involved regional and local persons,	**S**

Criterion	Summary Assessment	Rating
	including national technical staff and district managers; the engagement of motivators is a novel approach ; partnerships with tourism sector and villagers established	
I. Financial planning and management	Financial planning and management was undermined by delays in disbursements of funds. At the outset, there was a delay in the initial disbursement of funds due to the lack of bank account for the EA. The EA submitted the second CA in July for the period August to December 2008 and the third CA in December 2008 for the period January to April 2009, which was late considering the average time of 3-month for the FMO to process the fund request. The EA requested for CA in January 2009 apparently for May to December 2009 (documentation provided to the consultant was incomplete), but the funds were disbursed only in October 2009 due to concerns of the FMO that they the EA is requesting funds higher than previous requests.	**MS**
J. Monitoring and Evaluation		**MS**
1. M&E Design	M & E (Annex 3, MSP Exec. Summ.) – clear and informative M & E logframe (Annex 8, MSP Exec. Summ.) – ; most indicator are SMART; baselines for indicators (quantitative indicators) not presented in logical framework, but it was required at inception of project; design of impact indicators is logical but unrealistic in a 3-year project; stress reduction indicators are more realistic to monitor	**S**
2. M&E Plan Implementation	M & E plan (implementation) was clear and operational; means of verification used (including newsletter) M & E (for stress reduction and status indicators) – baselines for stress reduction indicators not gathered; baselines of some indicators of status were collected (e.g., area of seagrass, cover, diversity (number of species) of seagrass, fishes, mollusks,	**MS**
3. Budgeting and funding for M&E activities	Funds were available for Mid-term Review and Terminal Evaluation. However, the amount is considered insufficient, especially for evaluation of ecological and socio-economic impacts of project (following the RotI framework).	**MS**
K. UNEP Supervision and backstopping	The fiduciary responsibility of UNEP is two-fold: supervision of project activities and disbursement of funds for project activities.	**MS**
Technical supervision	Most of the required progress reports were submitted. The mid-term review was conducted only 8 months before the planned end the project, leaving little time for correction in the implementation of activities.	**S**
Financial back-stopping	The financial back-stopping was found unsatisfactory, with delays in disbursement up to 6 to 9 months. These delays in disbursement have affected the efficiency and to some extent the effectiveness of implementation of the project.	**U**

IV. 2. Recommendations

83. **Recommendations** – The following recommendations are based on the findings of the evaluation.

Implementing Agency - The consultant **recommends** that UNEP pursues, with the countries, the implementation of the SCS SAP[40] and seek funding from the Global Environmental Facility, to finance the components which deal with transboundary issues of habitat loss, community modification and marine pollution, and the monitoring of stress reduction and impact indicators for the Large Marine Ecosystem. The SAP implementation is an integral part in the adaptive management framework of GEF in the Large Marine Ecosystems.

Implementing Agency and Executing Agency

The consultant recommends a second phase in the Bintan Seagrass Management Project to build on the outputs and outcomes of the project. The following activities are still needed to ensure that the management of seagrass beds contributes to the desired impact in the Large Marine Ecoregion:

- **Guided implementation of monitoring and reporting on the East Bintan Conservation Plan** – The consultant recommends additional support to Bintan District and the East Bintan Collaborative Management Board to improve management effectiveness. Having a management plan is a very good foundation for management, but it is not all that is needed. Management-effectiveness includes the actual implementation of the management plan and the monitoring of indicators of the impacts, both ecological and socio-economic. A team of stakeholders, possibly within the EBCoMB, will conduct monitoring and reporting four times a year (following the Seagrass Watch methodology) and make decisions based on the reports submitted by the monitoring team (adaptive management). The support of Implementing Agency and the Executing Agency is still needed to supervise and guide this process with the District of Bintan (See also recommendation 2).
- **Sustainable financing strategy for management effectiveness** – Sustainable financing (trust fund) for the activities of the EBCoMBo is recommended so that the operations of the EBCoMBo can be ensured. Establishing a trust fund requires costing of the management plan, business-planning, and regulations for the uses of the funds.
- **Dealing with local threats and transboundary threats** – The consultant also recommends that any follow-up initiative includes consideration of transboundary threats (tar balls, solid waste from offshore), not only local sources of threats, as the first can hamper the positive impacts of community-based management. It is recommended that a strategy be prepared with relevant national and district agencies to raise this concern with international agencies and involving private sector polluters and port authorities.

These activities may be funded within the context of the SCS SAP, or under the National Action Program for Biodiversity Strategies and Action Plan (GEF Indonesia).

District of Bintan and East Bintan Collaborative Management Board

- **Continued public awareness and communication campaign** – It is recommended to continue increasing public awareness to reach those members of the community who are still not supportive towards seagrass management, by using existing public awareness materials on the state of the seagrass meadows and the marine resources living in it. The campaign should

[40] The Project Information Form (PIF) has been filled in by the GEF Task Manager for the implementation of the Strategic Action Program for the South China Sea. The PIF needs the endorsement of the countries. Resources are necessary to conduct consultations in the countries with their GEF Focal Points and stakeholders to find consensus on the scope and design of the implementation.

be implemented in close collaboration by the District of Bintan and the EBCoMBo. The District can provide financial resources for awareness materials and the engagement of field facilitators, who are capable and trusted by the local villagers.

District of Bintan, Monitoring and Reporting Mechanism Partnership, and Community-based Monitoring Group in Berakit

- **Payment for ecosystem services for monitoring and management** – The District of Bintan and the EBCoMBO should work together in implementing the management and monitoring plan (Seagrass Watch). This can be established with budgetary allocations of the Bintan District and possibly from fees in tourism and educational visits as payment for ecosystem services. The funds will be used for monitoring of seagrass sanctuaries by UMRAH staff and students and other stakeholders (see below).

- **Collaborative monitoring and reporting –** It is recommended that regular monitoring (i.e., at least once during the 2 seasons, and following the Seagrass Watch protocol) of the Berakit Core Seagrass Sanctuary is led by UMRAH, with the support of the District of Bintan and the tourist operators and with the participation of the villagers who were trained in the protocol. Students of the university could assist in the monitoring and the preparation of the report. The monitoring data should be presented to the EBCoMCo and the District of Bintan in half-yearly reports (for use in public awareness campaign and replication of monitoring and reporting mechanism), and then communicated to the Indonesian National Seagrass Committee and to the Regional Coordinating Unit, Coordinating Body for the Seas of East Asia (that will consolidate results all other protected areas, as part of monitoring towards the desired impact).
- The monitoring of the seagrass beds in Berakit should include both:
    - Environmental (quality of coastal waters, increase in number of fish and shells that are important as food species and those that are important in the South China Sea and Gulf of Thailand region) and socio-economic indicators (e.g., number of fishermen, number of fishing households with members engaged in the ecotourism activities, income of fishermen). These indicators can be monitored with the governmental agencies that have the mandate to monitor the state of the environment and coastal resources.
    - stress (threats) indicators (e.g., number of blast-fishing per day, number of violations on the regulations of activities within the seagrass sanctuary by tourists or fishermen, amount of litter on the beach, number of tar balls per square/meter in the seagrass sanctuary). It is recommended further that the tour operators record the data gathered by the CbMG;

84. **Lessons Learned**

- **Effective management takes a long time** – Establishing an effective system to manage natural resources, such as seagrass meadows, takes a long time. The project has improved the management of the area, from zero management to a situation where there are management plans, multi-sectoral management group, increased support for management plan, and increased capacity for monitoring and reporting. Effective management, however, implies continuous efforts in the enforcement of the measures approved, the monitoring of the threat (reduction) and/or the impact of the intervention on the status of the resource (for adaptive management), and sustainable financing to support management activities. At least another 3 years will be needed for the management plan to be fully implemented.
- **Scientific evidence can not only support management actions, but also be used to enhance community awareness –** Good scientific data and information and the involvement of scientists from IIS/LIPI underpin the spatial planning, site-selection, public-awareness campaign, and governance. The importance of scientific information goes beyond the provision of rationale for management. The knowledge that community people have gained from the booklet summarising the surveys' results shared by staff of LIPI was acknowledged

as the most important contribution of the project (village forum in April 2012). Community members take pride in the diversity of seagrass species, extent of seagrass beds, and the importance of this natural resource in coastal fisheries as well in the life-cycle of threatened species. Change in behaviour of fishermen was reported, and the occurrence of blast-fishing has decreased.

- **Effective communication between the IA/Fund Management Officer and EA/PIU is of utmost importance –** Any communication/request on cash advances need to responded to promptly. It is important that financial procedures, including schedules for disbursement, are clear at the inception of the project. Delays in disbursement pose risks in the implementation of activities and ultimately the outcome(s) of a project. A contingency fund (per disbursement) may cushion these impacts.

Annex 1 – Evaluation Terms of Reference (ToR)

PROJECT BACKGROUND AND OVERVIEW

a. Project General Information[41]

Project Title	Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Archipelago Province, Indonesia		
Executing Agency	Research Center for Oceanography (LIPI), Indonesian Institute of Sciences		
Project partners	Regional Development Planning Agency (BAPPEDA); BAPPEDA Kabupaten, Bintan Timur Sub-district Government		
Geographical Scope	Indonesia		
Participating countries	Indonesia		
GEF project ID	3188	**IMIS Number**	GFL/2328-2730-4986
Focal Area(s)	International Waters	**GEF OP**	OP8
GEF Strategic Priority/Objective	IW-1	**GEF Approval Date**	26.06.2007
UNEP Approval date	26.06.2007	**First disbursement**	14.11.2007
Actual start date	09.2007	**Planned duration**	36 months
Intended completion date	08.2010	**Actual or Expected completion date**	10.2010
Project type	Medium-size project	**GEF Allocation**	US$397,800
PPG GEF costs	Nil	**PPG Co-financing**	Nil
Expected MSF/FSP Co-financing	US$391,950	**Total Cost**	US$789,750
Mid-term review/eval. (planned date)	10.2009	**Terminal Evaluation (actual date)**	April 2012
Mid-term review/eval. (actual date)	01.2010	**No. of revisions**	Nil
Date of last Steering Committee meeting	01.2010	**Date of last revisions**	N/A
Disbursement as of 30 June 2011	US$ 338,501	**Date of financial closure**	N/A
Date of completion	10.2010	**Actual expenditures reported as of 30 June 2011**	US$ 325,855
Total co-financing realized as of June 2011	US$629,798	**Actual expenditures entered in IMIS as of 30 June 2011**	US$ 165,131

b. Project Rationale

1. Approximately 60 seagrass species exist worldwide, and 18 of them are found in the coastal water of the South China Sea and the Gulf of Thailand. Seagrass beds serve as nurseries for many commercially important species of fish, crustaceans, and invertebrates, including tiger prawns.

[41] UNEP GEF PIR FY11

2. Seagrass habitats are extensively declining, especially in the Asia-Pacific region (Indonesia, Philippines, and Thailand) where a quarter of the number of areas in decline has been reported. The primary causes of this decline include pollution (particularly eutrophication resulting from increased nutrient inputs), sedimentation, use of inappropriate fishing gear (trawls and push nets), and coastal development (uncontrolled soil/sand mining, as well as increasing treated waste water discharge from both domestic and tourism sources). Inappropriate anthropogenic activities are, by and large, the result of the lack of both effective and integrated area management, and of public awareness and capacity concerning coastal resource management. In addition, the local communities over-rely on fishing because of the poor economic conditions in the area, and of the absence of alternative income generation opportunities.
3. In 2002, UNEP and the GEF started the "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand" (SCS) project. The project aimed to "create an environment at 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 consideration into national development planning".
4. In this context, in 2004, the project Regional Scientific and Technical Committee (RSTC) indicated Trikora Beach (in East Bintan, Indonesia) as a priority seagrass site which required immediate intervention.[42] Bintan Island is the largest of the 3,200 islands in the Kepulauan Riau Province of Indonesia. East Bintan is still rich in biodiversity, as its 10 species seagrass habitats provide refuges and spawning areas for a multitude of marine species. Yet, the island ecosystem is under pressure, as the beautiful beaches along its northern part are subject to rapid resort development, because of the vicinity to Singapore as well as of the high demand for construction and reclamation materials from there. The site has low to medium population density; the majority of local people are engaged in agriculture and fisheries. The local authorities face the challenge of simultaneously conserving the seagrass and associated habitats and strengthening local economic development.
5. The conservation of seagrass habitats is a relatively new concept in Indonesia. An Indonesian Seagrass Committee was organized at the national level in 2002, and it has since convened a series of workshops and seminars to strengthen the cross-sectoral management of seagrass ecosystems in Indonesia. The Committee adopted in 2003 the "Policy, Strategy, and Action Plan for the Management of Seagrass Ecosystem in Indonesia (PSAPMSE)", which identifies East Bintan as one of the national priority seagrass habitat, under potential risk of irreversible degradation due to the rapid economic development on the island. The following law No. 31/2004 provided the legal background for the conservation of relevant ecosystems, including seagrass ecosystems, for the purpose of maintaining the fish stock.
6. Until the project was approved, direct investments in the conservation and sustainable use of seagrass habitats in Indonesia have not occurred. The Office of Natural Resources Conservation (BKSDA) has not been active in East Bintan, since its responsibility is limited to protected areas. Some institutional strengthening, community-based management and awareness raising activities focused only on the conservation of coral reef habitats have taken place, through for example the IBRD/GEF Coral Reef Rehabilitation and Management project (COREMAP I and II).

c. Project objectives and components

[42] 26 potential seagrass demonstration sites were ranked on the basis of environmental and socio-economic indicators, such as: percentage seagrass cover, number of seagrass species, number of endangered aquatic species, reversibility of threats such as destructive fishing and pollution, high national priority, on-site commitment for stakeholders and local government. Trikora Beach ranked as the fourth most important seagrass site overall, and second in terms of its biological and environmental significance. Interventions at the top three sites were already covered by the South China Sea project.

7. The "Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Archipelago Province, Indonesia" project aimed to reduce environmental stress on the transboundary waterbody of the South China Sea and Gulf of Thailand. More specifically, the project aimed to establish an integrated management system on a total of 1,500 hectares of the coastal and marine environment, which would ensure a cross-sectoral and participatory approach to address the threats and the root-causes of habitat degradation.
8. The project fits within the GEF Operational Programme 8[43] and the International Waters Strategic Objective 1[44]. It defined three major outcomes:
    a. Improved management of the area, through appropriate and participatory institutional arrangements, the adoption of an integrated area management plan, and introduction/enforcement of relevant regulations;
    b. Increased awareness of the value of seagrass and associated habitats, and improved capacities for seagrass habitats' management;
    c. Increased environmental sustainability of local economic activities (sustainable tourism and others).

d. Main Project Activities

9. The project identified a number of activities and outputs for each of the three components, as summarised in the table below:

Table 1: Project outputs and activities[45]

Component	Outputs	Activities
Improving the management of seagrass and associated habitats	East Bintan Collaborative Management Board (EBCoMBo) established for cross-sectoral and participatory management	· Development and distribution of project/operational guidelines · Establish EBCoMBo · Convene regular meetings (every 3 months)
	East Bintan Coastal Resource Management Plan (EBCRMP) and other specific plans adopted, and relevant regulations updated/enforced	· Review of the existing national and local regulations · Convene consultation meetings with stakeholders · Develop and adopt EBCRMP
	Community-based seagrass management programme (CSMP) established	· Prepare and publicize guidelines · Establish field facilitation stations in selected villages · Establish Community Management Groups in selected villages · Adopt CSMPs and village regulations · Agree on demarcation for seagrass sanctuary and areas for resource utilization – set zoning markers in the field · Develop and implement community-based monitoring system
	Baseline information for improved area management enhanced through ecological and socio-economic research and legal review, and effective coastal environment monitoring mechanism established	· Implement ecological research on seagrass and associated habitats · Implement socio-economic research on the use of coastal resources and anthropogenic pressure to the seagrass and associated habitats · Review relevant legislations/regulations · Prepare and submit to EBCoMBo recommendations for improved area management · Establish seagrass and associated habitats monitoring mechanism (along with community-based monitoring program)

[43] "….leverage co-financing …for a comprehensive approach for sustainably managing the international waters environment". Projects in this Operational program focus mainly on "seriously threatened water-bodies and the most imminent transboundary threats to their ecosystems".
[44] "…financial resource mobilization for implementation of reforms and stress reduction measures…for particular transboundary systems"
[45] From the project logframe

Awareness raising and capacity building	Community Information and Training Centre (CITC) for coastal resource management established	· Establish an information and training center · Make awareness materials available at the center · Support training workshops by the center
	Awareness raising materials prepared and disseminated, and awareness raising campaigns implemented	· Assess awareness raising needs and implement awareness level surveys · Prepare and disseminate general awareness raising materials and project newsletters · Implement public awareness campaigns through media (radio, TV, and newspapers) · Establish a Clean Beach Programme (increase support for appropriate waste management)
	Training courses developed and capacity building workshops convened	· Convene training needs assessment workshops · Develop training materials · Convene training courses (e.g. community-based seagrass monitoring, participatory mapping of seagrass ecosystems and associated coastal resources, community based coastal resource management)
	National and regional exchange of information and experience on seagrass and associated habitat management implemented	· Develop and maintain a bilingual project website, following the IW:LEARN guideline · Organize an international training course (4 weeks) on mapping, monitoring and management of seagrass ecosystems · Organise cross-visits among national seagrass management sites · Organise personnel exchange with other demonstration sites under the framework of UNEP/GEF South China Sea project
	Participation in regional meetings and/or IW: LEARN related activities	· Participate in relevant and selected regional/international meetings and/or IW:LEARN related activities
Promoting environmentally sustainable economic activities	Plans and guidelines for sustainable tourism adopted, and a monitoring/reporting mechanism established	· Implement and publish a study on sustainable tourism appropriate for the project area · Convene consultation meetings with relevant stakeholders · Develop and adopt the East Bintan Plan for Sustainable Tourism, Spatial Plan and relevant guidelines · Establish a Government-industry-community collaborative monitoring/reporting mechanism for sustainable tourism
	Pilot projects on Alternative Income Generation (AIG) targeting low-income fishermen involved in destructive and over fishing implemented	· Implement needs assessment for AIG, in consultation with local communities · Develop and implement pilot projects · Prepare a follow-up study on the impacts of pilot projects

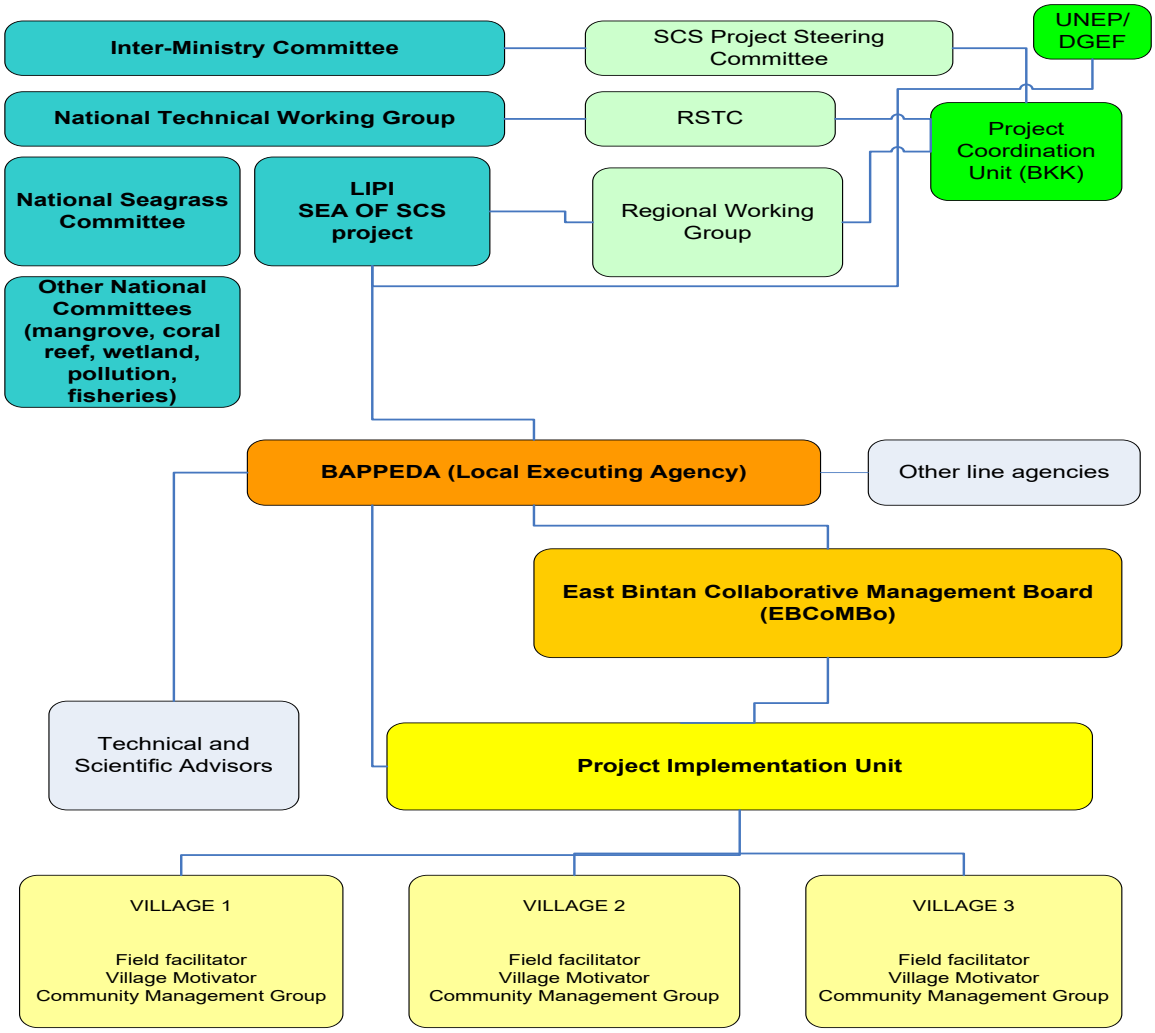
e. Executing Arrangements

10. The Research Center for Oceanography of the Indonesian Institute of Sciences (LIPI) was designated as the Executing Agency (EA) of the project. LIPI was responsible for the operational guidance and coordination of the execution of all project activities, preparing and submitting progress and financial reports to UNEP, and ensuring correspondence with all other stakeholders at national and local level.
11. LIPI was also tasked to keep constant communication with the Coordination Unit of the SCS project in Bangkok, the Regional Working Group on Seagrass and the RSTC of the SCS, which were meant to provide advice[46]. The project would also receive scientific advice from the Indonesian National Committees on seagrass and other habitats, and the National Technical Working Group.

[46] Close collaboration with the IBRD/GEF COREMAP project (Phase II) was planned. The BAPPEDA office of Kabupaten was meant to coordinate on-the-ground activities of these two projects and foster information and personnel exchange.

12. At the local level, the Project Management Board (EBCoMBo), chaired by the Head of BAPPEDA Kabupaten, was responsible for ensuring collaboration and partnership among all stakeholders, monitoring the progress of project activities, and reviewing progress and financial reports. Its members would include representatives of relevant local government agencies, private sector, NGOs, academia and local communities.
13. The Project Implementation Unit (PIU), still hosted by BAPPEDA Kabupaten, was responsible for the day-to-day project operations, including the provision of operational guidance for the leading agencies and the field facilitators to be deployed in selected villages within the project site. The PIU also served as the Secretariat for the EBCoMBo reporting the progress of project implementation and financial expenditures on a regular basis.

Box 1: Project Management Structure (from the original Prodoc)



f. Project Cost and Financing

14. The project budget is of USD 798,750, including USD 397,500 from GEF and USD 400,950 of co-financing by the Government of Indonesia. The project budget, as included in the Project Document, is summarised in the table 2 overleaf.

Table 2: Project budget

Project Component	Co-financing	GEF	Total

• Improving the management of seagrass and associated habitats	**137,150**	**164,200**	**301,350**
• Awareness raising and capacity building	**103,300**	**152,800**	**256,100**
• Promoting environmentally sustainable economic activities	**55,500**	**74,800**	**130,300**
• Project management costs	**96,000**	**6,000**	**102,000**
o Locally recruited personnel[47]	23,400	6,000	29,400
o Office facilities, equipment, vehicles and communications	72,600		72,600
TOTAL	**391,950**	**397,800**	**789,750**

15. The project document also provides a detailed background of co-financing sources (table 3 below).

Table 3: Co-financing sources

Name of co-financier	Level	Type	Amount
Government of Indonesia	Central	Cash	187,300
		In-kind	45,800
	Local	Cash	119,050
		In-kind	39,800

[47] These figures do not include local consultants and other personnel hired to do a special task. Costs for local consultants amounted to a total of USD 60,900 (USD 45,000 by GEF and 15,900 by the Government of Indonesia), while costs of personnel to USD 59,500 (entirely paid by the GEF).

TERMS OF REFERENCE FOR THE EVALUATION

a. Objective and Scope of the Evaluation

(a)

16. In line with the UNEP Evaluation Policy[48], the UNEP Evaluation Manual[49] and the Guidelines for GEF Agencies in Conducting Terminal Evaluations[50], the terminal evaluation of the project "Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia" is undertaken at the end of the project to assess project performance (in terms of relevance, efficiency, and effectiveness) and determine outcomes and impacts stemming from the project, including their sustainability.
17. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback and knowledge sharing through results and lessons learned among UNEP, the GEF and their partners. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation. In addition, the evaluation will go over the recommendations of the mid-term internal review (carried out in July 2010) and their implementation.
18. The evaluation will focus on the following set of key questions, based on the project objective and intended outcomes, which may be expanded by the consultant as deemed appropriate:

a) Has the management of the project area improved?
b) Has awareness and support for the importance of segrass habitats and associated ecosystems increased? Has the capacity for seagrass and associated habitats management improved?
c) Has the environmental sustainability of local economic activities increased?
d) At the end, was the project successful in contributing to reversing the environmental degradation trend of the South China Sea and Gulf of Thailand through stress reduction measures applied to seagrass habitats in Bintan?

b. Overall approach and methods

19. The terminal evaluation of the Project "Demonstration of Community-based Management of Seagrass Habitats in Trikora Beach, East Bintan, Riau Archipelago Province, Indonesia" will be conducted under the overall responsibility of the UNEP Evaluation Office. It will be an in-depth evaluation using a participatory approach whereby the UNEP Task Manager, the project manager and other relevant staff are kept informed and consulted throughout the evaluation process.
20. The evaluation will use mostly qualitative methods to determine project achievements against the expected outputs, outcomes and impacts. The findings of the evaluation will be based on the following:

a) A desk review of project documents including, but not limited to[51]:
    - Relevant background documentation, inter alia: UNEP and GEF policies, national strategies and programmes pertaining to water ecosystem management;
    - UNEP request for GEF project financing and project's approved Terms of Reference (ToR);
    - Project monitoring reports (such as progress and financial reports, observations by the Project Steering Committee and the Project Executing Agency, Annual Project Implementation Review (PIR) reports to GEF and relevant correspondence);
    - Documents and materials produced by the project: ecological and socio-economic research on seagrass and associated habitats; study on sustainable tourism; ToR and

[48] http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx
[49] http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationManual/tabid/2314/language/en-US/Default.aspx
[50] http://www.thegef.org/gef/sites/thegef.org/files/documents/TE_guidelines7-31.pdf
[51] Documents to be provided by ROAP are listed in Annex 5

guidelines for the EBCoMBo; the EBCRMP; the East Bintan Plan for Seagrass Management and the Community-Based Seagrasss Management Plan; the East Bintan Plan for sustainable tourism (and other relevant regulations); awareness and training materials.
- Project website (and LIPI's website where the project's one should have been by now integrated);
- Any document referring to follow-up activities resulting from the project.

b) Interviews (in person/phone/emails) with:
- GEF Task Manager in ROAP, Bangkok;
- The SCS Project Coordination Unit and members of its Steering Committee, in Bangkok;
- Representatives of the Indonesian Ministry of Marine Affairs and Fisheries, the Department of Tourism and Regional Environmental Impact Management Board, the Department of Trade Affairs, and the Office of Natural Resources Conservation (BKSDA);
- Staff of the Project Executing Agency (LIPI, in Jakarta) and other experts on seagrass and international waters' ecosystem management (National Seagrass Committee, Indonesian Seagrass Foundation, other national committees on mangrove, coral, etc);
- Representatives of the Regional Development Agency (BAPPEDA), and the Regional Agency for Pollution and Environment Impact Control (BAPEDALDA);
- Members of the EBCoMBo, including its Chair (Head of BAPPEDA);
- Staff of the Project Implementation Unit;
- Head of the villages, leaders of the fishermen society, and representatives of the tourism sector in East Bintan;

c) Field visits to seagrass sanctuaries established in four villages, and to other non-project villages along the East Bintan coast.

The consultant shall determine whether to seek additional information and opinions from representatives of donor agencies and other organizations, as deemed most appropriate. The consultant may similarly decide to draw on simple questionnaires as evaluative tool for the broader range of stakeholders/ project beneficiaries.

c. Key Evaluation principles

21. Evaluation findings and judgements should be based on sound evidence and analysis, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned[52]. Analysis leading to evaluative judgements should always be clearly spelled out.
22. The evaluation will assess the project with respect to a minimum set of evaluation criteria grouped in four categories: (a) Attainment of objectives and planned results, which comprises the assessment of outputs achieved, relevance, efficiency, effectiveness and the review of outcomes towards impacts (ROtI); (b) Sustainability and catalytic role, which focuses on financial, socio-political, and institutional factors conditioning sustainability of project outcomes, and also assesses efforts and achievements in terms of replication and up-scaling of project lessons and identified good practices; and (c) Processes affecting attainment of project results, which covers: project preparation and readiness, implementation approach and adaptive management, stakeholder participation and public awareness, country ownership/driven-ness, project finance management, UNEP supervision and backstopping,

[52] Individuals should not be mentioned by name if anonymity needs to be preserved.

and project monitoring and evaluation systems. The consultant could add other evaluation criteria as deemed appropriate.

23. In attempting to attribute any outcomes and impacts to the project, the evaluator should consider the difference between "what has happened with" and "what would have happened without" the project. This implies that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. This also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions and trends is lacking. In such cases this should be clearly highlighted by the evaluator, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.
24. As this is a terminal evaluation, particular attention should be given to project's follow-up and learning from the experience. The consultant will need to go beyond the assessment of "what" the project performance was, and make a serious effort to provide a deeper understanding of "why" the performance was as it was, i.e. of processes affecting attainment of project results (criteria under category "c"). This should provide the basis for the lessons that can be drawn from the project.

25. **Ratings.** All evaluation criteria will be rated, either on a four-point or six-point scale. Annex 2 provides detailed guidance on how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories.

d. Evaluation criteria

a. Attainment of objectives and planned results

26. The evaluation should assess the relevance of the project's objectives and the extent to which these were effectively and efficiently achieved.

(a) *Achievement of Outputs and Activities*: Assess the project's success in producing each of the programmed outputs as presented in the ProDoc, both in quantity and quality, as well as their usefulness. Briefly explain why the project was successful or less successful in achieving its different outputs, cross-referencing as needed to more detailed explanations provided under Section "c" (which covers the processes affecting attainment of project objectives);
(b) *Relevance*: Assess, in retrospect, whether the project's objectives and implementation strategies (including the choice of project sites) were consistent with: i) Regional and national environmental issues related to international waters' ecosystem degradation and sustainable utilization of coastal resources; ii) the UNEP mandate, policies and programme of work at the time the project was designed and implemented; and iii) the GEF International Waters focal area's strategic priorities and relevant operational programs.
(c) *Effectiveness*: Appreciate to what extent the project has achieved its objectives, i.e.: i) Management of the area is improved; ii) Awareness and support for the importance of seagrass habitats and associated ecosystems are increased, and capacity for seagrass habitats management is improved; iii) Environmental sustainability of local economic activities is increased. The evaluation will also review the project's information dissemination strategy to assess the effectiveness of the means through which project outputs and lessons learned have been made available to stakeholders. It will also briefly explain what factors affected the project's success in achieving its objectives, cross-referencing as needed to more detailed explanations provided under Section "c".
(d) *Efficiency*: Assess the cost-effectiveness and timeliness of project execution, and describe any cost- or time-saving measure put in place in attempting to bring the project to a successful conclusion within the programmed time and budget. Analyse how delays, if any, have affected project execution, cost and effectiveness. Give special attention to efforts by the project team to make use of pre-existing methods, data sources and assessment programmes. Wherever

possible, compare the cost and time results ratios of the project with that of other similar projects.

(e) *Review of Outcomes to Impacts (ROtI):* Appreciate progress made towards impacts, taking into account achieved outcomes, assumptions and impact drivers, using the methodology presented in the GEF Evaluation Office's ROtI Practitioner's Handbook[53] (summarized in Annex 6). The analysis should mainly revolve around the extent to which improvements in the area's management, increased awareness and enhanced environmental sustainability of local economic activities have contributed to: the establishment of community-based seagrass sanctuaries; the reduction of uncontrolled soil/sand mining on land and seabed; reduction of solid waste littered on the beach; and diminished destructive fishing. The analysis should also consider whether the high level results of the project have ultimately contributed to the conservancy of local seagrass habitats and associated coastal and marine resources, and to the creation of sustainable livelihoods directly and indirectly utilising coastal resources.

b. Sustainability and catalytic role

27. Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts after the external project funding and assistance end. The evaluation will identify and assess the key conditions or factors that have contributed to/undermined the persistence of benefits. Some of these factors might be outputs or outcomes of the project (e.g. stronger institutional partnerships); others will include contextual circumstances or developments that were not outcomes of the project but that might have conditioned the sustainability of outcomes. The evaluation should also ascertain to what extent any follow-up work has been initiated and how project outcomes have been sustained and enhanced over time. The evaluation will look at how the products, tools and partnerships developed by the project have been put to good use after the project ended. Application of the ROtI method will assist in the evaluation of sustainability.
28. Four aspects of sustainability should be addressed to the extent possible: financial, socio-political, institutional frameworks and governance, and environmental. The following questions provide guidance on the assessment of these aspects:

    a. *Socio-political sustainability*: Are there any social, political or economic risks that may influence positively or negatively the sustenance of project outcomes and progress towards impacts? Are there sufficient public and stakeholder awareness, interest and incentives in support of the long term objectives of the project?
    b. *Financial resources*: Are there any financial risks that may jeopardize sustenance of project outcomes and onward progress towards impact? To what extent are the outcomes and eventual impact of the project dependent on continued financial support? If this is the case, have adequate financial and economic resources[54] been or become available once the external assistance to the project ended?
    c. *Institutional framework and governance*: To what extent is the sustenance of the outcomes and onward progress towards impacts dependent on issues relating to institutional frameworks, legal provisions and governance? Did the project elaborate an exit strategy? Are there any institutional achievements, legal frameworks, policies and governance structures and processes in place that contribute to sustaining project benefits? Is the EBCoMBo established during the project still operational, with full support from the local government and including all relevant stakeholders? Are the EBCRMP and other specific plans, such as the East Bintan Plan for Seagrass Management, operational and regularly updated as appropriate? To what extent have

[53] http://www.thegef.org/gef/sites/thegef.org/files/documents/Impact_Eval-Review_of_Outcomes_to_Impacts-RotI_handbook.pdf

[54] Those resources can be from multiple sources, such as the public and private sectors, income generating activities, other development projects etc.

project awareness activities and collaborations contributed to the set-up of such institutional framework?

d. *Environmental sustainability.* Are there any environmental factors, positive or negative, that can influence the future flow of project benefits?

29. **Catalytic role and replicability**. The evaluation will assess the catalytic role played by this project and the actual replication of project activities and methodology. The catalytic role of UNEP and the GEF is embodied in their approach of supporting the creation of an enabling environment, investing in activities which are innovative and showing how new approaches and market changes can work. UNEP and the GEF aim to support activities that upscale new approaches to a national, regional or global level, with a view to achieve sustainable global environmental benefits. Replication, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different geographic areas) or scaled up (experiences are repeated and lessons applied in the same geographic area but on a much larger scale and funded by other sources).
30. The evaluation will assess the approach adopted by the project to promote replication effects and appreciate to what extent actual replication has already occurred or is likely to occur in the near future. The evaluation will generally look at the degree the project has:
    a. provided *incentives* (social, economic, market based, competencies etc.) to catalyze changes in stakeholder behaviour. In particular, the evaluation should assess to which extent the project has adequately promoted the recognition of local benefits derived from a careful and sustainable use of the coastal environment (incentives to local communities to voluntarily protect the coastal environment including seagrass habitats and associated ecosystems).
    b. created opportunities for particular individuals or institutions ("*champions*") in the project area to catalyze change (without which the project would not have achieved all of its results), thanks to the capacities and the know-how the project built;
    c. contributed to *policy changes* (on paper and in implementation of policy) – e.g. whether the results of the seagrass ecological research under this project were used for preparing national policy and strategy on seagrass management / revision of national regulations;
    d. contributed to sustained follow-on financing (*catalytic financing*) from the Government, the GEF or other donors.

31. The evaluation will also assess the extent to which the Framework for Regional Coordination, Dissemination and Experiences of the SCS project[55], and the personnel exchange among project sites, has contributed distributing studies, tools, and training materials developed by the project to the advantage of other GEF and non-GEF programmes.

c. Processes affecting attainment of project results

32. **Preparation and readiness**. To assess preparation and readiness, the evaluation will look at the extent to which:
    a) Project's objectives and components were clear, practicable and feasible within its timeframe;
    b) Any workshop/need assessment was actually conducted before the project (or any of its activities) started;
    c) Lessons from other relevant projects were properly incorporated in the project design and an incremental approach with reference to existing knowledge was adopted;
    d) Stakeholders were adequately identified, with sufficient representation of Government agencies, private sector, local community representatives, and others;
    e) Capacities of executing institutions and counterparts were properly considered when the project was designed;

[55] See Annex 10 of the Prodoc

f) Counterpart resources (staff, funding, facilities) were available when the project started.

(i)

33. **Implementation Approach and Adaptive Management**. This includes an analysis of approaches used by the project, its management framework, the project's adaptation to changing conditions, and overall performance of project management. The evaluation will:
    a) Assess the clarity of project design, in terms of roles and responsibilities assigned to each project partner;
    b) Ascertain to what extent the project implementation mechanisms outlined in the project document (including the coordination among the IA, the EA, the project local management body and the PIU) have been followed and were effective in delivering project outputs and outcomes. Were pertinent adaptations made to the approaches originally proposed?
    c) Identify administrative, operational and/or technical problems and constraints that influenced the effective implementation of the project, and how the project partners tried to overcome these problems;
    d) Assess the degree of communication and collaboration with other demonstration projects developed under the SCS project, and with key partners in it, such as: the Indonesian National Seagrass Committee; other national committees on mangrove, coral reef, etc; and the Regional Working Groups for the seagrass sub-component.
    e) Assess the extent to which the project responded to the recommendations made by the EBCoMBo, and to any guidance received either from the Indonesian National Committees on seagrass or from the Regional Working Group on Seagrass/Regional Scientific and Technical Committee of the SCS project;
    f) Assess the extent to which the project responded to the mid-term review.

34. **Stakeholders' Participation and Public Awareness**. This consists of three related and often overlapping processes: (1) consultation, (2) stakeholder participation, and (3) information dissemination. The evaluation will specifically assess:
    a. The approach(es) used to identify and engage project partners. What were the strengths and weaknesses of these approaches with respect to the project's objectives?
    b. To which extent the project has engaged district and sub-district Government agencies, private sector representatives (sand mining companies and resort operators), heads of villages and representatives of the local fishermen community. How is this likely to promote the stakeholders' ownership of the project and facilitate follow up and replications?
    c. The degree and effectiveness of communication and public awareness activities (including distribution of project awareness material, implementation of awareness raising campaigns, and exchange of information and experience on seagrass and associated habitat management at national and regional level) undertaken during the implementation of the project.

35. The ROtI analysis should assist the consultant in identifying key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathway from activities to objectives to impact.
36. **Country ownership / driven-ness**: This criterion assesses the performance of the National Government in the project, and – in particular – :
    a. How consistent the project was with the Indonesian Government's plans and policies on marine conservation, including the "Policy, Strategy and Action Plan for the Management of Seagrass Ecosystem in Indonesia" (PSAPMSE);
    b. To what extent the effectiveness of the methods developed finally depends on political and institutional frameworks (this would be largely addressed under the sustainability criterion);

37. **Financial planning and management**. Evaluation of financial management requires an assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. The assessment will:
    g) Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners;
    h) Appreciate other administrative processes such as recruitment of staff, procurement of goods and services, preparation and negotiation of cooperation agreements etc. to the extent that these might have influenced project performance;
    i) Present to what extent (cash and in-kind) co-financing has materialized as expected at project approval. The evaluation will provide a breakdown of final actual costs and co-financing for the different project components.

38. **UNEP Supervision and Backstopping.** The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/ substantive issues in which UNEP has a major contribution to make. The evaluator should assess the effectiveness of supervision and administrative and financial support provided by UNEP including:
    j) The adequacy of project supervision plans, inputs and processes;
    k) The emphasis given to outcome monitoring (results-based project management);
    l) The realism and candour of project reporting and ratings (i.e. are PIR ratings an accurate reflection of the project realities and risks);
    m) The quality of documentation of project supervision activities; and
    n) Financial, administrative and other fiduciary aspects of project implementation supervision.

39. **Monitoring and evaluation.** The evaluation shall include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will appreciate how information generated by the M&E system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:
    o) *M&E Design*. Projects should have sound M&E plans to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART[56] indicators, data analysis systems, and evaluation studies at specific times to assess results. The time frame for various M&E activities and standards for outputs should be specified. The evaluator should concentrate on the following M&E design aspects:
        - Quality of the project logframe as a planning and monitoring instrument;
        - SMART-ness of indicators: Are there specific indicators in the logical framework for each of the project objectives and outcomes? If so, are the indicators measurable, attainable (realistic) and relevant to the objectives and outcomes? Are the indicators time-bound?
        - Adequacy of baseline information: To what extent have baseline information on performance indicators been collected and presented in a clear manner? Was the methodology for the baseline data collection explicit and reliable?
        - Arrangements for monitoring: Have roles and responsibilities for M&E activities been clearly defined? Were the data sources and data collection instruments appropriate? Was the frequency of various monitoring activities specified and adequate? In how far were project users involved in monitoring?

[56] Specific Measurable Achievable Relevant Time-bound

- Arrangements for evaluation: Have specific targets been specified for project outputs? Has the desired level of achievement been specified for all indicators of objectives and outcomes? Were there adequate provisions in the legal instruments binding project partners to fully collaborate in evaluations?

p) *M&E Plan Implementation.* The evaluation will verify that:
- the M&E system was operational and it facilitated timely tracking of results and progress towards project objectives throughout the project implementation period;
- annual project reports and Progress Implementation Review (PIR) reports were complete, accurate, timely and with well justified ratings;
- the information provided by the M&E system, including the mid-term review, was used to improve project performance and to adapt to changing needs.

q) *Budget for M&E activities*. The evaluation will determine the adequacy of budgetary resources allocated to M&E activities and whether the funds had been released in a timely fashion in the course of the project's implementation.

e. The Evaluation Team

40. The evaluation will be carried out by one independent consultant, specialised in the areas of international water, marine conservation and/or ecosystem management. The consultant has to possess a high-level degree in Marine Sciences/Biology and at least 15 years relevant work experience on water ecosystem management, preferably in Southeast Asia/Indonesia. The consultant will be responsible for collecting and analysing project data, and drafting the evaluation report.
41. The consultant will work under the overall responsibility of the UNEP Evaluation Office and (s)he will consult with the Evaluation Office on any procedural and methodological matters related to the evaluation. It is, however, the consultant's individual responsibility to arrange for any other logistical matters related to the assignment. (S)he will liaise with the UNEP Task Manager in ROAP (in Bangkok), the Project EA (in Jakarta), and PIU staff (in Bintan), who will provide full support on any logistical issue, allowing the consultant to conduct the evaluation as independently as possible.
42. The consultant certifies to the Evaluation Office that (s)he has not been associated with the design and implementation of the project in any way which may jeopardize his/her independence and impartiality towards project achievements and project partner performance. In addition, (s)he certifies that (s)he will not have any future interest in cooperating with the project's executing or implementing units within six months after the completion of his/her contract.

f. Evaluation Deliverables and Review Procedures

43. Before starting the actual implementation of the evaluation process, the consultant will submit to the Evaluation Office an Inception Report for review. The inception report lays the foundations for the main evaluation. Its purpose is to develop an evaluation framework that includes:

- A review of the quality of project design to help identify how project design impacts on project implementation and performance. The review of project design is done on the basis of the project document and log frame. The Team Leader should also familiarize her/himself with the history and wider context of the project (details available on UNEP and GEF website, documentation from past projects etc). The analysis should be used to complete the 'Template for assessment of the quality of project design' (in the annex 7 of the TORs). The rating

system follows the Evaluation ratings used for the main evaluation (also described in the annex of the TORs).

- An analysis of the project's theory of change, creating a baseline which can be used to assess the actual project outcomes and impacts (expected and unexpected) during field visits and interviews. Annex 6 of the TORs on Introduction to Theory of Change/Impact pathways, the ROtI Method and the ROtI results score sheet describes in detail the Theory of Change approach. The Theory of Change analysis should be captured in a Theory of Change diagram, an example of which is found in the annex. The diagram can be shared with project stakeholders during the course of the evaluation, as tool to aid discussion. Please note that the ROtI ratings requested in the annex are not needed in the inception report's Theory of Change analysis. The team leader should complete the ROtI ratings after the field visits/interviews. The ToC diagram and ROtI ratings should be incorporated in final evaluation report.
- A detailed plan for the evaluation process, including: i) summary of evaluation questions/areas to be explored/questions raised through document review; ii) description of evaluation methods to be used; iii) list of data sources, indicators; iv) list of individuals to be consulted; v) revised logistics (selection of sites to be visited)/dates of evaluation activities.

44. The **evaluation report** should be brief (no longer than 35 pages – excluding the executive summary and annexes), to the point and written in plain English. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The report will present evidence-based and balanced findings covering all the evaluation criteria, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other. The report should be presented in a way that makes the information accessible and comprehensible. Any dissident views in response to the evaluation findings will be appended in footnote or an annex as appropriate. Annex 1 includes the annotated outline the evaluation report is expected to follow.
45. The draft report, including any relevant working paper, shall be submitted to the Head of the Evaluation Office. The Evaluation Office will review the report for clarity and comprehensiveness. When found acceptable, the Head of Evaluation will share the report with the Task Manager in ROAP, the Project EA and the PIU for initial review and consultation. The Task Manager in ROAP will forward the draft to key project stakeholders (as listed in Annex 8) - as well as to BAPPEDA, other local Government agencies, Members of EBCoMBo, and the Project Coordination Unit of the SCS project in Bangkok - for review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. Consultations will be held between the consultant, EO staff, the Task Manager and key members of the project execution team. These consultations will seek feedback on the proposed recommendations and lessons. The Evaluation Office will then collate all review comments and provide them to the independent consultant for consideration in preparing the final version of the report. The consultant will prepare a response to any comments that contradict his/her own findings and could therefore not be accommodated in the final report. This response will be shared by the Evaluation Office with the interested stakeholders to ensure full transparency.
46. **Submission of the final Terminal Evaluation report**. The final report shall be submitted by email to:

    Segbedzi Norgbey, Head
    UNEP Evaluation Office
    P.O. Box 30552-00100
    Nairobi, Kenya
    Tel.: (+254-20) 762 3387
    Fax: (+254-20) 762 3158
    Email: segbedzi.norgbey@unep.org

(ii) The Head of Evaluation will share the report with the following persons:

Maryam Niamir-Fuller, Director

UNEP/Division of GEF Coordination
P.O. Box 30552-00100
Nairobi, Kenya
Tel: + 254-20-7624686
Fax: + 254-20-623158/4042
Email: maryam.niamir-fuller@unep.org

Ampai Harakunarak, Task Manager International Waters
UNEP Regional Office for Asia and the Pacific
2nd floor, Block A, UN Building
Rajdamnern Avenue, Bangkok 10200
Thailand
Tel: +66 02 2881977
Email: ampai.harakunarak@unep.org

47. The final evaluation report will be published on the Evaluation Office web-site www.unep.org/eou and may be printed in hard copy. Subsequently, the report will be sent to the GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website.
48. As per usual practice, the Evaluation Office will prepare a **quality assessment of the final report,** which is a tool for providing structured feedback to the evaluation consultants. The quality of the draft evaluation report will be assessed and rated against both GEF and UNEP criteria as presented in Annex 4.

g. Resources and Schedule of the Evaluation

(iii)

49. The evaluation will be undertaken by an independent consultant contracted by the UNEP Evaluation Office. The consultant will be hired for a total of 50 days, spread over a period of 3 months starting April 1st, 2012. After a careful review of background materials, the consultant will contact the Task Manager in Bangkok. (S)he will then interview the Project EA (LIPI) and other stakeholders in Jakarta, before moving to East Bintan, where the PIU sit and the project was implemented.
50. The consultant will submit the first draft report latest by 18 May 2012 to the UNEP Evaluation Office and will revise the draft following the comments and suggestions made by the Evaluation Office within two weeks.
51. The Evaluation Office will send the revised draft report to the Task Manager and will ask her to circulate it to project partners. Comments from stakeholders would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to UNEP Evaluation Office for collation and the consultant will be advised of any necessary revisions. The consultant will submit the final report no later than two weeks after reception of comments by stakeholders.

h. Schedule Of Payment

52. The consultant will be hired under an individual Special Service Agreement (SSA). The fee will be estimated as a lump-sum, inclusive of all expenses such as travel, communication and incidental expenses.
53. The consultant will receive an initial payment covering the travel costs and the Daily Subsistence Allowance (DSA) upon signature of the contract. 40% of the honorarium portion of the fee will be paid upon receipt of a draft report deemed complete and of acceptable quality by the Evaluation Office. The remainder will be paid upon satisfactory completion of the work. In case the consultant is not able to provide the deliverables in accordance with these TORs, and in line with the expected quality standards by the UNEP Evaluation Office, payment may be withheld at the discretion of the Head of the Evaluation Office until the consultant has improved the deliverables to meet UNEP's quality standards.

54. If the consultant fails to submit a satisfactory final product to UNEP in a timely manner, i.e. within one month after the end date of their contract, the Evaluation Office reserves the right to employ additional human resources to finalize the report, and to reduce the consultants' fees by an amount equal to the additional costs borne by the Evaluation Office to bring the report up to standard.

Annex 2 – Evaluation Program[57]

A. Schedule of Terminal Evaluator in Jakarta and Bintan, prepared by the Executing Agency

1. **APRIL 16, 2012 :**
   - TE arrive at the JKT Intl. Airport direct to
2. **APRIL 17, 2012 :**
   - 08.30 : Visit to RCO-LIPI Office
3. **APRIL 17, 2012 :**
   - 09.00 : Courtesy call with Dr. Arifin, Director RCO;
   - 10.00-11.00 : Presentation by Tri Edi Kuriandewa on "***Achievement and Lessons Learned of Development of Community Based Seagrass Management in East Bintan".*** Venue: RCO-LIPI Meeting Room, attended by stakeholders and partners/LAMINA members
   - Lunch
   - 12.00 – 14.30 : Internal Meeting with Trismades Team: Discussion on the site visit program
4. **APRIL 18, 2012:**
   - 07.30 : leave Jakarta for Tanjung Pinang by Batavia Air
   - 08.30 : Arrive in Tanjung Pinang
   - 13.00 : Lunch and Ice Breaking at Sederhana Padang Restaurant
   - 19.00 : Dinner Hosted by Local Government
5. **APRIL 19, 2012:**
   - 09.00 – 10.00 : Courtesy call with Head of Bintan District
   - 10.00 – 11.00 : Courtesy call with Head of BAPPEDA
   - 11.00 – 12.00 : EBCoMBo Meeting:
     Presentation by Supriyono (ex. Demosite Manager):
     "Local Government Support to the Project"
     (Public Awareness Activities → Radio Program, Poster, Baliho, Gapura Duyung –(Dugong Entrance Gate), Local Newsletter/leaflets, providing space for Village Information Centre, routine monitoring, part of EBCoMBo activities Adoption of Trismades Recommendations into legally binding policies: revision of Bintan District spatial plan, local seagrass conservation area, dugong protection, coastal safety zone (daerah sempadan pantai, designation of tourism village--under process, voluntary involvement of the neighbouring village-Pengudang Village- into the projectetc) continued by lunch (lunch box provided)
   - 13.00 : site visit to Malang Rapat and Teluk Bakau*: Seagrass Sanctuaries, Village Information Centre, interview with CommunityGroup/Village Motivator and Gender Group, Visit Ibu Kadariah Home→weaving/woofen activities, Visit women tailor activites who trained by the projet. Visit one of the sanctuaries and snorkeling in the seagraass bed at Pondok Susy (Susy Lodge) → fins and googles provided (optional)*
   - 17.00 : back to Hotel
   - 19.00 : Dinner

[57] I contacted 1 former staff of South China Sea and Gulf of Thailand Project and 1 member of the Seagrass Technical Working Group but was not successful to get interviews.

6. **APRIL 20, 2012:**

- 08.00 : Leave for Pengudang and Berakit: *Visit one of Seagrass Sanctuaries, Village Information Centre, interview with Community Group/Village Motvator and Gender Group, Visit Ex Mangrove Kiln and Pak Boncet, Head of Sea Nomad Ethnic Group*
- 13.00 : Lunch at YY Resorts or others
- 14.30 : snorkeling on seagrass bed (Pondok Susy-provide fins)
- 19.00 : Dinner

7. APRIL 21, 2012 :

Site Visit – coastal area, southeast and northern Bintan (observations)
TRISMADES Team back to Jakarta

8. APRIL 22, 2012:

Depart for Manila via Singapore

B. Schedule of interviews with UNEP Staff

9. May 17, 2012: Skype interview with Ms. Ampai Harakunarak, GEF Task Manager
10. May 2012 to June 19 and 25, 2012: E-mail correspondence with Mr. Rodney Vorley and Ms. Ann Njuguna,

Annex 3 – Bibliography

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Project Reports and website:

5 half-year reports:
First Half-yearly Report – submitted June 2008 (for period December 2007 to May 2008);
Second Half-yearly Report – (for period June to December 2008);
Third Half-yearly Report (for period January to June 2009);
Fourth Half-yearly Report (for period July to December 2009);
Fifth Half-yearly Report (for period January to June 2010)

Project Implementation Reports (PIR) 2009 and 2010 (no PIR for period covering September 2007 to 30 June2008)

http://seagrass-indonesia.oseanografi.lipi.go.id

Annex 4 - Summary co-finance information and a statement of project expenditure by activity

Co financing (Type/Source)	IA own Financing (mill US$)		Government (mill US$)		Other* (mill US$)		Total (mill US$)		Total Disbursed (mill US$)
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	
Component 1			**126,000**	**260,755**					**260,755**
Grant (Cash)									
Proposed Coastal Area Zoning Plan				50,000					
Ecological and socio-economic research for management of East Bintan Seagrass Bed and Associated Ecosystem			81,500	57,565					
First National Workshop for Seagrass Management				11,065					
Preparation, adoption, and enactment of Bintan District Government Regulation No. 14/Year 2007 on the Bintan District Spatial Area Plan			7,500	65,000					
Study of potentially important ecosystems and their hydrological conditions in East Coast of Bintan				25,000					
sub-total				208,630					
in-kind support									
Ecological and socio-economic research for management of East Bintan Seagrass Bed and Associated Ecosystem				34,625					

First National Workshop for Seagrass Management				17,500					
sub-total				52,125					
Component 2			**92,300**	**33,910**					**33,910**
Grants (cash)									
Design and building of TRISMADES Baliho				5,500					
Local Transport Accompanying The Team; Public awareness campaign				17,250					
Merchandize (T-Shirt); Local Transport Accompanying Team				15,000					
sub-total				37,750					
In-kind support									
Local Transport Accompanying The Team; Public awareness campaign				11,160					
Merchandize (T-Shirt); Local Transport Accompanying Team			28,000	15,100					
sub-total				26,260					
Component 3			**45,500**	**32,978**					**32,978**
Grants (cash)									
Coastal Area Strategic Plan			25,500	30,200					
Training for *Pandanus* weaving and raw material processing			5,000	2,778					
Project Coordination and Administration			128,150	24,000					**54,100**

Monitoring and evaluation of TRISMADES Project Activities (cash)				11,000					
Monitoring and evaluation of TRISMADES Project Activities (in-kind)				13,000					
Totals				**381,743**					

Annex 5 – Graphic representations of Results to Impact (RtI) Evaluation of the Project and its Components

Figure 1 - RtI pathway of the East Bintan Seagrass Demonstration Site Project

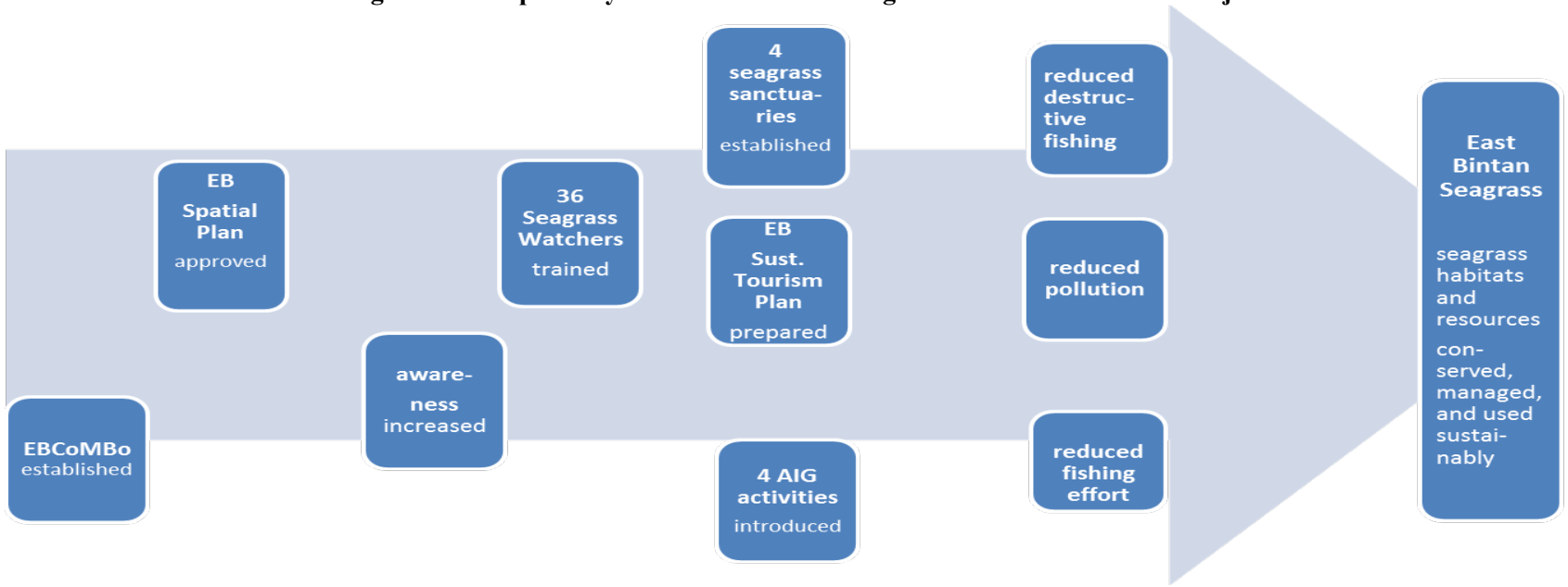


Figure 2. Results to Impact pathway:

Component 1 – Improving the management of seagrass and associated habitats

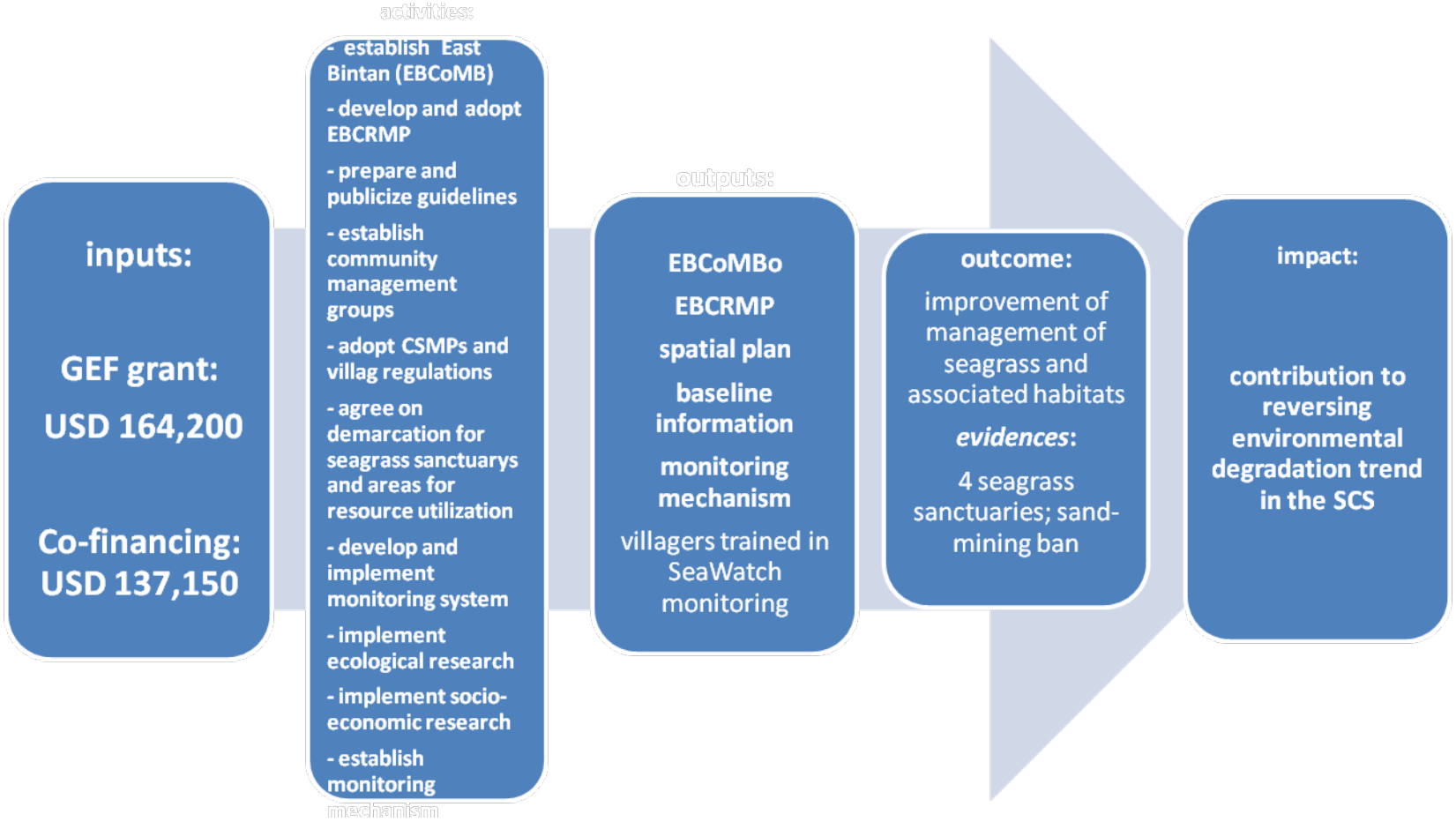


Figure 3. Results to Impact pathway:

Component 2 – (i) Awareness and support for the importance of seagrass habitats and associated ecosystems are increased; (ii) capacity for seagrass and associated habitat management is improved

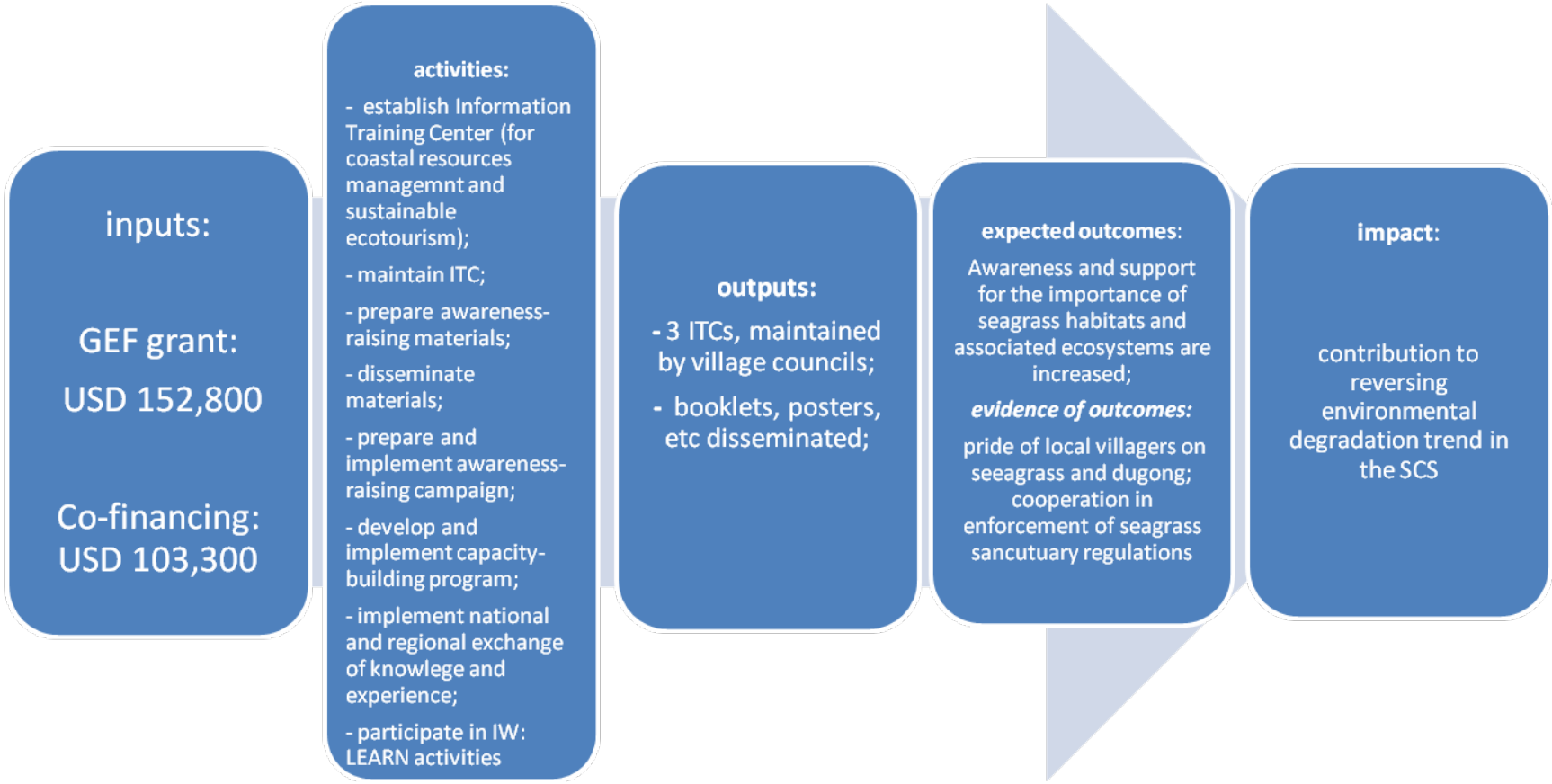


Figure 4. Results to Impact pathway:

Component 3 – Promoted environmentally sustainable local economic activities

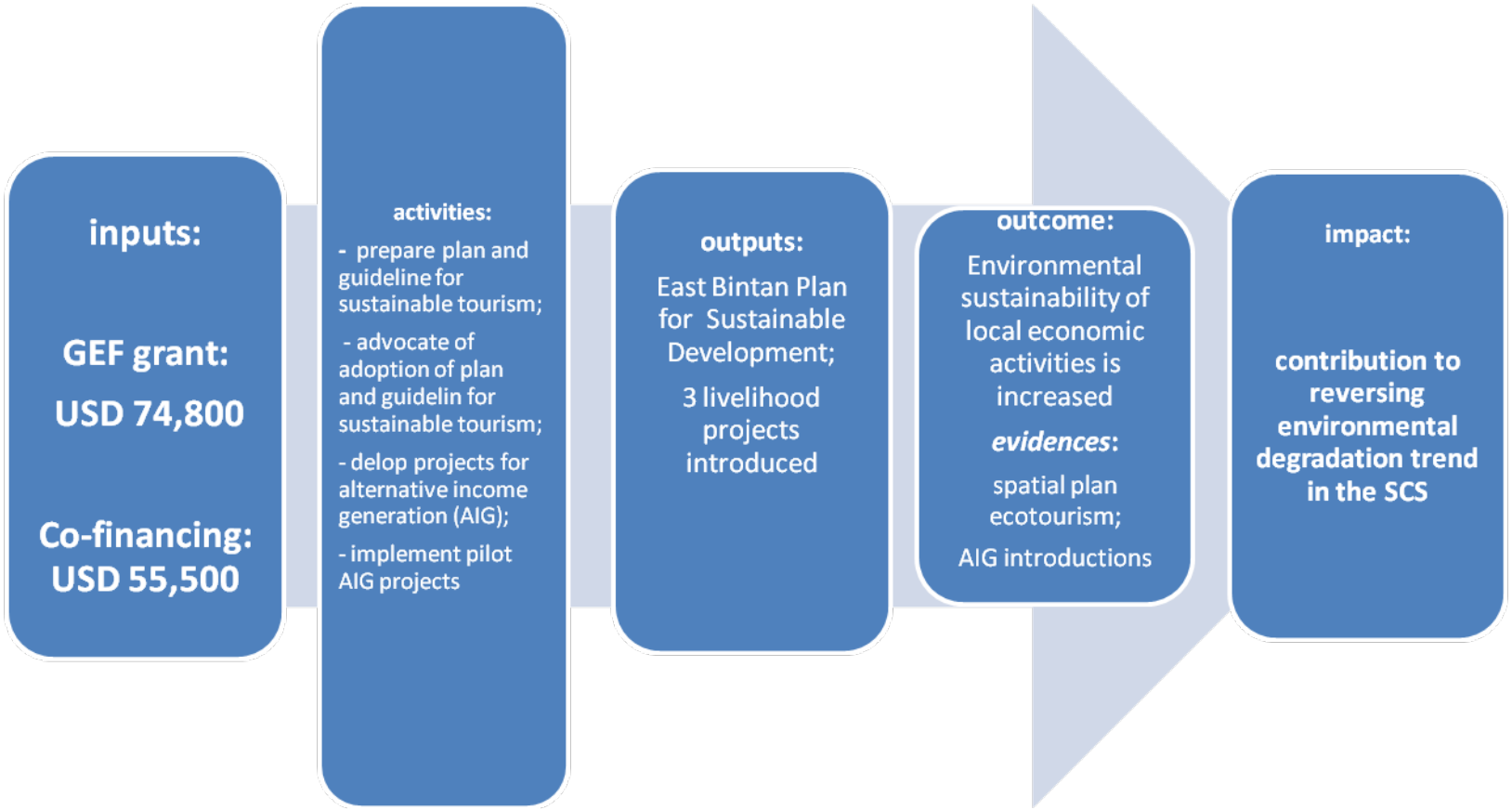
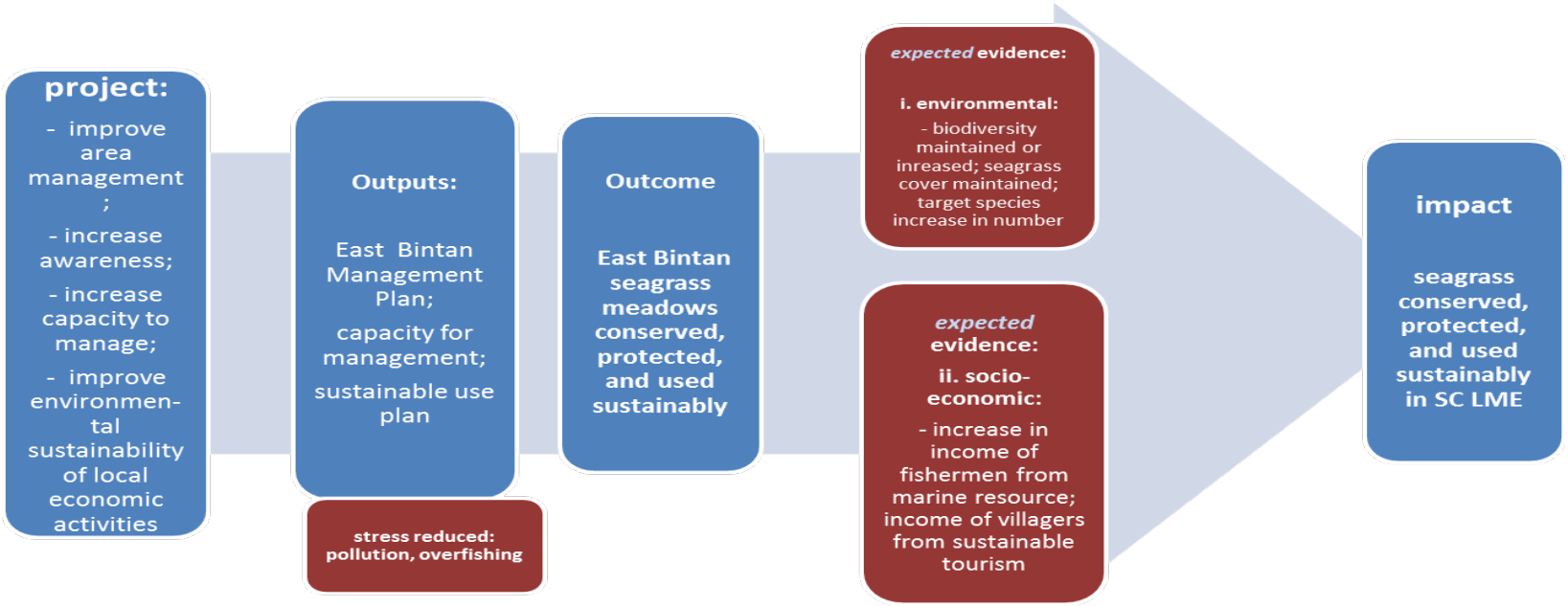


Figure 5 – Results to Impact pathway to reduction of environmental stress



Annex 6 – Evidence of adoption of lessons learned from the Bolinao Seagrass Demonstration Site

Bolinao Seagrass Demonstration Site (BSDS) Project: recommendations	Bintan Seagrass Demonstration Site: implementation approach and adaptive management
The project concept should be built around a logical framework, and the themes of gender equality and poverty reduction ought to be embedded in the project design	The project has 3 components and each component has a logical framework. Poverty reduction and gender equality were not built in the project design.
The design of a livelihood component for coastal resource management should be included in the inception phase of succeeding replication or similar modelling projects. The type of livelihood activity to be undertaken and the scope of project interventions should be identified during the inception phase, and an adequate budget for such must be considered in the total project appropriation.	The project design has a livelihood (alternative income generating - AIG) component. A needs-assessment survey was conducted and feasibility studies of AIG activities were subsequently undertaken. There is a budget appropriation but it was minimal.
An attribution system will need to be developed and adopted in similar projects whose results would be affected by external factors. The success of future seagrass demonstration projects will have to be verified in relation to other coastal resource management initiatives that have been applied or are currently being implemented in the area. Income increases and effects on local poverty will need to be measured with reference to price factors and other interventions. Baseline data should be established.	Attribution to previous projects was not an issue in Bintan. The only previous project for marine conservation was the Coral Reef Management and Rehabilitation Project (CoReMaP) of LIPI (with technical assistance grant from the GEF through ADB) which was for coral reefs only. CoReMaP could have gathered data and information on coral reefs and adjacent habitats, such as seagrasses, beaches, and mangroves, and in public awareness of these coastal and marine ecosystems. [It is unclear whether the needs-assessment study, which was conducted for the preparation of the public awareness campaign, included a question referring to CoReMaP learning.) Component 3 in the Bintan Seagrass Project was not intended to alleviate poverty rather it was intended partly to provide income-generating economic activities, such as ecotourism, backyard gardening, handicraft-making, and dress-making/tailoring activities as alternative to fishing. The other expected outcome of the component is to provide an ecotourism plan that will protect the natural capital, i.e., seagrass and beaches, and ensure the sustainability of tourism as an economic activity. It is nonetheless necessary to know the baseline incomes of the beneficiaries (fishing households) to know whether can provide supplemental or alternative incomes besides fishing.
A separate set of operations policies for similar UNEP/GEF projects should be devised and adopted by the executing agencies. Improvement of operations systems should be done to enhance input, implementation and cost efficiencies, and increase the chances of attaining results. Administration of project funds should be designed along a least-cost approach,	The executing agency encountered problems in the procurement of goods and services, as result of delays in the disbursement of funds from UNEP. (This will be discussed in detail under the section on financial management.)

and procurement of goods and services ought to be guided by Quality and Cost-Based System (QCBS) principles.	
The evaluation recommends continued intervention for the livelihood and Information, Education, and Communication (IEC) activities. A successor project ought to be developed and/or funded for the purposes of fulfilling the livelihood objectives committed under the BSDS Project, and expanding the reach of the IEC component.	The project has huge component for IEC (Component 2) and has therefore adapted the recommendation from the Bolinao Seagrass Project. Component 3 of the project was not intended as a livelihood project (see above), however the recommendation to meet the objectives (expected outcomes) are applicable in the Bintan Seagrass Project. The Bintan Seagrass Project targeted 20 households per village, which was not met in terms of number (dragon fruit farming – 18 participants; handicraft-making – 15 participants; sewing – 6 participants). A follow-up project is recommended to meet the numbers and the expected outcome and to improve community-based management of seagrass sanctuaries, in particular, and East Bintan Seagrass Conservation Area, in general (Components 1 and 3).
Available funds under the SCS Project or from other funding possibilities may be accessed for the promotion of best practices that have been established in the BSDS Project. Promotional activities should be undertaken to enhance the chances of project replication in other areas.	Promotional activities were conducted in the Bintan Seagrass Project which were innovative and culturally suitable, such as: Writing Competition on "*Save the seagrasses and their environment, heritage to our future generation*" (April 2010) World Environment Day (5 June 2010) seafood cooking competition (7 November 2009) to attract audience for awareness campaign
The BSDS Project model may be replicated in other areas and continued funding support from the UNEP/GEF is being recommended in this regard. Subject to the degree of local government support that would be obtained for the project, replication of the seagrass management planning and capacity-building components could be targeted.	The BSDS model is replicated in the Bintan Seagrass Demonstration Site in: establishing science-based management (Comp. 1; institutionalization of management plans (Comp. 1); increasing public awareness through information, education, and communication campaign (Comp. 2) and developing alternative income-generating activities which could become livelihood activities of fishing communities (Comp. 3)

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Annex 7 – Brief *curriculum vita* of Consultant

Dr. Annadel Salvio Cabanban

Dr. Annadel Salvio Cabanban is a marine biologist who graduated from the University of the Philippines (Diliman, Quezon City) and James Cook University (Australia). She has given lectures in biology and marine biology at Silliman University, Philippines and University Malaysia Sabah, Malaysia and implemented, coordinated, and participated in regional and national projects at the Regional Coordinating Unit for the Seas of East Asia, United Nations Environment Programme (UNEP) and the World Wide Fund for Nature, Malaysia. She is Regional Vice Chair (Southeast Asia) of the Commission on Ecosystem Management (CEM), International Union for the Conservation of Nature and a member of the Fisheries Expert Group, CEM and the Survival of the Species Group-Groupers and Wrasses, IUCN. Dr. Cabanban was involved in the projects of the GEF International Waters Indonesian Sea, South China Sea and Gulf of Thailand, and Sulu-Celebes (Sulawesi) Large Marine Ecosystems and in the GEF Coral Triangle Program in various capacities since 1995. She was Co-chair of the Working Group on Large Marine Ecosystem and Open Ocean, International Waters Science Project of the Institute of Water, Environment, and Health, United Nations Environment Program and is a member of the Scientific Advisory Committee of the International Waters Science Congress. She is at present the Senior Fisheries Expert (International Consultant) of the Sulu-Celebes Sea Sustainable Fisheries Management Project (GEF/UNDP/UNOPS/Sulu-Sulawesi Subcommittee on Sustainable Fisheries).