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Environment Programme**



**UNEP/GEF South China Sea  
Project**



**Global Environment  
Facility**

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

**REPORT**

**Eighth Meeting of the Regional Working Group  
for the Seagrass Sub-component**

***Sihanoukville, Cambodia, 21<sup>st</sup> – 24<sup>th</sup> May 2007***



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Cover Photo: The flower of *Enhalus acoroides* in a seagrass bed of Kampot Demonstration Site, Kampot Province, Cambodia. Photo by Kim Sour.

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## Report of the Meeting

### 1. OPENING OF THE MEETING

#### 1.1 Welcome Address on behalf of UNEP

1.1.1 Dr. John Pernetta, Project Director opened the meeting, at 0815 on 21<sup>st</sup> May 2007, and welcomed participants on behalf of the UN Under-Secretary General and Executive Director of UNEP, Dr. Achim Steiner; and the Deputy Executive Director of UNEP, and Officer-in-Charge of the UNEP Division of Global Environment Facility Co-ordination, Mr. Shafqat Kakakhel.

1.1.2 Dr. Pernetta noted that this meeting was originally scheduled as the last during this phase of the project but the Project Steering Committee had allocated funds for a further meeting during 2008 should the need arise. The Working Group would need to decide whether or not there was sufficient business to warrant convening a ninth meeting in the first half of 2008.

1.1.3 Dr. Pernetta noted further that a major item of business was a consideration of the situation with respect to the adoption of the National Action Plans and their relationship to the national level discussions and adoption of the regional Strategic Action Programme (SAP).

1.1.4 In relation to the SAP Dr. Pernetta informed the meeting that the Regional Task Force on Economic Valuation had recently completed its' work on the Total Economic Value of habitat goods and services and had determined national mean standard values for seagrass habitats in the seven countries and a regional mean standard value that had been used in a cost benefit analysis of the actions planned in the Strategic Action Programme.

1.1.5 Dr. Pernetta suggested that the working group might wish to review the outputs of the RTF-E in comparison with the outcomes for other coastal habitats and the work of Costanza *et. al* (1997) concerning global estimates of habitat goods and services.

1.1.6 Dr. Pernetta welcomed His Excellency Mr. Sun Sokhan, Vice-Governor of Sihanoukville and Mr. Nov Roitana Director of the Department of Agriculture and invited His Excellency Mr. Sun to address the meeting.

#### 1.2 Opening Statement by the Representative of Sihanoukville Government

1.2.1 His Excellency, Mr. Sun, the Vice-Governor of the Municipality of Sihanoukville formally welcomed participants to Sihanoukville and to the meeting. He noted the importance, which Sihanoukville as the second largest city in Cambodia and the major port in the country placed upon sustaining the natural environment of the coast.

1.2.2 His Excellency noted that Sihanoukville had developed a master plan for uses of the sea space under the guidance of IMO and PEMSEA, and emphasized that preserving the natural environment was a top priority of the Cambodian Government as the basis for developing Sihanoukville as a tourist hub.

1.2.3 On behalf of the Royal Government of Cambodia, he expressed his appreciation to the UNEP/GEF South China Sea Project, especially Dr. John Pernetta, for their support. H.E. Mr. Sun expressed the hope that the meeting would be successful in its' deliberations and that all members would enjoy their stay in Sihanoukville.

#### 1.3 Introduction of Participants

1.3.1 Members noted that Dr. Miguel D. Fortes had returned to the Philippines and once again assumed responsibility as the Focal Point for Seagrass in the Philippines replacing Dr. Marco Nemesio E. Montaño. Members recorded their appreciation for the contributions of Dr. Montaño to the work of the group as both a member and former Chairperson. Dr. Pernetta invited participants to introduce themselves to the meeting and the List of Participants is attached as Annex 1 to this report.

## **2. ORGANISATION OF THE MEETING**

### **2.1 Election of Officers**

2.1.1 Dr. Pernetta reminded members that the Rules of Procedure state that, the Regional Working Group shall elect, from amongst the members, a Chairperson, Vice-Chairperson and Rapporteur to serve for one year, and that the rules state further that, officers shall be eligible for re-election no more than once.

2.1.2 Members recalled that, during the seventh meeting in Beihai, China, 24<sup>th</sup>- 27<sup>th</sup> July 2006; Dr. Montaña, Mr. Ouk Vibol, and Dr. Suvaluck were elected as Chairperson, Vice-chairperson and Rapporteur, respectively. The meeting noted that since Dr. Montaña had ceased to be the focal point for the Philippines he could not be re-elected, but that Mr. Vibol and Dr. Suvaluck were both eligible for re-election.

2.1.3 Dr. Pernetta invited participants to nominate individuals to serve as Chairperson, Vice-Chairperson and Rapporteur for the Regional Working Group on Seagrass. Dr. Fortes (Philippines) proposed and Professor Xiaoping Huang (China) seconded the proposal that Mr. Vibol be elected as Chairperson. Mr. Tri Edi Kuriandewa (Indonesia) proposed and Dr. Fortes seconded the nomination of Dr. Hutomo Malikusworo (expert member) as Vice-Chairperson. Dr. Fortes proposed and Dr. Chittima Aryuthaka (expert member) seconded the nomination of Professor Huang as the Rapporteur. In accepting this nomination Professor Huang noted that he would not be present for the final session of the meeting; he suggested therefore that Dr. Fortes be co-opted as co-rapporteur with responsibility for presenting the report to the meeting. In agreeing with this proposal the meeting elected Dr. Fortes and Dr. Suvaluck Satumanatpan (Thailand) as co-rapporteurs.

### **2.2 Documentation and Administrative Arrangements**

2.2.1 The Chairperson, Mr. Vibol, invited the Secretary, Dr. Pernetta, to introduce the documents available to the meeting, a list of which was presented in document UNEP/GEF/SCS/RWG-SG.8/Inf.2. Dr. Pernetta noted that the meeting documents had been lodged on the project website in advance of the meeting, and noted further that additional national documents had been tabled by members from China and Cambodia. The list of documents is attached as Annex 2 to this report.

2.2.2 In introducing the draft programme contained in document UNEP/GEF/SCS/RWG-SG.8/Inf.3 the Chairperson noted that the meeting would be conducted in English and in plenary although small working groups might be formed at the discretion of the meeting. He noted that since the demonstration site was seventy kilometres away he proposed that the group leave the hotel at 0700 on 24<sup>th</sup> May as the low tide was around noon on that day.

## **3. ADOPTION OF THE MEETING AGENDA**

3.1 The Chairperson introduced the Provisional Agenda prepared by the Project Co-ordinating Unit (PCU) as document UNEP/GEF/SCS/RWG-SG.8/1, and the Annotated Provisional Agenda, document UNEP/GEF/SCS/RWG-SG.8/2. He invited members to consider the agenda and to propose any amendments or additional items for consideration.

3.2 There being no proposals for amendment or, additional items proposed for inclusion, the meeting adopted the agenda as it appears in Annex 3 of this report.

## **4. STATUS OF THE ADMINISTRATIVE REPORTS FOR 2006: PROGRESS REPORTS; EXPENDITURE REPORTS; AND AUDIT REPORTS**

4.1 The Chairperson invited Mr. Sour, the PCU member to introduce document UNEP/GEF/SCS/RWG-SG.8/4, "*Current status of budgets and reports from the Specialised Executing Agencies in the participating countries*" and draw to the attention of the meeting any outstanding issues or matters requiring the attention of the working group.

4.2 In presenting this agenda item Mr. Sour noted that progress and expenditure reports had been received from all countries for the period 1<sup>st</sup> January - 30<sup>th</sup> June 2006 and that progress or expenditure reports had also been received from all countries except Malaysia for the period 1<sup>st</sup> July - 31<sup>st</sup> December 2006, by the time of preparation of the document. He noted further that subsequently a draft progress report had been received from Malaysia.

4.3 Mr. Sour went on to report that progress and expenditure reports for the period 1<sup>st</sup> January – 30<sup>th</sup> June 2006 had been received from all four demonstration sites but that no reports had been received from Phu Quoc for the period 1<sup>st</sup> July – 31<sup>st</sup> December. Dr. Nguyen Van Tien stated that he thought the reports had been submitted to the PCU but would check and ensure that they were brought to the joint meeting at the end of the week.

4.4 Regarding the submission of audit reports for 2006 expenditures, members advised the meeting of the current situation as follows:

- Mr. Tri Edi tabled a copy of the Indonesian audit report and noted that the original will be sent by mail to the PCU by the National Technical Focal Point (NTFP). He noted that this was a combined report for the subcomponents of the project in Indonesia and that submission had been delayed by other components. The Project Director noted that it was the responsibility of his organisation under the MoU to supply the audit report by the due date (31<sup>st</sup> March) and not that of the Focal Ministry.
- Mr. Vibol noted that the auditors had previously expressed reservations regarding the absence of individual project accounts in the Department of Fisheries in Cambodia making it difficult to track individual project related income and expenditure. Dr. Pernetta noted that this was an internal administrative matter for the Department of Fisheries but noted that in the case of UNEP a single current account was maintained but individual project accounts were maintained and audited relating to individual sources of income and projects and programmes of the organisation.
- Mr. Kamarruddin bin Ibrahim noted that in the case of Malaysia the Government auditors were very slow and expressed the view that in future he would contract a commercial audit in order to comply with the UNEP requirements regarding annual audits. Dr. Pernetta noted that without expenditure reports and an audit report he would be obliged to seek the return of funds to UNEP.

4.5 A question was raised regarding combined audit reports for the two years 2006 and 2007. Dr. Pernetta noted that both Thailand and Viet Nam had requested, and been granted, permission to combine 2006 – 2007 audit reports. Mr. Kamarruddin noted that he hoped that the audit report for Malaysia would be available next month and Dr. Fortes indicated that the audit report for Philippines would be available in June and Professor Huang indicated that the Chinese report would also be available around that time.

## **5. STATUS OF THE SUBSTANTIVE OUTPUTS**

### **5.1 Publication of National Reports in National Languages and in English**

5.1.1 The Chairperson invited the PCU member to introduce document UNEP/GEF/SCS/RWG-SG.8/5, "*Status of the Substantive Outputs from the Specialised Executing Agencies for the Seagrass Sub-component of the UNEP/GEF South China Sea Project*" and draw to the attention of the meeting any outstanding issues or matters requiring the attention of the working group.

5.1.2 Mr. Sour drew the attention of the group to Table 1 of the document, which listed the status of publications in each country resulting from project activities. Members recalled that national seagrass reports from all countries have been published and the reports in English have already been edited and formatted, and are ready for printing.

5.1.3 During discussion members drew the attention of the meeting to new publications including 6 reports from the Hepu Demonstration site, two reports from the Bintan site, publication of the National Action Plan for Cambodia and a number of items from the Bolinao demonstration site including: BSDS Brochure (in English); seagrass awareness posters (5 designs, in Tagalog); comics (in Tagalog.); and a draft of the National Seagrass Conservation Strategy and Action Plan (in English). The final draft of the plan will be submitted by July 2007.

5.1.4 Mr. Kamarruddin indicated that he intended to publish a Field Guide for Seagrass of Malaysia in Bahasa Malaysia if sufficient funds remained following publication of the National Action Plan.

## **5.2 Status of Finalisation, Adoption and Implementation of the National Action Plans**

5.2.1 Mr. Sour drew the attention of members to Table 3 of document UNEP/GEF/SCS/RWG-SG.8/5, which presented information regarding the status of finalisation and adoption of the National Action Plans for the Seagrass Sub-component. Members of the RWG-SG were reminded that prior to the sixth meeting of the RWG-SG in 27<sup>th</sup> - 30<sup>th</sup> September 2005, the first revised NAPs had been received from all countries. Following the seventh meeting of the RWG-SG; members agreed to provide final drafts by August 2006.

5.2.2 The final versions of the NAPs from Cambodia and China, were received subsequent to the seventh meeting; and the NAP from Cambodia had been formally adopted by the Cambodian Minister of Agriculture, Forestry and Fisheries on 5<sup>th</sup> December 2006. The National Action Plan for China was formally adopted by SEPA in April 2007.

5.2.3 In response to the Chairperson's invitation for the Focal Points to present any further updates or revisions of their NAPs, Indonesia noted that a further revision had been undertaken but the date of its' adoption by the government was not yet determined. Malaysia will submit its second revision by June 2007, hoping that its NAP will be adopted in July 2007. The Philippines, had revised the NAP, which would be submitted for adoption in July 2007.

5.2.4 Dr. Suvaluck made a brief presentation on the process of revision and elaboration of the NAP in Thailand. She noted that the NAP had been renamed "National Strategic Planning and Action Plan for Seagrass and Dugong" to encompass consideration of the conservation of Dugong and actions in both the Gulf of Thailand and along the Andaman Coast. She noted further that although there was no definite timetable for government approval of the NAP she had requested the advisory committee of the Department of Marine and Coastal Resources to consider the plan during its meeting in June. She noted that despite the absence of funding, continued consultations at the local level had resulted in the action plan being built from the ground upwards and actions were already being implemented locally in line with the guidance provided by the plan.

## **5.3 Update of the Regional GIS Database and Meta-database and Use of the Project Website**

5.3.1 Mr. Sour noted that Table 2 of document UNEP/GEF/SCS/RWG-SG.8/5 presents information regarding, the submission and up-loading of meta-database and GIS database electronic files to the project website. He noted that all countries had developed meta-databases that had been uploaded to the project website but apparently no new GIS or meta-data had been received or up-loaded since the seventh meeting of the RWG-SG.

5.3.2 Mr. Sour reminded members that:

- it is the responsibility of focal points to ensure that new seagrass related GIS and metadata sets are presented to the Project Co-ordinating Unit or directly up-loaded to the project website as they become available at the national level;
- during the seventh meeting members had agreed to revise and add new meta-data to the online meta-database by the end of September 2006.

5.3.3 Members were requested to advise the meeting of any new datasets placed on-line since the seventh meeting and to indicate whether new data were likely to become available in the near future. Mr. Vibol noted that in the case of Cambodia there was a need to check the exact number of entries since the records of Cambodia and the PCU appeared to differ. China indicated that they would make new data available within the next month. Mr. Tri Edi noted that he had experienced difficulty in uploading two new metadata entries, and it was suggested that he contact Mr. Christopher Paterson of the PCU for assistance in this regard.

5.3.4 Dr. Fortes noted that a CD of Philippines meta-data would be available in 2-week's time, the production of which was part of an ongoing activity of the laboratory of the National Focal Point at MSI to make available data sources nationally. At the moment, the database contains 2,160 metadata entries, categorized into seagrass structure and dynamics, physico-chemical factors, environmental aspects, and fisheries and management aspects.



5.3.5 Dr. Suvaluck noted that she needed to contact the person responsible for making the entries available online and Dr. Tien noted that the Vietnamese meta-database had been compiled in a booklet, entitled "Metadata of Vietnamese Seagrass".

5.3.6 Concerning the use of the project website for exchange of information and experience through applications such as the e-fora, demonstration site pages and on-line up-dating of the regional meta-database, it was noted that the RWG-SG had initiated an active discussion following the seventh meeting of the RWG regarding inputs to the regional Strategic Action Programme (SAP). A total of 24 postings had been made in December 2006 but no postings were made subsequently.

5.3.7 During discussion all members recognised the importance of the e-forum, and agreed that it should be continued. It was noted however that not everyone had found time or had the opportunity to visit the project website during the inter-sessional period. Whilst it might be difficult for some members to join the discussion on a regular basis, all members agreed and committed to post messages more often in the future. The nature of these messages could range from those related directly to the project's objectives and activities to other matters relating to seagrass.

5.3.8 In conclusion it was noted that during the 6<sup>th</sup> meeting in Siem Reap, the PSC had agreed that the PCU in consultation with SEA-START-RC convene an Information Technology (IT) workshop regarding the further development and sustainability of the website. The aim of the workshop would be to examine and recommend ways to enhance the capacity of members of the SCS network in using this modern technology to sustain project activities beyond the GEF funding.

## **6. REVIEW OF THE SEAGRASS TRAINING COURSE**

### **6.1 Review of outline of the Training Course Management Models and Strategies for Coral Reef and Seagrass Ecosystems**

6.1.1 Members were reminded that it had been decided to offer a combined course covering the management of both coral reef and seagrass habitats and that the Marine Science Institute of the University of the Philippines (MSI) had agreed to conduct a training course entitled "*UNEP-GEF-SCS Training Course on Management Models and Strategies for Coral Reef and Seagrass Ecosystems*". Originally this had been planned to be conducted from 9<sup>th</sup> – 21<sup>st</sup> April 2007, but the dates have been changed to 29<sup>th</sup> October – 10<sup>th</sup> November 2007.

6.1.2 The detailed proposal was available for review by the regional working group as document UNEP/GEF/SCS/RWG-S.8/6 "*Training Course: Management Models and Strategies for Coral Reefs and Seagrass*". The Chairperson invited Dr. Fortes to make a brief presentation of the proposed programme.

6.1.3 Dr. Fortes briefly outlined plans for the conduct of the course noting that it was scheduled to last for 12 days and noting further that the Regional Scientific and Technical Committee had indicated that a wider range of regional experts should be involved as resource persons in conducting the course. He expressed the hope that some members of the RWG-SG might be available to contribute to the operation of the course. Dr. Fortes requested members to make comments and suggestions especially on the topics, resource persons, and participants.

6.1.4 As a next step, it was agreed that Mr. Paterson would send to MSI the list of participants earlier submitted by the Focal Points and the MOU for signature by MSI. Once the MOU was signed, Dr. Pernetta would send formal invitations to the participants. If any nominated participant was unable to attend then he would contact the seagrass focal points and the National Technical Focal Point to obtain alternative nominations. It was noted that the preparations for the training course would provide an opportunity for members to utilise more fully the e-forum.

### **6.2 Organisation of, and Support to the National Echo-seminars**

6.2.1 Members were reminded that the trainees attending the regional training courses are expected to conduct "National Echo seminars" over a 1 to 3 day period following the completion of the regional training course, and that the Specialised Executing Agencies and the Focal Points for the corresponding sub-component of the project are expected to provide logistic support.

6.2.2 There followed a discussion of the timing, numbers of participants and location of the national echo seminars and the information was compiled in tabular form and is attached as Annex 4 to this report. It was agreed that members would work on the preparation of the necessary budgets overnight in order that these could be included in the amended budget for the third amendment to the Memoranda of Understanding. It was agreed that members would finalise these amendments for signature prior to the completion of the meeting.

## **7. PROGRESS IN THE IMPLEMENTATION; EVALUATION; AND COMPLETION OF THE DEMONSTRATION SITE ACTIVITIES**

### **7.1 Hepu, China – Professor Xiaoping Huang**

7.1.1 At the commencement of agenda item 7 members were reminded that, not only do the Focal Points have responsibility for periodically reporting on the status of the demonstration sites to the RWG-SG, but also, the RWG-SG has a collective responsibility to ensure successful implementation through the provision of oversight and guidance. The meeting noted that written reports of outputs resulting from the implementation of the demonstration sites had been included in the documents of the meeting, (UNEP/GEF/SCS/RWG-SG.8/7-Kamp; UNEP/GEF/SCS/RWG-SG.8/7-Hepu; UNEP/GEF/SCS/RWG-SG.8/7-Bint; UNEP/GEF/SCS/RWG-SG.8/7-Boli; and UNEP/GEF/SCS/RWG-SG.8/7-PQ) and that the self-evaluation reports for Kampot, Hepu, Bolinao and Phu Quoc were also available to the meeting. It was noted that these self-evaluation reports did not include copies of the outputs generated to date some of which were made available during the meeting.

7.1.2 The Chairperson then invited the focal points to make presentations regarding the status of activities in the seagrass demonstration sites. It was noted that copies of the presentations would be lodged on the project website, and focal points were requested to highlight any lessons learned to date.

7.1.3 Professor Huang started with a PowerPoint presentation of the highlights of the work at the Hepu Seagrass site in Guangxi Province, China. He noted that implementation had focussed on cross-sectoral management, sustainability of management, seagrass conservation efforts, and education and training and that the mid-term evaluation had recently been completed.

7.1.4 Professor Huang noted that Management Board had met three times to discuss progress and plans and that the Board had proved extremely successful resulting in additional Government Departments becoming involved in project activities and joint efforts between seven government agencies to remove illegal aquaculture enclosures from the site. He noted further that the reports of the Management Board had gone forward to the Beihai City and Guangxi Provincial Governments and that the management plan has been approved by, the Management Board and was currently under consideration by the City Government. A recommendation had also gone forward for the creation of the first national seagrass reserve.

7.1.5 Professor Huang informed the meeting that around 4,000 persons had visited the national seagrass website that was maintained in association with the demonstration site. The economic valuation of the site had almost been completed and the value of annual production was determined as around US\$ 3,000 per hectare per annum. In addition a plan for an eco-compensation scheme had been developed for consideration by Government. He also noted that half yearly surveys of the site were undertaken to assess biomass, biodiversity and various environmental factors with seagrass watch being undertaken at fixed transects and a newsletter published on an *ad hoc* basis. Education and awareness activities had been undertaken that appeared to have improved the general level of awareness regarding seagrass amongst the local stakeholders, and the education centre was under construction.

7.1.6 Dr. Suvaluck queried whether or not it was possible to state that there had been an improvement in environmental state consequent upon the project interventions, and Professor Huang indicated that it was impossible to state definitely that environmental state had improved but he noted that the perception of local stakeholders was that conditions were better now than in the past.

7.1.7 Dr. Pernetta noted that during the mid-term evaluation visit he had been impressed by the impact of the Management Board, which was acknowledged by all parties to have been a useful mechanism for inter-departmental co-ordination. He noted further that it was the intention of the Beihai City Government to use this model in other aspects of City management.

## **7.2 East Bintan, Indonesia - Mr. Tri Edi Kuriandewa**

7.2.1 Mr. Tri Edi noted that although the East Bintan demonstration site Medium Sized Project had not yet become operational a number of activities had been undertaken including a study of the valuation of seagrass and a study of the tourism potential of the area.

7.2.2 In presenting the outcome of the valuation study Mr. Tri Edi noted that the direct use value from capture fisheries and the indirect use value derived from tourism totalled 2,287 US\$/ha. Dr. Hutomo noted that 13,832 Singaporeans and other foreigners visit the site annually, spending on average, two nights per visit. 9,620 local tourists visit the site annually.

7.2.3 It was noted that marine tourism, involved 150 households or 750 individuals, had contributed US\$2,447,640/year, to the area, while capture fisheries, involved the largest labour force of 574 households of 2,870 individuals, had contributed US \$1,131,600/year. Dr. Hutomo noted that the recommendation of the study on tourism potential had emphasized the need for integrated and sustainable management of the resources at the site.

7.2.4 Dr. Pernetta noted that the Medium Sized Project proposal had been accepted for signature by, the CEO of the GEF, subject to some minor amendments and hopefully would become operational in the near future.

## **7.3 Bolinao, Philippines - Dr. Miguel Fortes**

7.3.1 Dr. Fortes' report on the progress and achievements in the implementation of the Bolinao Seagrass Demonstration Site (BSDS) for the period September 2005 – May 2007, focused on the milestones, and activities under each of the four project objectives. Highlights included: establishment of the Bolinao Seagrass Reserve (formally adopted by the Municipality of Bolinao, 21<sup>st</sup> March 2007); the Philippine National Seagrass Conservation Strategy and Action Plan (second revision, approved in principle, for signing); completion of the brochures, posters, a 30 second video clip for screening on national TV; a comic; T-shirts, bags, pins, and a 10 m x 4 m billboard at the entrance to the town.

7.3.2 Dr. Fortes noted that a significant achievement had been the support from the project to enhance the quality of the local *danggit* (*Siganus spp.*) product in terms both of content and packaging, which had more than doubled the original price of the product and raised its' acceptability.

7.3.3 Training/workshops on immediate concerns regarding seagrass, and evaluation of the levels of involvement of the stakeholders had been undertaken. Dr. Fortes noted that of the 58 activities in the project, those programmed for the first half of 2007 comprised 19%, while there remained 16% of activities to be completed by December 2007.

7.3.4 Dr. Fortes noted that the report also included information regarding the process, outcomes and indicators, emphasizing that time was too short for changes in environmental state to be measurable. The Philippine National Seagrass Committee and the stakeholders recognised the success of the project and in committing partial support to continuation of activities, requested that UNEP and other funding agencies help extend the life of the project for at least three years to December 2010.

7.3.5 Dr. Suvaluck sought clarification regarding the indicators of local stakeholder involvement and requested information regarding the number of local fishers interviewed and whether or not there was any evidence for an improvement in household incomes. Dr. Fortes noted that apart from the numbers of fishers participating in project activities there was no evidence to suggest a change in fishers' incomes other than the benefits derived from the improved quality of the *danggit* produced and that the scope of indicators was not intended to evaluate changes in fishers' livelihoods over the reporting period.

## **7.4 Phu Quoc, Viet Nam - Dr. Nguyen Van Tien**

7.4.1 Dr. Tien, National Seagrass Focal Point for Viet Nam, presented the progress report for the Phu Quoc Demonstration Site. He reported on the outcome of the extensive surveys of biodiversity at the site, noting that the numbers of species in all groups known from the site had been significantly increased since the commencement of the work. Some queries were raised regarding the identifications made and Dr. Tien responded that, the identifications had been made by, taxonomic experts, from the Hai Phong Institute of Marine Environment and Resources.

7.4.2 Dr. Tien noted that Phu Quoc is one of three core zones of the Kien Giang Biosphere Reserve (KBR) (approved and accepted by UNESCO at the 19th meeting in Paris in October 2006). He noted further that the main threats to seagrass in Phu Quoc were: destructive fishing; coastal construction and sedimentation from development; oil pollution from fishing and tourist boats; and over-fishing. He suggested that tourism could be used to increase local environmental awareness and community participation in environmental management.

#### **7.5 Kampot, Cambodia - Mr. Ouk Vibol**

7.5.1 Mr. Vibol outlined some highlights from the report of activities in Kampot that included: an economic valuation of fishing at the site amounting to US\$750/ha/year contributing 90% of the income of the population at the demonstration site; development of the management plan for the site will commence in July 2007; and the GIS map of the site will soon be completed. Data for the map are derived from 900 sampling points, at 500 metre intervals covering the entire seagrass area. For each sampling point data on four parameters (depth, species, cover, and canopy height) have been recorded.

7.5.2 Mr. Vibol noted that no major problems have been encountered with the joint management scheme (with Viet Nam), although the illegal trade of dugong meat continues between the two countries. Interestingly, a contributing factor to the harmonious interactions was the mutual agreement not to discuss territorial boundaries during the meetings.

### **8. FINALISATION OF THE REGIONAL STRATEGIC ACTION PROGRAMME (SAP)**

#### **8.1 Finalisation of Inputs from the Regional Working Group on Seagrass to the Revised SAP**

8.1.1 The full text for the first draft revision of the Strategic Action Programme was presented in document UNEP/GEF/SCS/RWG-SG.8/8 and members were advised that the draft had been modified by the staff of the PCU on the basis of inputs from the RSTC, PSC and RTF-E meetings. Mr. Sour noted that this was the first time that the working group had been presented with the entire text of the SAP, and members were invited to compare and contrast the contents of the sections relating to the other three habitats with the contents of the section on seagrass.

8.1.2 The Chairperson requested Mr. Sour to present the text related to seagrass and to highlight any inconsistencies and inaccuracies requiring correction and amendment by the group. The group considered the text in some detail and made a series of minor corrections to the information contained in the introductory texts and tables. It was agreed by the meeting that the figure should not be included since this had been taken from the draft SAP produced in December 1998 and did not reflect the outcome of the national reviews and work of the group in characterising seagrass sites in the South China Sea.

8.1.3 Some members requested clarification regarding the regional ranking of threats to seagrass and the ambiguous text relating to this table. Dr. Pernetta provided clarification pointing out that what had been done was to determine a regional measure of the importance of each threat by weighting each country's rank value by the proportion of seagrass contained in that country. He noted that this resulted in the rankings for Cambodia and Philippines dominating the final outcome. Dr. Suvaluck asked what would happen if a weighting by area was not done and a simple average of the ranks determined. Such a calculation was done and it was noted that this resulted in a higher ranking for coastal construction, although overall there was little difference in the outcome between the two methods. The text was amended as follows:

*The Regional Working Group identified six threats to seagrass including: destructive fishing such as push net, trawler; sedimentation from coastal development; waste water, effluents; nutrients; coastal construction; and over-fishing. Focal points from each country were asked to rank the relative importance of these six threats. To determine the regional significance of each threat the rank for each threat was weighted using the proportion of the area of seagrass in the country concerned compared with the regional total. The resultant values were summed to produce the regional weighted total, which is inversely related to the regional significance (small values are more significant than larger values). The relative importance of the threats from a regional perspective is summarised in Table 2*

8.1.4 Concerning the tabulation of indicators of sustainable management, both Dr. Fortes and Mr. Tri Edi felt that the indicators of environmental/ecological status were not appropriate and suggested that density of seagrass shoots should be used in place of percentage cover. Dr. Pernetta noted that the indicators should be kept as simple as possible and the problem with adopting shoot density, as the sole indicator was that for many sites baseline data would be difficult to obtain. It was agreed that both percentage cover and shoot density would be adopted as indicators of seagrass state. It was decided that indicators of secondary production should include the size and abundance of the sea urchin *Triploneustes gratilla*, the sea cucumber *Stichopus chloronotus* and Siganid fishes.

## 8.2 National Workshop to Consider the Revised SAP

8.2.1 Members were reminded by the Project Director that National Workshops to consider the regional Strategic Action Programme (SAP) were planned to be convened by the Focal Ministries during 2007 under the responsibility of the National Technical Focal Points. The Project Director noted that the seagrass focal points should ensure that discussions of the NAPs were completed and that the outcome of these discussions, were incorporated into the national discussions of the SAP. He suggested that Focal Points should contact the National Technical Focal Point to stimulate planning for the National workshops on the SAP, which should be completed in advance of the Project Steering Committee meeting in December 2007.

8.2.2 Members were requested to brief the regional working group on plans for any workshops covering both the National Action Plans and the Strategic Action Programme of which they were aware. The group noted that various plans relating to workshops for the NAPs had been outlined under agenda item 5.2, but no member was aware of plans to convene national workshops to consider the Strategic Action Programme.

## 9. CONSIDERATION OF THE TOTAL ECONOMIC VALUES FOR SEAGRASS ECOSYSTEM DETERMINED BY THE REGIONAL TASK FORCE ON ECONOMIC VALUATION AND THE OUTCOMES OF THE COST BENEFIT ANALYSIS OF ACTIONS DETAILED IN THE SAP

9.1 The Chairperson invited the Project Director, Dr. Pernetta, to introduce document UNEP/GEF/SCS/RWG-SG.8/9 entitled "*Total Economic Values of seagrass habitats and cost-effectiveness of the actions proposed in the Strategic Action Programme*". Dr. Pernetta noted that this document contained the outcome of extensive work by the Regional Task Force on Economic Valuation (RTF-E) during the last two meetings in January and March 2007. He noted that in the January meeting considerable time had been spent on cleaning the empirical dataset and conducting preliminary calculations of the mean and regional standard values.

9.2 Dr. Pernetta informed the meeting that following the determination of standard mean national and regional values for seagrass goods and services, the total economic value of seagrass ecosystems, had been calculated and a cost benefit analysis of the actions proposed in the regional SAP conducted. He noted that in broad terms the total costs over five years were quite modest when compared with the value of annual production from each habitat:

- Mangroves 2.99 million US dollars compared with 5.1 billion US dollars of annual production.
- Coral reefs 3.96 million US dollars compared with 1.1 billion US dollars of annual production.
- Seagrass 1.58 million US dollars compared with 87.2 million US dollars of annual production.
- Wetlands 5.99 million US dollars (14 million dollars of national costs excluded) compared with 1.2 billion dollars of annual production.

9.3 Members were requested to: review the values for the goods and services used by the RTF-E in determining national and regional standard values and the resultant national and regional Total Economic Values and advise on any obvious anomalies; and to consider and discuss the outcome of the cost-benefit analysis and in particular review the estimated costs to ensure that they were both realistic and reasonable in the light of the calculated economic benefits.

9.4 Members noted that values for various seagrass goods and services were lacking for many countries resulting in low national and regional Total Economic Values. It was noted that the value determined in the present study was 1,181 US dollars per hectare compared with the 22,400 US

dollars determined by Costanza *et al* (1997). The group felt that Costanza's value was perhaps somewhat inflated, particularly when compared with his value for mangroves of 9,990 US dollars. The group was of the opinion that mangrove values should be greater than those for seagrass, which was the case in the present work.

9.5 Members noted that various economic values had been presented during the present meeting, which should be incorporated into the regional dataset. It was agreed that members would make available the full reports including the raw data to their members of the Regional Task Force for processing and inclusion in the raw data set. The Project Director agreed that if sufficient additional data were made available he would arrange for a revision of the TEV and CBA for seagrass prior to finalisation of the SAP.

9.6 The working group considered the outcome of the cost benefit analysis as presented in Table 14 of document UNEP/GEF/SCS/RWG-SG.8/9. It was noted that the value of the benefits derived from the SAP interventions totalled 2,805,668 US\$ compared with the 1,443,319 US\$, which was a less impressive outcome than that for mangroves where the benefits totalled 1.4 billion US dollars compared with costs of 3 million US dollars.

9.7 The working group noted that there was no possibility of improving the Total Economic Value during this meeting hence the only possibility for improving the Cost Benefit ratio lay in reducing the costs. It was decided to review the individual activities in detail and to refine the cost estimates to provide more realistic figures than those determined during the seventh meeting when the costs had in fact not been adequately considered.

9.8 There followed a detailed consideration of the proposed actions and associated costs during which they were defined more precisely and the basis for the costings clearly stated. The outcome of this work is presented in Table 2 of Annex 5, whilst the amended Cost Benefit Analysis is presented in Table 3 of the same annex.

## **10. PREPARATION FOR THE THIRD REGIONAL SCIENTIFIC CONFERENCE AND MAYOR'S ROUND TABLE**

10.1 The Chairperson invited Mr. Sour to introduce this agenda item. Mr. Sour informed members of the Regional Working Group on Seagrass that the sixth meeting of the PSC had agreed that the third Regional Scientific Conference should be convened in Bangkok from 14<sup>th</sup> to 16<sup>th</sup> November 2007, and that the 3<sup>rd</sup> Mayor's Round Table (MRT) should be convened in conjunction with it.

10.2 Members were invited to discuss ideas regarding: the relationship between the Mayor's Round Table and the Regional Scientific Conference; topics related to seagrass in the demonstration sites that are worthy of presentation during the MRT; and topics related to seagrass in the South China Sea representing outcomes of the project that could be presented during the 3<sup>rd</sup> Regional Scientific Conference.

10.3 As requested, members discussed ideas regarding the relationship between the MRT and the Regional Scientific Conference (RSC). Noting the experiences from the 2<sup>nd</sup> RSC, members suggested that the MRT should precede the RSC, for practical reasons. In addition, the RWG-SG agreed to cull from the outcomes of the subcomponent's activities during the intersessional period, the most important messages the group wished to impart to the MRT. If it so desires, the RWG-SG may meet over lunch or dinner during the period of the RSC.

10.4 There followed an extensive discussion during which the following topics were identified for possible presentation during the Mayor's Round Table:

- successful cross sectoral management in Hepu Demonstration site (site manager/mayor);
- working with the communities: best practices in the Bolinao Seagrass Demonstration Site (Ms. Tutu Almonte, Site Manager);
- seagrass and local governance: why BSDS should be sustained? (to be presented by Mayor Alfonso Celeste); and,
- management activities in Phu Quoc demonstration site and initial lessons learnt (Mr. Nguyen Xuan Niem, the site manager)

10.5 The following seagrass related topics were proposed for presentation during the third Regional Scientific Conference:

- transboundary seagrass ecosystem management between Cambodia and Viet Nam (Mr. Vibol)
- the improvement of awareness level of public and government about the seagrass conservation through training and education programme (Professor Huang)
- economic values of the seagrass ecosystem in East Bintan (Mr. Tri Edi)
- the current scientific results useful in seagrass management in Bolinao (Dr. Fortes)
- experience of the development of the National Action Plan for seagrass in Thailand (Dr. Suvaluck)
- synthesis of the progress, problems and prospects of the seagrass demonstration sites bordering the South China Sea and Gulf of Thailand (Dr. Chittima)
- spatial plan for sustainable tourism activities in East Bintan Coastal Area (Dr. Hutomo)

## **11. WORK PLAN AND ACTIVITIES OF THE REGIONAL WORKING GROUP ON SEAGRASS**

### **11.1 Work Plan for 2007 – 2008**

11.1.1 Based on the discussion and agreements reached under previous agenda items, the work plan presented in document UNEP/GEF/SCS/RWG-SG.8/10 "*Draft work plan and timetable for the Regional Working Group on Seagrass 2007 to 2008*" was discussed, amended and approved as it appears in Annex 6 of this report.

### **11.2 Maintenance of the Network and Project Benefits after June 2008**

11.2.1 The Chairperson invited members to raise for discussion any plans that might be in hand to continue the work of the project beyond June 2008 at both national and regional levels in order to sustain any tangible benefits arising from participation in the project.

11.2.2 The working group noted that the activities discussed and agreed under agenda item 9 included a number of follow-on activities designed to build upon the outcomes to date and expand upon the benefits derived from implementing the South China Sea Project. It was further noted that the Bolinao demonstration site had plans for sustaining some activities beyond the life of the present project.

11.2.3 The meeting agreed that in order to maintain the network and continue the work of the project beyond June 2008 at both national and regional levels, members of RWG-SG would: maintain the RWG-SG; make constant updates to the database; actively contribute to the group's semi-annual publication; make constant visits to the existing website; and participate in the e-forum. These activities are all included in the SAP.

## **12. DATE AND PLACE OF THE NINTH MEETING OF THE REGIONAL WORKING GROUP ON SEAGRASS**

12.1 Dr. Hutomo, Vice-Chairperson invited members to consider whether or not a ninth meeting should be convened during the first half of 2008, or whether the present meeting should be taken as the final meeting for this phase of the project. He noted that in order to justify the convening of another meeting in 2008 it would be necessary to discuss and agree upon the substantive items to be considered during such a meeting. The group noted that any recommendation to the PSC would be dependent upon the availability of funds in the project budget.

12.2 Members discussed at some length the possible items for inclusion on the agenda of a ninth meeting and agreed that the following topics, *inter alia* should be included on the agenda:

- experience and lessons learned from the demonstration sites;
- SAP implementation plans;
- outcomes of national echo-seminars;
- outcomes of the environmental monitoring at the demonstration sites; and,
- sustainability of the demonstration sites and plans for replication at the national level.

12.3 Members noted that previous meetings of the RWG-SG have been held in: Bangkok, Thailand, May 2002; Hue, Viet Nam, October 2002; Kota Kinabalu, Malaysia, March 2003; Guangzhou, China, 29<sup>th</sup> November – 2<sup>nd</sup> December 2003; Bintan, Indonesia, August 2004; Bolinao, Philippines 2005; Beihai, China 2006; and now in Sihanoukville, Cambodia. Members noted further that the ninth meeting to be convened in 2008 would definitely be the last under the current project, and that in accordance with the decision of the Project Steering Committee, it should be conducted at a demonstration site.

12.4 Dr. Tien offered to host the next meeting of the group in Viet Nam, at the Phu Quoc demonstration site, and the working group accepted this kind offer with appreciation. There followed a discussion of potential dates and it was agreed that the meeting would be convened between 3<sup>rd</sup> and 6<sup>th</sup> of March 2008, inclusive.

### **13. ANY OTHER BUSINESS**

13.1 The Chairperson invited members to raise any other matters that required discussion by the regional working group under this agenda item.

13.2 Two matters were discussed and decisions taken under this agenda item: firstly, the need to revise the cost estimates for the national echo-seminars, to make them more realistic; and secondly, the name of the semi-annual publication of the RWG-SG. Members agreed to submit the revised costs of the echo-seminars by the morning of 24<sup>th</sup> May.

13.3 Concerning the name for the regional publication, after considering 11 suggestions, the majority (5 votes) voted in favour of "YALAMUN". The word is a combination of the first syllable (Ya) of the Thai word for seagrass (*Yatalay*) and the word for seagrass in Bahasa Indonesia (*Lamun*).

13.4 No further items were raised by members under this agenda item.

### **14. ADOPTION OF THE REPORT OF THE MEETING**

14. The Co-rapporteur, Dr. Fortes presented the draft report of the meeting, which was considered, amended and adopted as it appears in this document.

15. Dr. Chittima proposed and the meeting adopted the report.

### **15. CLOSURE OF THE MEETING**

15.1 The Chairperson invited members to make any final comments and/or remarks prior to calling for a formal motion to close the meeting. The followed a brief discussion and agreement to complete and sign the 3<sup>rd</sup> amendments to the MoUs before leaving Sihanoukville.

15.2 The Chair thanked members for their support and hard work and Mr. Kamaruddin proposed a vote of thanks to Mr. Vibol for the excellent administrative arrangements and the enjoyable field visit including the excellent seafood lunch. Dr. Fortes proposed thanks to the PCU for their administrative support to the organisation of the meeting.

15.3 The Project Director thanked members for their hard work and the successful revision of the actions for the SAP. He also expressed appreciation to Mr. Vibol for the excellent administrative arrangements for the meeting and the field trip and the District Chairman for the excellent lunch.

15.4 Mr. Vibol formally closed the meeting at 1700 on Thursday 24<sup>th</sup> May 2007.



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## ANNEX 2

### List of Documents

#### Discussion documents

UNEP/GEF/SCS/RWG-SG.8/1	Agenda.
UNEP/GEF/SCS/RWG-SG.8/2	Annotated Agenda.
UNEP/GEF/SCS/RWG-SG.8/3	Report of the Meeting.
UNEP/GEF/SCS/RWG-SG.8/4	Status of the Administrative Reports for 2006: Progress Reports, Expenditure Reports and Audit Reports.
UNEP/GEF/SCS/RWG-SG.8/5	Status of the Substantive Outputs from the Specialised Executing Agencies for the Seagrass Sub-component of the UNEP/GEF South China Sea Project.
UNEP/GEF/SCS/RWG-SG.8/6	Training Course: Management Models and Strategies for Coral Reefs and Seagrass.
UNEP/GEF/SCS/RWG-SG.8/7-Kamp	Report of the Progress in the Implementation; Evaluation; and Completion of the Kampot Demonstration Site.
UNEP/GEF/SCS/RWG-SG.8/7-Hepu	Report of the Progress in the Implementation; Evaluation; and Completion of the Hepu Demonstration Site.
UNEP/GEF/SCS/RWG-SG.8/7-Bint	Report of the Progress in the Proposal Finalisation and Implementation of the East Bintan Demonstration Site.
UNEP/GEF/SCS/RWG-SG.8/7-Boli	Report of the Progress in the Implementation; Evaluation; and Completion of the Bolinao Demonstration Site.
UNEP/GEF/SCS/RWG-SG.8/7-PQ	Report of the Progress in the Implementation; Evaluation; and Completion of the Phu Quoc Demonstration Site.
UNEP/GEF/SCS/RWG-SG.8/8	Revised Draft Strategic Action Programme (draft 1).
UNEP/GEF/SCS/RWG-SG.8/9	Total Economic Values of Seagrass habitats and cost-effectiveness of the actions proposed in the Strategic Action Programme.
UNEP/GEF/SCS/RWG-SG.8/10	Draft Work Plan and Timetable for the Regional Working Group on Seagrass 2007 to 2008.

#### Information documents

UNEP/GEF/SCS/RWG-SG.8/Inf.1	List of Participants.
UNEP/GEF/SCS/RWG-SG.8/Inf.2	List of Documents.
UNEP/GEF/SCS/RWG-SG.8/Inf.3	Programme.

#### ***The following documents are supplied in published form.***

UNEP/GEF/SCS/RTF-E.6/3	Sixth Meeting of the Regional Task Force on Economic Valuation for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Batam, Indonesia, 22 – 25 January 2007 UNEP/GEF/SCS/ RTF-E.6/3.
UNEP/GEF/SCS/RTF-E.7/3	Seventh Meeting of the Regional Task Force on Economic Valuation for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Beihai, China 12 – 15 March 2007 UNEP/GEF/SCS/RTF-E.7/3.
UNEP/GEF/SCS/PSC.6/3	Sixth Meeting of the Project Steering Committee for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Siem Reap, Cambodia, 20 – 22 November 2006 UNEP/GEF/SCS/ PSC.6/3.

- UNEP/GEF/SCS/RSTC.7/3 Seventh Meeting of the Regional Scientific and Technical Committee for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Siem Reap, Cambodia, 14 – 17 November 2006 UNEP/GEF/SCS/RSTC.7/3.
- UNEP/GEF/SCS/RWG-F.8/3 Eighth Meeting of the Regional Working Group on the Fisheries Component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Belitung, Indonesia, 1 – 4 November 2006 UNEP/GEF/SCS/RWG-F.8/3.
- UNEP/GEF/SCS/RTF-L.5/3 Fifth Meeting of the Regional Task Force on Legal Matters for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Batam, Indonesia, 18 – 21 September 2006 UNEP/GEF/SCS/RTF-L.5/3.
- UNEP/GEF/SCS/RWG-M.7/3 Seventh Meeting of the Regional Working Group on the Mangroves Sub-component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Pontianak, Batu Ampar, Indonesia, 4 – 8 September 2006 UNEP/GEF/SCS/RWG-M.7/3.
- UNEP/GEF/SCS/RTF-E.5/3 Fifth Meeting of the Regional Task Force on Economic Valuation for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Kota Kinabaru, Malaysia, 21 – 24 August 2006 UNEP/GEF/SCS/RTF-E.5/3.
- UNEP/GEF/SCS/RWG-LbP.7/3 Seventh Meeting of the Regional Working Group on the Land-based Pollution Component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Sihanoukville, Cambodia, 7 – 10 August 2006 UNEP/GEF/SCS/RWG-LbP.7/3.
- UNEP/GEF/SCS/RWG-SG.7/3 Seventh Meeting of the Regional Working Group on the Seagrass Sub-component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Beihai, China, 24 – 27 July 2006 UNEP/GEF/SCS/RWG-SG.7/3.
- UNEP/GEF/SCS/RWG-CR.7/3 Seventh Meeting of the Regional Working Group on the Coral Reefs Sub-component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Kudat, Malaysia, 10 – 13 July 2006 UNEP/GEF/SCS/RWG-CR.7/3.
- UNEP/GEF/SCS/RWG-W.7/3 Seventh Meeting of the Regional Working Group on the Wetland Sub-component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Manila, Philippines, 19 – 21 June 2006 UNEP/GEF/SCS/RWG-W.7/3.
- UNEP/GEF/SCS/RWG-F.7/3 Seventh Meeting of the Regional Working Group on the Fisheries Component for the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand". Report of the Meeting. Bangkok, Thailand, 16 – 18 May 2006 UNEP/GEF/SCS/RWG-F.7/3.

**Documents received during the meeting**

- Cambodia:** National Action Plan for Coral Reef and Seagrass Management in Cambodia 2006-2015, 2 copies.
- China:** Review of National Legislation of Seagrass in China, December 2002.  
 Review of Past and On-Going Projects on Seagrass in China, December 2002.  
 Present Threats to Key Seagrass Beds of China, January 2003.  
 The Causal Chain Analysis of Threats on Seagrass Beds in China, January 2003.  
 Review Economic Valuation Criteria and Its Application in China, March 2003.  
 Seagrass Metadata of China, March 2003.  
 Questionnaire on Data of Seagrass of China, March 2003.  
 Characterisation of Hepu Seagrass Bed in Guangxi of China (Draft), March 2003.  
 Characterisation of Xincun Seagrass Bed in Hainan of China (Draft), March 2003.  
 GIS Maps of Seagrass Beds of China, May 2003.  
 Demonstration Site Proposal of Hepu Seagrass Bed in China, October 2003.  
 Demonstration Site Proposal of Liusha Seagrass Bed in China, October 2003.  
 Demonstration Site Proposal of Lian Seagrass Bed in China, October 2003.  
 National Report of China (Draft 1), December 2003.  
 National Report of China (Draft 2), November 2004.  
 National Report of China (Draft 3), March 2005.  
 National Report of China (Draft 4), July 2005, Chinese Language.  
 National Action for Seagrass of China (Draft 1), April 2004.  
 National Action for Seagrass of China (Draft 2), July 2004.  
 National Action for Seagrass of China (Draft 3), March 2005.  
 National Action for Seagrass of China (Draft 4), November 2005.  
 National Action for Seagrass of China (Draft 5), January 2006.  
 National Action for Seagrass of China (Draft 6), November 2006.  
 Progress Report of Seagrass Sub-component for NTWG-2, Chinese Language.  
 Progress Report of Seagrass Sub-component for NTWG-7, Chinese Language.
- Indonesia:** Copies of Financial Statements for the year ended December 31, 2006 and 2005 and Independent Auditor's Report.  
 National Seagrass Action Plan for Indonesia, March 2007.
- Philippines:** National Seagrass Conservation Strategy of the Philippines.  
 Agreement between Barangay Binabalian and Barangay Goyoden, Bolinao, Pangasinan.  
 Brochure: BSDS, Bolinao Seagrass Demonstration Site, 8 copies.  
 Comic Book: Lusay Ay Buhay, Tarektek Ng Bolinao, 7 copies.  
 Poster: Para Sa Amin, Buhay At Lusay Ay Iisa, 1 copy.  
 Poster: Gusto Mo Bang Sinisira Ang, Tinitirhan Mo? 1 copy.  
 Poster: Pag-isipan Mo Muna Bago Sirain Yung Tirahan Nila, 1 copy.  
 Poster: Tahimik Na Namumuhay Sa Ilalim Ng Dagat, 1 copy.

## **ANNEX 3**

### **Agenda**

- 1. OPENING OF THE MEETING**
  - 1.1 Welcome Address on behalf of UNEP
  - 1.2 Opening Statement by the Representative of Sihanoukville Government
  - 1.3 Introduction of Participants
- 2. ORGANISATION OF THE MEETING**
  - 2.1 Election of Officers
  - 2.2 Documentation and Administrative Arrangements
- 3. ADOPTION OF THE MEETING AGENDA**
- 4. STATUS OF THE ADMINISTRATIVE REPORTS FOR 2006: PROGRESS REPORTS; EXPENDITURE REPORTS; AND AUDIT REPORTS**
- 5. STATUS OF THE SUBSTANTIVE OUTPUTS**
  - 5.1 Publication of National Reports in National Languages and in English
  - 5.2 Status of Finalisation, Adoption and Implementation of the National Action Plans
  - 5.3 Update of the Regional GIS Database and Meta-database and Use of the Project Website
- 6. REVIEW OF THE SEAGRASS TRAINING COURSE**
  - 6.1 Review of outline of the Training Course Management Models and Strategies for Coral Reef and Seagrass Ecosystems
  - 6.2 Organisation of, and Support to the National Echo-seminars
- 7. PROGRESS IN THE IMPLEMENTATION; EVALUATION; AND COMPLETION OF THE DEMONSTRATION SITE ACTIVITIES**
  - 7.1 **Hepu, China** – Professor Xiaoping Huang
  - 7.2 **East Bintan, Indonesia** – Mr. Tri Edi Kuriandewa
  - 7.3 **Bolinao, Philippines** – Dr Miguel Fortes
  - 7.4 **Phu Quoc, Viet Nam** – Dr. Nguyen Van Tien
  - 7.5 **Kampot, Cambodia** – Mr. Ouk Vibol
- 8. FINALISATION OF THE REGIONAL STRATEGIC ACTION PROGRAMME (SAP)**
  - 8.1 Finalisation of Inputs from the Regional Working Group on Seagrass to the Revised SAP
  - 8.2 National Workshop to Consider the Revised SAP
- 9. CONSIDERATION OF THE TOTAL ECONOMIC VALUES FOR SEAGRASS ECOSYSTEMS AND THE COST BENEFIT ANALYSIS OF ACTIONS DETAILED IN THE SAP AS DETERMINED BY THE REGIONAL TASK FORCE ON ECONOMIC VALUATION**
- 10. PREPARATION FOR THE THIRD REGIONAL SCIENTIFIC CONFERENCE AND MAYOR'S ROUND TABLE**
- 11. WORK PLAN AND ACTIVITIES OF THE REGIONAL WORKING GROUP ON SEAGRASS**
  - 11.1 Work Plan for 2007 - 2008
  - 11.2 Maintenance of the Network and Project Benefits after June 2008
- 12. DATE AND PLACE OF THE NINTH MEETING OF THE REGIONAL WORKING GROUP ON SEAGRASS**
- 13. ANY OTHER BUSINESS**
- 14. ADOPTION OF THE REPORT OF THE MEETING**
- 15. CLOSURE OF THE MEETING**

## ANNEX 4

### Details of the proposed National Echo-seminar to follow the “UNEP-GEF-SCS Regional Training Course on Management Models and Strategies for Coral Reefs and Seagrass”

#### BACKGROUND

The Regional Scientific and Technical Committee recommended and the Project Steering Committee agreed to offer a combined course covering the management of both coral reef and seagrass habitats. The Marine Science Institute of the University of the Philippines (MSI) proposal has been accepted by the RSTC with the suggestion that a greater number of regional experts be involved as resource persons for the delivery of the course.

The training course is entitled “*UNEP-GEF-SCS Training Course on Management Models and Strategies for Coral Reef and Seagrass Ecosystems*”. Originally this had been planned to be conducted from 9<sup>th</sup> – 21<sup>st</sup> April 2007, but the dates have been changed to 29<sup>th</sup> October – 10<sup>th</sup> November 2007.

Trainees attending the regional training courses are expected to conduct “National Echo seminars” over a 1 to 3 day period following the completion of the regional training course, and the Specialised Executing Agencies and the Focal Points for the corresponding sub-component of the project are expected to provide logistic support to those seminars.

#### PLANS FOR THE DELIVERY OF NATIONAL ECHO-SEMINARS

The regional working group discussed the timing, numbers of participants and location of the national echo seminars and the information is presented below as Table 1. The necessary budgets will be included in the amended budget for the third amendment to the Memoranda of Understanding.

**Table 1** Details of planned national echo-seminars in each participating country.

Country	Date	Venue	NO DAYS	No. Participants	Focus	Proposed budget(US\$)
Cambodia	End Nov	Kampot (SG) Sihanoukville (CR)	3 days 3 days	15 15	Assessment, Monitoring & Community Based Management, Remote sensing, sustainable financing	2,543+2,543 = <b>5,086</b>
China	End Nov	Hepu (SG) Sanya (SG)	3 days 3 days	20 15	Assessment & Monitoring	2,200+1,800 = <b>4,000</b>
Indonesia	End Nov	Jakarta (SG) Bintan (SG)	3 days 3 days	20 15	Coastal resource management plan, seagrass monitoring and assessment, livelihood scanning and support, sustainable financing	1980+1860 = <b>3,840</b>
Malaysia	End Nov	Johor (SG)	3 days	12	Seagrass assessment and monitoring, community-based management	<b>4,994</b>
Philippines	End Nov	Puerto Princesa, (CR& SG) Puerto Galera (CR& SG)	3 days 3 days	20 20	Coral reef and seagrass management and governance, Coral reef and seagrass management, tourism and governance	2,925+1,985 = <b>4,910</b>
Thailand	End Nov	Rayong (SG)	3 days	40	Seagrass assessment, monitoring and restoration, CRM planning and adoption, sustainable financing, and cost benefit analysis	<b>5,357</b>
Viet Nam	End Nov	Phu Quoc (CR& SG)	3 days	25	Seagrass community-based livelihood, sustainable financing	<b>4,000</b>

## ANNEX 5

### Revised Estimates of the Costs of Actions Proposed for Inclusion in the Regional Strategic Action Programme and Outcomes of the Cost Benefit Analysis

#### BACKGROUND

The entire text of the first draft of the revised Strategic Action Programme as modified subsequent to discussion during the Regional Scientific and Technical Committee, Project Steering Committee and Regional Task Force on Economic Valuation meetings was presented to the Regional Working Group for their consideration. The text was reviewed and a number of minor amendments and corrections were proposed to the body of the text that were incorporated into the body of the Master Copy of the SAP.

#### COSTS OF ACTIONS

The working group noted that the value of total annual production of goods and services by the four habitats from areas bordering the South China Sea demonstrated unequivocally the importance of mangroves in this region. The total annual value of mangrove production exceeds 5.1 billion US dollars annually compared with around 1.2 billion for wetlands and coral reefs and a mere 86 million US dollars for seagrass habitats.

It is important to recognise that the values for goods and services both individually and collectively are extremely conservative as a consequence of the manner in which they have been calculated using weighted means. Where data are lacking for a good or service from one country the consequence will be a lowering of the weighted mean regional value. Given the absence of values for many goods and services in each habitat the values are likely to be as low as 50% or less of the real value. For comparison the values derived by Costanza *et al.* are presented along side those from the present study in the following table.

**Table 1 Comparison of the Total Economic Value of coastal habitats as determined by Costanza *et al.* 1997 and during the present study.**

	Area ha	US\$ per hectare per annum		Total Value present study
		Costanza	Present study	
Mangroves	1,799,136	9,990	2,872.25	5.196 billion
Coral reefs	750,307	6,076	1,542.56	1.157 billion
Seagrass	73,769	22,400	1,181.59	0.872 billion
"Wetlands"	4,201,145	14,785	295.15	1.239 billion

The group recognised however that in the absence of data they were unable to work, during the present meeting with the values but needed to consider possible reduction in costs as a means of making the Strategic Action Programme less costly.

#### REVISION OF THE ACTIONS PROPOSED FOR INCLUSION IN THE REGIONAL STRATEGIC ACTION PROGRAMME

Having examined in some detail the proposed actions agreed during the preceding meeting and those which were contained in the current draft of the SAP the working group proceeded to revise the recommended actions as presented in Table 2 below. Once revised the actions were costed using 2006 prices and the costs and benefits tabulated and the resultant cost benefit analysis is presented in Table 3.

In summary the revised actions and associated benefits gained over five years through meeting the SAP targets are as follows

Total Benefit:	2,805,668.35 US\$
Total Costs:	652,677.93 US\$
Total Net benefit:	2,152,990.42 US\$
Benefit cost ratio:	4.30



**Table 2 Regional activities for inclusion in the Strategic Action Programme and estimated costs.**

Components	Sub-components	Activities	Description	Estimated Costs	Costs by Year				
					2008	2009	2010	2011	2012
1. Building capacity and awareness at all levels to ensure long-term sustainable uses of seagrass habitats and resources	1.1 Mechanisms for knowledge and information exchange	1.1.1 Exchange of personnel among seagrass sites.	3 pers/country, 7 countries, 2 times, 30 days. Costs: air fare: \$500, Stipend: \$15/per/day	39,900		19,950		19,950	
		1.1.2 Regional Training on seagrass management models and National Echo-seminars	Biennial Trainings: (4 pers/country, 7 countries/course) + (National echo-seminars: 7 countries, \$5,000 x 2 seminars)	210,000	70,000	35,000	70,000	35,000	
		1.1.3 Maintain the SCS Website and input new data and information	In-kind contribution from the network						
		1.1.4 Bi-annual seagrass "YALAMUN" publication. For example the outputs from 2.1.4	Translation into 7 languages from in-kind contribution. English text to be prepared by a coordinating entity						
		1.1.5 Biennial Regional Conference on seagrass management	2 conferences, 100 pers./conference, 3 days/conference	186,000	93,000				93,000
	1.2 Materials for use at all levels in promoting knowledge and awareness of sustainable management practices	1.2.2 National echo-seminars to incorporate seagrass into primary and secondly school Curricular	1 seminar, US\$5000/country, 7 countries	35,000	35,000				
		1.2.3 Compilation, selection, production and dissemination of general awareness materials of seagrass through national media	In-kind contribution from the national government						
2. Enhancing management skills through development and dissemination of regionally applicable tools	2.1 Develop and enhance guidelines and other tools as information resources and facilitate their regional dissemination and adoption for seagrass management	2.1.1 Further enhance the regional seagrass GIS database (e.g. finer resolutions, using standardized methods, Technology)	Updating the GIS database to the regional database by SEAs as in-kind contribution. Maintaining the regional GIS database by a coordinating entity: 20% of staff of SEA START RC (US\$200/month, 12 months, 5 years)	12,000	2,400	2,400	2,400	2,400	2,400
		2.1.2 More assessment of baseline information on seagrass from unstudied areas to find the seagrass distribution	National activities as in-kind contribution from the national governments						
		2.1.3 Expand and up-date the regional seagrass meta-Database	Updating the meta database to the regional database by SEAs as in-kind contribution. Maintaining the regional meta database by a coordinating entity: 20% of staff of SEA START RC (US\$200/month, 12 months, 5 years)	12,000	2,400	2,400	2,400	2,400	2,400
		2.1.4 Regional synthesis of experiences and lessons learnt at UNEP/GEF/SCS demonstration and other sites; and replicate models useful in other areas	A 3-day workshop for participants from national echo-seminar and demo-site, 2 per/country, 7 countries	13,020			13,020		
		2.1.5 Development of criteria and award system for successful seagrass management	It will be discussed during regular meetings of the RWG-SG. Award after 5 years: Total three prizes: US\$10,000	10,000					10,000

**Table 2 cont. Regional activities for inclusion in the Strategic Action Programme and estimated costs.**

Components	Sub-components	Activities	Description	Estimated Costs	Costs by Year				
					2008	2009	2010	2011	2012
3. Policy, legal and institutional arrangement and regional coordination	3.1 Integration of research results into Management and policy making	3.1.1 Develop guidelines to integrate research results into management and policy making	These guidelines will be discussed during the regular the RWG-SG meetings. A workshop with participation of the RWG-SG, policy makers, invited scientists and legal experts: 3 days, 7 countries, 3 pers/country, 3 invited speakers	22,320		22,320			
	3.2 International and regional cooperation, and coordination	3.2.1 Annual Meetings of the Regional Working Group on Seagrass (RWG-SG)	1 meeting/year, 5 years, 1 per/country, 7 countries, 5 days	54,250	10,850	10,850	10,850	10,850	10,850
		3.2.2 Promote transboundary management of seagrass for sustainable fisheries and the protection of endangered species (dugongs and turtles)	Five 3-day workshops for the development of management plans. 1.Cambodia-Viet Nam (\$6,000*5=30,000), 2.Philippine-Malaysia-Indonesia (\$10,000*5=50,000), 3.Viet Nam-China (10,000*5=50,000). 10 pers/workshop	130,000	26,000	26,000	26,000	26,000	26,000
<b>Total</b>				<b>724,490</b>	<b>239,650</b>	<b>118,920</b>	<b>124,670</b>	<b>96,600</b>	<b>144,650</b>

**Table 3 Costs and Benefits of the actions proposed in the regional Strategic Action Programme.**

YEARS	2005	2007	2008	2009	2010	2011	2012	Total
<b>Cummulative Target Areas to be Managed (ha) 2008 onwards</b>		<b>12,928.00</b>	<b>18,151.20</b>	<b>23,374.40</b>	<b>28,597.60</b>	<b>33,820.80</b>	<b>39,044.00</b>	
<b>Cummulate benefit in terms of area saved</b>			<b>182.81</b>	<b>365.62</b>	<b>548.44</b>	<b>731.25</b>	<b>914.06</b>	
<b>Value of Benefits at 2005 prices</b>			216,008.83	432,017.66	648,026.49	864,035.32	1,080,044.16	
Discount factor for NPV 2005 (i=4%)			0.89	0.85	0.82	0.79	0.76	
Benefits 2005 values			192,031.06	369,290.51	532,630.54	682,859.67	820,744.79	2,597,556.57
Compound factor for NPV 2007 (i=4%)			1.08	1.08	1.08	1.08	1.08	
<b>Benefits 2007 values</b>			<b>207,700.80</b>	<b>398,833.75</b>	<b>575,240.98</b>	<b>737,488.44</b>	<b>886,404.38</b>	<b>2,805,668.35</b>
<b>Costs at 2006 prices</b>			239,650.00	118,920.00	124,670.00	96,600.00	144,650.00	
Discount factor (NPV for 2006) i=4%			0.92	0.89	0.85	0.82	0.79	
Costs 2006 value			221,569.90	105,719.45	106,568.44	79,398.16	114,319.00	627,574.94
Compound factor (NPV for 2007) l=4%			1.04	1.04	1.04	1.04	1.04	
<b>Costs 2007 values</b>			<b>230,432.69</b>	<b>109,948.22</b>	<b>110,831.18</b>	<b>82,574.08</b>	<b>118,891.76</b>	<b>652,677.93</b>
<b>Net Benefits</b>			<b>-22,731.89</b>	<b>288,885.52</b>	<b>464,409.81</b>	<b>654,914.36</b>	<b>767,512.62</b>	<b>2,152,990.42</b>



