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

REPORT

**Sixth Meeting of the Regional Working Group for
the Mangroves Sub-component**

Busuanga Island, Palawan, Philippines, 1st – 5th August 2005



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Cover Photo: Mangroves fringing a drowned valley on Busuanga Island, Philippines. John Pernetta, 5th August 2005.

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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 0800 on 1st August 2005, and welcomed all participants on behalf of the Executive Director of UNEP, Dr. Klaus Töpfer; and the Assistant Executive Director, and Director of the UNEP Division of Global Environment Facility Co-ordination, Dr. Ahmed Djoghla. He noted that Dr. Djoghla would leave the Division on 1st January 2006 to assume responsibility as the Head of the Secretariat for the Convention on Biological Diversity.

1.1.2 Dr. Pernetta noted that the agenda was extremely full but that the group had four full working days in which to complete the business before it. He noted that the agenda included finalisation of the Peam Krasop and Batu Ampar demonstration sites and that time had been allocated during the agenda to accomplish this important task. He noted further that on Friday a full day's field trip would be organised to the Busuanga demonstration site.

1.1.3 Dr. Pernetta apologised to the Regional Working Group that the documents for the meeting had been completed and distributed rather late and that there had been a lack of follow-up from the last meeting noting that in part this stemmed from a backlog of work resulting from the continued under-staffing of the PCU in the recent past. He informed the meeting that he was pleased to report that as of June this year the Project Co-ordinating Unit (PCU) now had a full staff complement; that Dr. Vo Si Tuan former National Technical Focal Point for Viet Nam had been appointed as Senior Expert and replacement for Mr. Yihang Jiang; that Mr. Christopher Paterson had been appointed as the fisheries Associate Expert to replace Mr. Kelvin Passfield; and that, Mr. Kim Sour had been appointed as Associate Expert - Natural Sciences. He welcomed Mr. Kim Sour to his first meeting of the Regional Working Group on Mangroves (RWG-M) and noted that he would serve as secretary to the meeting.

1.2 Opening Statement by the Representative of the Busuanga Local Government

1.2.1 Mr. Florendo Barangan informed the meeting that the Mayor of Busuanga was unable to attend the meeting as planned due to illness but that Mr. Edwin Cac, Community Environment and Natural Resources Officer, and Acting Chief of the local DENR Office was able to attend. He welcomed all participants on behalf of the Government of the Philippines and the Department of Environment and Natural Resources, and wished them a pleasant stay on Busuanga Island.

1.2.2 The Vice-Mayor of Busuanga municipality, Mr. Tammy Cruz, came to welcome all participants on the second day. The Vice-Mayor welcomed participants and expressed his pleasure on behalf of the Municipal Government that the working group had chosen to convene its' meeting on Busuanga Island and that Busuanga had been selected as one of the mangrove demonstration sites in the framework of the South China Sea Project. The Vice-Mayor, briefed the meeting on the Busuanga eco-tourism development, and said that the improvement of mangrove habitat would make an important contribution to this development. He noted that his government accorded mangrove conservation and sustainable use a very high priority. He wished the meeting every success and stated that he looked forward to showing the members the demonstration site on Friday.

1.2.3 In thanking the Vice-Mayor for his warm welcome the Project Director, noted that the SCS project was a regional project with 7 countries participating, which encompassed the whole area of the South China Sea. He noted that during the preparatory phase, the project had focussed more on intergovernmental levels of co-ordination and collaboration but that during the operational phase the focus was shifting towards the involvement of local governments and communities in the framework of the demonstration sites. Dr. Pernetta noted that the Regional Working Group was pleased to visit Busuanga Island and he looked forward to continuing to work with the local government and communities of Busuanga over the next three years.

1.3 Introduction of Participants

1.3.1 Dr. Pernetta invited participants to introduce themselves noting with regret that the three regional experts were unable to attend this meeting. There followed a *tour de table* during which participants introduced themselves to the meeting and provided brief information regarding their involvement with the project. 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 Members recalled that at the first meeting of the Regional Working Group on Mangroves (RWG-M) held in Phuket, Thailand, 29 April – 1 May 2002, Dr. Sonjai Havanond, Focal Point from Thailand, Dr. Hangqing Fan, Focal Point from China, and Mr. Florendo Barangan were elected as, Chairperson, Vice-Chairperson and Rapporteur respectively. During the fifth meeting Mr. Nyoto Santoso, Focal Point for Indonesia, Professor Gong Wooi Khoon expert member from Malaysia and Dr. Nguyen Hoang Tri expert member from Viet Nam, were elected as Chairperson, Vice-Chairperson, and Rapporteur respectively.

2.1.2 Dr. Pernetta noted 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. The rules state further that, officers shall be eligible for re-election no more than once. Mr. Santoso was therefore eligible for re-election. Regrettably the three expert members of the working group were unable to be present during the meeting hence neither Professor Gong, nor Dr. Tri could be re-elected.

2.1.3 The Project Director called for nominations to the positions of Chairperson, Vice-Chairperson and Rapporteur of the Regional Working Group on Mangroves. Dr. Pernetta nominated and Mr. Barangan seconded Mr. Santoso as Chairperson. Mr. Santoso nominated Mr. Barangan and Mr. Ke Vongwattana as Vice-Chairperson and Rapporteur. There being no further nominations Mr. Santoso, Mr. Barangan, and Mr. Vongwattana were duly elected by acclamation, as Chairperson, Vice-Chairperson, and Rapporteur respectively. Mr. Santoso assumed the Chair, and expressed his appreciation to the group for their confidence in his abilities as Chairperson.

2.2 Documentation and Administrative Arrangements

2.2.1 The Project Director introduced the discussion and information documents available to the meeting, which included the published reports from the last round of working group meetings. He noted that documents had been lodged on the project website and invited members to table any additional documents including copies of new national publications if any. He noted that the copies of the Indonesian National Mangrove Strategy together with the national report and a document on the economic valuation of mangroves in Indonesia were available to members together with copies of the first newsletter from the Fangchenggang demonstration site, and the national report in local language from Viet Nam. The list of documents is attached as Annex 2 to this report.

2.2.2 The Project Director noted that several discussion documents would require extensive amendment and modification during the meeting including the analysis of the draft National Action Plans and the previously distributed questionnaire assessment of training and capacity building needs. The former was required in order that the PCU might draft a revised Strategic Action Programme for consideration of the RSTC and PSC in December and the latter in order to complete the proposed training programme for approval by the PSC. He expressed the hope that members would be able to complete the questionnaire promptly so that the results could be compiled into a single document for consideration of the meeting.

2.2.3 The Project Director then introduced the draft programme contained in document UNEP/GEF/SCS/RWG-M.6/Inf.3 noting that the arrangement for sessions included the opportunity for finalising the demonstration site proposals. He noted that the meeting would be conducted largely in plenary and wholly in English but that, breakout sessions and smaller working groups might be formed to consider specific matters of substance as circumstances demanded.

3. ADOPTION OF THE MEETING AGENDA

3.1.1 The Chairperson introduced the Provisional Agenda prepared by the Project Co-ordinating Unit (PCU) as document, UNEP/GEF/SCS/RWG-M.6/1, and the Annotated Provisional Agenda, document, UNEP/GEF/SCS/RWG-M.6/2. Members were invited to propose any amendments or additional items for consideration, and to adopt the agenda.

3.1.2 No amendments or additional items were proposed and the meeting agreed to adopt the agenda as proposed. The Agenda is attached as Annex 3 to this report.

4. REPORTS REGARDING OVERALL PROGRESS TO DATE

4.1 Status of the Administrative Reports for 2004 and 1st half 2005: Progress Reports; Expenditure Reports; Audit Reports; and MoU Amendments

4.1.1 The Project Director, was invited by the Chairperson to introduce document, UNEP/GEF/SCS/RWG-M.6/4, *"Current status of budgets and reports from the Specialised Executing Agencies in the participating countries"* and to draw to the attention of the meeting any outstanding issues or matters requiring the attention of the working group.

4.1.2 Dr. Pernetta noted that the table of the status of reports was incomplete since subsequent to its compilation draft six-monthly reports for the period of January to June 2005 had been received from Cambodia, and Thailand, but no reports had been received from China, Philippines, and Viet Nam. Dr. Do Din Sam subsequently submitted the reports from Viet Nam. He noted that all audit reports had been received and that all reports for 2004 were now finalised.

4.1.3 Regarding co-financing, the Project Director noted that the team of evaluators conducting the Specially Managed Project Review (SMPR), who had participated in the fifth meeting of the Regional Working Group had been impressed with the efforts made in tracking co-financing in this project.

4.1.4 The Project Director noted that the PCU needed to improve the tracking of co-financing following the agreement of the PSC that the participating countries would increase their cash co-financing to the costs of national co-ordination meetings. The fourth meeting of the PSC had agreed that the format of the six monthly reports should be modified to include provision for recording of both cash and in-kind co-financing. Dr. Pernetta noted that if the promised cash co-financing was not forthcoming, then he would bring the matter to the attention of the PSC.

4.1.5 Dr. Pernetta referred members to Table 4 of the document UNEP/GEF/SCS/RWG-M.6/4 containing the record of in-kind government co-financing to December 2004 for of the Mangrove Sub-component. He noted further that in-kind co-financing was important as an indicator of the commitment of participating countries in the area of mangrove management. He noted that the actual co-financing realised during the preparatory phase was high in comparison with the estimates, indicating a strong commitment on the part of both the members and the governments to this sub-component of the project.

4.1.6 Dr. Sam noted that he had received the new format from Ms. Nita and was submitting his six month reports for the period January to June 2005 during the meeting. He requested clarification regarding the definition of co-financing since he had received funds from the government for research activities that were not directly related to the South China Sea (SCS) project, and wondered whether these could be considered as co-financing. The Project Director noted that this needed to be decided on a case-by-case basis. If for examples the funds were to support applied research activities that contributed to the goals of the SCS project, then they could be considered as co-financing. However, if the activities could not be related either in terms of area in which the actions were undertaken or in terms of purpose then they could not be considered as co-financing.

4.1.7 Mr. Santoso noted that the six-monthly report from Indonesia had not included co-financing support from the private sector and local government. The Project Director responded that the new format allowed focal points to provide details of all cash and in-kind co-financing received regardless of source.

4.1.8 Mr. Barangan noted that the Philippines has some difficulty in estimating co-financing since actions in mangrove management covered the entire country not merely the coastline bordering the South China Sea. He also noted that if he approached senior management of the Department of Environment and Natural Resources for the additional cash co-financing agreed by the PSC he was likely to be advised that this should be taken from his existing departmental budget due to financial constraints. Dr. Pernetta noted that from his recollection of the discussions the cash co-financing should have been new and additional.

4.1.9 Dr. Sonjai noted that mangroves in Thailand are found along both the Gulf of Thailand and the Andaman Sea coasts of Thailand and asked whether co-financing from the Andaman coast should be included in the SCS project records as co-financing. Dr. Pernetta responded that the activities in the Andaman Sea could not be considered as co-financing since they were beyond the geographic area of coverage of the project. He further noted that some other projects in the Gulf of Thailand could not be considered as co-financing since the activities were not directly linked to the activities of the SCS project.

4.1.10 Dr. Fan commented that co-financing derived from other activities should be considered as co-financing if it met two criteria: 1) the actions were located in the same demonstration site or area of intervention of the SCS project; 2) if the actions led to achieving the same goals as the South China Sea Project. The Project Director noted that where successes were transferred from one demonstration site to other sites then the funds utilised at the second site should be considered as additional leveraged financing rather than as co-financing *per se*.

4.1.11 Mr. Vongwattana pointed out that the co-financing for the Peam Krasop demonstration site was small and did not meet the 1:1 co-financing ratio agreed by the PSC. He noted however that the Minister had agreed to make a special request to cabinet for financing once the GEF grant funding had been approved and the volume of required co-financing identified. Dr. Pernetta noted that the particular problems of Cambodia had been noted by the PCU and that the combination of the Peam Krasop and Trat activities meant that the shortfall in the Cambodian contribution to the co-financing was covered by the excess co-financing ratio in Trat.

4.2 Consideration of Progress in Finalising and Implementing the Demonstration Sites

4.2.1 The Chairperson invited the focal points to make presentations regarding the status of the mangrove demonstration sites. Dr. Pernetta noted that copies of the signed documents for Fangchenggang and Trat Province had been lodged on the project website whilst the most recent versions of the Batu Ampar and Busuanga proposals were contained in the meeting documents as documents UNEP/GEF/SCS/RWG-M.6/5, and UNEP/GEF/SCS/RWG-M.6/6, respectively.

4.2.2 Mr. Santoso made a PowerPoint presentation of the Batu Ampar proposal reviewing the mangrove status in Batu Ampar, West Kalimantan, and providing information on the historical uses of mangrove in Batu Ampar; the biodiversity of the area the socio-economic context, the main threats and conflicts in the area; the goal, objectives, activities, and budget. He noted that the document was near final and that a few outstanding matters required clarification and finalisation before signature of the document. He expressed the hope that these matters could be resolved during the present meeting.

4.2.3 Dr. Sonjai asked for an explanation regarding the production of "white" charcoal and the difference between this and "black" charcoal. Mr. Santoso noted that, "white" charcoal is generally produced by, private sector operators using a process that involves up to 15 days for completion. In contrast the production of black charcoal was a subsistence activity and that the production time was around 45. He noted that white charcoal was a better product with a higher carbon value produced largely for export, whilst black charcoal entered the subsistence sector in the area.

4.2.4 Dr. Sonjai requested clarification regarding the designation of the area boundaries and how areas were determined and permits issued. Mr. Santoso noted that uses of mangrove are separated into discrete areas each regulated by permit. Dr. Sonjai noted that although shrimp farming currently occupies only a small area it is a powerful source of change once introduced into an area. He expressed the hope that the area designated for shrimp farming would be limited and that expansion of the area would be controlled. During the discussion Mr. Santoso noted that the source of financing for the shrimp farms in Batu Ampur was private sector shrimp producers.

4.2.5 In response to a query regarding the regeneration of mangrove following cutting for charcoal production Mr. Santoso noted that cutting was selective and that "mother" trees were left to provide a source of propagules. Most regeneration was natural but after one year an inspection was undertaken and enrichment planting conducted to ensure full canopy cover in the regrowth area.

4.2.6 Dr. Pernetta and Dr. Sonjai queried why plot boundaries were not designated by, marking trees but rather by attaching boards, which could be easily removed completely or, moved to suit the plot concessionaire. Mr. Santoso noted that it was a National Government regulation that plot boundaries be marked with boards and that there was indeed a problem of them being moved and removed. There followed a discussion regarding the value and sale of propagules and Mr. Santoso noted that propagules from the Batu Ampur site were being sold for replanting elsewhere in West Kalimantan at a price for *Rhizophora* of, 1\$/200 propagules. The group considered this very cheap compared to the price in Thailand of 1\$/100 propagules. In Viet Nam the price of propagules is comparable to that of Thailand but in the Philippines the price of propagules was more expensive 1\$/50 propagules.

4.2.7 Dr. Sonjai presented the Trat province demonstration site noting that all members had visited the site during the previous meeting. He provided an overview of the mangroves in Trat province, which lies close to the border with Cambodia and the counterpart Peam Krasop demonstration site. Dr. Sonjai provided an overview of the history of the past use of mangrove and the present management system, which is based on a community based management approach and noted that activities included training, community consultation, and mangrove re-planting by local communities.

4.2.8 When asked by Mr. Barangan whether seedlings were collected from the wild, Dr. Sonjai noted that propagules were collected and some were planted directly and some were retained in a nursery until around the 6-8 leaf stage before being planted out as replacements for mortality amongst the planted propagules.

4.2.9 Dr. Pernetta requested clarification regarding the status of the demonstration site activities following signature of the MoU. Dr. Sonjai stated that activities had not yet commenced but that he had recently met with the Trat Province Governor to discuss the formal commencement of activities later this month. He noted that the Governor intended to invite his counterpart from Cambodia and noted further that many people in the Cambodian demonstration site areas spoke Thai, hence materials produced for community awareness in Thailand could be directly used in Cambodia.

4.2.10 Mr. Santoso requested clarification on the role of the volunteers and Dr. Sonjai noted that the network of volunteers, consisted of individuals who worked as protection officers and controlled the use of mangrove resources, which were regulated on a community basis. For example, sesamid crabs were an important source of income to the Pred Nai Village and the community had decided that female crabs should not be harvested. Offenders were "fined" by the community and the outcome appeared to be a fully sustainable harvest, which provides significant income to the community.

4.2.11 Mr. Vongwattana presented an overview of the Cambodian proposal for the Peam Krasop Wild Life Sanctuary in Koh Kong Province, which is a transboundary site adjacent to Trat province in Thailand. He noted that the demonstration site area included part of a RAMSAR site; that it was one of 23 designated protected areas in Cambodia; and that it included Koh Kapik within the area. Mr. Vongwattana noted that the proposal had been approved by, the local government and that they had agreed to limited co-financing in both cash and kind.

4.2.12 Mr. Vongwattana briefed the meeting on the contents of the proposal including the threats, goal, objectives, outcomes, planned activities, stakeholders, executing agencies, management framework and budget. Dr. Sonjai requested clarification regarding the process of approval and in response Mr. Vongwattana stated that it was already approved by, the government but that, the operational document was still in the process of finalisation.

4.2.13 Dr. Pernetta sought clarification regarding the statement in the proposal that 43 species¹ of true mangroves were found at the site, a statement which appeared not to conform with the information previously assembled by the working group, which had noted there were 46 species of

¹ Mr. Vongwattana subsequently informed the meeting that the number of species should be 34, not 43.

true mangrove around the South China Sea only 31 of which were recorded from Cambodia. Mr. Vongwattana stated he would check this and perhaps what had happened was that the number represented both true and associate mangrove species.

4.2.14 In response to Dr. Sonjai's and Mr. Santoso's query about private charcoal production; Mr. Vongwattana said that it was legal at the community level but commercial production was not allowed in Peam Krasop demonstration site. Dr. Pernetta noted with concern that about 90% of the population were migrants from other provinces. He foresaw difficulties in establishing community-based management under such circumstances since there would be no tradition of managing use nor, established land ownership or, tenurial rights.

4.2.15 The Project Director sought clarification regarding the status of the draft proposed Ministerial Declaration between the two countries. Dr. Sonjai pointed out that the Office of Environmental Policy and Planning had stated that since the South China Sea project was a jointly agreed and approved programme they felt that there was no need for such a declaration. Dr. Pernetta pointed out that on the contrary there was every need for such a joint commitment since the funding for each component was passed to Cambodia and Thailand separately and unless there was a clear agreement at the highest level on co-operation in the framework of this project there would be no means of insisting on such collaboration should it fail to materialise.

4.2.16 It was agreed that Dr. Sonjai would discuss the possibility of a joint declaration to be signed by the governors of both Provinces affirming their support to the principles of collaboration in the framework of the activity and that perhaps this could be signed at the time of the proposed "opening" ceremony for the project. It was further agreed that the focal points from Cambodia should also be present.

4.2.17 Dr. Fan made a presentation regarding the status of the demonstration site in Fangchenggang China. He focussed on the activities to date, noting that the management arrangements had been finalised including administrative framework, financial allocations, and that a first workshop and training course had been held.

4.2.18 Dr. Fan noted some of his personal experiences and problems to date, and outlined the proposed capacity building and training/student research activities that had already been initiated. He currently had a Masters student studying the germination and production of *Heritiera littoralis*, noting that without damage or removal of the pericarp, germination was extremely slow. He informed the meeting that the first edition of the sites' newsletter had been published and that technical criteria regarding mangrove replanting had been agreed and the outcome published. He further noted that three articles had appeared in the national press written by himself and the Site Manager. [Chinese Green Times newspaper, role of local government, Ocean Management].

4.2.19 In response to Mr. Santoso's query regarding the area of the demonstration site that is not mangroves, Dr. Fan pointed out that the site encompassed sub-tidal areas used for pearl farming, some abandoned shrimp ponds, and rice paddy.

4.2.20 Mr. Barangan presented the Philippines' proposal for the demonstration site in Busuanga. He started by noting that the "site" consisted of several areas of mangrove within the Municipality of Busuanga on the Island of Busuanga. He noted that in total there was approximately 125 ha containing 18 species of true mangroves, and many species of other fauna and flora some of which were considered endangered.

4.2.21 Mr. Barangan outlined the problems in the area related to mangroves, and the goal, and objectives of the activity. He noted that the main activities included propagation of multi-species plantation of mangroves, protection and multi-use zoning, awareness building, alternative livelihood development including a pilot test of eco-tourism at the community level, and community networking at local levels. Mr. Barangan outlined the management framework of the demonstration site including the executing agencies and involved stakeholders, sustainability of the project, and prospects for replication in other areas.

4.2.22 Dr. Sonjai noted that since the main purpose of the project, was demonstration of community-based mangrove management it would be appropriate to link closely with the activities planned in the

Trat and Peam Krasop's demonstration sites. Mr. Santoso asked what was meant by enrichment planting and Mr. Barangan responded that this referred to artificially enhancing the density of young seedlings to increase the animal production from the habitat. In response to a query from Dr. Sonjai, Mr. Barangan noted that the abandoned shrimp farm areas were targeted for mangrove reforestation under the project.

4.2.23 Dr. Sam provided a brief description of the Xuan Thuy/Balat Estuary site in the Red River delta in northern Viet Nam. He noted that he and the wetland focal point, had undertaken a field visit to the area and it was agreed that the purpose of the site was primarily to protect the habitat of important migratory birds. The activities proposed include the establishment of management board including both the park and local, authorities; establishment of an aquaculture model; honey collection; and a sound development and management plan for the site as both a National Park and RAMSAR site. It was divided into three zones, namely, core zone, ecological rehabilitation zone, and buffer zone.

4.2.24 In response to a question from Dr. Sonjai, Dr. Sam responded that the core zone was an area where no human activity was permitted but that in the buffer zone controlled use was permitted. He noted this was the only RAMSAR site declared by Viet Nam's government for mangrove conservation and that, about 70% of the existing mangrove area is covered by, the RAMSAR site.

5. UPDATE AND FINALISATION OF THE NATIONAL SUBSTANTIVE REPORTS

5.1 Discussion Regarding Finalisation for UNEP Publication of National Reports in English

5.1.1 Members were advised that national reports had not yet been edited for publication in English and that the PCU has not yet received final versions incorporating amendments following review from a number of countries. The status of these reports was presented in document UNEP/GEF/SCS/RWG-M.6/7.

5.1.2 Dr. Pernetta drew the attention of participants to their prior agreements as documented under agenda item 4 on pages 2 and 3 of the report of the fifth meeting of the RWG-M regarding the preparatory phase outputs, noting that the GIS databases were to have been submitted in September 2004. He noted that no final Philippines national report had been received and that some reports such as the national report from Thailand appeared not to have been revised subsequent to the regional reviews. The PCU has apparently not received the meta-database and GIS data from Indonesia and Thailand, and only a partial meta-databases from Viet Nam. Members were requested to discuss and agree on the final form and timetable for publication of these reports.

5.1.3 Dr. Sonjai noted that he understood that his staff had submitted the GIS data, however, he agreed to check this by phone the following day and get his staff to resend this to the PCU and SEA START RC during the meeting.

5.1.4 Mr. Santoso stated that the Meta-database and GIS database have not been finalised but that these would be dispatched to the PCU by the end of September. Dr. Pernetta noted that he could not disperse any further money until the outputs from the preparatory phase had been received.

5.1.5 Dr. Sam promised the Project Director that he would send the meta-database immediately following the meeting.

5.1.6 Dr. Pernetta noted that the PCU needed all reports in order to publish these in a consolidated volume. He asked all members to check dates and version of the reports held by the PCU and noted that the process of publication of the mangrove reports was behind in comparison with three other Working Groups.

5.1.7 Dr. Fan noted that the version of the national report from China held by the PCU was the most up-to-date.

5.1.8 The Project Director noted that Indonesia had published 13 separate reports on mangroves in each of the provinces bordering the South China Sea, together with a consolidated report and a publication on the economic valuation of mangroves in Indonesia. He noted that this was different

from the other countries, and requested advice from the meeting on how to publish these outputs at the regional level. Dr. Fan noted that in the case of China he had also produced three Provincial reports, which had subsequently been consolidated into the single national report. He informed the meeting that it was the intention of SEPA to publish the national reports from all the components in a single consolidated volume.

5.1.9 The Project Director proposed, and the meeting agreed that the consolidated report on the flora and fauna of Indonesian mangroves would be formally published as the Indonesian National report, while the thirteen individual provincial reports would be scanned and lodged on the project website.

5.2 Status of Publications in Local Languages

5.2.1 Members were reminded that national reports were to have been published by the focal points in national languages for distribution in each country by June 30th 2004. Dr. Pernetta noted that Indonesia, China and Viet Nam had published their national reports and that the PCU had copies, he requested clarification from the other focal points regarding the status of their reports.

5.2.2 Dr. Sonjai said that the national report of mangroves in Thai has not been published yet, but noted that a contract had been agreed with a publisher to produce the report and he anticipated that copies would be available within two months of the meeting.

5.2.3 Mr. Vongwattana noted that the national report on mangroves in Cambodia had been translated into Khmer, edited, and put into a camera ready format. He promised that the report would be published and copies dispatched to the PCU by the end August 2005.

5.2.4 Mr. Barangan noted that he had just received the final draft from the sub-contractor and that he would finalise the national report for local publication by the end of September 2005. He asked for clarification about the format of the report, and in response the Project Director said that any style could be used for publication of the report at the national level.

5.2.5 The Project Director requested, and the meeting agreed, to allow the PCU to scan the front pages of all nationally published reports and upload these to the website with information on the contact, should individuals visiting the website wish to obtain copies in the local language.

6. REVISION OF THE NATIONAL ACTION PLANS AND REGIONAL STRATEGIC ACTION PROGRAMME

6.1 Review of Revised National Action Plans

6.1.1 Members were reminded that during the fifth meeting of the Regional Working Group on Mangroves it was agreed that, second drafts of the National Action Plans (NAPs) would be produced no later than January 2005, and that final drafts were to have been produced no later than June 30th 2005. Revised NAPs were received only from Cambodia, China and Viet Nam and were included in the documents as UNEP/GEF/SCS/RWG-M.6/8.Cam; 6/8.China; 6/8.Viet. The revised Indonesian NAP was tabled in hard copy at the meeting and the original drafts for Thailand and the Philippines were reproduced for the information of the meeting as documents UNEP/GEF/SCS/RWG-M.5/8.Thai and UNEP/GEF/SCS/RWG-M.5/8.Phil respectively.

6.1.2 Members recalled that during the fifth meeting an extensive analysis of the contents of the draft plans was conducted, the outcomes of which were presented in Annexes 5 and 6 of document UNEP/GEF/SCS/RWG-M.5/3. The Chairperson invited members to: discuss the content of the revised action plans in relation to the analysis referred to above, and to advise on any further elaborations which might be required; and to discuss and agree the timetable and work plan for the finalisation of the National Action Plans taking into account the delays in undertaking the first revisions.

6.1.3 The Project Director noted that analysing the content of the NAPs was an important step in identifying the elements that should be included in the revised Strategic Action Programme (SAP), and noted further that it was the responsibility of the PCU to prepare the first draft for consideration by the next meeting of the Project Steering Committee. Where an action was included by only one

country its importance from the perspective of the SAP might be lower than actions, which were included by several countries. The Project Director requested that the meeting review the revised NAPs and adjust the tables accordingly.

6.1.4 Dr. Pernetta drew the attention of members to Annex 5 of the report of the 5th meeting of RWG-M, and went on to tables 1 to 6 of Annex 6 of the Analysis of National Action Plan contents. The Chairperson invited each Focal Point to indicate whether elements not originally included in Annex 5 had now been added and to amend the cells accordingly.

6.1.5 Mr. Vongwattana noted that the revision of the Cambodian NAP had been extensive and that in revising the contents they had adhered to the contents of the tables such that now all cells in the table were complete. Dr. Fan, Dr. Sam and Mr. Santoso made minor adjustments to the contents of the tables in relation to the revised NAPs for China, Viet Nam and Indonesia. Mr. Barangan assigned priority rating for the NAP contents of the Philippines, noting that these ratings were being assigned in anticipation of the revision of the NAP. Dr. Sonjai noted that the NAP for Thailand would be revised during the next few months and revised the tables in anticipation of the likely changes.

6.1.6 Mr. Santoso noted that in Indonesia the timeframe had been divided into two phases, short and longer terms and suggested that this should be the same for other NAPs. There followed a discussion of suitable time frames and Dr. Pernetta pointed out that the RSTC had suggested timeframes of 2012 and 2017 (5 and 10 years) assuming that the SAP was approved in 2007. Dr. Pernetta noted two points in relation to this: firstly longer term plans were generally less detailed and concrete providing more of a strategic direction; and, secondly short term plans were more detailed and operational. The purpose of the longer timeframe was to provide overall direction for future revisions and more detailed planning during implementation.

6.1.7 Regarding Indonesia's NAP, Mr. Santoso remarked that a lot of money from the Indonesia Government was being directed in support of mangrove reforestation and management in the wake of the tsunami tragedy. For regional coordination and networking, Mr. Santoso noted that this was not considered an immediate benefit to Indonesia, so the NAP focused on only actions at the national level. Mr. Santoso further noted that, the benefits from regional coordination were sometimes unforeseen and cited the example that following a presentation by him in Batam, the Municipal Government had sent several officers to see the work of the Kung Kraben, Chantaburi Province mangrove demonstration site of the King's Project in Thailand. Dr. Pernetta noted that there was a need to demonstrate the concrete benefits of regional co-operation in order to convince both the Governments and potential donors of the value of such actions even though the transaction costs might be high. Mr. Santoso responded that he was being requested to make presentations at least once a month on the work of the mangrove component and that as a consequence the South China Sea Project was quite well known in Indonesia.

6.1.8 Dr. Fan also noted that following a visit by him to Indonesia he had presented information to Chinese stakeholders regarding mangrove management in Indonesia and that he considered this an example of the regional transfer of experience. He further noted that regional planning was very important since it could provide many opportunities for regional exchange of experience and transfer of techniques and experience.

6.1.9 Mr. Barangan noted that the NAP for the Philippines included an estimate for regional co-operation but that he felt it unlikely this would be approved since the DENR focussed on the national perspective only. Mr. Barangan also noted that the NAPs for mangroves for many countries included areas beyond the South China Sea.

6.1.10 Dr. Sam noted that it was the intention of the Ministry of Environment and Natural Resources to combine the component NAPs and to approve these as a single package. He noted further that there were two levels of possible approval: approval by the government; and approval by the ministry. He noted that the latter process might be more difficult since mangroves were managed by, the Ministry of Agriculture, Forestry and Rural Development.

6.1.11 Dr. Fan noted that it was difficult for him to extract the information from the China NAP to include in the table since the organisation of the contents was not directly comparable. He noted however, that the content of the revised NAP encompassed essentially all items listed in the table.

Dr. Fan noted that it required between 5 and 10 years for the Chinese government to adopt a "national" plan and consequently he was focussing on Provincial level approval. Dr. Pernetta requested clarification regarding the budget and Dr. Fan responded stating that the budget figures were estimates and that at this stage it was impossible to state how much would be provided by the government.

6.1.12 Dr. Pernetta requested Dr. Fan to re-organize the items in Table 2 of Annex 6 to reflect the organisation of the National Action Plan. Dr. Fan agreed to rearrange the activities of the NAP and insert them in the appropriate points of the table.

6.1.13 Mr. Santoso stated that there would be a meeting to finalize and adopt the NAP for mangrove this year and hence it would not commence implementation until 2006, consequently the timeframe should be adjusted by one 1 year. He noted further that the budget was a framework budget lacking detail, and was not included in the Action Plan as presented.

6.1.14 Mr. Barangan requested clarification regarding the targets and the Project Director suggested that the plan of Viet Nam provided some good examples. Targets should be explicit and might include for example the number of hectares of mangrove to be replanted by a specified date, or the numbers of individuals trained and working in mangrove management by a certain date.

6.1.15 The tables were reviewed amended and are attached as Annex 4 to this report.

6.2 Discussion of the Regional Scientific and Technical Committee Advice Regarding the Goals and Targets of the Regional Strategic Action Programme

6.2.1 Members were invited by the Chairperson to note the outcome of discussions during the fifth meeting of the RWG-M during which it had been agreed to revise the regional target contained in the draft SAP as follows:

7.2.13 It was finally agreed that national targets be set, for the purpose of arriving at a provisional target for the SAP, with the concession that they may be changed in the future if required. The provisional target for the SAP was that 66% of the present area should be brought under protection by the year 2010. It was also agreed that an email discussion would be required after this meeting to further refine the targets, if any progress was to be made before the next meeting.

6.2.2 The Project Director noted that the fifth meeting of the Regional Scientific and Technical Committee in Fangchenggang, December 2004 had considered the goals and targets proposed by the Regional Working Groups and noted that:

10.2.5 The Committee considered the possible target year(s) for the revised SAP. It was agreed that, assuming the SAP would be adopted and implemented by 2007, then five and ten-year milestones would be 2012 and 2017, and these should be used by the Regional Working Groups.

10.2.6 The meeting proceeded to review each goal and target proposed by the Regional Working Groups, and provided comments for the Regional Working Groups to consider during the next meeting. The revised goals and targets for each component and sub-component, along with RSTC comments, are presented as Annex 8 to this report.

6.2.3 Dr. Pernetta noted that Annex 8 of document UNEP/GEF/SCS/RSTC.5/3 contained the following comment relating to the agreed revised targets for mangroves:

The RWG-M should consider the definition of "protection" and ensure common understanding of "protection" in the region. It was pointed out in Indonesia and Philippines "protection" means "non-use" of timber and other forest products.

6.2.4 Members were invited to discuss this comment from the RSTC and to consider what actions if any should be taken during the present meeting with respect to the SAP targets for Mangroves.

6.2.5 Dr. Pernetta noted that in general the word “protection” is taken to mean “non-use” of timber and other forest products. Dr. Sonjai noted that “protected” areas in Thailand could be used for non-extractive use such as eco-tourism or education. There followed an extensive discussion of how to re-formulate the targets in such a way as to indicate clearly the status of the different forms of management of mangrove forest areas, found in the region.

6.2.6 Dr. Pernetta sought clarification from Mr. Vongwattana regarding the Cambodian target of having all mangrove areas in Cambodia accorded “protected” status and asked whether it was really the intention of the Cambodian Government to transfer 90% of the mangrove area to marine protected areas. Mr. Vongwattana responded that it was indeed the intention of the Government that 90% of the total mangrove area be accorded protected status.

6.2.7 Dr. Sam noted that in Viet Nam the word “protection forest” was applied to areas that can be used and “special use forest” encompassed parks and national reserves which cannot be cut, while Mr. Santoso noted that, based on Indonesia’s policy, “conservation areas” except for natural reserves, could be used for eco-tourism. Mr. Barangan noted that mangroves were protected in the Philippines since no cutting was permitted but that the areas were not necessarily within marine parks or protected areas and that problems arose with privately owned mangrove lands. Within protected areas conservation meant wise use of the mangrove area, and it was divided into core and buffer zones.

6.2.8 Following a lengthy discussion on the different meanings of the word “protection”, the Project Director proposed, and the meeting agreed, to rearrange the table of present areas and targets for the SAP by including two additional types of management regime: non-use of mangrove timber but extractive use of other mangrove resources; and “sustainable management area” in which the uses were considered to be conducted in a sustainable manner.

6.2.9 The Project Director noted that it was assumed that the production of mangrove timber in production forests or, the extractive use of other resources were sustainable and that in the case of marine parks or protected areas where there was no use, these could be considered as being sustainably managed, but as all members were aware this was not necessarily the case. He suggested that members provide an estimate of the area in each country that was currently being utilised sustainably.

6.2.10 Dr. Sonjai noted that it was difficult to provide an exact area under sustainable management but thought it was probably around 1,000 ha of the area in Thailand under non-use of mangrove timber but other extractive uses. Mr. Vongwattana estimated that 8,820 ha of mangrove in Cambodia were currently under sustainable management, while Mr. Barangan estimated that around 15,000 were under sustainable management in the Philippines. Dr. Fan noted that the exact figure was not known for China but he estimated it was around 1,000 ha. Dr. Sam estimated that around 50,000 ha was being sustainably managed in Viet Nam. Mr. Santoso estimated the area under sustainable management in Indonesia as being around 100,000 ha of the production forest, noting that the majority of the 610,000 hectares had not in fact been leased for timber production.

6.2.11 The Project Director then requested participants to consider the goals and targets in terms of the additional area that might reasonably be expected to be transferred to National Parks and protected areas within the timeframe of the SAP, how much of the production forest could reasonably be re-classified as non-use of timber but other extractive uses, and the area that could be brought under more sustainable management regimes. Revised targets were discussed and are presented in Table 1 of Annex 5.

6.2.12 Dr. Pernetta asked participants to consider indicators of the quality of the current management system in order to redefine what was meant by currently under sustainable management. Dr. Fan noted that the group needed to consider what indicators might be used to measure sustainable use of non-mangrove resources.

6.3 Discussion for Preparation of Inputs from the Mangrove Sub-component to the Draft Strategic Action Programme

6.3.1 The Project Director, was invited by the Chairperson, to introduce document UNEP/GEF/SCS/RWG-M.6/9 *Analysis of the Content of the Draft National Action Plans from the Perspective of the Regional Strategic Action Programme*. The document provides a compilation of the contents of the national action plans in comparable format as a means of providing a basis for an analysis of actions to be included in the draft SAP.

6.3.2 Members were invited to consider this analysis and identify those elements, which should be elaborated in the context of the Strategic Action Programme. It was noted that due to the late receipt of the revised draft NAPs the table was incomplete and members agreed to work overnight on the revision of the table of contents to bring it up-to-date. The revised completed table was printed and distributed as the bases for further discussion.

6.3.3 Following distribution of the up-dated tables of the comparative contents of the National Action plans there followed a lengthy discussion of what regional actions based on the identified contents of the NAPs should be proposed for inclusion in the draft Strategic Action Programme.

6.3.4 Numerous proposals were tabled regarding objectives and actions that should be included in the SAP and these were recorded in an additional column to the table entitled Regional Actions. Commencing with a consideration of the table of threats the Project Director sought clarification regarding whether some of the items were in fact past causes of degradation rather than present threats. Each focal point indicated which of the threats in the table could be considered a past threat and which an on-going significant threat in each country. It was noted that although the rate of conversion of mangrove to shrimp farms was a declining threat in many countries. In some, such as Thailand it created a new threat, namely the problems of pollution from high levels of waste-water discharge from shrimp farms, which was certainly affecting organisms in mangrove habitats and in at least one instance had been responsible for the death of an extensive area of mangrove in Nakhorn Si Thammarat.

6.3.5 It was noted that the goals and targets generally referred to management and sustainable development and hence the overall goal of the SAP should be framed in these terms. Regarding the challenges facing management of mangroves in the region the over-riding priority was seen as being financial constraints to action; with issues such as the lack of easily available information regarding sustainable management models and problems of enforcement of existing laws and regulations being seen as the key challenges that would be addressed through some form of regional action. The case of China was cited where Dr Fan indicated it will become easier to obtain internal financing in China if the proposed activities had a wider geographic perspective. He cited as an example the provision of funds to the Fangchenggang demonstration site by the Guangxi Provincial Government, to run a training course involving personnel from the neighbouring provinces of Guangdong and Hainan.

6.3.6 A major driver of mangrove degradation was seen by all members as being the poverty of coastal communities and it was recognised that without a programme to address this issue specifically, actions focussing purely on mangrove management models and techniques would not be successful.

6.3.7 In discussing regional level needs with respect to data and information the value of the Regional GIS database from the perspective of overall decision-making was recognised. It was noted however that, at the level of individual sites, databases with quite different scales were needed. Various targeted research related topics were identified as being needed at the regional level including programmes on development of models for sustainable use, restoration techniques, particularly with respect to abandoned shrimp farms, alternative uses of mangroves, and research relating to the economic valuation of mangrove goods and services.

6.3.8 One topic, which received detailed consideration, was the issue of potentially introducing a scheme for eco-labelling and accreditation of mangrove products. It was recognised that such a scheme would require detailed planning and analysis and could only be operated by a regional or international organisation if the scheme was to be creditable both within and outside the region.

6.3.9 Further matters discussed included the potential development of a regional policy on ecological security; the need for a programme providing co-ordination amongst mangrove institutions in the participating countries; the need to network mangrove communities from around the region; networking institutions with interests in sustainable use of mangroves and assisting participating countries in meeting their obligations under Multi-lateral Environmental Agreements.

6.3.10 Annex 4 of this meeting report contains the amended table of NAP contents together with the items identified by the regional working group as being elements that should be included in the revised Strategic Action Programme.

7. UPDATE OF NATIONAL DATA FOR THE REGIONAL GIS DATABASE

7.1 The Project Director advised the working group of current actions being undertaken by the PCU in collaboration with the SEA START RC. He noted that the working document had not been completed since the SEA Start RC had not yet completed its' analysis of the submissions currently entered into the system.

7.2 Dr. Pernetta noted that following the analysis of which data sets had been entered and which were up-dated it was the intention of SEA START RC to enter all GIS data into the database and get this on-line in an interactive format by the end of September 2005. He noted in this regard that the SEA START RC had previously agreed to complete this by December 2004 but that due to staffing constraints they had been unable to meet this deadline.

7.3 It was hoped that the GIS system would be fully operational before the 2nd Regional Scientific Conference to be convened in Bangkok from 14th to 16th November 2005. By this time focal points could submit GIS data to the web directly since each focal point would be issued with a username and password enabling access to the system. It was hoped that appropriate subsets of the regional GIS database could be downloaded and used at the national level for demonstration and briefing of decision makers and managers, thus putting the national situation in a regional context.

7.4 The Project Director noted further that it was the intention of both the PCU and the SEA START RC that the meta-database would be loaded to the website and be operational at the same time as the GIS database but that this was a second priority.

8. REGIONAL DISSEMINATION OF EXPERIENCES DERIVED FROM THE MANGROVE DEMONSTRATION SITE ACTIVITIES IN CONJUNCTION WITH THE TRAINING PROGRAMME DURING THE OPERATIONAL PHASE OF THE SOUTH CHINA SEA PROJECT

8.1 Planning the Regional Dissemination of Experiences Derived from the Mangroves Demonstration Site Activities

8.1.1 The Chairperson recalled that during the discussion and selection of the demonstration sites the PCU had prepared a framework discussion document regarding the regional co-ordination of demonstration sites and dissemination of experiences between sites. This document had been considered and refined at the level of the regional working groups and RSTC before being considered and approved by the Project Steering Committee and included as Annex 8 of document UNEP/GEF/SCS/PSC.3/3. This Annex was reproduced as information document UNEP/GEF/SCS/RWG-M6/Inf.4 for the meeting.

8.1.2 The Chairperson noted further that during the fifth meeting of the RWG-M, this matter was considered and the following agreement reached:

8.2.7 A table was prepared of the potential "demonstration elements" at each site and it was noted that these broad categories were not sufficiently well defined to provide clear guidance regarding exactly what was to be demonstrated through exchange visits study tours and other mechanisms and what was the potential value to potential candidates. It was agreed that members would prepare a brief statement regarding what could be offered by each demonstration site, what the needs were for personnel training at the site, and details of optimum timing and

duration of visits by exchange personnel at the site. It was agreed that this would be done within one month of the closure of the meeting.

8.1.3 The Project Director noted that the statements referred to above were to have been provided to the PCU but had not been received. Members were being asked under this agenda item to consider and discuss the manner in which the exchange programme could be initiated and agree on a timetable for the completion of required actions.

8.1.4 The Project Director noted that it was difficult to organize the exchange programme if the PCU did not know, what training opportunities could be provided at each site and what the sites' training needs were. He further informed the participants that the PSC had approved a budget allocation of US\$1.3 million for the training programmes which included personnel exchange between sites, training courses and study tours. He noted that two demonstration sites were now operational and two more were nearing finalisation, consequently the PCU needed this information in order to finalise the entire projects' capacity building programme for approval by the next meeting of the Project Steering Committee in December 2005.

8.1.5 Dr. Sonjai asked for clarification regarding training needs, and what the demonstration sites could provide to one another. Dr. Pernetta noted that each site had unique activities and outputs that should be made available to other members of the network for example, the propagation studies of *Heritiera littoralis* in Fangchenggang could be of value elsewhere, while the experiences of Trat Province in community based management and networking communities were a further example of a experiences that could prove valuable to others in the region.

8.1.6 In response to a question from Mr. Santoso, Dr. Pernetta noted that the target individuals for the exchange programme were individuals such as site managers, or young scientists who would be in a position to apply their experiences when they returned to their own countries. In contrast the study tours and training courses targeted different kinds of individual and study tours might involve managers and decision makers or community leaders whilst training courses should focus on training trainers.

8.1.7 Dr. Fan queried whether it would be possible for him to send one of his staff through the exchange programme to a seagrass site and what the duration of the proposed exchanges would be. The Project Director responded that it was not appropriate to send staff from a mangrove demonstration site to a seagrass site but it might be possible to send them to a wetland site since the key point was that the staff member would apply their experiences upon return. Experience gained from a seagrass site was unlikely to be directly applicable to a mangrove site. He noted further that the PSC had agreed that exchanges should have a duration of between 2 and 6 months, however in the case of young scientist working on research the duration of the programme could possibly be extended.

8.1.8 Dr. Fan remarked that the three types of capacity building activity presented a broad and valuable range of opportunities. Finally, the Project Director suggested, and the meeting agreed, that by the end of the meeting the focal points would produce a statement about training opportunities and training needs.

8.1.9 Subsequently the submissions encompassing all six, demonstration sites were tabled and briefly considered. It was noted that at present these were very brief and in some instances did not provide a great deal of detail regarding the opportunities at each site and that furthermore, the proposals had been formulated without reference, one to the other.

8.1.10 It was agreed that the Project Director would analyse the information and produce a matrix of opportunities correlated with needs for circulation to members of the working group by the end of August. He also indicated that he would provide guidance on additional information required and members agreed to respond promptly so the analysis could be presented to and considered by the *ad hoc* meeting of the RWG-M scheduled to take place during the Regional Scientific Conference 14 – 16th November 2005.

8.2 Training Needs Analysis

8.2.1 The Chairperson invited the Project Director to introduce document UNEP/GEF/SCS/RWG-M.6/11 concerning proposals from the PCU regarding possible training to be offered within the framework of the Project.

8.2.2 Dr. Pernetta noted that he had distributed the questionnaire immediately prior to the meeting and that the purpose of this was twofold; to analyse on the one hand what capacity had been built during the preparatory phase; and secondly to seek views regarding what the training needs might be during the operational phase of the project.

8.2.3 In response to Mr. Vongwattana's query regarding what existing capacity building and training initiatives should be included in the final table, the Project Director noted that what was required here was a list from the members of any existing training programmes either regional or national that were of relevance to the sustainable management of mangroves and other coastal resources since the project did not wish to duplicate other initiatives.

8.2.4 Following a brief review of the document and clarification of outstanding issues members were requested to complete the forms and provide them to the Secretary for consolidation. Copies of the consolidated responses were subsequently tabled and discussed.

8.2.5 Referring to document UNEP/GEF/SCS/RWG-M.6/11, Dr. Pernetta presented the consolidated tables of responses from each focal point. He noted that some focal points had ranked priorities, that were a little unexpected and there followed a discussion of a number of examples. He noted further that the way in which the responses had been completed was not directly comparable. Thailand for example, had ranked multiple tasks equally. In the light of this discussion it was proposed and agreed that the meeting adjourn briefly to permit individuals to amend their submissions for the sake of comparability of the results.

8.2.6 The outcome of these revisions, were entered into the synoptic tables and these were presented to the meeting for their consideration. An initial discussion followed regarding the manner in which the ranking should be undertaken and it was agreed to determine an average value based on the number of cells completed against each task. The Project Director agreed to complete the Table in this way and to present the final document the following morning.

8.2.7 During a final consideration of this matter the members noted that in the Tables 3a *et sequitor* where individual items had been compiled by focal points, ranks were based on a single response only in comparison with others that were an average of four or more responses. In discussion it was noted that a number of the individual entries were in fact very similar and that these should be combined to make the ranking more comparable between individual entries.

8.2.8 There being insufficient time to complete this prior to the closure of the meeting the Project Director offered to rework the tables combining similar items and to re-send these to the working group members for their consideration no later than the end of August. The amended tables of training needs assessment are attached as Annex 7 to this report.

9. CONSIDERATION OF THE FRAMEWORK AND PROCEDURES TO VALUE THE IMPACTS OF LAND-BASED POLLUTION ON MANGROVES

9.1 Framework for Valuing the Impacts of Land-based Pollution on Mangroves

9.1.1 Dr. Pernetta presented Annex 4 of the report of the third meeting of the Regional Task Force on Economic Valuation (RTF-E) which consists of a series of table providing a framework for valuing the impacts of land-based pollution on four key habitats, namely, mangroves, wetlands, seagrass and coral reefs. The Project Director noted that the information in the document UNEP/GEF/SCS/RWG-M.6/12 was extracted from the report of the third meeting of RTF-E. Members were invited to consider if the checklist of potential impacts of land-based pollution contained in Table 1 of Annex 4 of document UNEP/GEF/SCS/RWG-M.6/12 was correct or whether further impacts were considered by the group to be of significance to mangroves.

9.1.2 Following extensive discussion the meeting felt that smothering by sediments was a significant problem and that Oil and hydrocarbons affected the non-mangrove biota, hence changing overall system productivity. In addition it was noted that solid wastes particularly plastics could potentially smother smaller benthic organisms and certainly had impacts in terms of amenity value.

9.2 Procedures to Undertake Valuation of the Impacts of Land-based Pollution on Mangroves

9.2.1 Members were invited to consider whether the framework for valuation presented in Table 2 of document UNEP/GEF/SCS/RWG-M.6/12 adequately reflected changes in productivity, amenity value and human welfare costs or, whether amendments or additions should be proposed to the RTF-E and whether the procedures proposed in Table 3.1 seem practical and appropriate.

9.2.2 The meeting discussed Table 2.1 of UNEP/GEF/SCS/RWG-M.6/12: Framework for Valuing Impacts of Land-based Pollution on Mangroves and noted that entries relating to "Oil and hydrocarbons: affects on productivity and tainting; sediment impacts in terms of smothering and hence changes in productivity; and solid waste smothering impacts on productivity and amenity values should be changed in accordance with the changes recommended in Table 1.

9.2.3 The meeting proceeded to discuss Table 3.1 of document UNEP/GEF/SCS/RWG-M.6/12: Procedures to Undertake Valuation of Impacts of Land-based Pollution on Mangroves. The Project Director noted that this table was intended as a guide to economic techniques and the group should accept that the recommended techniques were considered the best by a group of economists. Hence the entries on which the regional working group could justifiably comment were those in the column relating to the indicators of measurement particularly whether these indicators were practical in the sense of being readily collected.

9.2.4 Dr. Sam suggested that it was important to measure the concentration of heavy metals, and noted that very often, rural populations were unaware of the contamination of seafood and consequently there was no impact on value since contaminated and uncontaminated foods, were indistinguishable from one another. Dr. Pernetta noted that reduction in value due to contamination would only be a significant factor in assessment of total economic value if it resulted in the food being unmarketable due to health regulations that were enforced such as in the case of export markets.

9.2.5 Mr. Santoso noted that the impact of heavy metals on fish was often not observable in short time periods, but population level impacts became observable only after a long time and gave the example of long term impacts of heavy metal pollution on fish populations in Jakarta Bay.

9.2.6 Dr. Pernetta noted that in a demonstration site it was only necessary to know the value of the impact from pollution and if the impact was not observable or measurable then pollution should be ignored in the evaluation framework.

9.2.7 Dr. Fan pointed out that historical data could be used to determine loss of economic value as a consequence of pollutant impacts but that such changes were often quite small compared to other influences in the market. He cited the example of shrimp prices in China, which had dropped dramatically in the last two years as a consequence of import bans by the United States.

9.2.8 In conclusion it was noted that guidelines were being produced by, the working group such that these would be available for application in the context of the demonstration sites. In conclusion, the RWG-M commended the RTF-E for their comprehensive analysis, which they felt would be of considerable value to the demonstration sites.

9.3 Consideration and Review of the Elements of Economic Valuation Contained in the Demonstration Site Activities

9.3.1 The Chairperson noted that under this agenda item members were invited to consider the elements of economic valuation currently outlined in the demonstration site proposals and to discuss and agree a timetable for the provision of inputs to the work of the Regional Task Force on Economic Valuation.

9.3.2 Dr. Pernetta provided the meeting with some background information noting that, the RTF-E had already produced guidelines for the economic valuation of mangrove goods and services and was proceeding to compile a database of empirical data relating to the valuation of goods and services. He noted that economic value as measured via market price varied according to location, with shellfish from areas adjacent to urban centres have a higher market price than those in more isolated areas. The purpose of the work of the RTF-E was to produce regionally agreed total economic values of habitats. These would be used in the determination of the costs of action and non-action in the framework of the SAP. The RTF-E had produced a set of economic valuation guidelines for application in the demonstration sites in the hope that a set of data collected in comparable manner over the same time frame would be available as a baseline. He requested information from members concerning how soon they expected to have the economic values from their socio-economic surveys.

9.3.3 Mr. Santoso noted that the demonstration sites were likely to produce two sets of economic values those relating to the commencement of the project and those relating to the end of the intervention. Dr. Pernetta noted that the RTF-E could not wait until the completion of the demonstration site activities, by which time the SAP should also be complete, finalised and approved, and that those produced as part of the initial socio-economic assessments were the ones that were needed.

9.3.4 Mr. Santoso suggested that values would be available from the Batu Ampur site before December 2005. Mr. Vongwattana noted that the Coastal Zone Management (CZM) project did have survey data on economic valuation that could be provided before December 2005. The Project Director noted that in this case care would need to be taken to ensure that the values had been derived using the recommended techniques and noted that provided the data used to derive the values was also supplied it might be possible for the RTF-E to rework the data. Mr. Barangan indicated that preliminary work by the RTF-E focal point should provide some data on economic values at Busuanga, before December 2005. Dr. Sam indicated that economic values from the Xan Thuy/Balat Estuary site would be available within three months of commencement of work at the demonstration site. Dr. Fan noted that some data were already available from Fangchenggang but that some, required data in the valuation framework were impossible to collect in China, he indicated however there would be no problem in supplying some data before December 2005. Dr. Sonjai noted that he would supply the economic values derived from the socio-economic survey in Trat Province by January 2006.

10. PREPARATION OF INPUTS FROM THE REGIONAL WORKING GROUP ON MANGROVES TO THE SECOND REGIONAL SCIENTIFIC CONFERENCE

10.1 The Project Director introduced the report of the second meeting of the Executive Committee of the Regional Scientific and Technical Committee (UNEP/GEF/SCS/RSTC/ExComm.2/3) provided for information of the RWG-M. The report contains a record of discussions regarding the second regional scientific conference to be convened in Bangkok in November 2005. The Regional Working Group on Mangroves was invited to consider the contents of this report and to discuss and agree on the inputs from the Regional Working Group to the conference.

10.2 Dr. Pernetta noted that the intention was that the first day of the conference would focus on the demonstration sites, the second on science and management, and the third be devoted to parallel sessions including meetings of the Regional Working Groups and Task Forces.

10.3 Mr. Barangan suggested that only two demonstration sites should be discussed since he was of the opinion that most would not be operational. Mr. Santoso responded that he assumed that all demonstration sites would be operational, and that the meeting should proceed on that basis.

10.4 The Project Director pointed out that there would not be enough time for individual site presentations and that perhaps the group should consider a single substantive presentation of the highlights of achievements and value of the sites, rather than focussing on simple reports on progress, for example community-based management in Trat, charcoal production in Batu Ampur, *Heritiera* propagation in Fangchenggang and many others. Dr. Sonjai noted that in Trat, crab conservation, and mangrove propagation through use of partial propagules could be highlighted. *Nypa* palm production, and nursery techniques, were other proposed topics for inclusion.

10.5 Mr. Santoso suggested that the meeting clarify the topics and list them under a series of major categories of substance and the following preliminary listing was prepared.

1. What is being demonstrated?
 - Community networking
 - Presented in matrix form for cross comparison of all sites
 - Model aquaculture
2. Aspects of Reforestation
 - Germination of *Heritiera*
 - Multiple seedling production by cutting propagules
 - Rehabilitation of mangrove in degraded land
3. Socio-economic aspects – Resource potential
 - Valuation studies
 - Patterns of Subsistence Use by local communities
4. Stakeholder networking collaboration
 - Charcoal production
 - Bee keeping
 - Aquaculture models
5. Influence of demonstration sites on national policies and financing

10.6 There followed a discussion of a possible presentation on the use of GIS at the demonstration site level to complement the presentation Dr. Anond on the regional GIS database and system. The Project Director asked who had GIS systems operational at their demonstration sites. It was agreed that no single GIS system was yet sufficiently developed, to be presented at the regional scientific conference but a composite presentation highlighting the use of GIS in management decision-making at the site level was a possibility.

10.7 It was agreed that the Project Director would co-ordinate the preparation of a possible presentation along these lines. It was agreed that:

- Dr. Fan would provide a GIS Image of Guangxi Province showing that the scale was not suitable for detailed site planning;
- Mr. Vongwattana would supply a GIS image of land cover at Peam Krasop;
- Dr. Sonjai would supply GIS images of communities, zonation etc., noting that these were based on older remotely sensed images which required up-dating.

10.8 It was further agreed that:

- Members would send images to the PCU by 12th August;
- Dr. Pernetta would send a draft to members by 20th August;
- Members would respond by 30th August with suggestions for addition;
- Dr. Pernetta would finalise and send to all members by 15th September.

10.9 There followed a discussion of the timing of the preparation of the major presentation for day one of the conference. The following time-table was agreed:

- The PCU would send the format by 10th August;
- Members would send inputs to the Chairperson of existing PowerPoint presentations by 10th August;
- The Chairperson would respond to members by 15th August regarding new and additional input requirements;
- Members would send new inputs by 20th August;
- The Chairperson would finalise and send the first draft of the presentation to members by 25th August;
- Members would respond by 31st August;
- The Chairperson would revise the presentation and send the revised version to members by 10th September;
- Members would respond with agreement or amendments by 12th September; and
- The Chairperson would send the final presentation to the PCU by September 15th.

10.10 The Working Group noted that site managers of the demonstration sites would be invited to participate in the conference and consequently the PCU required names and contact details of the site managers no later than 30th August 2005. If focal points wished to nominate a second individual then what would be required in addition to the names, and contact details, would be a substantive justification for their attendance.

10.11 Noting the intention to convene half day working group meetings during the conference it was agreed that members would send suggestions for topics to be included on the agenda by 15th August to the PCU and Chairperson. The PCU would finalise and circulate a draft agenda by 30th August.

11. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON MANGROVES 2005 - 2007

11.1 Based on the discussion and agreements reached in the previous agenda items, and document UNEP/GEF/SCS/RWG-M.6/13 "*Draft work plan and timetable for the Regional Working Group on Mangroves 2005 to 2007*" the Regional Working Group considered its' work plan for the period 2004 – 2007, including the timetable for finalising the NAPs and securing high level government approval, and the publication of national reports.

11.2 The agreed deadlines for actions were incorporated into the work plan, which was agreed and is attached as Annex 8 to this report.

12. DATE AND PLACE OF THE SEVENTH MEETING OF THE REGIONAL WORKING GROUP ON MANGROVES

12.1 Members of the Regional Working Group were reminded that, according to the decision of the Project Steering Committee, all Regional Working Group meetings would be convened at the demonstration sites. Members were invited to consider the dates and venue of the seventh meeting of the Regional Working Group on Mangroves.

12.2 Members discussed possible locations and agreed to hold the seventh meeting of the RWG-M in Batu Ampar, Indonesia, from 4th - 8th September 2006. Dr. Pernetta hoped that participants would reserve these dates and noted that he would contact the regional experts immediately following the meeting to advise them of this decision.

13. ANY OTHER BUSINESS

13.1 Mr. Santoso proposed that the group compile a Mangrove cookery book, encompassing unusual dishes and foods derived from mangroves. In this regard he noted that he had acquired over 26 different recipes involving mangrove foods together with numerous photographs and felt that other members might also have similar unique and unusual recipes. Dr. Pernetta noted that this was an interesting idea and that possibly it could be published in local languages and marketed in tourist areas, which had a focus on mangrove ecotourism.

13.2 All members agreed with the idea and there followed a discussion of various matters ranging from dishes made from sipunculid worms, to sweets made from *Brughiera* propagules. It was agreed that members would assemble information and pictures and review the selection during the *ad hoc* meeting of the Regional Working Group in November.

13.3 Dr. Pernetta asked whether Mr. Santoso's recipes were in Bahasa and whether these could be easily translated. Mr. Santoso agreed to translate the recipes at the latest by the end of December. The PCU would then put together all materials in the form of a model publication for consideration during the seventh meeting of the Regional Working Group.

14. ADOPTION OF THE REPORT OF THE MEETING

14.1 The Rapporteur presented the draft report, prepared by the secretariat during the meeting, for consideration and adoption by the members. The report was discussed, amended and approved as it appears in the document.

15. CLOSURE OF THE MEETING

15.1 In calling for a motion of closure the Chairperson thanked participants for their very hard work, the PCU staff for their support to the meeting. He noted that the meeting had been extremely important in reinforcing the regional co-operation and for him personally in building his personal capacity through experience of chairing and international meeting.

15.2 The Project Director thanked participants for their hard work during the course of the meeting that had enabled the group to complete a large volume of business, and the collegial attitude that had prevailed throughout the week.

15.3 Mr. Barangan thanked the participants on behalf of both himself and the Government of the Philippines for their decision to convene the sixth meeting of the working Group in Busuanga and expressed his appreciation to all participants for an enjoyable meeting.

ANNEX 1**List of Participants****Focal Points****Cambodia**

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ANNEX 2

List of Documents

Discussion documents

UNEP/GEF/SCS/RWG-M.6/1	Agenda.
UNEP/GEF/SCS/RWG-M.6/2	Annotated Agenda.
UNEP/GEF/SCS/RWG-M.6/3	Report of the Meeting.
UNEP/GEF/SCS/RWG-M.6/4	Current Status of Budgets and Reports from the Specialised Executing Agencies in the Participating Countries.
UNEP/GEF/SCS/RWG-M.6/5	Batu Ampar Demonstration Site Proposal.
UNEP/GEF/SCS/RWG-M.6/6	Busuanga Medium Sized Project Proposal.
UNEP/GEF/SCS/RWG-M.6/7	Status of National Reports in the Participating Countries.
UNEP/GEF/SCS/RWG-M.6/8.Cam	National Action Plan of Cambodia.
UNEP/GEF/SCS/RWG-M.6/8.Chi	National Action Plan of China.
UNEP/GEF/SCS/RWG-M.6/8.Ind	National Action Plan of Indonesia.
UNEP/GEF/SCS/RWG-M.5/8.Phi	National Action Plan of Philippines.
UNEP/GEF/SCS/RWG-M.5/8.Tha	National Action Plan of Thailand.
UNEP/GEF/SCS/RWG-M.6/8.Vie	National Action Plan of Viet Nam.
UNEP/GEF/SCS/RWG-M.6/9	Analysis of the Content of the Draft National Action Plans from the Perspective of the Regional Strategic Action Programme.
UNEP/GEF/SCS/RWG-M6/10	Status of Regional GIS and Metadata for the Mangrove Sub-component.
UNEP/GEF/SCS/RWG-M6/11	Training Needs in the Framework of the UNEP/GEF Project entitled <i>Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand</i> .
UNEP/GEF/SCS/RWG-M6/12	Valuing the Impacts of Land-Based Pollution on Mangroves.
UNEP/GEF/SCS/RWG-M.6/13	Draft Work Plan and Timetable for the Regional Working Group on Mangroves 2005 to 2007.

Information documents

UNEP/GEF/SCS/RWG-M.6/Inf.1	List of Participants.
UNEP/GEF/SCS/RWG-M.6/Inf.2	List of Documents.
UNEP/GEF/SCS/RWG-M.6/Inf.3	Programme.
UNEP/GEF/SCS/RWG-M.6/Inf.4	Framework for Regional Co-ordination, Dissemination of Experiences, and Personnel Exchange between Sites. [ANNEX 8 of document UNEP/GEF/SCS/PSC.3/3]
UNEP/GEF/SCS/RSTC/ExComm.2/3	Second Meeting of the Executive Committee of the Regional Scientific and Technical Committee. Report of the Meeting. Bangkok, Thailand 21 st – 22 nd February 2005 UNEP/GEF/SCS/RSTC/ExComm.2/3.

The following documents were supplied in published form.

UNEP/GEF/SCS/RWG-SG.5/3	Fifth Meeting of the Regional Working Group on the Seagrass Sub-component for the UNEP/GEF Project “ <i>Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand</i> ”. Report of the Meeting. Bintan, Indonesia, 24 th – 27 th August 2004 UNEP/GEF/SCS/RWG-SG.5/3.
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UNEP/GEF/SCS/RWG-CR.5/3

Fifth 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. Koh Chang, Thailand, 13th – 16th September 2004 UNEP/GEF/SCS/ RWG-CR.5/3.

UNEP/GEF/SCS/RWG-M.5/3

Fifth 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. Trat Province, Thailand, 26th – 30th September 2004 UNEP/GEF/SCS/RWG-M.5/3.

UNEP/GEF/SCS/RWG-W.5/3

Fifth Meeting of the Regional Working Group on the Wetlands Sub-component for the UNEP/GEF Project *“Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand”*. Report of the Meeting. Ha Long City, Viet Nam, 5th – 8th October 2004 UNEP/GEF/SCS/ RWG-W.5/3.

UNEP/GEF/SCS/RWG-F.5/3

Fifth 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. Phu Quoc Island, Viet Nam, 11th – 14th October 2004 UNEP/GEF/SCS/ RWG-F.5/3.

UNEP/GEF/SCS/RWG-LbP.5/3

Fifth 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. Shenzhen, China, 24th – 27th November 2004 UNEP/GEF/SCS/RWG-LbP.5/3.

UNEP/GEF/SCS/RSTC.5/3

Fifth 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. Fangchenggang, China, 9th – 11th December 2004 UNEP/GEF/SCS/ RSTC.5/3.

UNEP/GEF/SCS/PSC.4/3

Fourth 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. Guilin, China, 13th – 15th December 2004 UNEP/GEF/SCS/PSC.4/3.

UNEP/GEF/SCS/RTF-L.3/3

Third 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. Alongapo City, Philippines, 28th February – 3rd March 2005 UNEP/GEF/SCS/RTF-L.3/3.

UNEP/GEF/SCS/RTF-E.3/3

Third 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. Fangchenggang, China, 18th – 21st April 2005 UNEP/GEF/SCS/RTF-E.3/3.

List of documents received during the meeting of RWG-Mangrove
 Busuanga Island, Palawan, Philippines. 1 - 5 August 2005

- China:**
1. Chinese Newsletter No. 1: "GEF FCG Mangrove Domo Site Project" in Chinese Language
 2. Technical Criteria of Mangrove Afforestation at Demo Site, *China Mangrove Executing Agency, Gaungxi Mangrove Research Center, 2004, August. (2 copies)*
 3. China Mangrove National Report, 2003, October (2 copies)
 4. China Mangrove National Action Plan, by 2015, *Guangxi Mangrove Research Center, 2004, November (2 copies)*
- Indonesia:**
1. Flora and Fauna of Indonesia Mangrove in the South China Sea (book)
 2. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Central Java Province) (book)
 3. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Riau Province) (book)
 4. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (East Java Province) (book)
 5. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Central Kalimantan Province) (book)
 6. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (South Kalimantan Province) (book)
 7. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Bangka Belitung Province) (book)
 8. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (West Kalimantan Province) (book)
 9. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea West Java Province) (book)
 10. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (South Sumatera Province) (book)
 11. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Banten Province) (book)
 12. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (DKI Jakarta) (book)
 13. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Jambi Province) (book)
 14. Review Data and Information Indonesian Mangrove Ecosystem in the South China Sea (Lampung Province) (book)
 15. Economic Valuation of the Mangrove Ecosystem in Indonesia (book)
 16. National Strategy on Mangrove Ecosystem Management in Indonesia, Book 1: Strategy and Program, 2005. (book and CD)
 17. National Strategy on Mangrove Ecosystem Management in Indonesia, Book 2: Mangrove Ecosystem in Indonesia, 2005 (book and CD)
(Item 16 & 17 distributed to participants 1 copy each book)
- Viet Nam:**
1. Six Month Progress Report (revised format)-Viet Nam (January – June 2005)
 2. Cash Advance Request-Viet Nam (June 30 – December 31, 2005)
 3. Viet Nam National Report (*Vietnamese language book 2 copies*)
 TỔNG QUAN RỪNG NGẬP MẶN, Hanoi 2005

ANNEX 3

Agenda

- 1. OPENING OF THE MEETING**
 - 1.1 Welcome Address on behalf of UNEP
 - 1.2 Opening Statement by the Representative of the Busuanga Local 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. REPORTS REGARDING OVERALL PROGRESS TO DATE**
 - 4.1 Status of the Administrative Reports for 2004 and 1st half 2005: Progress Reports; Expenditure Reports; Audit Reports; and MoU Amendments
 - 4.2 Consideration of Progress in Finalising and Implementing the Demonstration Sites
- 5. UPDATE AND FINALISATION OF THE NATIONAL SUBSTANTIVE REPORTS**
 - 5.1 Discussion Regarding Finalisation for UNEP Publication of National Reports in English
 - 5.2 Status of Publications in Local Languages
- 6. REVISION OF THE NATIONAL ACTION PLANS AND REGIONAL STRATEGIC ACTION PROGRAMME**
 - 6.1 Review of Revised National Action Plans
 - 6.2 Discussion of the Regional Scientific and Technical Committee Advice Regarding the Goals and Targets of the Regional Strategic Action Programme
 - 6.3 Discussion for Preparation of Inputs from the Mangrove Sub-component to the Draft Strategic Action Programme
- 7. UPDATE OF NATIONAL DATA FOR THE REGIONAL GIS DATABASE**
- 8. REGIONAL DISSEMINATION OF EXPERIENCES DERIVED FROM THE MANGROVE DEMONSTRATION SITE ACTIVITIES IN CONJUNCTION WITH THE TRAINING PROGRAMME DURING THE OPERATIONAL PHASE OF THE SOUTH CHINA SEA PROJECT**
 - 8.1 Planning the Regional Dissemination of Experiences Derived from the Mangroves Demonstration Site Activities
 - 8.2 Training Needs Analysis
- 9. CONSIDERATION OF THE FRAMEWORK AND PROCEDURES TO VALUE THE IMPACTS OF LAND-BASED POLLUTION ON MANGROVES**
 - 9.1 Framework for Valuing the Impacts of Land-based Pollution on Mangroves
 - 9.2 Procedures to Undertake Valuation of the Impacts of Land-based Pollution on Mangroves
 - 9.3 Consideration and Review of the Elements of Economic Valuation Contained in the Demonstration Site Activities
- 10. PREPARATION OF INPUTS FROM THE REGIONAL WORKING GROUP ON MANGROVES TO THE SECOND REGIONAL SCIENTIFIC CONFERENCE**
- 11. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON MANGROVES 2005 - 2007**

- 12. DATE AND PLACE OF THE SEVENTH MEETING OF THE REGIONAL WORKING GROUP ON MANGROVES**
- 13. ANY OTHER BUSINESS**
- 14. ADOPTION OF THE REPORT OF THE MEETING**
- 15. CLOSURE OF THE MEETING**

ANNEX 4

Analysis of National Action Plan Contents and Identification of Regional Actions for Inclusion in the Strategic Action Programme (SAP)

Table 1 Threats to Mangroves Outlined in Each of the National Action Plans.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
1. Fast population growth since after the civil war, and associated issues: poverty, settlement and urgent survival needs of local people; 2. Increased Demands in mangrove charcoals and shrimp culture leading to the degradation and destruction of mangrove forests/ unsustainable uses of mangroves (P); 3. Growing needs for National Economic Development/ foreign investments (P).	1. Coastal reclamation for rice farming(P); 2. Coastal aquaculture, mangrove areas converted for fishponds and shrimp farming; 3. Mangroves converted for port, urban expansion and industry; 4. Mangrove biodiversity are threatened by animal collecting, hunting, exotic species, pest and diseases.	1. Domestic exploitation, 2. Salt production(P), 3. Rice cultivation(P), 4. Aquaculture, 5. Oil pollution, 6. Industrialization, settlement and urbanization, 7. Agriculture pesticides etc., 9. Coastal erosion, and 10. Perception of the public	1. The conversion of mangroves into fishponds or shrimp farms(P); 2. Unregulated and destructive tanbark tapping; 3. Indiscriminate cutting for fuel and charcoal production; 4. Conversion into harbours/ports and settlement areas; 5. Certain past policies and regulations tended to encourage the destruction of the rich mangrove resources (P).	1. Culture of marine animals, in particular the farming of black tiger shrimp; 2. Increase in population and development has resulted in mangrove areas being converted (P); 3. Agricultural production and salt pans(P); 4. Mining in mangrove areas(P); 5. Tree felling exceeding mangrove productivity (P) 6. LbP-garbage industry 7. Coastal erosion (small)	1. Extensive application of chemicals (ecocide) by Americans in 10 years 1962 - 1972(P); 2. So called "Reclaiming marginalized lands" that converted large segments of mangrove into arable lands in 1980 – 1985 (P); 3. Repeated clearing mangrove for aquaculture, particularly for shrimp rearing, was extremely extensive during 1988 -1995; 4. Seaward embankment and expansion of urban areas conducted in the North has led to the reduction of mangrove cover.	- Conversion-shrimp culture-VN, In, Ch, - Shrimp farming-Pollution-Th, Ch, In - Ph-none - Industrial conversion-Ch-High; Ph, In, VN-Small; Th, Ca-NI ² - Charcoal production-In, Ph, Ca

² Not important.

Table 2 Goals, Time Frames, Total Costs and Key Executing Agencies for each of the National Action Plans for the Mangrove Sub-component.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Goals						
<ul style="list-style-type: none"> Protecting and maintaining mangrove products, functions and their attributes systems by monitoring and protecting water quality and level, biodiversity and site's ecology with community liaison. Managing the human activities and their widely utilizing the mangrove resources in the optimal way that preserves for the long term of the basic natural resources and environment, which are necessary for sustainable development and human life. Ensuring that the benefits coming from the sustainable use of the mangrove is widely use with equity and contribute to poverty reduction and improve quality of life for all. 	To minimize the degradation of natural mangrove forests in China; rehabilitate disturbed natural mangrove forests; maintain existing mangroves healthy; restore and regenerate man-made mangrove forests; enlarge mangrove areas; establish a system for rational use and effective management of mangroves; secure ecological safety for fast growing economy at coastal areas of China.	<p>To increase the stakeholder capacity on mangrove ecosystem management that fir to environment carrying capacity and based on valid scientific information</p> <p>To increase and maintain the benefit and function of mangrove ecosystem for life support system</p>	Having the country's mangrove forests and the resources therein developed and managed on a sustainable basis for the economic and environmental benefits of the people.	"Manage Thailand's mangrove resources in Gulf of Thailand area through multi-sector participation to provide a stable, balanced ecosystem which can support Thai society, the economy, and the environment and provide a good quality of life for the public"	The mangrove ecosystem protection and development action plan is designed to add force to mangrove protection, rehabilitation and wise utilization on a sustainable way so that mangrove protective function and its biodiversity values could meet the need of socio-economic development and environment protection in river estuaries and coastline areas.	Management resources
Purposes of goal						
Protection, management	Restoration, management	Restoration, conservation and sustainable use mangrove management	Management, sust. Dev't	Management	Protection, wise use	
Time Frames						
5 years?	2005-2015	2005 - 2020	2005-2007?	2004-2008	2005-2015	2012 & 2017
Total Costs						
US\$1.698 million	Yuan 1,057.7 million		US\$ 349 million	Baht 54,747,000	US\$ 5.9 million	
Key Executing Agencies						
DNCP, MoE, NMC, Line Ministries, local authorities	SEPA, NRDC, SFA, SOA, Local Governments, MST, CNTA, Academic Institutions,	Ministry of Forestry, Ministry of Marine and Fishery, Ministry of Home Affair, LIPI Environmental Ministry	DENR, DA, DILG, DOST, NAMRIA, National Mangrove Committee (NMC)	DMCR, academic institutions, and local government organizations, and communities.	FSIV, FIPI, MERC, UNEP/GEF, IUCN, ACIAR, NGOs, MARD, MONRE, MOF, ADPI, DONRE, PPC, DPC, NP, NR, Silvo, VEPA, FMBs MPI, FRI,	-Those been/should/ be involved in SCS project

Table 3 Challenges for Mangrove Management Outlined in each of the National Action Plans.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
<ol style="list-style-type: none"> 1. Low awareness among local people on mangrove importance and their conservation and sustainable management needs; 2. Absence of specific legal, regulatory and managerial tools, and Law Enforcement weakness; 3. Lack of political wills among and abuses by high rank people; 4. Lack of funds/ insufficient supports from external sources; 5. Low capacity among government staff for mangrove sustainable management. 6. Difficult accesses and facility shortage to the target localities 7. Poor conditions of responsible staff. 	<ol style="list-style-type: none"> 1. No specific legislation on mangroves in China, cross-sectoral management and poor coordination; 2. Single ownership of mangroves and existing management regime hinder the inflow of investment; 3. Lack of rational use technology and mode; 4. Lack of national norms and criteria of mangrove forestation, monitoring, and evaluation; 5. Short of funds for mangrove protection and research; 6. No platform to improve mangrove education, information share, and public involvement. 	<ol style="list-style-type: none"> 1. More than 50 % of total mangrove area in Indonesia is damage and lead to the decreasing its ecological function 2. Conservation and rehabilitation of mangrove ecosystem is considering as a problem not responsibility 3. The mangrove rehabilitation efforts still can not easing the level of damaged 4. Policy maker and community have different perception on value and function of mangrove ecosystem 5. Local community participation on planting and implementation of mangrove ecosystem management is not optimal 6. Largest part of the community who live around the mangrove area is poor 7. The utilization of mangrove ecosystem that environmentally friendly is not well develops 8. Ineffective coordination related institution 9. There is no synergies regulation between sectors on mangrove ecosystem management 10. Key government institution and its role in mangrove management are not agreed yet 11. Ineffective of law enforcement on mangrove management 12. There is no legal umbrella of National Action Plan on Mangrove Ecosystem management 	<ol style="list-style-type: none"> 1. Non-delineation of the boundaries of the mangrove forests, 2. Absence of firm efforts towards reversion of abandoned, undeveloped and unproductive fishponds, 3. Lack of public awareness on the importance of the mangrove forests and their resources, 4. Overlapping functions and conflicting policies and legislation of different national government agencies and the LGUs, 5. The non-appropriateness of the existing CBFMA for mangrove forests, 6. Institutional constraints in the management and administration of the mangrove forests, 7. The lack of a comprehensive research and development programmes. 	<ol style="list-style-type: none"> 1. Authority and responsibility for mangrove management in the past has rested with the government; 2. Limited public and local participation; 3. Lack of laws supporting enforcement action; 4. Limited co-operation between mangrove management agencies; 5. Lack of systematic and co-ordinated monitoring; 6. Dissemination of information and publicity material is limited and does not reach its target. 	<ol style="list-style-type: none"> 1. Mangrove ecosystems are improperly managed; 2. Lack of policy tools and specific regulations guiding the fishery and other economic sectors in utilization of mangrove forests; 3. Most of policy makers have a vague perception on mangrove ecosystems; 4. Lack of a sound and empowered inter-sectoral land-use planning, including mangrove land-use, at local levels (province and district); 5. Personnel staff assigned to take care of mangrove forests in different locations are insufficient and lacking knowledge; 6. Gaps and weaknesses are found in mangrove ecosystem studies. 	<ol style="list-style-type: none"> 1. Finance-Ch, Cam, Ph, In; partial-VN&Th 2. Management system & LUP-VN, In, 3. Law enforcement-all 4. coastal rural poverty-all 5. Long term regional cooperation

Table 4.1 Objectives and Activities for Component 1: Research and Monitoring.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Objectives						
1. To develop and design the standardized methodology and guideline for inventory and assessment; 2. To identify and analysis the stakeholder in each site; 3. To survey of the site ecology, fauna and flora; 4. To make species distribution and environmental stratification Mapping; 5. To formulate an appropriate economic valuation system for mangrove that take into account the externalities present in many natural system; 6. To improve knowledge and awareness of the values of mangrove among all levels of society but particularly among decision-makers and local people; 7. To maintain and enhance the cultural values within mangrove areas; 8. To establish a process for the storage and access of data related to mangrove environments in Cambodia; 9. To ensure that MIST is implemented and maintained for the efficient dissemination of information for decision-making	1. To form a solid scientific base for restoration and sustainable management; 2. To supply techniques of application of data in management; 3. To formulae rationale and professional methods in decision making; 4. To formulate National technical norms and criteria.	1. Increasing the role of management authority and scientific authority on mangrove ecosystem management 2. Develop mangrove ecosystem management based on knowledge, technology, and communities traditional knowledge 3. Develop models of environmental friendly and community based mangrove ecosystem management 4. Determined mangrove ecosystem status in coastal landuse planning 5. Execute adherence to regulation and law enforcement on mangrove ecosystem management	1. To prioritise mangrove R/D on biology and ecology; silvics and silviculture; pests and diseases cost effective restoration/rehabilitation; and pollution 2. To study economic, political and socio-cultural aspects of mangrove restoration 3. To harmonise policies on mangrove establishment and management 4. To study resource valuation 5. To asses more effective information dissemination schemes	1. Development of databases and research into conservation, restoration, and sustainable use of mangrove resources	1. Improve perception and understanding on Biodiversity of Mangrove ecosystem and conservation value of rare and precious gene sources.	- Regional GIS database related to site database - Regional research program on mangroves - Model for sustainable use - Restoration technique on abandoned shrimp farms - Eco-labelling-accreditation - Research program on alternative use - Research program on economic value
Activities						
Sub-component 1: Resource Assessment						
1. Develop and design the standardized methodology and guideline for inventory and assessment (US\$10,000, Year 3, MoE, Medium priority); 2. Identify and analysis the stakeholder in each site (US\$5,000, Year 2, MoE, Medium priority); 3. Establish group to undertake studies and to develop management strategies for the protection of rare and endangered species (US\$5,000, Year 1, MoE, High priority); 4. Establish fish management policy for stocking of commercial species and rare and endangered fish species (US\$30,000, Year 1-5, MoE, High priority); 5. Establish a licensing system for the harvesting of all mangrove species, enforce sustainable harvesting practices and increase policing of border checks to prevent smuggling (US\$30,000, Year 1-5, MoE, Medium priority).	1. Conduct an Overall Survey into Mangroves with Focus on the Resources, Biodiversity, and Healthy Condition (Yuan19 million, 2 years, SFA, SOA, SEPA); 2. Establish a System to Periodically Monitor and Evaluate Mangrove Ecosystem (Yuan19 million, 3 years, SEPA, SFA, SOA).	1. inventory mangrove (Survey and mapping) condition 2. Conduct total economic valuation of mangrove 3. Develop criteria and indicator landuse planning on mangrove ecosystem.	1. Sustain national resource inventory/assessment of mangrove forests in the country (immediate, FMB, LGU, concerned POs) 2. Validation on the ground of results of satellite imagery produced by the NAMRIA and FMB	1. Survey and prepare a plan of mangrove resources (2005, DMCR and local government organizations); 2. Integrated research combining academic knowledge with knowledge from local wisdom and culture in order to develop basic information at the area level (DMCR, academic institutions, schools, and communities).	1. Speeding up research, cooperation in research and technology transfer (US\$500,000, FSIV, FIPI, MERC, UNEP/GEF, IUCN, ACIAR, NGOs, Phase 1: 2005-2010, Phase 2: 2010-2015).	

Table 4.1 cont. Objectives and Activities for Component 1: Research and Monitoring.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 2: Mapping						
1. Develop kinds of needed maps for mangrove management areas in Peam Krasop (US\$10,000, Year 3, DNCP, High priority).	Included in Component 1-Sub-component 5: Information system	1. Survey and mapping of mangrove ecosystem in protected and cultivation area 2. Research of mangrove biodiversity 3. Research of silviculture system of mangrove utilization 4. Research of eco-hydrology of mangrove	1. Develop maps of mangrove stands including determination/mapping of potential sites for mangrove rehabilitation/restoration	1. Plan and design coastal landuse areas to the participation of local organization and members of the publics.	1. Component 1, Sub-comp. 1	
Sub-component 3: Socio-economic and cultural assessment						
1. Formulate mangrove evaluation sub-committee or working group in the national committee (US\$5,000, Year 2, DNCP, Medium priority); 2. Establish national mangrove awareness program in the media and in educational institutions and/or training courses (US\$15,000, Year 3-5, DNCP, Medium priority); 3. Identify, evaluate and document cultural values (US\$5,000, Year 2, DNCP, Medium priority); 4. Prepare maintenance and enhancement plans for the identified cultural values within mangrove areas (US\$10,00, Year 3, DNCP, Medium priority).	1. Evaluate the Ecological Benefits and Economic Values of Mangroves in China (Yuan4 million, 2 years, SEPA).	1. Develop curriculum, material and supporting facilities, methods of awareness and training on mangrove management 2. Implement research and development of knowledge and technology on fish/shrimp farm that environmental friendly 3. Conduct to total economic of mangrove ecosystem in each area 4. Conduct survey of social use of mangrove in community around mangrove ecosystem	1. Determine and evaluate socio-economic and cultural factors affecting mangrove management nationwide 2. Resource valuation of mangrove ecosystems; 3. Medium for improved IEC on mangrove ecosystems	1. Support local communities in participation in conservation and restoration and sustainable use of mangrove resources and applying successful projects to other areas 2. Provide opportunity for local communities for eco-tourism services jointly with government for conservation uses.	1. Component 1, Sub-component 1.	
Sub-component 4: Database management						
1. Establish a central meta data system in MoE (US\$5,000, Year 2, DNCP, Medium priority); 2. Financial support for maintenance and data updating (US\$4,000, Year 2-5, DNCP, Medium priority).	Included in Component 1 - Sub-component 5: Information system	1. Organize data and information exchange to update and improve quantities and quality of data	Maintain and update mangrove information at the provincial and national levels for planning and for decision making at all levels of governance	1. Develop databases and information systems to support decision-making and action by staff and communities, which is correct, appropriate, proficient, and timely (DMCR, academic institutions, and local government organizations).	1. Component 1, Sub-component 1.	
Sub-component 5: Information system						
	1. Establish Mangrove Information and decision-making System (Yuan 10 million, 3 years, SOA & SFA).).	1. Develop journal mangrove ecosystem management 2. Publish the books on utilization of mangrove ecosystem 3. Establish of Mangrove Information Centre in Indonesia 4. Organize seminar/workshop/dialog on integrated sustainable mangrove management	Establish comprehensive information management for planning and management		1. Component 1, Sub-component 1	

Table 4.1 cont. Objectives and Activities for Component 1: Research and Monitoring.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 6: Decision support system						
1. Apply MIST (US\$10,000, DNCP, Year 1, High priority); 2. Implement MIST (US\$5,000, DNCP, Year 2, High priority); 3. Train staff in the use and maintenance of MIST (US\$5,000, DNCP, Year 1-5, High priority); 4. Implement resource-use data collection using MIST (US\$5,000, DNCP, Year 2-5, High priority); 5. Regularly provide information to MoE for the update of the NPAS website (DNCP, Year 2-5, High priority); 6. Carry out refresher training for staff on RBDC, use of MIST and maintenance of MIST database (US\$5,000, DNCP, Year 2-5, High priority).	1. To Formulate National Mangrove Technical Norms and Criteria, relative to protection, management, afforestation, monitoring and sustainable uses (Yuan 5 million, 3 years, SEPA, SFB& SOA)	1. Develop criteria and indicators on sustainable mangrove ecosystem management 2. Develop guideline and improve community participation on mangrove management 3. Conduct activities on mangrove management unit for forestry cultivation, fisheries and ecotourism 4. Develop and provide incentive to all stakeholders that success on mangrove conservation and rehabilitation	1. Prioritisation of research and development on the mangrove (continuing, PCARRD, SCUs and other Research Institutions).	1. Report on the status of mangrove resources to compile information for supporting decisions on development projects and provide basic information for planning the restoration of mangrove resources (DMCR, academic institutions, and local government organizations).		
Sub-component 7: Environmental Impact Assessment						
				1. Study changes in the condition of the mangrove and coastal environments after the construction of development projects (DMCR, academic institutions, schools, and communities).		
Priority						
High	Very high	Medium	Medium	Very High	High	
Time Frame						
5 years?	2005-2010	2005-2010	2005	2005-2008	2005-2015	
Cost						
US\$164,000	Yuan57 million	Yes	US\$40 million	Baht 2,961,500	US\$500,000	
Executing Agencies						
DNCP, MoE	SEPA/SOA/SFB	MoF, MoMF, MoE, MoHA, LIPI	CMMO, NAMRIA, CMMD	DMCR	FSIV, FIPI, MERC, UNEP/GEF, IUCN, ACIAR, NGOs	

Table 4.2 Objectives and Activities for Component 2: National Policy, Legal and Institutional Arrangement and Co-ordination.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Objectives						
1. To conduct research for the new innovative and optimal approaches for mangrove management; 2. To develop management plan; 3. To analyse institution; 4. To strengthen the cooperation and coordination; 5. To identify and analysis the stakeholder in each site; 6. To design and zone for community development area; 7. To provide the community development approaches for the areas and/or different alternatives with the sustainable development way; 8. To build the partners with different organizations such as private, public and NGOs/UN agencies for community development supports; 9. To maintain and enhance the traditional values within Peam Krasop; 10. To ensure the right of local people in the process of mangrove resources; 11. To develop regional transboundary agreement for management; 12. To establish and enhance collaboration with the neighbouring Coastal Areas for resource conservation and management.	1. To improve China Mangrove management, coordination Mechanism; 2. To seek for entry of non-government investment; 3. To enhance the policy of community participation.	1. Increasing the role of management authority and scientific authority on mangrove ecosystem management 2. Develop coordination and integrated program between relevant stakeholders 3. Improving capacity of central and local government and community institution on mangrove ecosystem management	1. Effecting equitable access to mangroves on multiple-use, multiple-user basis; 2. Harmonisation of policies and institutional arrangements /coordination to enhance productivity of mangrove addressing sustainability of resources	1. To build strong network to work in coordination for sustainable development of mangrove in Gulf of Thailand.	1. As Objectives of Component 3.	- Develop regional policy on ecological security - Regional Coordination of mangrove institutions
Activities						
Sub-component 1: Integration of research programmes with management and policy making						
1. Develop the new innovative and optimal approaches for mangrove management (US\$10,000, DNCP, Year 3, High priority);	Included in Component 1-sub-component 4	1. Establish of Institution of Mangrove information centre and rehabilitation 2. Revitalization of National Mangrove Committee 3. Organize clean action and mangrove care movement	1. Study and formulate policy to address existing productive illegal fishponds and/or shrimp farms (immediate, FMB, FDC). 2. Application of technologies and best practices in the formulation and development of policies to enhance management of mangrove resources		Integration of agencies	
Sub-component 2: Monitoring the NAPs						
1. Define goals and objectives of each site (US\$5,000, DNCP, Year 3, High priority); 2. Collect the existing data and information (US\$10,000, DNCP, Year 3, High priority).		1. Strengthening of national Mangrove Committee as a communication and coordination media on development knowledge and technology on mangrove 2. Identification and evaluation regulation on mangrove ecosystem management	1. Monitor the implementation of the NAP and evaluate the results for possible revision and amendment of strategies in implementing the plan	1. Monitoring progresses and evaluate results by report annually in 5 year basis to identify problems and obstacles.		- Monitoring the implementation of the SAP

Table 4.2 cont. Objectives and Activities for Component 2: National Policy, Legal and Institutional Arrangement and Co-ordination.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 3: Review and improve existing laws and policies						
<p>1. Establish clearly the roles and responsibilities of the various ministries and departments related to mangrove resources (US\$5,000, DNCP, Year 2, Medium priority);</p> <p>2. Identify coordination and decision-making process to undertake review of the roles and responsibilities of government agencies responsible for management and use of mangrove resources (US\$10,000, DNCP, Year 2, Medium priority);</p> <p>3. Identify mechanism and opportunities for decision-making mechanism related to the wise use and long-term sustainable utilization on the mangrove areas (US\$10,000, DNCP, Year?, Medium priority).</p>	<p>1. Trial of reform Mangrove Ownership System to Improve Financial Sustainability (Yuan20 million, 5 years, SEPA, NRDC).</p>	<p>1. Develop criteria and indicator landuse planning on mangrove ecosystem</p> <p>2. Initiation National Workshop on implementation of law on landuse planning in mangrove ecosystem</p> <p>3. Prepare and promote President Decree as legal umbrella of NAP</p>	<p>1. Further study of the cutting ban provision of the RA 7161 (immediate, DENR, LGUs and Pos);</p> <p>2. Regulate strictly the conversion of mangroves into other land uses (immediate, DENR, BFAR, LGUs, FDC); 3. Review and strengthen policy on reversion of abandoned, undeveloped and unproductive fishponds to mangrove forest estates (immediate, FMB, BFAR, LGUs, FDC).</p>	<p>1. Support the formulation of community regulation for conservation and restoration and community use of mangroves.</p> <p>2. Establish performance indicators for evaluating success in implementation policy.</p>	<p>1. Revise institutional structure, policy framework to perform the package of decisions and decrees issued by the Prime Minister on effective and sustainable management and utilization of mangrove ecosystem (US\$ 300,000, MARD, MONRE, MOF, 2005-2006);</p> <p>2. Review and perform land-use planning in provinces and districts which possess mangrove forests and make these planning legally, scientifically and practically sound (US\$300,000, FIPI, ADPI, DONRE, PPC, DPC, NP, NR, Silvo, 2005-2007).</p>	<p>- Establishment of formal mechanism for cooperation among south China sea countries</p>
Sub-component 4: Integration of government agencies						
<p>1. Strengthen the government's responsibilities for the mangrove management (US\$5,000, DNCP, Year 1-5, Medium priority);</p> <p>2. Develop the policy of each ministry and department involved in management of mangrove (US\$30,000, DNCP, Year 2, Medium priority).</p>	<p>1. To Create and maintain China Mangrove Management and Coordinating Committee and (Yuan 2.5 million, 5 years, SEPA)</p>	<p>1. Improve interest and role of community and stakeholder that concern to mangrove in every activities on mangrove management</p> <p>2. Establish well understanding between key institution on mangrove management</p>	<p>1. Creation of Mangrove National Committee (immediate, CMMO-DENR)</p> <p>2. Identify roles and responsibilities of different agencies and stakeholders in enhancing services provided by the mangrove and other related resources</p>	<p>1. Build a network for cooperation between different development organizations, education institutes and private sector on academic knowledge to maintain the nature and quality of mangroves.</p> <p>2. Publicity to increase understanding and cooperation.</p>	<p>1. Consolidate and reinforce the mangrove ecosystem management organization at ministerial level (MARD, MONRE) and at local level (province and district) in an inter-sectoral linkage (US\$400,000, MONRE, MARD, MOF, NP, NR, Silvo, 2005-2007).</p>	

Table 4.2 cont. Objectives and Activities for Component 2: National Policy, Legal and Institutional Arrangement and Co-ordination.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 5: Stakeholder analysis and involvement						
1. Strengthen the term of references for stakeholders (US\$30,000, DNCP, Year 1-5, Medium priority).	1. Analysis of stakeholder benefit and policy suggestion(Yuan 2 million, 3 years, SEPA)	1.Prepare program and establish international and national partnership and collaboration on implementation of knowledge and technology of environmental friendly, utilization and marketing	1. Evaluate and analyse stakeholders and determine their role in the management of mangrove resources			
Sub-component 6: Community empowerment						
1. Mapping the zone for community with consultant with local people (US\$20,000, DNCP, Year 2-5, Medium priority); 2. Boundary demarcation (US\$5,000, DNCP, Year 3, Medium priority); 3. Develop community status (US\$10,000, DNCP, Year 3, Medium priority); 4. Develop approaches or programmes for people involvement in process of management (US\$8,000, DNCP, Year 2, Medium priority); 5. Give the right to local people in making planning and development of their areas (US\$15,000, DNCP, Year 3, Medium priority); 6. Support technical advise for development of their areas in the term of bank account, development, etc (US\$30,000, DNCP, Year 3, Medium priority).		1. Socialization technical standard guideline, criteria and utilization of knowledge and technology and traditional knowledge 2. Improve role of non formal group, organization in education and training activities on mangrove ecosystem management 3. Develop curriculum of education and training of mangrove that appropriate to environment characteristic and socio culture condition 4. Socialization of rule on mangrove ecosystem management 5. Improve supporting infrastructure and capacity on mangrove Information Centre in Central and Local 6. Encourage all stakeholder and community to participate on mangrove rehabilitation activities	1. Strengthen capability of communities in managing coastal resources including mangroves and other related critical habitats	1. Create volunteer network to guard and maintain mangrove areas; 2. Develop mangrove resource people from community leaders, young people through training.		
Sub-component 7: Strengthening traditional value and management system						
1. Identify, evaluate and document traditional values (US\$8,000, DNCP, Year 1-3, Medium priority); 2. Prepare maintenance and enhancement plans for the identified traditional values within Peam Krasop (US\$5,000, DNCP, Year 3-4, Medium priority);	1. Included in Sub-component 5: Stakeholder analysis and involvement	1. Socialization technical standard guideline, criteria and utilization of knowledge and technology and traditional knowledge 2. Develop guideline and improve community participation on mangrove management	1. Promotion, enhancement and integration of indigenous cultural communities and individuals in the mangrove management systems	1. Promote the use of knowledge from mangrove research combined with indigenous knowledge and local culture from local communities to support service businesses associated with mangroves (DMCR, academic institutions, and local government organizations).		- Networking local communities around the South China Sea
Sub-component 8: Establish an incentive system for good governance						
1. Allocate the concession (US\$5,000, DNCP, Year 2, Medium priority); 2. Develop guideline for mangrove management (US\$15,000, DNCP, Year 3, Medium priority); 3. Develop and implement the programs for participation (US\$20,000, DNCP, Year 3, Medium priority).		Develop and provide incentive to all stakeholder that success on mangrove conservation and rehabilitation	1. Come up with guidelines to recognise partners in mangrove management for improved productivity			

Table 4.2 cont. Objectives and Activities for Component 2: National Policy, Legal and Institutional Arrangement and Co-ordination.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 9: Linkage to regional and international obligations						
1. Develop and get agreement (US\$5,000, DNCP, Year 2, Medium priority); 2. Joint meeting with site managers and advisory group for operation twist per year(US\$10,000, DNCP, Year 1-5, Medium priority); 3. Joint meeting for policy/planning between management boards from the countries annually (US\$10,000, DNCP, Year 1-5, Medium priority).	Included in Sub-component 10: International and regional cooperation	Prepare and promote President Decree as legal umbrella of NAP (base on implementation of Ramsar Convention, Rio declaration, etc)	1. Develop and maintain close coordination and networking at all levels (nationally, regionally and internationally)			-Assisting participating countries in meeting their obligations under international conventions
Sub-component 10: International and regional cooperation						
1. Plan and attend regular regional/border meetings (US\$50,000, DNCP, Year 1-5, High priority); 2. Carry out joint trans-boundary conservation programmes (US\$30,000, DNCP, Year 2-5, High priority); 3. Carry out joint patrols (US\$50,000, DNCP, Year 2-5, High priority); 4. Carry out joint monitoring programmes (US\$30,000, DNCP, Year 3-5, High priority); 5. Agree on priority research programmes with regions (US\$10,000, DNCP, Year 3, Medium priority); 6. Harmonise the various databases in regions (US\$5,000, DNCP, Year 3, Medium priority); 7. Share research and monitoring findings and recommendations to improve resource management (US\$3,000, DNCP, Year 3-5, Medium priority); 8. Establish protocols for regional co-operation (US\$5,000, DNCP, Year 3, Low priority); 9. Initiate joint community development programmes at the borders (US\$10,000, DNCP, Year 4, Low priority).	1. Construct International Mangrove Demo Site (Yuan45 million, 5 years, SFA, SOA, SEPA, local governments). 2. Create "China-Asean Mangrove Cooperation and Development Centre" (Yuan21 million, 5 years, SEPA & Guangxi government)	1. Prepare program and establish international and national partnership and collaboration on implementation of knowledge and technology of environmental friendly, utilization and marketing 2. Invite Foreign Donor Institution (ITTO, JICA, NRM, DFID, European Union, UNEP, etc) and encourage role of research institution such as government, NGOs, Private sectors, to participate on mangrove research and management	1. Maintain and comply with international and regional commitments to improve management of mangrove ecosystems		1. Broaden and Strengthen international cooperation in research, preservation, rehabilitation and sustainable utilization of mangrove ecosystem (US\$300,000, UNEP/GEF, IUCN, ACIAR, NGOs, MARD, MONRE, FSIV, FIPI, MERC, 2005 – 2015).	- Networking regional & international organizations having interest in sustainable use of mangroves
Priority						
Medium	High	High	High	Low	High	
Time Frame						
5 years?	2005-2010	2005-2010	2005-2007	2005-2008	2005-2015	
Cost						
US\$474,000	Yuan90.5 million	Yes	US\$18 million	Baht 790,750	US\$ 1.3 million	
Executing Agencies						
DNCP	SEPA, State Department, SOA, SFB.	MoF, MoMF, MoE, MoHA, LIPI, Local government (Bappeda)	CMMO/PPSO/ERDB, Focal Point, Local Governments, DENR/LGUs, DFA.	DMCR	MARD, MONRE, MOF, ADPI, DONRE, PPC, DPC, NP, NR, Silvo, UNEP/GEF, IUCN, ACIAR, NGOs, FSIV, FIPI, MERC.	

Table 4.3 Objectives and Activities for Component 3: Public awareness, Communication and Education.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Objectives						
1. To provide training to the public services and study tours; 2. To use multimedia system at the national and local level in order to promote understanding and involvement of the stakeholders; 3. To Integrate the concept of mangrove management and important to the schooling system; 4. To produce poster, brochure and guidebooks for the site management.	1. To improve public and local official awareness of mangrove values, enhance initiatives of conservation.	1. Maintain the existence and function of mangrove ecosystem, and rehabilitation degraded mangrove ecosystem in protected and cultivation area 2. improving community understanding on existence, status, function and utilization of mangrove ecosystem 3. increasing local community role on mangrove ecosystem management	To improve transfer of information through appropriate and applicable means, through multi-media and through field demonstration and observation	1. To increase the potential of staff of development sector organizations by increasing their knowledge and awareness about the development conservation and restoration activities.	1. Basically change the perception of key managers and policy makers at local levels (province and district) on mangrove ecosystem values.	- Establish a network of environmental journalists and educators, and provide them materials of awareness on mangroves.
Activities						
Sub-component 1: Improve government services						
1. Organize the training for public awareness (US\$20,000, DNCP, Year 2, Medium priority); 2. Organize study tours for sight seeing (US\$10,000, DNCP, Year 3, Medium priority).		1. facilitate and provide assistance on mangrove rehabilitation, utilization and conservation activities 2. Organize training on mangrove conservation and rehabilitation whose participant from local, national and international	1. Strengthen Information, Education and Communication on mangrove forests/ecosystems (Continuing, DENR, LGUs, Academe)	1. Provide forum to joint work and exchange knowledge within development sectors, especially between government and local communities.	1. Strengthen appropriate activities to transform the perception of managers in localities with the mangrove areas on the role, value, management and sustainable uses of mangrove ecosystem (US\$600,000, VEPA, MERC, FSIV, FIPI, 2005 – 2010); 2. Reinforce propaganda and universalization of role, value of mangrove ecosystem as well as management and sustainable use of mangrove ecosystem for social organizations and local communities in mangroves areas for immediate and long-term benefits (US\$1,2 million, NP, NR, MERC, FSIV, FIPI, and NGOs, 2005-2015).	

Table 4.3 cont. Objectives and Activities for Component 3: Public awareness, Communication and Education.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 2: Development, improvement, and dissemination of awareness materials						
1. Work with national media for national and local awareness and information exchange (US\$20,000, DNCP, Year 2, High priority); 2. Magazine with the picture for local people (US\$10,000, DNCP, Year 3, Medium priority); 3. Use the established religious group such as monks, teachers (US\$5,000, DNCP, Year 3, Medium priority); 4. Establish database and library (US\$50,000, DNCP, Year 3, Medium priority) 5. Design development of mangrove related tourism activities to include and meet the needs of awareness of the opportunities for ecotourism of local people (US\$10,000, DNCP, Year 3, High priority); 6. Develop and produce poster, brochure and guidebooks for the site management (US\$40,000, DNCP, Year 2, High priority); 7. Develop the programs on public awareness to target groups (US\$10,000, DNCP, Year 2, High priority).	1. Conduct Mangrove Education (Yuan 9.7 million, 5 years, SEPA & local governments).	1. Develop journal mangrove ecosystem management 2. Publish the books on utilization of mangrove ecosystem 3. Establish of Mangrove Information Centre 4. Organize seminar/workshop/dialog on integrated sustainable mangrove management	1. Develop and maintain a compendium of information and documented lessons learned and best practices in mangrove management 2. Disseminate information through multi-media and other appropriate means 3. Improve medium of increasing awareness on mangroves through feedback mechanisms and analysis	1. Publicity to increase understanding and co-operation (DMCR and local government organizations); 2. Publicity (2005, DMCR and local government organizations); 3. Prepare media / study materials on mangrove resources for community use, for example for monitoring of water quality and biodiversity monitoring (DMCR, academic institutions, schools, and communities).	In sub-component 3, Sub-component 1.	
Priority						
Medium	Low	Medium	Medium	High	High	
Time Frame						
	2005-2010	2005-2010	2005-2007	2005-2008	2005-2015	
Cost						
US\$175,000	Yuan 9.7 million	Yes	US\$ 10 million	Baht 785,000	US\$ 1.8 million	
Executing Agencies						
DNCP	SFB, SOA&SEPA	MoF, MoMF, MoHA, MoE, LIPI, Local Government (BAPPEDA).	Executive Branch, DENR/DPI/Academe, etc.	DMCR	VEPA, MERC, FSIV, FIPI, NP, NR, NGOs	

Table 4.4 Objectives and Activities for Component 4: Capacity Building and Sustainability.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Objectives						
1. To raise public awareness; 2. To build network with government agencies; 3. To promote community awareness of mangrove areas; 4. To develop a nation awareness programmes; 5. To build institutional capacity; 6. To organize formal education; 7. To provide training for non government organizations; 8. To analysis policy and legislation for mangrove management; 9. To Monitor and control the site; 10. To develop and implement streamlined financial management systems and strategies for increasing the revenue base; 11. To develop and implement an infrastructure development and maintenance plan; 12. To analysis and recommend institution; 13. To Strengthening the cooperation and coordination; 14. To build a network for cooperation between difference development organizations.	1. To enhance the capacity in Institution, conservation, utilization and education.	1.Improving capacity of central and local government and community institution on mangrove ecosystem management 2.Increasing the role of management authority and scientific authority on mangrove ecosystem management 3.Develop synergy collaboration and integrated program between relevant stakeholders	To improve effective mangrove resource management by strengthening and capacitating communities and other stakeholders and other mangrove users in the proper management of mangrove ecosystems	1. Conservation, restoration, and increase in mangrove areas 2. Support the formation of organisations for the participatory development of mangrove resources in the Gulf of Thailand to drive the sustainable conservation, restoration, and use of mangrove resources.	1. In component 3, sub-component 1. 2. In Component 1, sub-component 1.	- Develop and implement a regional exchange programme for managers, government officials, teachers, research students, and community leaders.
Activities						
Sub-component 1: Human resource development						
1. Develop a programme to increase awareness within government of the functions and benefits of mangrove (US\$20,000, DNCP, Year 2, High priority); 2. Undertake small, in the short-term, and large-scale, in the long-term, demonstration projects involving the management of mangrove areas (US\$50,000, DNCP, Year 3, Medium priority); 3. Develop a comprehensive programme to increase public awareness of mangrove and the benefits (US\$40,000, DNCP, Year 2, High priority); 4. Develop national awareness and information exchange programs (US\$10,000, NMC, Year 2-5, Medium priority); 5. Establish cooperation with foreign broadcast operation (US\$5,000, DNCP, Year 3-5, Medium priority); 6. Make magazine with picture for local people (US\$20,000, DNCP, Year 3-5, High priority); 7. Develop newsletters for government, national and international agencies (US\$20,000, DNCP, Year 3-5, High priority); 8. Use established religious groups such as monks and teachers (US\$5,000, DNCP, Year 3, Medium priority);	1. Build the Capacities of Mangrove Reserves (Yuan28.5 million, 5 years, SFA, SEPA)	1.Insert awareness program in extra curricular activities of students and Schools, University curriculum 2.Improving quality of human resources for supporting infrastructure and facilities mangrove information centre	1. Improve capability of stakeholders and other mangrove users for more improved management and productivity	1. Support the process of formal study and non-formal education to develop organizational knowledge, capacity and focus in the conservation, restoration, and use of mangrove resources (DMCR, academic institutions, local government organizations, and communities); 2. Build forums for joint work and learning between development organizations, government, local organizations, and communities to share and exchange local knowledge and appropriate technology for the management of mangrove resources (DMCR, academic institutions, local government organizations, and communities).		

Table 4.4 cont. Objectives and Activities for Component 4: Capacity Building and Sustainability.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 2: Immediate training activities						
1. Organize training programmes for relevant government ministries and local authorities and groups (US\$20,000, DNCP, Year 2-3, Medium priority); 2. Integrate basic mangrove ecology into school curricula and promote awareness programmes on mangrove benefit and value (US\$5,000, DNCP, Year 3-5, Medium priority); 3. Develop training programmes for NGO staff working in rural areas and advertising local agencies (US\$30,000, DNCP, Year 3-5, Medium priority).	Included in Component 3- Sub-component 2: Development, improvement, and dissemination of awareness materials	1. Organize training on mangrove conservation and rehabilitation whose participant from local, national and international 2. Develop curriculum , material, schedule, supporting facilities, methods of awareness and training on mangrove management	1. Sustain training for LGUs and mangrove/ coastal communities on sustainable management of mangroves (immediate, DENR, LGUs, SCUs, NGOs). 2. Encourage group visiting to successful projects; cross-posting for additional knowledge on mangrove resource management	1. Training for mangrove resource people from government organizations, community leaders, young people, and other development organizations (DMCR and academic institutions).		
Sub-component 3: Law enforcement						
1. Compile existing sectoral legislation relating to mangrove resources from all ministries (US\$2,000, DNCP, Year 3, Medium priority); 2. Review existing legislation to determine areas of overlap and gaps in legislation (US\$2,000, DNCP, Year 3, Medium priority); 3. Ensure that mangroves are managed along the principles of suitable development (DNCP, Year 2-5, Medium priority).		1. Develop step by step of law enforcement system on mangrove management 2. Execute law enforcement on mangrove ecosystem management	1. Involvement of all responsible government entity, private, civil society, religious organisations and individuals in the enforcement of policies, s and regulations on mangrove resources		1. In component 2, sub-component 3.	
Sub-component 4: Monitoring, Controlling and Surveillance						
1. Prepare annual report on policies, activities, and plans (US\$7,000, DNCP, Year 1-5, High priority); 2. Measure to allow and encourage non-government participation in the implementation of strategy (US\$10,000, DNCP, Year 2, High priority); 3. Report regularly the indicators identified for each strategic objective (US\$5,000, DNCP, Year 1-5, High priority); 4. Revise the strategy after an initial implementation (US\$15,000, DNCP, Year 1-5, Medium priority).		1. Identification and evaluation regulation on mangrove ecosystem management	Follow-up of the NAP and revise/amend when necessary		1. Human resource and infrastructure development (p 20, the solution)	
Sub-component 5: Financial sustainability						
1. Develop economically viable eco-tourism activities (US\$10,000, DNCP, Year 3-5, High priority); 2. Develop an AOP manual and implement AOP procedures annually (US\$10,000, DNCP, Year 1-5, High priority); 3. Implement policies on financial management (US\$5,000, DNCP, Year 1, High priority) 4. Raise funds through eco-tourism and other activities offered by Peam Krasop (US\$10,000, PD, Year 3-5, Medium priority) 5. Explore and implement opportunities for fund raising (US\$10,000, PD, Year 3-5, Medium priority); 6. Train accounts staff and budgets holders in financial management systems (US\$5,000, DNCP, Year 3-5, Medium priority);	1. Operate Eco-tourism in Mangrove Reserves (Yuan30 million, 3 years, SFA, SOA);	1. Establish well understanding on institution role and responsibility on mangrove ecosystem management	1. Develop livelihood and other income generating projects and promote the user's pay principle for a sustained mangrove establishment, management and protection		1. Funding solution <ul style="list-style-type: none"> • Diverse funding sources • Foreign support • Increase eco-tourism services (p19, solution) 	

Table 4.4 cont. Objectives and Activities for Component 4: Capacity Building and Sustainability.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 6: Infrastructure development						
1. Monitor road improvements & lobby stoppage of potentially harmful road development plans (US\$30,000, DNCP, Year 1-5, High priority); 2. Carry out environmental and social impact assessment for all proposed infrastructure according to specific EIA guidelines (US\$10,000, DNCP, Year 2, High priority); 3. Prepare site plans and layouts for all approved infrastructure (US\$5,000, DNCP, Year 3, High priority); 4. Solicit for funding for approved infrastructure developments and renovation work(US\$20,000, DNCP, Year 2-4, High priority); 5. Identify appropriate contractors according to infrastructure development standards (DNCP, Year 3, High priority); 6. Closely supervise contractors to ensure quality work and conformity with agreed standards (DNCP, Year 3-5, High priority); 7. Develop and implement a maintenance plan for all infrastructure (US\$2,000, DNCP, Year 1-5, Medium priority); 8. Lobby local governments on maintenance of key roads to Peam Krasop (DNCP, Year 1-5, Medium priority).	1. Create "China Mangrove Management and Utilization Technology Development Centre" (Yuan25.5 million, 2 years, SEPA & local government); 2. Install Mangrove Education Facilities (Yuan20 million, 2 years, SOA & SFA).	1. Improve supporting infrastructure and capacity on mangrove Information Centre in Central and Local	Provision for infrastructure development such as but not limited to board walk for educational, tourism promotion and awareness building on the importance of mangroves; ports and other environmentally friendly infrastructure for economic development of the coastal dwellers/communities	1. Set up centres for local people to pass on knowledge about mangroves from research, local indigenous knowledge, and local culture to tourists (DMCR, academic institutions, and local government organizations); 2. Support establishment of 50 mangrove ecosystem study centres within five years (DMCR, academic institutions, schools, and communities).		
Sub-component 7: Institutional building and strengthening						
1. The roles and responsibilities of the various Ministries and Departments in relation to mangrove resources must be clearly established (US\$30,000, DNCP, Year 1-5, Medium priority); 2. Strengthen the government's responsibilities for the mangrove management (DNCP); 3. Develop the policy of each ministry and department involved in management of mangrove.		1. Establish well understanding on institution role and responsibility on mangrove ecosystem management 2. Strengthening National Mangrove Committee	1. Solicit the involvement of other agencies of they government (local and national) to improve services and benefits the mangrove ecosystems provide			-Establishment of a regional training and research institution

Table 4.4 cont. Objectives and Activities for Component 4: Capacity Building and Sustainability.

Sub-component 8: Network establishment and strengthening						
1. Build forums for joint works and learning between development organizations, government, local organizations, and communities (US\$10,000, DNCP, Year 3, Medium priority); 2. Support establishment of network of development organizations (US\$5,000, DNCP, Year 3, Medium priority).		1. Prepare program and establish international and national partnership and collaboration on implementation of knowledge and technology of environmental friendly, utilization and marketing	1. Encourage networking of concerned individuals, private sectors, civil society, religious organizations and government organizations for improved benefits and services	1. Create a volunteer network to guard and maintain mangrove areas (DMCR and local government organizations); 2. Support establishment of networks of development organizations (DMCR, academic institutions, local government organizations, and communities).		
Priority						
High	High	Low	Low	Very high	Low	
Time Frame						
5 years?	2004-2010	2005-2010	2005-2007	2005-2008	Yes	
Cost						
US\$478000	Yuan 104 million	Yes	US\$ 104 million	Baht 5,500,750		
Executing Agencies						
DNCP, NMC, PD	SPB, SEPA/SOA/SFB, SMD	Dept. Forestry, Dept. Marine F, MoEnv, Dept. Home A, LIPI.	CMMO/NGO/Academe, DENR/DA/PCG/LGU.	DMCR	Yes	

Table 4.5 Objectives and Activities for Component 5: Resource and Habitat Management.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Objectives						
1. To identify and define the degraded areas or/and the important areas; 2. To patrolling and protection against the illegal activities; 3. To design and zone for community development area; 4. To provide the community development approaches for the areas and/or different alternatives with the sustainable development way; 5. To build the partners with different organizations such as private, public and NGOs/UN agencies for community development supports; 6. To strengthen coastal management and effective use; 7. To Speeding up research, cooperation in research and technology transfer; 8. To transform the perception of key mangers, policy makers at local levels.	1. Protect and Rehabilitate the Existing Mangroves and Plant Mangrove Trees; 2. Improve Mangrove Management; 3. Develop New Technologies and Modes to Rationally Use Mangroves;	1 Maintain the existence and function of mangrove ecosystem, and rehabilitate degraded mangrove ecosystem in protected and cultivation area.	1. Preservation of the remaining mangrove forests bringing them under effective management and enhancing their biological productivity; 2. Preservation of portions of the mangrove areas for protection of floral and faunal biodiversity; 3. Expansion of mangroves through reforestation and plantation development; 4. Provision of adequate supply of mangrove products and services to various end-users while at the same time conserving and expanding the resources; 5. Promotion of economic development in areas around mangrove forests especially in ways that enhance mangrove protection and management.	1. Promote the sustainable use of mangrove resources; 2. Monitoring of management of mangrove resources and identification of performance indicators.	1. Reinforce effectiveness of mangrove ecosystem protection, rehabilitation and development; 2. Contribute to improve livelihoods for the people who live inside or in the vicinity of mangroves.	
Activities						
Sub-component 1: Develop guidelines for sustainable use						
1. Identify the degraded and /or important areas in each site of the highest priorities (US\$20,000, DNCP, Year 2-5, Medium priority); 2. Mapping the degraded and/important areas (US\$30,000, DNCP, Year 2-5, High priority); 3. Develop strategy and method to restore their ecosystem in each area (US\$50,000, DNCP, Year 3-5, Medium priority).	Included in component 2- Sub-component 4: Integration of government agencies	1. Develop standard and criteria of conservation activities 2. Develop guideline and improve community participation on mangrove management 3. Develop criteria and indicators on sustainable mangrove ecosystem management	1. Delineation of the mangrove permanent forest estate (immediate, FMB-DENR, NAMRIA, BFAR);	1. Identify and prepare plans of areas at risk (DMCR and local government organizations) 2. Plan tourism zones and ecological tourism activities for mangroves together with local communities; 3. Research and development of appropriate guidelines for protecting against coastal erosion (DMCR Department of Mineral Resources).		-Information network and exchange

Table 4.5 cont. Objectives and Activities for Component 5: Resource and Habitat Management.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 2: Strengthen management components						
1. Establish patrolling system (US\$50,000, DNCP, Year 1-5, High priority).		1. Establish seed nursery 2. Establish MIC (Mangrove Information Centre)	1. Adoption of Criteria & Indicators for management of mangrove forests (Immediate, FMB, Academe)	1. Conserve species of aquatic animals found in mangrove forests (DMCR, academic institutions, and local government organizations); 2. Monitor progress and results of joint work and issue annual reports and a five-yearly report (DMCR and communities); 3. Develop measurements for change in mangrove status and for monitoring success of strategies, methods, and activities, including measures at the overview level for sustainable mangrove management and measures for monitoring change in particular aspects (DMCR, academic institutions, and communities).		
Sub-component 3: Establish/enhance habitat classification system						
1. Develop action plan for the restoration activities in each area (US\$20,000, DNCP, Year 2-5, High priority); 2. Thinning and pruning of the natural space for natural regeneration of the forest (US\$20,000, DNCP, Year 3-5, Medium priority); 3. Establish tree nursery for each site with the identified plant species (US\$30,000, DNCP, Year 3-5, Medium priority); 4. Plant seedling trees from the nursery in the degraded areas (US\$30,000, DNCP, Year 3-5, Medium priority); 5. Maintain the planted forest and natural forest in the degraded areas (US\$15,000, DNCP, Year 3-5, Medium priority); 6. Establish the wildlife rescue centre for each site for treat and take care wild animal (US\$40,000, DNCP, Year 4-5, Medium priority); 7. Delivery the rescue animal into its habitats (US\$15,000, DNCP, Year 3-5, Medium priority).	1. Plant Mangrove Trees to Restore and Rehabilitate Mangroves (Yuan460 million, 10 years, SFA)	1. Establish infrastructure and facilities to support knowledge and technology of mangrove ecology	1. Expand the mangrove areas (FMB, BFAR, LGUs)	1. Expand planting areas (DMCR and local government organizations); 2. Maintain mangrove areas (DMCR and local government organizations)		-Develop regional criteria for habitat classification

Table 4.5 cont. Objectives and Activities for Component 5: Resource and Habitat Management.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 4: Community-based management						
1. Design and zone for community development area (US\$10,000, DNCP, Year 2-5, Medium priority); 2. Organize public awareness programme/training (US\$10,000, DNCP, Year 3-4, Medium priority); 3. Organize skills training (US\$10,000, DNCP, Year 3-4, Medium priority); 4. Help community define local products depend on markets (US\$3,000, DNCP, Year 3-4, Medium priority); 5. Build partnership with public, private sectors and NGOs (US\$310,000, DNCP, Year 2-5, Medium priority).		1. Socialization technical standard guideline, criteria mangrove management, and utilization of knowledge, technology and traditional knowledge	1. Encourage community-based management and partnership in all aspects of mangrove management	1. Establish 'mangrove communities' (DMCR, academic institutions, and local government organizations); 2. Support communities in introducing regulations for conservation, restoration, and use of mangrove resources by the community (DMCR, academic institutions, local government organizations, and communities).	1. Socialization of mangrove forestry and upgrading living standard for local people (US\$1.2 million, PPC, DPC, FMBs, Silvo, Phase 1: 2005 – 2010 and phase 2: 2010 – 2015).	
Sub-component 5: Sustainable use of coastal systems						
1. Develop new approaches for sustainable use (US\$10,000, DNCP, Year 3-5, Medium priority); 2. Strengthen coastal management and effective use (US\$10,000, DNCP, Year 4-5, Medium priority).	1. Operate Ecotourism in Urban Mangrove Areas (Yuan180 million, 5 years, SEPA, CNTA, local governments).	1. Prepare program and establish national and international partnership and collaboration on implementation of knowledge and technology environmental friendly	1. Initiate implementation of integrated coastal resource management following all phases of coastal resources assessment, CRM plan preparation and implementation including M/E following all benchmarks and best practices as adopted by other economies			-Examination of commercialization of mangrove carbon sink.
Sub-component 6: Environmentally friendly technologies						
1. Prepare research topics with line-ministries (US\$10,000, DNCP, Year 3-5, Medium priority); 2. Strengthen capacity of research institutions, which are specialized on mangrove ecosystem (US\$5,000, DNCP, Year 2-5, Medium priority).	1. Exploit Medical and Genetic Resources in Mangroves (Yuan50 million, 5 years, MST & local governments); 2. Develop Productivity Restoration Technology to Reuse Abandoned Shrimp Ponds and Salina (Yuan34.5 million, 5 years, SEPA & local governments).	1. Implement research and development of knowledge and technology on fish farm that environmental friendly	1. Advocate for the use of environmentally- friendly technologies for enhancement of resources and habitat management	1. Support the production of goods from mangrove resources, causing no damage to the balance of the ecosystem (DMCR, academic institutions, and local government organizations).		

Table 4.5 cont. Objectives and Activities for Component 5: Resource and Habitat Management.

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Regional
Sub-component 7: Types of management regimes, development of models						
1. Transform the perception of key managers, policy makers on the roles and value of mangrove ecosystem and raise awareness of local community (US\$4,000, DNCP, Year 3-5, Medium priority); 2. Consolidate and reinforce the mangrove ecosystem management organizations at ministries levels and at local levels (US\$5,000, DNCP, Year 3-5, Medium priority).	1. Practice Eco-Farming in Mangrove Areas (Yuan42 million, 5 years, MST, SEPA, 3 provincial governments); 2. Construct International Mangrove Demo Site (Yuan45 million, 5 years, SFA, SOA, SEPA, local governments).	1. Conduct activities on sustainable mangrove management unit for forestry utilization (charcoal, timber, nipa palm), fisheries and eco-tourism	1. Replicate of the Pagbilao GRA to consider other environmental gradients (immediate, ERDB, UPLB and other SCUs, PCARRD); 2. Study and establish appropriate model for CBFM in mangrove forests (immediate, FMB, FDC).	1. Promote ecotourism (DMCR, academic institutions, and local government organizations).	1. Appropriate use, protection and rehabilitation of mangrove ecosystem (US\$600,000, FSIV, FIPI, FIRI, FMBs, Silvo, PPC, DPC, NP, NR, Local communities, extension agencies, Phase 1: 2005-2010, Phase 2: 2010-1015).	
Sub-component 8: Alternative livelihood						
	Included in Component 5-Sub-component 5, 6, 7		1. Promote additional alternative livelihood opportunities for mangrove forest resource users (immediate, DENR, BFAR, LGUs).			
Sub-component 9: Establishment of management zones						
	1. Expand Protected Mangrove Areas (Yuan20 million, 5 years, SEPA, SFA);	1. Initiation national workshop on implementation of law on land use, especially that related to mangrove ecosystem	1. Management zones should be properly identified and laid on the ground to avoid conflicting uses and for a more harmonious use of resources and habitats including mangrove ecosystems.	1. Create mangrove and buffer zone boundaries either naturally by forest planting or by using other appropriate structures (DMCR and local government organizations); 2. Plan tourism zones and ecological tourism activities for mangroves together with local communities (DMCR, academic institutions, and local government organizations).	1. Reinforcement and development of nature reserves and national parks (US\$500,000, MARD, MONRE, MPI, NP, NR, PPC, DPC, FIPI, 2005-2010).	
Priority						
Medium	Very high	High	Very high	Very high	High	
Time Frame						
	2005-2015	2005-2010	2005-2007	2005-2008	2005-2015	
Cost						
US\$407,000	Yuan 786.5 million	Yes	US\$ 177 million	Baht 44,709,000	US\$ 2.3 million	
Executing Agencies						
DNCP	SEPA, SFB, SOA	MoF, MoMF, MoE, MoHA	DENR, NGA, NGO, Academe, LGUs.	DMCR	PPC, DPC, FMBs, Silvo, MARD, MONRE, MPI, NP, NR, FIPI	

Abbreviation

Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam
AOP: Annual Operation Plan;	CNTA: China National Tourism Administration	Local Government Planning Agencies (Bappeda)	BFAR: Bureau of Fisheries and Aquatic Resources	DMCR: Department of Marine and Coastal Resources (part of the Ministry of Natural Resources and Environment)	ACIAR: Australian Centre for International Agriculture Research
DNCP: Department of Nature Conservation and Protection of MoE;	MST: Ministry of Science and Technology	Ministry of Forestry (MoF)	CBFM: Community Based Forest Management		ADPI:?
MAFF: Ministry of Agriculture, Forestry and Fisheries;	NRDC: National Reform and Development Commission,	Ministry of Marine and Fisheries (MoMF)	CMMO: Coastal Marine Management Office		DONRE: Department of Natural Resource and Environment
MIST: Management Information System;	SEPA: State Environment Protection Bureau	Ministry of Environment (MoE)	DA: Department of Agriculture		DPC: District People's Committee
MLMUC: Ministry of Land Management, Urbanization and Construction;	SEPA: State Environmental Protection Administration	Indonesian Institution of Life Science (LIPI)	DENR: Department of Environment and Natural Resources		FIPI: Forest Inventory and Planning Institute
MoE: Ministry of Environment;	SFA: State Forestry Administration,	Ministry of Home Affairs (MoHA)	DFA: Department of Foreign Affairs		FMBs: Forest Management Boards
MoP: Ministry of Planning.	SMD: State Monetary Department	Local Government Planning Agencies (Bappeda)	DPI: Department of Public Information		FSIV:?
MRD: Ministry of Rural Development;	SOA: State Oceanic Administration		ERDB: Ecosystems Research and Development Bureau		MARD: Ministry of Agriculture and Rural Development
NMC: National Mangrove Committee;	SPB: State Personnel Bureau		FDC:		MERC: Mangrove Ecosystem Research Centre
PD: Provincial Department?			FMB: Forest Management Bureau, DENR		MOF: Ministry of Fishery
			GRA: Genetic Resources Area		MONRE: Ministry of Natural Resources and Environment
			LGU: Local Government Unit		NGOs: Non-Governmental Organizations
			NAMRIA: National Mapping Resource Inventory Authority		NP: National Park
			PCARRD:		NR: National Reserves
			PO: People's Organization		PPC: Provincial People's Committee
			PPSO: Policy and Planning Service Office		Silvo: Fishery Enterprise
			RA: Republic Act		VEPA: Viet Nam Environment Protection Agency
			SCU:		
			UPLB:		

ANNEX 5

Revised Targets for the Mangrove Sub-component of the Regional Strategic Action Programme

BACKGROUND

The fifth meeting of the Regional Scientific and Technical Committee reviewed the revised targets proposed by the Regional Working Groups for the various components of the Strategic Action Programme and commented as follows on the proposals from the Regional Working Group on Mangroves:

Mangroves

- 66% of the present area of mangroves should be brought under protection by the year 2012.

RSTC Comment: The RWG-M should consider the definition of "protection" and ensure common understanding of "protection" in the region. It was pointed out in Indonesia and Philippines "protection" means "non-use" of timber and other forest products.

The sixth meeting of the Regional Working Group reviewed the revised draft targets proposed during the fifth meeting and prepared the following table reflecting the goals and targets with respect to mangroves that could be realistically established in the revised Strategic Action programme.

Table 1 Areas of Mangrove under different forms of management and potential targets for mangrove protection to be included in the SAP. [Targets relate to 2012 unless otherwise stated]

	Cambodia	China	Indonesia	Philippines	Thailand	Viet Nam	Total	%
Total area (ha)	72,350	23,446	934,000	27,251	34,677	156,608 ³	1,245,864	100
Production	0	0	610,800	0	0	40,000	650,800	52
Conversion	0	0	165,000	500 ⁴	0	0	166,640	13
Parks & Protected Areas (Conservation) non-extractive use	13,558	15,772	158,200	[4,776] ⁵	11,520	50,000	249,050	20
Non-use of mangrove but extractive resource use (fish, crabs etc.)	58,792	7,674	0	26,751	23,157	66,608	179,374	14
Area currently under management Regulated in laws	13,558	15,772	768,800	23,143	11,520	155,000	987,793	79
Areas estimated as currently under sustainable management	13,558 8,820	15,772 +1,000 ⁶	100,000 158,200	15,000 ⁷	1,000 11,520	30,000 42,000 46,626	430,329	35
Area to be transferred to National Parks and Protected Area status	0	5,330	20,000	0	1,400	30,000	56,730	4.5
Non-conversion of mangrove but sustainable use	0	0	165,000⁸	0	0	0	165,000	1.3
Improved management relating to sustainable use	49,972	0	490,800⁹	11,751¹⁰	c 10,000	165,000	727,523	58

³ By 2010 new plantation raising the total mangrove area in Viet Nam to in excess of 202,008 Hectares.

⁴ Conversion for Infrastructure development and other uses.

⁵ Area is for the entire Philippines, area for South China Sea to be supplied later.

⁶ Area outside the protected area for which some form of management plans exist – estimated.

⁷ Estimate of total area with local government or community based management plans.

⁸ Represents re-classification of conversion forest to other forms of use.

⁹ This represents areas to be transferred from "productive use" to the "non-use of mangrove but other extractive use category."

¹⁰ By 2010.

ANNEX 6**Proposals Regarding Training Needs and Opportunities in the Context of the Demonstration Sites****Table 1a Training Needs in Exchange Programme From Mangrove Demo site Management in Batu Ampar – Indonesia.**

Activity	Time (Days)			Status Participant	Number Participant	Expected Site
	Study Tour	Training	Young Scientist			
1. Community base management of mangrove rehabilitation and management		60		Vice Site Manager	1	Trat Province
2. Comparative study of mangrove ecotourism and management	10			Staff of forestry and ecotourism office, and staff of site manager	6	Trat Province
3. Planning, developing and managing of ecotourism on mangrove		60		Site Manager		Trat Province
4. Improve the role and participation, and networking of local community in sustainable mangrove management			90	Young Scientist	4	Trat Province
5. Technique and management of Shrimp farming friendly			90	Young Scientist	4	Trat Province
6. Strategy and Technique of develop stakeholder (private sectors, government, volunteers) participation and networking on mangrove management		60		Staff of Site Manager	2	Fanchenggang
7. Conflict resolution and land use planning on mangrove ecosystem management			90	Young Scientist	2	Trat Province
8. Management of Research Station and Information Center of mangrove conservation and rehabilitation	12			Site Manager, staff of forestry office	5	Trat Province

Table 1b Training Opportunities from the Mangrove Demo site Management in Batu Ampar – Indonesia.

Activity	Time (Days)			Status Participant
	Study Tour	Training	Young Scientist	
1. Natural mangrove ecosystem in the Tropic (Batu Ampar) and utilization of local community	10			Site Manager
2. Research of biodiversity on mangrove ecosystem (competition Nypa Palm and Rhizophoraceae plant, monitoring of silviculture system, impact of exploitation, wildlife)			90	Young Scientist
3. Technique of White Charcoal Process and Management of Mangrove Forest Production	10			Site Manager

Table 2 Training Needs From Peam Krasop Demonstration Site in Cambodia. [Given the relatively low level of development of the site no training opportunities are offered at this site]

Activities	Duration	Number of Participants	Visiting Countries	Position
Scientific programs <ul style="list-style-type: none"> Economic valuation on mangrove ecosystem Impact on mangrove ecosystem caused by other sources and degradation of mangrove areas 	10-12 days (July/2006)	4	Thailand	Young science, site manager, technical team leader of site and interpreter
Study Tours <ul style="list-style-type: none"> To learn and exchange knowledge and experiences on mangrove management system, To learn and exchange knowledge and experiences on community based management, Techniques of establishment of nursery and replanting mangrove Network building and community establishment 	10-17 days (September/2006)	5-7	Thailand, Indonesia, Viet Nam, Philippine and China	Site manager and technical team leader of site and interpreter
Training Courses <ul style="list-style-type: none"> Techniques of patrolling system, Techniques on law enforcement Techniques on inventory of mangrove species Techniques of establishment and maintain information management system 	5-10 days (November/2006)	5-7	Thailand, Indonesia, Viet Nam, Philippine and China	Site manager, technical team leaders of site and interpreter

Table 3 Initial plan for personal exchange of FCG Demonstration Site, China.

Experiences needed	Tour visiting	Training	Young Sci.	Expected Site
Strategy, policy and management on mangrove ecosystem	6			Trat province
Financing and mechanism to develop ecotourism	5			
Community-based management		3		
Plan design & management of Eco-tourism		3		
Techniques of eco-farming		3		
Volunteer and NGO organizing		3		
Management of Marine Natural Reserve		3		
Nursering and Planting techniques			1	
Conservation Planning			1	
Status and strategy to restore abandoned shrimp ponds			1	
Uses of mangrove fauna & flora and management method			1	
Graduate student research			2~3	
Experiences offered	Tour visiting	Training	Young Sci.	Lead Organisation
How to maintain urban mangroves during economy expansion				Xindi.Co.
Resource and environment monitoring				GMRC
Coordinating stakeholders and govern.				Site Manage. Board
Aquaculture of seashell in mangrove area				FCG city government & Xindi.Co.
Graduate student research				GMRC
Traditional uses of Chinese mangrove system				FCG city government
Conservation and restorage of China endangered coastal habitats and species				GMRC

Table 4. Trat Demonstration Site, Thailand.

Activities will be offered to visitors:	Activities should be learnt from other demonstration sites:
<ol style="list-style-type: none"> 1. On the protection of mangrove ecosystems 1.1 Mangrove areas classification: conservation zone and economic zone where the area divided by artificial creeks. It can be seen in Trat Demonstration Site and King Project at Kung Kraben Bay in Chantaburi Province which is about 90 kms far west from Trat Province. The economic zones are mostly shrimp farms, agriculture lands or communities. King project will show clearly effective mangrove conservation and shrimp cultures. 1.2 Communities networking in protecting mangrove ecosystems: where the mangroves in many provinces in the Gulf of Thailand destroyed by various development activities. People at Ban Pred Nai in Trat province were grouping and stimulated the Governor to use his power to protect mangrove from converting at into shrimp farms. This successful protection lead to join with many communities and enhance the coastal ecosystem in crabs, fishes and natural shrimps and production. 1.3 Mangrove Conservation, Protection and Rehabilitation Trainings: Thai government with the cooperation for UNEP/GEF South China Sea Project has supported mangrove officials and site managers to train the local people in strengthened networking, protection and rehabilitation based on technical and traditional knowledge. Visitors should be trained with local communities. Nursery technique, planting technique are also including. 1.4 Mangrove Biodiversity: Trat mangrove is one of the most high biodiversity both interms of plant and animals. The study on this activity can be done in Mangrove Habitat Study Area at Ban Pred Nai (Trat) and at Kung Kra Ben Bay (King Project), Chantaburi province and Mangrove Research and Development Station in Trat province. Further more, various kinds of birds are also interesting. 1.5 Mangrove Production: Product of mangrove ecosystem is not only marine animals but also can take from plant. <i>Nypa palm</i> is one of high productivity species. <i>Bruguiera gymnorshiza</i> fruit can cook for desert. <i>Acanthus sp.</i> can use for medicine. <i>Sesarma spp</i> and mud crab conservation by local people at Ban Pred Nai are also very interesting. 1.6 Mangrove ecosystem ecotourism: Due to high biodiversity of plants and animals and forest can pass through by boat along nature creeks. Visitors will enjoy like the nature parks and very nice seafood. They can learn how to manage mangrove for ecotourism. 1.7 Transboundary Demonstration Site: Mangroves in Trat, Thailand and Prem Kasop in Koh Kong Province, Cambodia has been joint for coastal ecosystem management. It is only one mangrove demonstration site of South China Sea to be like this. The visitors can study this coastal sit interm of linking ecosystems. 	<ol style="list-style-type: none"> 1. Forest Management: Due to mangrove forest in Trat province had been stopped cutting and replantation for more than ten years, high density mangrove forest lead to low production of wood and marine fauna because of very low light intensity inside the mangroves. Good forest management practice including silvo-fishery should be learnt for promotion mangrove community activities in the future. 2. Mangrove Product: White charcoal, food from mangrove, tanin and other near by mangrove product such as pearl culture, cockle culture, fish and crab culture should be learnt and apply to this site. 3. Ecotourism management: The study on this activity will be enhancing idea and apply to improve in the demonstration site. This study is including Nature Mangrove Parks and their Biodiversity study. 4. Functioning of mangroves: Main functionings of mangrove demonstration sites are different due to the ecosystems are different. However, the role of mangroves are much more important after the tsunami hit the Indian Ocean coastal areas recently. It saves many communities, which there are mangroves in front. Cleaning water pollution and marine habitat are also should be learnt. 5. Training method: Training of other demonstration sites will be different from Trat site. It depends on the culture, ecosystem functioning and basic knowledge of trainee. Method of training of other sites can be applied to Trat site. 6. Local community based: Mangroves are closely related to local communities, hence the study

Table 5 Summary of Training/Work Experience at Mangrove Demonstration Site Busuanga, Palawan, Philippines.

No.	Training on	Sponsor/s	Participants
1	Basic organization management	DENR	PO members
2	Financial management system and book keeping	DENR	PO members, LGU representatives
3	Effective ecotourism administration and management	DENR, DOT	PO members, LGU representatives
4	Comprehensive site development and project site management	DENR	PO members
5	Coastal resource inventory and planning	DENR	PO members
6	Community resource management framework formulation and resource utilization planning	DENR	PO members, LGU representatives
7	Coastal resource protection and deputization of local "Bantay Bakawanan"	DENR, LGU, DND, PCG	PO members
8	Livelihood development and marketing	DENR, DTI, LGU	
9	Benefit sharing system formulation and capital build up management	DENR, LGU, DND, PCG	
10	Ecological waste management and sanitation	DENR, DOH, LGU	

Table 6 Training Needs From Mangrove Demonstration Site In Viet Nam.

Activities	Time & Duration	Number of Participants	Visiting Countries	Position
Fellowship <ul style="list-style-type: none"> Economic valuation on mangrove ecosystem and pollution Environmental assessment 	3 months (8-11 months/2006)	2	Thailand	Young science
Study Tours <ul style="list-style-type: none"> To learn and exchange experiences on multi sector and management system, To learn and exchange experiences on forest management based community, Techniques of multi use models and their organization and management 	10-12 days (3 or 4/2006)	6-8	Thailand, Indonesia and China	Local manager, technicians, Farmers and Interpreter, researchers
Training Courses <ul style="list-style-type: none"> Methodology on economic valuation, Techniques on multi use of management (models) Management and wise use of coastal habitats GIS 	10-15 days (5 or 6/2006)	3	Thailand and China	Technicians, researchers and interpreters

Experiences from mangrove demo site in Viet Nam

- Multi use models (aquaculture, bee keeping,.....)
- Experiences from management of RAMSAR site

ANNEX 7

Response to the Training Needs and Capacity Building Assessment Questionnaire

Table 1 Task Areas in the original Memoranda of Understanding in which capacity has been built, is needed, and depends upon a network of national level partners.

Project Memoranda of Understanding Task Areas	Column A (Capacity Built)							Column B (Capacity Needs)							Column C (Partnerships)						
	CA	CH	IN	PH	TH	VN	Rank	CA	CH	IN	PH	TH	VN	Rank	CA	CH	IN	PH	TH	VN	Rank
Chair and convene National Mangrove Committee	1		1	3	7		2.8			2				2	1		2	1	1		1.25
Serve as a member of the National Technical Working Group	2	2	5	2	10	5	5.5			4				4	2					3	2.5
Act as member of the Regional Working Group	3	1	2	1	9	6	3.7							0	3						3
Ensure that the NMC serves as an effective source of Scientific and Technical advice to the NTWG (to PSC)	4				8		6						4	4							0
Ensure that the NMC serves as an effective source of Scientific and Technical advice to the RWG (to RSTC)	5						5			1				2							0
Provide data and information to the RWG and/or the RSTC	6	4	8				6			3				2.5				3			3
Review and update existing information relating to the component	7	3	4	4	5	1	3.8		1	5		1		3.5		3				1	2
Assemble a national meta-database		5	10	5			7.5	1	2		1	4		2		1	1			2	1.33
Summarise all existing national legislation		6		6	4	2	4.5					3		3							0
Review criteria in use for decision making with respect to future uses					6	3	4.5	3	3		4	2	1	2.8					2		2
Prepare criteria for use in site selection		9	3			4	6.0	2			2		2	2							0
Assist the RWG in preparing a regional synthesis of data and information, together with a review of threats		7		8		7	8		5		3		3	4				2			2
Develop a National Mangrove Action Plan	10	8	9	7	1	8	6.8					5	5	5					3		3
Guide IMC re SAP implementation		10					10	4						4							0
Promote the National Action Plan among stakeholders	9		7	9	2	9	6.6	5			5			5			3				3
Prepare and submit Demonstration Site proposals	8		6	10	3	10	6.8		4				4	4		2					2

Table 2 Amended Memoranda of Understanding tasks that your SEA is most capable of performing, can most readily obtain support from other organisations at the national level to assist in the successful completion of the tasks, and is most capable of assisting other SEAs/organisations at the national and regional level complete.

Amended Memoranda of Understanding Task Areas	Column A (Existing Cap.)							Column B (Partnerships)							Column C (Expertise)						
	CA	CH	IN	PH	TH	VN	Rank	CA	CH	IN	PH	TH	VN	Rank	CA	CH	IN	PH	TH	VN	Rank
Chair and convene National Mangrove Committee (NMC)	1	3	1	2	1		1.6	1		2		1		1.3							0
Serve as a member of the National Technical Working Group (NTWG)	2	1			2	3	2	2				2		2							0
Act as member of the Regional Working Group (RWG)	3	2	2	1	3	5	3.2	3		3		3		3					1		1
Ensure that the NMC serves as an effective source of Scientific and Technical advice to the NTWG (to PSC)	4						4	10	10	10		6		9							0
Ensure that the NMC serves as an effective source of Scientific and Technical advice to the RWG (to RSTC)	5		10	3			6	9	7	4		7		6.66							0
Provide data and information to the RWG and/or the RSTC	6	4	4	4	4	6	5.6		5			8	1	4.66			3	4	2	1	2.5
Maintain the national meta-database	8	5					6.5	7	3		10		2	5.5	1	2					1.5
Update criteria used for decision making with respect to future uses of marine habitats				9			9		4				3	3.5	2					2	2
Update data contained in the Regional GIS	9	7			10		8.67	8	1					4.5	3	1					2
Work with the Regional Task Force on Legal Matters regarding national legislation and the preparation of a regional directory of legislation and best practices	10	8	6			2	6.5		6	9	3			6		3				3	3
Work with the Regional Task Force on Economic Valuation regarding national level economic valuation of mangroves		6	5			4	5		2	5	2		4	3.25						4	4
Assist the RWG in preparing a regional synthesis of data and information, together with a review of threats for publication in early 2007	7			5		7	6.33	6					5	5.5				5		5	5
Further develop the preliminary National Mangrove Action Plan			3				3			1	1	9		3.66							0
Critically review from the national perspective, the targets and goals set by the draft SAP, and prepare concrete proposals concerning actions at the national level required to meet these targets					5		5							0			2				2
Based on the criteria and ranking processes for the selection of sites of national and regional significance, prepare and submit proposal(s) for the mangrove specific site(s) to be adopted by the government for sequential intervention			9	10		1	6.66			7			6	6.5			5		3		4
Guide IMC re SAP implementation		10					10							0							0
Promote the NAP and SAP among stakeholders					9		9	4	8		6		10	7	5						0
Facilitate the process of formal government approval of the NAPs		9		6	8		7.67		9	8	4	10		7.75							0
Complete any outstanding tasks, listed in articles 5.i to 5.xvi of the original MOU.							0				5			5							0
Manage & execute the activities planned for demonstration sites as approved in the operational plan.					7	10	8.5				8	4	9	6.33				2	5		3.5
Co-ordinate national involvement in the regional programme for co-ordination, dissemination of experiences, and personal exchange between demonstration sites			7	8		9	8	5		6	9		7	6.75	4		4	3			3.66
Prepare and submit additional Demonstration site proposals			8	7	6	8	7.25				7	5	8	6.66			1	1	4		2

Table 3a The key five (5) achievements derived from the use of Memoranda of Understanding in the Project.

Achievements derived from the use of Memoranda of Understanding	Priority							Rank Score	No Resp
	CA	CH	IN	PH	TH	VN			
<i>Please circle these examples if you wish to use them in your list of five</i>									
<ul style="list-style-type: none">Increased stakeholder involvement Improved support to the project at the local and national level	1	1	1	1 2	4	2	1.7	6	
<ul style="list-style-type: none">Enhanced accountability through devolving of responsibility to specific bodies	3	2	4	3	5	3	3.3	6	
<ul style="list-style-type: none">Enhanced capacity within the SEAs in respect to contract and task management	2	4	3	4	1	1	2.5	6	
<i>Please list your opinions in the following cells</i>									
Increased national meta-database and information sharing at national and regional levels Enhance scientific and technical knowledge	5				2		3.5	2	
Develop NAP to meet targets agreed in the regional SAP Increased capacity within the SEAs to develop National Action Plan and Legislation status Enhance national action planning	4		5		3		4	3	
Increased funding effective uses		2					2	1	
Expanded study areas Ensured to develop good activities of national technical working group		2				4	3	2	
Increased financial sustainability		1					1	1	
Increased capacity of the SEAs to develop and revitalization of NMC Ensured to do activities of NMC			2			5	3.5	2	
Strengthened coordination among focal points and other components				5			5	1	

Table 3b The key five (5) achievements derived from the site selection process.

Achievements derived from the site selection process	Priority						Rank Score	No. Resp.
	CA	CH	IN	PH	TH	VN		
<i>Please circle these examples if you wish to use them in your list of five</i>								
• Establishment of scientifically sound and transparent process for the selection of funded demonstration sites	1	1	2	2	1	1	1.3	6
• Development of a regionally agreed process for determining regional priorities that is independent but which takes account of national priorities	2	3	1	1	3	2	2	6
• Ranking of 26 mangrove, 43 coral reef, 26 seagrass and 41 wetland sites		5	2	3	4	3	3.4	5
<i>Please list your opinions in the following cells</i>								
Review criteria for site selection Cross-sectional evaluation/analysis of mangrove sites using the physical and ecological status of all resources in the site	5			4			4.5	2
Full supports from local and national level, for mangrove management Good contact to the local authorities and other stakeholders in area of demonstration site Development of integration programme of stakeholder (Central and Local Government, etc.)	3		3			4	3.3	3
Enhanced stakeholder involvement in the term of data and information sharing Enhanced stakeholder involvement	4	3					3.5	2
Pushed prepare of site data investigation		1					1	1
Importance to develop code of conduct mangrove management for utilization (Shrimp ponds)			4				4	1
Development of sustainable mangrove management for multiple use			5				5	1
Determined the frequency and stocking of mangroves sites being evaluated along the South China Sea				5			5	1
Team work of focal points for decision-making					5		5	1
Main purpose of each demonstration site Making explain the goals, objectives and important role of the UNEP-GEF project in the South China Sea					2	5	3.5	2

Table 3c The key five (5) achievements derived from the selection of approaches to project management and implementation that are replicable.

Achievements derived from the selection of replicable approaches to project implementation	Priority							
	CA	CH	IN	PH	TH	VN	Rank Score	No. Resp
Please circle these examples if you wish to use them in your list of five							2.6	6
• Site selection process has led to establishment of priorities, locations, and purposes for additional demonstrations/projects in the region	4	3	4	1	3	1		
• Several countries have adopted the use of the site selection methodology developed through this project	3	1	2	2	4	5	2.8	6
• Observers predict that many of the procedures used in the project may be implicitly replicable at the national-level		2	1	3	5	2	2.6	5
<i>Please list your opinions in the following cells</i>								
Regional Transboundary agreement developed for collaboration in management	1						1	1
Joint regional activities and programmes have developed for strengthening management	2						2	1
Learning of the process of the site selection methodology developed through this project	5						5	1
The priorities are important standards for Nature Reserve Construction		3					3	1
The priorities enhanced cross studies among different experts		5					5	1
Criteria and indicator at Demo site selection can be develop to improve mangrove monitoring at national			2				2	1
Some researcher/Scientist at national level adopted criteria and indicator to develop methodology			5				5	1
Approaches in selection of sites can be done in other parts of the country				4			4	1
Approaches can be modified depending on site conditions				5			5	1
GIS is useful for sites selection					1		1	1
All data information should be compiled of easy finding					2		2	1
Good analysis of key issues in demonstration sites for management and implementations that are replicable						4	4	1
The process of management and implementations have been implemented by deferent stakeholders						3	3	1

Table 3d The key five (5) achievements derived from the adopted institutional arrangements and structures.

Achievements derived from the adopted institutional arrangements and structures	Priority						Rank score	No. Resp
	CA	CH	IN	PH	TH	VN		
<i>Please circle these examples if you wish to use them in your list of five</i>							2.8	6
• Effective separation of the policy and decision-making body, the PSC, and the scientific and technical forum, the RSTC	3	2	4	3	1	3		
• Ability for each body to concentrate on its primary area of responsibility and scientific and technical considerations do not become confused by political discussions	2	1	3	2	2	1	1.8	6
• All expertise used in the project is derived from within the region	4	5	2	1	4	2	3	6
<i>Please list your opinions in the following cells</i>							1	1
Institutional arrangements and structure strengthened	1							
Capacity building for Institutional development								
Ensure that project implementation gets success	5						5	1
Increased efficiency		1					1	1
Ensured Scientific Sound of Data		3					3	1
Effective to achieve sustainability mangrove management			5				5	1
All expertise of the mangrove management in regional level can be improve capacity and responsibility at national level			1				1	1
Strengthened multi-sectoral / institutions involvement in policy making and decision making				5			5	1
Increased participation of stakeholders and coastal communities through consultation meeting/referendums				4			4	1
Project director and SEAs are key persons for succession of the project					5		5	1
Transboundary of countries natural resources management should be done for sustaining conservation					3		3	1
Giving good management structures of the level project at national						4	4	1
Good monitoring						5	5	1

Table 3e The key five (5) achievements derived from the protocols adopted for project co-ordination and management.

Achievements derived from the protocols adopted for project co-ordination and management	Priority						Rank Score	No Resp
	CA	CH	IN	PH	TH	VN		
<i>Please circle these examples if you wish to use them in your list of five</i>								
• Increased levels of ownership at the national level over progress and financial reporting	2	1	2	1	5	1	2	6
• Increased accountability	5	3	3	5	1	3	3.3	6
• National networking		4	1	2	4	2	2.6	5
<i>Please list your opinions in the following cells</i>								
Increased co-ordination and collaboration among line ministries and stakeholders	1						1	1
Increased effectively and successful works	4						4	1
Improved process of decision making among stakeholders	3						3	1
Increased the responsibility of involved units		5					5	1
Increased the ability of SEAs in project management		2					2	1
Regional networking			5				5	1
Increased capacity and capability			4				4	1
Improved collaboration among mangrove project implementers				3			3	1
Local governments participation enhances				4			4	1
Reliable data information					2		2	1
Team work decision making Good agreement					3	5	4	2
Clarify / identified the tasks and duties						4	4	1

Table 4 **Prioritised list of longer-term sustainability needs of the UNEP/GEF South China Sea Project.**

Longer-term sustainability needs of the UNEP/GEF South China Sea Project	Priority							
	CA	CH	IN	PH	TH	VN	Rank Score	No Resp
<i>Please circle these examples if you consider them to represent sustainability needs</i>								
• Preservation of the regional consultative mechanism	2	5	2	1	5	4	3.2	6
• Maintenance of demonstration site activities in the form of management mechanisms	5	1	1	2	1	1	1.8	6
<i>Please list your opinions in the following cells</i>								
Maintain national and regional network	1						1	1
Capacity building needs for staff	3						3	1
Develop revenue strategy that can get from demo site	4						4	1
Emphasis on connection of regional requirement with country's social system		3					3	1
Development of Networking			4				4	1
Development of activity and Programme in demo site			3				3	1
Maintenance and sustainability of linking and networking nationally and regionally				4			4	1
Strengthen cross visitation to learn best practices in project implementation and management				6			6	1
Comprehensive analysis of the relationship between and among critical habitats for resources productivity within the coastal zones				3			3	1
Application of lessons learned / best practices in mangrove and other coastal habitats with stakeholders through participatory and coordinative approaches				5			5	1
Training of official manger to develop demonstration site					2		2	1
Planning of long tern demonstration sites					3		3	1
Strengthening demonstration sites network in the region					4		4	1
Good extension, exchanges of experiences, cross visit						2	2	1
Good participations of different stakeholders, especially local people in implementing the project						3	3	1
Keeping good co-financing						5	5	1

Table 5 Prioritised list of how the available allocation (budget) for the training component should be best used to develop the capacity required to enable the longer term sustainability of the UNEP/GEF South China Sea Project.

Capacity building needs for the longer-term sustainability of the UNEP/GEF South China Sea Project	Priority							
	CA	CH	IN	PH	TH	VN	Rank score	No. Resp.
<i>Please circle these examples if you consider them to represent sustainability needs</i>								
• Build capacity to preserve the regional consultative mechanism	4	3	5	3	5	4	4	6
• Disseminate project outcomes and experiences throughout the region	5	1	2	5	1	1	2	6
<i>Please list your opinions in the following cells</i>								
Present clear annual operational plan to the region with expected outputs	3						3	1
Conduct training needs assessment for capacity building	1						1	1
Present the importance of capacity requirements for project achievements.	2						2	1
Official training must be important consideration		2					2	1
Develop institution body of demo site			3				3	1
Disseminate of mangrove demo site at national level			4				4	1
Provide adequate funding support for identified training programmes				4			4	1
Capacity building of communities strengthened				1			1	1
Improved management capability of project implementers				2			2	1
Develop capacity of site manager					2		2	1
Apply technical and traditional knowledge to enhance productivity					3		3	1
Build capacity of local people to enhance ecotourism					4		4	1
Rational allocations of training component's budget for participating countries, especially for the countries, that has limited fund for demonstration sites						3	3	1
Training should be paid more attention to the policy						5	5	1
Build capacity to the key persons implementing project						2	2	1

Table 6 National and regional prioritisation of the key demonstration activities that should be implemented in order to provide examples of best practice in mangrove management for further application within the region.

Key demonstration activities that should be implemented to provide examples of best practice in mangrove management	National Priority								Regional Priority							
	CA	CH	IN	PH	TH	VN	Rank Score	No. Resp	CA	CH	IN	PH	TH	VN	Rank Score	No. Resp
Please circle this example if you wish to use it in your list of five			2	4	5	5	4	4			3	3	4	5	3.8	4
Re-planting of multi-species mangrove forests																
Please list your opinions in the following cells							0	0	4						4	1
Develop management information system for site																
Review five year management plan from year to year	1						1	1	3						3	1
Develop eco-tourism strategy for the site	3						3	1	5						5	1
Develop ranger training curriculum	5						5	1	2						2	1
Develop reporting system	4						4	1	1						1	1
Technical guideline for establish community protected area	2						2	1							0	
Effective management based on existing conditions		3					3	1		3					3	1
Monitoring based a long-term scientific Institute		2					2	1		2					2	1
Finance sustained		1					1	1		5					5	1
Endangered habitats and species are protected and recovered		1					1	1		1					1	1
Public and government awareness are obviously increased		5					5	1		2					2	1
Sylviculture of mangrove forest utilization			1				1	1			3				3	1
Community base management for mangrove management sustainability			1				1	1			1				1	1
Biodiversity conservation of mangrove ecosystem			2				2	1			4				4	1
Intensive community organizing				2			2	1							0	0
National government to provide technical assistance communities doing the restoration of critical habitats				3			3	1							0	0
Involvement of stakeholders in operations plan (annual)				1			1	1							0	
Linkage and networking				5			5	1				5			5	1
Livelihood enhancement/ecotourism							0					4			4	1
Community-based project piloting in mangrove ecosystem							0					2			2	1
Awareness building of mangrove stakeholders							0					1			1	1
Ecotourism promotion					2		2	1					3		3	1
Ecosystem management for sustained yield					4		4	1					2		2	1
Research to enhance knowledge and productivity					3		3	1					1		1	1
Net working of community forests					1		1	1					5		5	1
Good structures or model of management of mangroves forests (co-management)						2	2	1						2	2	1
Forest management based community						3	3	1						4	4	1
Multi uses of mangrove forests						1	1	1						1	1	1
Improvement of awareness						4	4	1						3	3	1

Table 7 Existing capacity building and training initiatives for (a) mangrove management (MM) and (b) general coastal and marine resource management (CMRM) at both national and regional levels.

Capacity building/training initiative	Lead Organisation						Focus on MM or CMRM						National (N) or Regional (R)					
	CA	CH	IN	PH	TH	VN	CA	CH	IN	PH	TH	VN	CA	CH	IN	PH	TH	VN
Training on patrolling system	CZM project						MM						N					
Training on development 5 year	CZM project						MM						N					
Training on techniques of developing ecotourism strategy	CZM project						MM						N					
Training on techniques of mangrove inventory	CZM Project						CMRM						R					
Training on techniques of developing gap analysis and system planning for site	CZM Project						MM						R					
How to maintain urban mangroves during economic expansion		FCG city government & Xindi Co.						MM						N				
Environmental Monitoring of Mangrove System		GMRC						MM						R				
Approaches to connect conservation and government support		GMRC						CMRM						N,R				
Mangrove GIS and RS		GFSD						CMRM						R				
Monitoring of Mangrove Birds		Guangxi University						MM						R				
Aquaculture in Mangrove areas		GMRC						CMRM						R				
Graduate students education on mangrove wetland		Guangxi University & GMRC						MM						R				
Training of charcoal production and management			Dept. of Forestry						MM						N			
Sylviculture of sustainable mangrove management			Dept. of Forestry						MM						N,R			
Develop Technology of Nypa Palm utilization			Dept. of Forestry						MM						N,R			

Table 7 cont. Existing capacity building and training initiatives for (a) mangrove management (MM) and (b) general coastal and marine resource management (CMRM) at both national and regional levels.

Capacity building/training initiative	Lead Organisation						Focus on MM or CMRM						National (N) or Regional (R)					
	CA	CH	IN	PH	TH	VN	CA	CH	IN	PH	TH	VN	CA	CH	IN	PH	TH	VN
Develop of ecotourism			Dept. of Forestry, Marine and Forestry						MM, CMRM						N,R			
Integrated Coastal Resource Management				DENR-CMMO; BFAR						CMRM						N		
Mangrove establishment and management				DENR-CMMO						MM						N		
Marine Protected Area Management				DENR-CMMO and PAWB						CMRM						N		
Mangrove conservation and rehabilitation					Dept. Marine & Coastal Resources and University						MM						N	
Marine and coastal conservation volunteers					Dept. Marine & Coastal Resources						CMRM						N	
Site manager training					UNEP						MM & CMRM						R	
Young researcher training					UNEP						MM						N,R	
Community forest management training					Forest Dept.						MM						N	
Ecosystem management training					UNEP						CMRM						R	
Ecotourism training					UNEP						CMRM						R	
Co-management						FSIV & MARD (VN)						MM			N,R			
Forest management, based community						Foreign countries						MM			N,R			
Multi use of mangrove forests						FSIV & Foreign countries						MM & CMRM			N,R			

ANNEX 8

Framework Work Plan and Time Table for Mangrove Sub-component to June 30th 2007

Figure 1 Framework Work Plan and Time Table for Mangrove Component to June 30th 2007. (S=submit, P = PCU comment, R = resubmit, F = final)

[illegible]

Figure 1 cont. Framework Work Plan and Time Table for Mangrove Component to June 30th 2007. (S=submit, P = PCU comment, R = resubmit, F = final)

[illegible]

Figure 1 cont. Framework Work Plan and Time Table for Mangrove Component to June 30th 2007. (S=submit, P = PCU comment, R = resubmit, F = final)

[illegible]

Table 1 Schedule of Meetings for 2006. (RWG = Regional Working Group; -M = Mangroves; -CR = Coral Reefs; -SG = Seagrass; -W = Wetlands; -F= Fisheries; LbP = Land-Based Pollution; RTF-E = Regional Task Force on Economic Valuation; RTF-L = Regional Task Force on Legal Matters) (H = United Nations Holidays)

	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M								
January	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
		H									H																		Chinese NY									
February				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28							
March				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
																														RTF-E-4								
April							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
												H							H											RTF-L-4								
May		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
June					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	
July							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
August				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
									RWG-LbP-7								H																					
September						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
									RWG-M-7																				Ramadan									
October	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
	Ramadan																							H														
November				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
December						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
										H																			H									