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

REPORT

**Second Meeting of the Regional Working Group for
the Mangrove Sub-component**

Ho Chi Minh City, Vietnam, 10th – 13th September 2002

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Report of the Meeting

1. OPENING OF THE MEETING

1.1 Welcome address

1.1.1 The Project Director, Dr. John Pernetta, opened the meeting on behalf of Dr. Klaus Töpfer, the Executive Director of UNEP and Dr. Ahmed Djoghlaif, Director, Division of GEF Co-ordination. He noted that the agenda was very extensive and that there were numerous items requiring discussion and decision during the course of the meeting. He noted further that this was a critical meeting in the development of the project, as it would determine whether or not the overall workplan for the first two years could be completed on time or if any adjustments to the work plan would be required.

1.1.2 Dr. Pernetta also noted that an important task before the meeting was to initiate discussion on the regional basis for prioritising sites. Since the GEF funds can only be applied to activities with demonstrated regional (transboundary) and/or global significance, it was vital that this meeting consider a regional approach to prioritising mangrove sites for management intervention within the region. While some sites would be funded under this project, other sites may also be funded through co-financing that will be raised by the Project Co-ordinating Unit from bilateral donors.

1.1.3 Dr. Pernetta noted that the documentation in front of the participants was extensive and noted with pleasure that much of this had come from the participants. He welcomed all members of the committee to the meeting and expressed the wish that the second meeting of the RWG-M would be as successful and enjoyable as the first.

1.2 Introduction of members

1.2.1 Dr. Pernetta noted that in accordance with the rules of procedure the Chairperson, Dr. Sonjai Havanond; the Vice chairperson, Dr. Hanqing Fan, and the Rapporteur, Mr. Florendo Barangan continued to hold office for a full calendar year, and invited the officers of the group to assume responsibility for the further conduct of the meeting.

1.2.2 The Chairperson, Dr. Sonjai invited members to introduce themselves to the meeting and there followed a *tour de table* during which each member introduced themselves and noted their positions within the project framework. The list of participants is contained in Annex 1 of this report.

1.2.3 Dr. Pernetta also advised the meeting that in the absence of objections from the National Technical Focal Points in each country the regional experts present, namely Dr. Gong Wooi Khoon, Dr. Sanit Aksornkoe and Dr. Nguyen Hoang Tri, should be considered as full members of the Regional Working Group from this point onwards.

2. ORGANISATION OF THE MEETING

2.1 Documents available to the meeting

2.1.1 Dr. Pernetta introduced the documentation available to the meeting noting the individual discussion documents and information documents and their relationship to the various agenda items. The list of documents available to the meeting is contained in Annex 2 of this report.

2.2 Organisation of work

2.2.1 The Project Director briefed participants on the administrative arrangements for the conduct of the meeting, noting the proposed organisation of work contained in document, UNEP/GEF/SCS/RWG-M.2/INF.3. He noted that the meeting would be conducted in English and in plenary as far as possible, although sessional working groups could be formed as deemed necessary.

3. ADOPTION OF THE MEETING AGENDA

3.1 The Chairperson invited members to consider the provisional agenda prepared by the Secretariat as document UNEP/GEF/SCS/RWG-M.2/1, and to propose any amendments or additional items for consideration. There were no objections, and the agenda was adopted with no changes, as contained in Annex 3 of this report.

4. REPORT OF THE SECRETARIAT CONCERNING THE MID-YEAR REVIEWS AND REPORTS FROM PARTICIPATING COUNTRIES

4.1 The Chairperson invited the Secretariat to present document UNEP/GEF/SCS/RWG-M.2/4 containing a summary of the findings of the PCU following receipt of the 6 monthly progress reports, expenditure statements and cash advance requests from the Specialised Executing Agencies. The 6 monthly progress reports from each Focal Point, which had been received by the time the meeting documents were prepared, were available in document (UNEP/GEF/SCS/RWG-M.2/5).

4.2 Dr. Pernetta explained that most of the problems with the reports received, appeared to be based on misunderstandings, rather than anything more serious. He did however, emphasise that in future all expenditures should follow the approved budget, in order to eliminate the need for budget revisions half yearly. If money is to be spent on a budget line, for which no allocation had been approved, it is necessary to seek prior approval from the Project Director before committing the funds. Failure to advise the PCU of required adjustments in advance of incurring expenditures might, in the future, result in the Institution and/or individual becoming liable for unauthorised expenditures.

4.3 Dr. Pernetta provided an overview of the summary of problems contained in document (UNEP/GEF/SCS/RWG-M.2/5), highlighting the issues, which had arisen most frequently. He explained that it had taken considerable time on the part of the PCU to review these reports, as most of them required extensive modification before they could be accepted. He expressed the hope that following the lessons learned in this first round of reporting, the second round of reports would require less attention from the PCU. He noted that no further cash advances could be dispersed until the reports had been cleared as being acceptable to the PCU.

4.4 Mr. Kelvin Passfield added that pro-forma forms for the six-month reports are despatched from the PCU as electronic files. If Focal Points (NFPs) could ensure that these were then submitted as initial drafts to the PCU in the same format, i.e. electronically, this would reduce the time taken in finalising them, since the PCU could insert suggested changes or modifications electronically for consideration by the Focal Points.

4.5 Dr. Pernetta noted that for some focal points e-mail communication was not easy due to size limitations imposed by the server and advised the meeting that in future, all documents for meetings would be made available on the project website, as had been done for this meeting.

4.6 There followed a general discussion on the limitations of certain email services available to participants. Mr. Santoso informed the meeting that he had had difficulty in accessing the SCS website, and it was agreed that the meeting would convene an after hours session to look at the website using the internet. Other participants noted that they had no such difficulties.

4.7 Mr. Barangan informed the meeting that he would attempt to obtain authorisation from the Secretary of the Department of Environment and Natural Resources to sign the six-month reports on his behalf as this would facilitate reporting.

5. REPORTS FROM THE FOCAL POINTS ON INTER-SESSIONAL ACTIVITIES AT THE NATIONAL LEVEL

5.1 Review of past and on-going activities including economic valuation

5.1.1 Prior to considering the reports of past and ongoing activities the Chairperson invited the Focal Points to provide a general report of the work of the National Committees with respect to activities conducted during the inter-sessional period, in accordance with the agreed workplan and timetable. Members were also referred to the individual national committee meeting reports contained in document UNEP/GEF/SCS/RWG-M.2/5.

5.1.2 Thailand reported that it had held a number of workshops and meetings, including a workshop on a Mangrove Management Strategy Action plan in Phuket from April 22-25, which had involved 85 participants, including a number of high level officials, who attended the workshop to discuss strategies. Other meetings and activities are included in the document (UNEP/GEF/SCS/RWG-M.2/5).

5.1.3 Dr. Gong noted that it was impressive that so many people, including high-level officials, had attended the workshop.

5.1.4 Dr. Sanit asked what the expectations of the PCU were with regard to the number of meetings to be held in each reporting period. Dr. Pernetta explained that generally it was expected that one meeting of the National Mangrove Committee would be held each month, and that some countries such as Vietnam had followed that schedule. This meeting schedule had formed the basis for the calculation of in-kind cofinancing by the governments, which had been agreed by the Project Steering Committee. This schedule can however be modified to suit a particular country's situation and requirements. For example, less meetings of longer duration, or with more participants, could be held, that would still provide the same level of co-financing required to fulfil the country's agreements.

5.1.5 Dr. Gong asked what would happen if a country fell short of the required commitment in person-hours. Dr. Pernetta explained that there is no direct penalty, such as reducing future fund allocations. However, indirect repercussions could result based on the assumption that commitment to the goals of the project had dropped, and this might be taken into consideration when determining the location of the demonstration sites. He further explained that the 6 month report provides an indication of the commitment of the country.

5.1.6 Dr. Sam noted that a National Working Group on Mangroves had been established with a number of sub-groups concerning environmental, biodiversity and economic valuation issues. Four main mangrove sites: Quang Ninh, RAMSAR Xuan Thuy, Can Gio and Ca Mau had been identified and considered for data and information collection and site characterisation. Of these Ca Mau and the RAMSAR site at Xuan Thuy are considered potentially most suitable for selection as demonstration sites. Dr. Sam also noted that a number of reports for the mentioned mangrove sites had been produced, totalling 200 pages, in Vietnamese.

5.1.7 Dr. Sonjai said that section 3 of the 6 month reports, on the problems experienced and how the countries had addressed the problems, was very important and asked Dr. Sam how they had handled their problems. Mr. Phuong replied that they would like to reallocate some funds through a budget revision including use of funds earmarked for translation in 2003 to translating national meeting reports to meet the six-monthly reporting requirements.

5.1.8 Dr. Pernetta explained that the translation funds in 2003 were for translation of regional outputs into local languages rather than for translating national outputs into English which was expected to be done under the Memoranda of Understanding. Funds for translation of local reports into English could be made available through a budget revision approved by the Project Director within the overall budget allocation to each Specialised Executing Agency.

5.1.9 Mr. Barangan from the Philippines noted that they have not convened a national mangrove committee rather they were attempting to revive the 1986/87 committee, for this project. He had however convened a sub-committee for the region around the South China Sea but it was difficult, given the archipelagic nature of the Philippines, to convene a meeting with representation from the various regions and provinces, which support mangroves within the archipelago. The committee members are from regions in the North although some experts were also included from other regions. He noted that to date NGOs and Academics were not yet included on the committee but expressed the hope that they would be added in the near future.

5.1.10 Mr. Barangan noted some internal administrative problems had delayed fund utilization but these were now solved and he hoped that progress in the implementation of the project would improve during the second half of the year.

5.1.11 Mr. Nyoto presented the six-month progress report for Indonesia included in document UNEP/GEF/SCS/RWG-M.2/5, and provided a brief introduction to the draft reports produced to date, and included as UNEP/GEF/SCS/RWG-M.2.7.Ind. Dr. Pernetta noted with appreciation the content and detail covered in the reports from Indonesia.

5.1.12 Dr. Fan, from China noted that he had established a National Mangrove sub-committee, but that funds had only been received from SEPA in July. Nevertheless his Institute had advanced funding and he had been concentrating on GIS related tasks. The report is included as UNEP/GEF/SCS/RWG-M.2.7.Chi. He noted that the sub-committee had convened 2 expert meetings on site selection, and GIS operations and noted that they did not yet know exactly how much mangrove was located on the South China Sea coast. To date GIS mapping had been completed based on remote sensing for one province, and that he hoped to complete a second province by the end of this year.

5.1.13 Dr. Fan further noted that on the border with Vietnam is a very important mangrove area and that he had conducted discussions with local government officials, of the Fangchanggang municipal government of Guangxi, bordering North Vietnam which has responsibility for the richest and best mangrove resources along China mainland coast. The municipal government had decided to invest 30,000 US\$ in the period from September 2002 to August 2003, to be used to establish a local GIS for mangrove management; to support a mangrove coordinating committee consisting of government officials, mangrove reserve administration, companies and local community; and to perfect their information through ground survey and study referring to UNEP/GEF site criteria. These activities are not only for GEF demonstration site application, but also, to meet the demands of local sustainable development, supported by the China National Policy of "Great Exploitation of West Parts" that has a highlight on wise management of environments and resources during economic constructions.

5.1.14 Dr. Fan concluded by stating that China had experienced some difficulties during this first reporting period, but hoped that these had been overcome and that the next report should indicate more progress.

5.1.15 Mr. Vongwattana reported that the Cambodia committee had so far held 2 meetings, and had undertaken a field visit. He tabled the report of the Cambodia Committee, with respect to activities conducted during the inter-sessional period.

5.1.16 Focal Points were invited to supply the Secretariat with a full listing of the members of their National Committees and these lists are attached as Annex 4 to the report of this meeting. Following some discussion it was agreed that the full listing would be posted on the mangrove page of the South China Sea website, together with the e-mail addresses where available. Members agreed to provide e-mail addresses for committee members to the Project Co-ordinating Unit within 10 days of the end of the meeting.

5.1.17 Dr. Pernetta requested that the expertise of the committee members be included where it was missing and the Chairperson and Dr. Sanit duly completed the expertise column for Thailand.

Cambodia agreed to supply the information regarding expertise within a week of the close of the meeting.

5.1.18 Dr. Pernetta noted that it would be very useful to compile a list of members and their expertise together with their institutions since around 400 institutions are currently involved in the project. He noted that if the GEF Secretariat logs onto the project website, this would allow them to see the linkages that are being developed under the project. In this connection Dr. Fan noted that it would be necessary to up-date this listing as membership of the committee changes. Dr. Pernetta replied that the website will be updated regularly, based on information supplied by the Focal Points and that the listings would contain the dates of compilation.

5.1.19 The Chairperson noted that Annex 8 of the first meeting report UNEP/GEF/SCS/RWG-M.1/3 lists the following outputs that were to have been prepared by the Focal Points in advance of this meeting:

Review of past & ongoing projects:	1 st draft June; final draft September 2002
Identification & characterisation of "sites"	1 st draft September, Final draft due December, 2002
Review National legislation	1 st draft September, Final draft due December, 2002

5.1.20 Dr. Sonjai noted that documentation received by the Secretariat from the Focal Points in advance of the meeting had been duplicated and distributed to all members as UNEP/GEF/SCS/RWG-M.2/7. At the time of preparing the documents for this meeting, reports were available from: Indonesia UNEP/GEF/SCS/RWG-M.2/7.Ind; Thailand UNEP/GEF/SCS/RWG-M.2/7.Tha; China UNEP/GEF/SCS/RWG-M.2/7.Chi; and Vietnam UNEP/GEF/SCS/RWG-M.2/7.Viet.

5.1.21 Members were invited to present their draft reports on past and ongoing projects and activities and Dr. Fan, advised the meeting that the first draft document from China might be finished by next month.

5.1.22 Mr. Nyoto presented a summary of the content of the draft reports for Indonesia completed to date, and the data and information that is still required to complete these reports. It was noted that Indonesia was the country with the most comprehensive series of draft reports to date, and the greatest area of mangroves in the world of perhaps 3,700,000 hectares. Dr. Sonjai asked about national parks in Indonesia and Mr. Nyoto noted that Indonesia has national mangrove reserves, and major mangroves are a part of some conservation areas, national parks, recreation forest, or wildlife reserves. Indonesia has one Natural Forest Park (National Park) in Bali Island the majority of which is mangrove.

5.1.23 It was suggested from the floor that a simple format should be developed for the report, dealing with activities since 1990. Following extensive discussion, a basic format for this report was agreed and is contained in Annex 5 of this report. In completing the table each separate activity would be entered into an independent cell in the appropriate line.

5.2 Overview of distribution, abundance and state of mangroves at the national level

5.2.1 Members were invited by the Chairperson to review the required actions concerned with the completion of the National Baseline information for inputting to the Regional GIS system, and discuss and agree on:

- the further actions necessary to complete this task; and,
- the timetable for their completion.

5.2.2 Dr. Pernetta reminded members of their previous recommendation to the Regional Working Group on Wetlands contained in paragraph 5.1.5, on page 4, of document UNEP/GEF/SCS/RWG-M.1/3 that the Wetlands working group reconsider their scope of work to include significant freshwater wetlands on the landward side of the mangrove habitats. A summary document concerned with exchange of views via electronic means during the inter-sessional period was provided as document UNEP/GEF/SCS/RWG-W.2/5. Dr. Pernetta briefed the meeting on the outcome of discussions during

the second meeting of the Regional Working Group on Wetlands, which had resulted in the group agreeing to extend their scope of work to encompass all coastal wetlands excluding mangrove, coral reef and seagrass habitats. He noted that the mangrove focal points should liaise with their counterpart wetlands focal points on matters regarding potential overlap in tasks such as GIS mapping.

5.2.3 In preparing the national baseline regarding distribution of major habitats on the margins of the South China Sea it had been decided to convene a technical meeting of GIS specialists from each country to discuss and agree on the base-maps to be used for the regional system, the format for the questionnaires required for site characterisation and the formats for metadata entry. He noted that in supporting two GIS specialists from each country to attend this workshop, jointly organised by the project co-ordinating Unit and the SEA START RC, the National Focal Points had agreed that these individuals would provide GIS support to the Focal Points for each component of the project.

5.2.4 Dr. Pernetta noted that the representatives at the GIS meeting had agreed during the meeting to contact all Focal Points on their return home and prior to this meeting, in order to assist in preparation of the distributional baseline maps such that, members would be in a position to determine the time required to complete this exercise. He noted further that, the existing base maps included regional shorelines, administrative units, and rivers and catchments and that, the GIS specialists had been asked to liaise with the focal points in country to determine what, if any, modifications needed to be made to these base maps before distributional data relating to the key habitats was overlaid. He noted that any data already in GIS format would be easy to overlay but that where data were available in the form of paper maps these would need to be digitised. Where information is not available, it will be left blank.

5.2.5 At this meeting it would be important to obtain an estimate of how long it will take to get an overview of the distribution and extent of the mangroves around the South China Sea that could be presented to the Project Steering Committee meeting in December. Data would need to be passed to the SEA START RC no later than the end of October to ensure its incorporation into the GIS system before the 16th December 2002.

5.2.6 During discussion it was noted that for some areas such as Bandon Bay, in Thailand an extensive GIS database already existed (Microbrian) It was noted that in such cases these existing databases could be linked with the regional system but that the level of detail contained in them was generally far greater than was required for the purposes of a regional overview.

5.2.7 Mr. Barangan noted that he had held discussions with the Philippines representatives, and the baseline information in GIS format was already available in hard copy and electronic formats. Dr. Pernetta commended the Philippines on their progress, and the hard copy information was copied and circulated to members as document UNEP/GEF/SCS/RWG-M.2/12.

5.2.8 Mr. Vongwattana noted that he had been in contact with the Cambodian representatives who had agreed to assist with the production of GIS information, however, he was unable to put a time frame on production at this stage. Dr. Pernetta requested, and Mr. Vongwattana agreed, to do his utmost to provide the information by October 15th, 2002.

5.2.9 Dr. Pernetta noted that there is money in the budget for the establishment of a GIS database, under the existing MOUs and that it was clear from the GIS workshop, that a lot of information is already available at the national level. Accessing this information can be facilitated via an institutional contract with the relevant institution. Mr. Nyoto noted that he had met with the GIS representatives and other Focal Points last week and noted that the task was quite large in the case of Indonesia given the great extent of this habitat in his country. He asked whether additional funds might be made available to assist in the GIS development. In response Dr. Pernetta noted that if the case was well made, a modest additional allocation might be made since he recognised that for Indonesia the work involved was quite extensive.

5.2.10 During the subsequent discussion it was noted that the representatives at the GIS meeting from China, Thailand and Vietnam had not made contact prior to this meeting and it was agreed that the focal points would contact the GIS specialists immediately following this meeting.

5.2.11 The members agreed that:

- All Focal Points would contact their GIS representatives to discuss the requirements for completing this task;
- Focal points would report on the outcome of these discussions to the Project Co-ordinating Unit within 10 days of closure of the meeting (24th September, 2002);
- Focal Points would attempt to make the information available in GIS format by October 15th 2002, but if this proved impossible they would advise the Project Director as soon as practicable.

5.3 Review of national data and information and creation of national meta-database

5.3.1 Dr. Pernetta referred the meeting to the report of the GIS workshop held in Bangkok, 7-9 August, 2002 (UNEP/GEF/SCS/E.M.1/3) and to the discussions of the first meeting of the Regional Working Group on Mangroves regarding the establishment of the regional meta-database which are summarised in paragraphs 7.2.3 and 7.2.4 of document UNEP/GEF/SCS/RWG-M.1/3.

5.3.2 Dr. Pernetta informed the meeting that the SEA START RCU had put considerable effort into producing the draft format for the site characterisation questionnaires for input to the regional GIS database and that these formats could be used for national level GIS systems. He noted that participants in the GIS workshop had received copies of a CD containing all the GIS formats for distribution to the Focal Point for each component in-country. It had become apparent during previous discussions that a number of these individuals had not distributed the CDs as agreed and hence the initial inputs required for this meeting were not available.

5.3.3 Dr. Pernetta went through Annex 8 of the GIS meeting report (UNEP/GEF/SCS/EW.1/3), containing the questionnaires for the Mangrove component, which were based on Annex 6 of the report of the first regional mangrove meeting (UNEP/GEF/SCS/RWG-M.1/3). He explained in more detail what was expected in answering these questionnaires, and asked whether the meeting was comfortable with what was agreed as the information requirements at the first meeting of the RWG-M, or whether they now considered these to be too ambitious.

5.3.4 Meeting participants raised a number of questions regarding discrepancies between the mangrove section of the questionnaires and the information requirements as agreed at the first meeting of the Regional Working Group. After close scrutiny, a number of inconsistencies were identified, and it was agreed that the meeting should request SEA START RCU to re-construct the questionnaires, based strictly on the agreements reached at the first meeting of the Regional Working Group, and documented in Annex 6 of the report of that meeting. If SEA START RCU had any difficulties, they should contact the Chairperson of the RWG-M for assistance.

5.3.5 It was further agreed that all factors considered important should be included in the questionnaires, but that if no data were available, then a "no data" entry should be inserted when completing the questionnaires.

5.3.6 The following discussion concentrated on Annex 6 of document UNEP/GEF/SCS/RWG-M.1/3. Dr. Tri raised the issue of discrepancies in GIS projections compared with reality and Dr. Pernetta offered some clarification regarding different projections and issues of scale which resulted in differing levels of accuracy and precision in any mapping system. He noted that the initial requirements regarding mangrove distribution at national scales for combination into a regional system were not as detailed as those that would be required for subsequent management at the site level. He further noted that, the basemaps contained shorelines, catchments and river basins and administrative units, which the GIS representatives were supposed to have discussed with the Focal Points and to which any required amendments need to be made immediately.

5.3.7 Dr. Pernetta indicated that at this stage site specific data collected via the questionnaires could be incorporated into the GIS database and accessed via pull down menus. Other layers in the GIS system will include temperature, rainfall, sea surface temperature, wind and current, on a basin scale, and whilst these may not be sufficient for site management purposes they were adequate for analysing distribution patterns of a regional scale.

5.3.8 The Chairperson invited the meeting to consider the actions required to develop the national meta-databases and to discuss and agree upon the timetable for provision of data and information to the Regional GIS and meta-databases. In this connection members were asked to take note of the timetable agreed during the GIS workshop and contained in Annex 10 of document (UNEP/GEF/SCS/EW.1/3).

5.3.9 Dr. Pernetta referred the meeting to the document UNEP/GEF/SCS/RWG-M.2/8, containing the Meta-data format, which was attached as Annex 9 to the GIS workshop report (UNEP/GEF/SCS/EW.1/3). Dr. Gong noted that the format covers two sensitive areas namely access and ownership rights and also deals with issues of data quality. Mr. Nyoto asked how borderline areas and boundaries were to be addressed, for example what would be considered as the border between coast and inland. Dr. Pernetta replied that defining the boundaries was not that important. Although with mangroves we are generally dealing with areas close to the coast, information regarding other potentially relevant data sets from inland areas may be entered using geographic co-ordinates, if they are thought to have a possible impact on mangrove areas.

5.3.10 Dr. Pernetta further stated there were some explanatory notes associated with each field to assist with data entry, and that if any problems were encountered, focal points should write to the Project Director, or for problems specifically with GIS, write to Dr. Anond and copy to the Project Director. Mr. Barangan asked about gaining access to the data that is already held by SEA START RC and Dr. Pernetta replied that a simple request to SEA START should be all that was required, as any data currently held by SEA START RCU was publicly available. He also referred to paragraph 7.2.1 of the report of the first RWG-M meeting (UNEP/GEF/SCS/RWG-M.1/3) 7.2.1, where it was stated that information would be freely available to all SEAs.

5.4 Review of national criteria, management regimes, institutional and legal frameworks

5.4.1 The Chairperson asked members to note that during the first meeting of the Regional Working Group for Mangroves it was agreed that a draft review of national legislation would be produced by September in time for consideration during this meeting (Annex 8 of document UNEP/GEF/SCS/RWG-M.1/3).

5.4.2 In addition a number of the tasks listed in that same Annex involve initiation of activities relating to this agenda item. Members were invited to present their draft reports.

5.4.3 Dr. Sam and Mr. Phuong made a presentation on the two potential, demonstration site characterisations of the four site characterisations that they had completed to date, i.e. for Ca Mau and Xuan Thuy, part of which is designated as a RAMSAR site. Dr. Pernetta expressed some concern on the approach taken by Vietnam, and noted that the key purpose of the demonstration sites will be to conserve biodiversity, and these sites might not qualify according to that criterion since they focussed more on restoration.

5.4.4 Dr. Pernetta noted that there was a listing 24 species of flora, but there was no indication of whether these were true mangrove species, which are the focus of the agreed site characterisation. By focussing so narrowly there is a possibility that Vietnam will end up with a detailed site characterisation for 2 sites that do not meet the selection criteria to be developed for the demonstration sites. Vietnam should not limit the sites at this stage, but keep options open by including a wide selection of possible locations until the site selection criteria are developed during the next meeting of the RWG. At this stage, national criteria should be used in determining site significance.

5.4.5 Mr. Nyoto said that the approach taken by Indonesia was more to follow the flow chart agreed at the first meeting. He hoped that some joint policy could be developed with Malaysia, regarding sustainable mangrove forest production as in some places this was a problem. Another problem they were facing was conversion for shrimp farming.

5.4.6 Mr. Barangan, said that the Philippines had identified 13 regions under the GIS format, but most of the mangroves are concentrated in the Palawan area. He referred the meeting to the map developed for the collection of GIS data in the Philippines that was distributed on the previous day. Palawan is already a biosphere reserve. He believes potential demonstration sites from Philippines will be selected in this area, but it was also possible that a site could be selected in the northern area. They are also considering working with NGOs.

5.4.7 Dr. Fan said that in China they have small mangrove areas, and more than 50% are concentrated around Beibu Gulf, and 30% around Hainan. The area along the Guangxi coast is also of transboundary significance, because it is adjacent to Vietnam, and has a lot of birds and shared a pelagic community of organisms. It is likely that this area will have some influence on Ha Long Bay in Vietnam, which is known for its high biodiversity. Pearl Bay has the most significant mangroves of the area and China is considering selecting a demonstration site in this area. There are already some initiatives in Fangchenggang City (see para 5.1.13).

5.4.8 Dr. Sanit, on behalf of the Chairperson, made a presentation on mangroves in Thailand with a focus on the Gulf of Thailand. He said that a successful project in the South China Sea would assist in improving fishery production in the region. He asked what participants wanted to show with the demonstration sites that would be selected for mangroves. In the last 30 years, approximately half the mangroves of the Gulf of Thailand have been lost, mainly to shrimp ponds. He gave some examples of sustainable use of mangroves for charcoal production, as well as where some restoration of abandoned shrimp ponds was being undertaken, and where ecotourism and education had been introduced as alternative sources of livelihood. He also noted that public cooperation was usually forthcoming for any Royal Projects in Thailand, and there had been a number of these initiated. He concluded with a brief description of the International Society for Mangrove Ecosystems (ISME) and the Global Mangrove Information System (GLOMIS) database and website, and advised that there is a CD free of charge from the ISME office. Dr. Sanit invited the members of the RWG-M to become members of ISME.

5.4.9 Mr. Vongwattana made a presentation, based on the report, which was tabled for this meeting as document UNEP/GEF/SCS/RWG-M.2/7.Cam. He also gave a brief introduction to the Excel database that was being developed. He noted that an area of Koh Kong Province is the likely site to be proposed as a demonstration site for Cambodia.

6. DISCUSSION AND AGREEMENT OF THE FINAL LISTING OF 'TRUE' MANGROVES TO BE USED IN SITE CHARACTERISATION

6.1 Dr. Pernetta reminded members that during the first meeting, the issue of "true" mangroves was raised in connection with the site characterisation process and it was noted that at least three countries had legally designated lists of species constituting mangroves.

6.2 After some discussion of what constitutes a true mangrove or an associate, members went through the lists provided by the Focal Points to date, as well as the lists from Tomlinson, 1986, and Watson 1928, and agreed on a list of true mangroves and associates to be used during site characterisation, which is attached as Annex 6 to this report.

6.3 This listing serves not merely as a listing of true and associate species of flora for use in determining the comparative species richness of different areas but also as an indication of regional distributions since it identifies those species, which are recorded from each country.

7. DISCUSSION OF ON-GOING ACTIVITIES REGARDING THE CHARACTERISATION OF NATIONAL MANGROVE SITES AND THEIR REGIONAL PRIORITISATION

7.1 Identification and characterisation of sites for regional prioritisation

7.1.1 The meeting agreed that this agenda item had been adequately covered under Agenda item 5 and reaffirmed that the original set of parameters, data and information requirements listed in Annex 6 of the report of the first meeting of the Regional Working Group were the parameters required for characterisation of the sites.

7.1.2 The meeting reaffirmed its prior agreement that each national committee would attempt to make this characterisation as comprehensive as possible (paragraph 7.1.2 of document UNEP/GEF/SCS/RWG-M.1/3) and that a concrete timetable for development of this process would be set later in the meeting.

7.1.3 In this connection members noted that, the questionnaires prepared and presented for discussion under agenda item 8, would need to be completed and corrected by the SEA START RC before this process of collating information in a uniform format could commence.

7.2 Reviews of threats at site level and identification of the proximate and ultimate causes of degradation

7.2.1 In the course of inter-sessional work at the national level designed to characterise sites, threats and their causes were to have been identified and evaluated. The attention of members was drawn to Annex 7 of the report of the first meeting (UNEP/GEF/SCS/RWG-M.1/3) where examples of causal chain analyses were presented. Members were invited to present their findings under this agenda item and to discuss and agree on the approaches that will be used in identifying threats and underlying causes.

7.2.2 Dr. Sonjai reported that in Thailand, the main causes of mangrove degradation have been: human stress, including:

- conversion to shrimp farms;
- salt production;
- over exploitation of forest resources;
- agriculture (mainly coconuts); and
- road construction (resulting in decreased flow of freshwater into mangroves).

Natural stresses, including:

- Coastal erosion.
- Typhoons and strong winds.
- Barnacles destroying seedlings.
- Defoliation by the moth, *Hypblae pueræ*, of some mangroves.

7.2.3 Dr. Sonjai noted however, that the focus is now on trying to conserve the existing mangroves, particularly those around the river mouths. The Royal projects are also assisting to preserve and restore, degraded areas.

7.2.4 Mr. Nyoto noted that in Indonesia, there were a number of causes of mangrove degradation, including:

- Conversion to shrimp farms. Areas include Lampung, North Java, and South Sulawesi.
- Conversion of mangrove for human settlements, e.g. in Cilacap, Jakarta
- Sand mining, especially in Riau Island, which is causing erosion in Bengkalis Island. This sand is exported to Singapore for land reclamation projects there.
- Cutting for firewood and charcoal production, were also threats to mangroves, especially in Riau Province of West Kalimantan, where it is an ongoing problem.

He noted further that in some locations in Indonesia there were rehabilitation projects. The policy of Forestry Department and the Marine and Fishery Department is to support all stakeholders in

rehabilitation of mangrove ecosystems. The total area rehabilitated in Indonesia is 35,000 hectares, and the priority areas have been on Java Island.

7.2.5 Mr. Barangan noted that the Philippines had 450,000 hectares of mangroves at the start of the last century, but there was now only about 33% remaining. The major causes of mangrove degradation were:

- Conversion of mangrove areas to fishponds and shrimp farms for food production.
- Population pressure and resulting settlements in mangrove areas, construction of ports and harbours, and encroachment of industries in mangrove areas.
- Inadequate manpower and logistics for mangrove plantation establishment and for protection of mangroves
- Inefficient reforestation/restoration techniques, including replanting with inappropriate species not suited to the site.
- Low awareness of the importance of mangroves resulting in unsustainable use.

7.2.6 Dr. Fan said they have many problems in China. The major causes are conversion for shrimp ponds, and local people collecting seafood and damaging the roots of mangroves. People were seeking short-term gains, at the expense of the environment. There were too many government agencies with overlapping authority pertaining to mangroves. At the political level, senior local government officials need to demonstrate an improvement in the economy of an area in order to qualify for promotion, and this sometimes encouraged promotion of short-term gains at the expense of the environment. There was also a lack of community participation in mangrove management.

7.2.7 China was attempting to overcome these problems by raising awareness on the issues, reforming the management system, and encouraging sustainable development and rational uses of mangroves. Some areas of mangroves were being opened up to management by private enterprise. Dr. Fan also suggested returning some power over mangrove areas to local communities to manage, for planting, restoration, and ecotourism.

7.2.8 Mr. Vongwattana said the main causes of mangrove degradation in Cambodia were:

- Conversion for shrimp farm and fish farms.
- Salt production,
- Firewood and charcoal.
- Expanding human settlement
- Income generation for local people

He said that the approach to solving these problems was through trying to collaborate with NGO groups and other agencies to undertake projects to make local people more aware of the importance of the mangroves. He gave two examples: the Project on Participatory Methods of Mangrove Resources (PMMR) the main activity of which is to develop participatory methods in community-based management in a part of Koh Kong area; and the project on coastal zone management (CZM). The main activities of this project are focussed on provincial capacity building, producing natural resources data profiles, and collecting socio-economic data on selected coastal areas. He also noted that, regulations, decrees, and sub-decrees had been formulated, by Government and that, these defined relevant organisations in forestry management.

7.2.9 Mr. Sam from Vietnam said that the root causes of the problems with mangroves in Vietnam were similar to those already described by other countries, and included:

- Conversion for agricultural purposes, mainly from 1978 to 1985
- Conversion to shrimp ponds. This is the current major cause of mangrove degradation.

The productivity of the mangrove forests is decreasing because of degradation, and the soil becomes more acidic. In order to address the problems, they have begun replanting of *Rhizophora apiculata*, *Kandelia candel*, and other species. However, forest restoration was very difficult after an area has been used for shrimp farming.

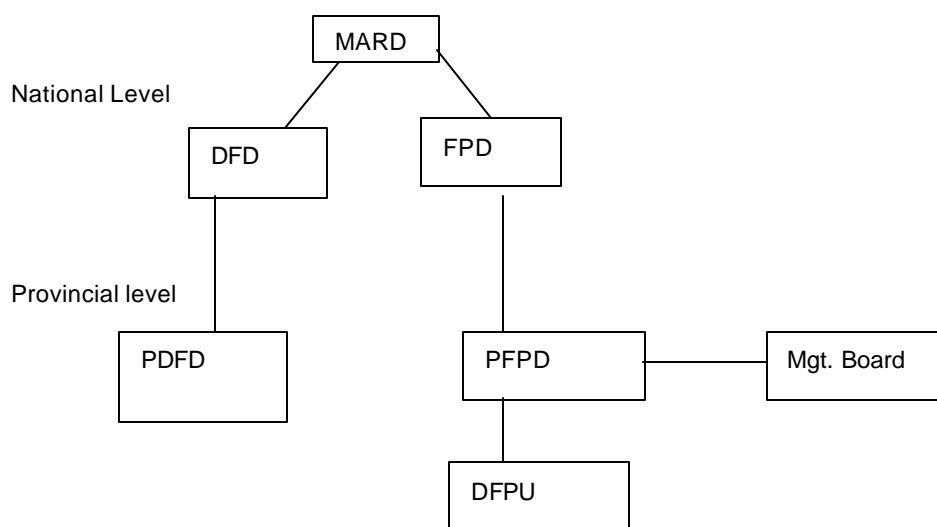
7.3 Review of site specific management regimes including national priorities and possible interventions

7.3.1 Dr. Pernetta referred to the report of the first meeting of the Regional Working Group, Annex 5. Members were invited to present their findings under this agenda item and to discuss and agree on the formats in which such data and information should be presented.

7.3.2 Mr. Nyoto presented the draft report on the review of National Legislation in Indonesia. The full draft of the Indonesian report is included in the meeting documents as UNEP/GEF/SCS/RWG-M.2.7.Ind. In response to a question from Dr. Sonjai, Mr. Santoso explained that at present it was very easy to gain a permit for shrimp farming, and this was a problem. In addition, monitoring capability is very low, and illegal activities such as cutting of mangroves are common.

7.3.3 Mr. Sam informed the meeting of the existing institutional and legal framework in Vietnam, which is summarised in the following diagram.

Vietnam Institutional Structure related to Mangrove Management



MARD: Ministry of Agriculture and Rural Development
 DFD: Department for Forestry Development.
 FPD: Forest Protection Department
 PDFD: Provincial Dept for Forestry Development
 PFPD: Provincial forest protection dept
 Mgt Board:.. Management board for protection forest
 DFPU: District Forest Protection Unit

7.3.4 He also informed the meeting that there is a National Environment Action Plan, which was prepared by the Ministry of Science and Technology, not by the Ministry of Agriculture and Rural Development.

7.3.5 Mr. Barangan informed the meeting of the institutional arrangement in the Philippines. The Department of Environment and Natural Resources (DENR) has field offices at the regional, provincial and community (composed of municipalities which sometimes corresponds to congressional districts) level. Institutionally, the DENR has the mandate in the management of mangroves but other national agencies, the academe, and non-government organizations, also contribute to the establishment and management of mangrove areas. Observations show however that mangrove management by the communities is more successful than management from outside.

7.3.6 Dr. Sanit noted that all countries seem to agree that Governments cannot effectively manage mangroves without community participation. In Thailand they are trying to determine through research the sort of community participation that works most effectively to manage mangrove areas.

7.3.7 Mr. Vongwattana informed the meeting that there are two ministries that are responsible for mangroves in Cambodia. These are the Ministry of Environment, and the Ministry of Agriculture, Forestry, and Fisheries.

7.3.8 Dr. Sonjai informed the meeting of the institutional arrangements in Thailand. His presentation was extracted from the draft Thailand report, contained in meeting document UNEP/GEF/SCS/RWG-M.2.7.Tha. Dr. Sanit stated that the new Department of Marine and Coastal Resources in Thailand brings mangrove management under one department, which should assist in coordination in future. Support from the Royal family is also very beneficial to mangrove management in Thailand.

7.3.9 Mr. Barangan informed the meeting that the USAID funded Coastal Resource Management Project in the Philippines does not provide money to communities, but encourages local government to allocate a portion of their regular annual budget to mangrove establishment and management interventions/activities.

8. PRESENTATION AND REVIEW OF THE OUTCOMES OF THE GIS WORKSHOP JOINTLY CONVENED BY THE PROJECT CO-ORDINATING UNIT AND SOUTHEAST ASIA START¹ REGIONAL CENTRE IN AUGUST 2002

8.1 Outcomes of the workshop

8.1.1 The meeting noted that discussion of the outcomes of the GIS workshop had been substantively completed under agenda item 5. Participants noted further that the required follow-up by participants with the National Focal Points had been inadequate. They noted the urgent need to revise the format for the Mangrove GIS questionnaires relating to site selection and requested the PCU to facilitate the distribution of corrected formats

8.1.2 During discussion of the preparation of regional scale distribution maps it was noted that for Thailand and Vietnam, paper maps exist from 1996, Cambodia has maps from 1997, Philippines maps are from 2000, Indonesia maps from 1997. China has a detailed map of one province only, but a low-resolution map for the whole country. They hope to have a detailed map for the whole country by the end of the year, based on information collected in the year 2001. Whatever is available from each country is to be provided to the PCU by 30th September 2002.

8.2 Site Characterisation questionnaires developed by the SEA START RC and workshop participants

8.2.1 Participants noted that the site characterisation questionnaires developed by SEA START RC had been extensively reviewed under agenda item 7 and no further discussion was undertaken at this point.

9. REVISION OF THE WORKPLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON MANGROVES

9.1 During the first meeting of the Regional Working Group a flow chart of activities and a workplan and timetable were developed and agreed and were reported in Annexes 5 and 6 of the meeting report UNEP/GEF/SCS/RWG-M.1/3.

9.2 In the light of the discussion and agreements reached under agenda items 5, 6, 7 and 8, the meeting was invited to review the flow-chart and workplan and agree a new workplan and timetable extending to at least January 2004.

¹ START = the Global Change SysTem for Analysis, Research and Training

9.3 Dr. Pernetta reminded participants of the outstanding reports which the Focal Points had agreed to produce by June, and September 2002, in time for consideration in full by this meeting and asked when the countries who had not produced draft reports to date would be able to do so. He noted that not having these reports in draft form for the meeting had resulted in duplication and associated loss of time. He noted with appreciation the level of detail provided in the reports from Thailand and Indonesia but noted that it would have been valuable to be able to compare the substantive contents of these reports across countries in order to derive commonalities regarding best practices and other aspects of mangrove management.

9.4 Dr. Sanit noted with appreciation the preparation and publication of the published reports from the first round of meetings, which he felt would serve as an interim product representing progress but that, by the time of the next (third meeting of the RWG-M), more substantial reports would be needed to justify the continuation of activities.

9.5 It was suggested that the meeting develop formats for the preparation of the various reports in order to simplify and streamline the work and ensure that they were produced in the fastest possible time. It was also noted that better networking was required such that communications from members of the RWG-M would serve as mutual stimulants to action. It was recognised by all concerned that considerable effort would need to be expended to catch up with the delivery of outputs shown in Table 2, of the workplan and timetable contained in Annex 8 of UNEP/GEF/SCS/RWG-M.1/3, and that a revised schedule that relates to all activities would need to be presented to the PSC.

9.6 Habitat distribution maps should be incorporated by SEA START RC into the GIS for presentation to the Project Steering Committee provided that, countries provide all the necessary information on time. It was noted that the intention had been that this would have been completed in advance of this meeting. Similarly species distributions based on existing information could be completed by December 2002.

9.7 Dr. Tri presented a tabular format used in some locations in Vietnam as an example of a method for reviewing institutional arrangements, which is attached as Annex 7 to this report. Dr. Sanit provided the GLOMIS CD and the meeting reviewed the information contained on it that was of direct relevance to the work of the group.

9.8 Dr. Sanit then produced a framework outline for the Review of National Data & Information, based on the contents of the flow chart contained in Annex 5 of report UNEP/GEF/SCS/RWG-M.1/3, which was discussed and expanded by the group and agreed as contained in Table 2.

Table 2. Outline contents of: Review of National Data & Information, and preparation of national meta database²

1. Geographical Distribution at habitat level.
 - 1.1 Maps³
 - 1.2 Area distribution (by province, by region, or whatever)
2. Geographical Distribution of species &/or formations
 - 2.1 Species Distribution
 - 2.2 Formation⁴
3. Environmental State
 - 3.1 Physical
 - 3.2 Chemical
 - 3.3 Biological

² The format for the meta-database is contained in the meeting documents UNEP/GEF/SCS/RWG-M M2/8

³ For Thailand and Vietnam, paper maps exist from 1996, Cambodia has maps from 1997, Philippines maps are from 2000, Indonesia maps from 1997. China has a detailed map of one province only, but low-resolution map for the whole country. They hope to have a detailed map for the whole country by the end of the year, based on information collected in the year 2001. Whatever is available from each country is to be provided to PCU by 30 Sept

⁴ Communities with same dominant species are in the same formation

4. Social use and ownership data.
 - 4.1 Ownership
 - 4.2 Present use
 - 4.3 Potential use
 - 4.4 Current management regime
5. Economic valuation
 - 5.1 Direct use values
 - 5.2 Indirect use values
 - 5.3 Environmental service values
6. Threats, present and future
 - 6.1 Human pressure
 - 6.2 Natural phenomena

9.9 It was further agreed that this review should be prepared and completed in time for presentation to the December 2002, Project Steering Committee meeting. It was noted that in order to meet the requirements of the Rules of Procedure of the Steering Committee all documentation must be dispatched to members 6 weeks in advance of the meeting, hence this report would need to be finalised by the first week of November at the latest.

9.10 Focal Points agreed that the review would be submitted to the Project Co-ordinating Unit and the Chairperson of the RWG-M **no later than October 25, 2002**. Following receipt, the Project Co-ordinating Unit and the Chairperson would compile, **by November 1, 2002**, a single report from the RWG-M, for presentation to the PSC meeting December 16th-18th 2002.

9.11 Dr. Gong assisted the meeting in preparing a schedule for some outstanding tasks based on Table 2, in Annex 8 of the report of the first meeting (UNEP/GEF/SCS/RWG-M.1/3). The following deadlines were agreed:

- Review of past and ongoing activities, following the format in Annex 5 of this meeting report **October 25th 2002**, to be sent to the Chairperson and Project Co-ordinating Unit.
- Identification and characterisation of sites. **November 30th 2002** first draft containing as many sites as possible for entry into the Regional GIS and presentation to the Project Steering Committee. A revised complete and final listing needs to be prepared no later than **January 31st, 2003** for distribution by the PCU in advance of the third meeting of the RWG-M.
- Review of National Legislation: **November 30th**, first draft for review by the PCU and presentation to the RSTC & PSC. **Revised draft January 31st, 2003** for finalisation at the third meeting of RWG-M.

9.12 Following discussion it was agreed that the review of national legislation would consist of sections encompassing the following issues:

1. Laws
2. Regulations
3. Cabinet resolutions
4. National criteria used in designating sites for specific purposes such as: national park, biosphere reserve, conservation area, production forest, or commercial activity

9.13 The meeting sought clarification, from the Secretariat, regarding the deadlines for the GIS related tasks. The Secretariat made reference to Annex 10, of the GIS technical meeting report, which had become outdated since a number of the initial steps still needed to be taken in some countries. It was agreed that the timetable to be followed would be as follows:

- Tables M.1.1 to M1.3 of the GIS questionnaires need to be completed by the Focal Points **no later than October 15 2002** and dispatched to the PCU and to the SEA START RC

- Questionnaires contained in M2 need to be corrected by the SEA START RC **no later than October 15 2002**;
- By **the end of November 2002**, a first draft of completed questionnaires for sites should be submitted to the PCU (see paragraph 9.11 above). These questionnaires should be submitted as they are completed, and not retained by the Focal Points up to the deadline.

9.14 After extended discussion on the nature and content of the various reports, Dr. Sam asked for clarification on the number of reports required. The meeting determined that five reports are required by the end of the year.

9.15 In responding to a query from Dr. Gong, Dr. Pernetta informed the meeting that ideally the RWG-M should develop a work plan extending to January 2004, as indicated in the annotated agenda. This would ensure that all Focal Points were clear regarding the critical decision making points leading up to and culminating in the third Project Steering Committee meeting that would make decisions regarding the selection of demonstration sites.

9.16 Dr. Pernetta indicated that in order to make decisions regarding the choice of demonstration sites the Steering Committee would need extremely detailed project documents including budgets and individual work plans, which provided details regarding the nature of the work to be undertaken at each demonstration sites. Such demonstration site profiles would be developed following the third meeting of the Regional Working Group when some decisions based on the application of regional criteria had been made regarding the priority of each site entered into the system. Dr. Pernetta reminded members that a cash commitment from the Government involved would be a pre-requisite for selection as a demonstration site.

9.17 Dr. Pernetta agreed to draft a workplan overnight for the consideration of the meeting the following morning. The draft was presented, discussed, amended and adopted as contained in Annex 8 of this report.

10. DATE AND PLACE OF THE THIRD AND FOURTH MEETINGS OF THE REGIONAL WORKING GROUP ON MANGROVES

10.1 The Chairperson invited the meeting to consider and agree upon the time and place for the third and fourth meetings of the RWG-M. Dr. Sanit noted the value of convening these meetings in the different countries participating in the project, as it was a good opportunity for people to see and learn about mangrove management, utilisation, and problems in other locations, which may be beneficial in the organisation and execution of demonstration sites.

10.2 Mr. Nyoto offered to host the next meeting in Bali, Indonesia. This offer was accepted by the meeting, and Mr. Nyoto agreed to liaise with the PCU concerning logistic arrangements.

10.3 Dr. Pernetta advised the members that the next meeting would be held in parallel with the third meeting of the Regional Working Group on Wetlands in order to share a joint session during which consideration of the sites considered of priority to the Wetlands Group could be considered and incorporated into the discussions of the mangrove group. He noted with relief that Bali was also a recommended location from the wetlands group. The dates for the RWG-M meeting were **the 3rd to 6th March, 2003**, and those for the Wetland group were **4th to 7th March 2003**.

10.4 The meeting also agreed that **14th-17th October, 2003** would be the dates of the fourth meeting, but agreed to leave the decision regarding a venue open at this time.

10.5 Dr. Pernetta also advised the meeting that a Regional Scientific & Technical meeting would be convened within the framework of the project from **4th to 7th December 2003** and that this was intended as an opportunity for the various working groups and their members to display the outputs of the first two years. The meeting would also serve as an opportunity for donors to be introduced to the project and to consider sponsoring selected demonstration sites.

11. ANY OTHER BUSINESS

11.1 The Chairperson invited members to consider and discuss any further items of business under this agenda item. No additional items were raised.

12. ADOPTION OF THE REPORT OF THE MEETING

12.1 The Rapporteur, Mr. Barangan presented the draft report of the meeting, which was considered, amended and adopted by the members, as contained in this document.

13. CLOSURE OF THE MEETING

13.1 The Chairperson expressed his thanks to the regional experts for their contributions to the work of the meeting; the Secretariat for their preparation of the meeting; and all participants for their hard work and contributions to a successful meeting outcome. He noted particularly the excellent presentations made by Mr. Nyoto.

13.2 The Project Director expressed his appreciation to all concerned for their hard and constructive work towards the successful outcome of the meeting and hoped that it would be possible to present a solid report to the Project Steering Committee in December 2002.

13.3 Dr. Sam expressed his appreciation for the opportunity of hosting the meeting and expressed the wish that the meeting would be successfully concluded with the field trip that he had organised for all participants following closure of the meeting.

13.4 Mr. Barangan expressed appreciation, on behalf of all participants to the Secretariat for their support in the preparation, organisation and execution of the meeting. Mr. Nyoto, Dr. Fan and Mr. Vongwattana joined Mr. Barangan in reiterating their thanks for the organisation and successful execution of the meeting.

13.5 The Chairperson, Dr. Sonjai closed the meeting at 10.30 am on Friday, 13th September, 2002.

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ANNEX 2

List of Documents

Discussion documents

UNEP/GEF/SCS/RWG-M.2/1	Provisional agenda
UNEP/GEF/SCS/RWG-M.2/2	Provisional annotated agenda
UNEP/GEF/SCS/RWG-M.2/3	Report of the meeting
UNEP/GEF/SCS/RWG-M.2/4	Report of the Project Co-ordinating Unit concerning the mid-year reviews and reports from the Specialised Executing Agencies
UNEP/GEF/SCS/RWG-M.2/5	Six month progress reports from the participating countries.
UNEP/GEF/SCS/RWG-M.2/6	Members of the National Mangrove Committees and sub-committees in the participating countries
UNEP/GEF/SCS/RWG-M.2/7.Cam	Cambodia Report from the Focal Points on the Inter-session Activities at the National Level
UNEP/GEF/SCS/RWG-M.2/7.China	China Data and Information Needs for the Mangrove Component
UNEP/GEF/SCS/RWG-M.2/7.Ind	Progress Report of South China Sea (SCS) Project for Indonesian Mangrove Component.
UNEP/GEF/SCS/RWG-M.2/7.Mal	<i>Not available</i>
UNEP/GEF/SCS/RWG-M.2/7.Phil	<i>Not available</i>
UNEP/GEF/SCS/RWG-M.2/7.Tha	Draft of Thai Mangrove Data and Information
UNEP/GEF/SCS/RWG-M.2/7.Viet	Vietnam Report on Mangrove Sub-component of UNEP/GEF Project
UNEP/GEF/SCS/RWG-M.2/8	Meta-data formats for entries in the South China Sea Regional Meta-database
UNEP/GEF/SCS/RWG-M.2/9	List of "True" Mangroves for which data and information regarding distribution are required in the framework of the site characterisation process
UNEP/GEF/SCS/RWG-M2/10	Questionnaires for data and information entry into the Regional GIS database of mangrove sites

Information documents

UNEP/GEF/SCS/RWG-M.2/INF.1	Provisional List of Documents
UNEP/GEF/SCS/RWG-M.2/INF.2	Provisional List of Participants
UNEP/GEF/SCS/RWG-M.2/INF.3	Draft Programme
UNEP/GEF/SCS/RWG-W.2/5	Summary of the E- Discussion and Recommendation Regarding the Scope of Work of the Regional Working Group on Wetlands (RWG-W).
UNEP/GEF/SCS/EW.1/3	UNEP/GEF/SCS and SEA START RC, GIS Workshop in support of the UNEP/GEF Project "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand", Report of the meeting, UNEP/GEF/SCS/EW.1/3, Bangkok, Thailand, 7-9 August 2002.

UNEP/GEF/SCS/PSC.1/3	First Meeting of the Project Steering Committee for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/PSC.1/3. UNEP, Bangkok Thailand.
UNEP/GEF/SCS/RSTC.1/3	First Meeting of the Regional Scientific & Technical Committee for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RSTC.1/3 Pattaya, Thailand, 14 - 16 March 2002.
UNEP/GEF/SCS/RWG-LbP.1/3	First Meeting of the Regional Working Group for the Land-based Pollution Component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-LbP.1/3 Bangkok, Thailand, 3 - 5 April 2002.
UNEP/GEF/SCS/RWG-W.1/3	First Meeting of the Regional Working Group for the Wetland Sub-component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-W.1/3 Phuket, Thailand, 24 - 26 April 2002.
UNEP/GEF/SCS/RWG-M.1/3	First Meeting of the Regional Working Group for the Mangrove Component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-M.1/3 Phuket, Thailand, 29 April - 1 May 2002.
UNEP/GEF/SCS/RWG-SG.1/3	First Meeting of the Regional Working Group for the Seagrass Sub-component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-SG.1/3 Bangkok, Thailand, 6 - 8 May 2002.
UNEP/GEF/SCS/RWG-CR.1/3	First Meeting of the Regional Working Group for the Coral Reef Sub-component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-CR.1/3 Bangkok, Thailand, 9 - 11 May 2002.
UNEP/GEF/SCS/RWG-F.1/3	First Meeting of the Regional Working Group for the Fisheries Component of the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the meeting. UNEP/GEF/SCS/RWG-F.1/3 Bangkok, Thailand, 20-22 May 2002.

ANNEX 3

Agenda

- 1. OPENING OF THE MEETING**
 - 1.1 Welcome address**
 - 1.2 Introduction of members**
- 2. ORGANISATION OF THE MEETING**
 - 2.1 Documents available to the meeting**
 - 2.2 Organisation of work**
- 3. ADOPTION OF THE MEETING AGENDA**
- 4. REPORT OF THE SECRETARIAT CONCERNING THE MID-YEAR REVIEWS AND REPORTS FROM PARTICIPATING COUNTRIES**
- 5. REPORTS FROM THE FOCAL POINTS ON INTER-SESSIONAL ACTIVITIES AT THE NATIONAL LEVEL**
 - 5.1 Review of past and on-going activities including economic valuation**
 - 5.2 Overview of distribution, abundance and state of mangroves at the national level**
 - 5.3 Review of national data and information and creation of national meta-database**
 - 5.4 Review of national criteria, management regimes, institutional and legal frameworks**
- 6. DISCUSSION AND AGREEMENT OF THE FINAL LISTING OF 'TRUE' MANGROVES TO BE USED IN SITE CHARACTERISATION**
- 7. DISCUSSION OF ON-GOING ACTIVITIES REGARDING THE CHARACTERISATION OF NATIONAL MANGROVE SITES AND THEIR REGIONAL PRIORITISATION**
 - 7.1 Identification and characterisation of sites for regional prioritisation**
 - 7.2 Reviews of threats at site level and identification of the proximate and ultimate causes of degradation**
 - 7.3 Review of site specific management regimes including national priorities and possible interventions**
- 8. PRESENTATION AND REVIEW OF THE OUTCOMES OF THE GIS WORKSHOP JOINTLY CONVENED BY THE PROJECT CO-ORDINATING UNIT AND SOUTHEAST ASIA START⁵ REGIONAL CENTRE IN AUGUST 2002**
 - 8.1 Outcomes of the workshop**
 - 8.2 Site Characterisation Questionnaires developed by the SEA START RC and workshop participants**
- 9. REVISION OF THE WORKPLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON MANGROVES**
- 10. DATE AND PLACE OF THE THIRD AND FOURTH MEETINGS OF THE REGIONAL WORKING GROUP ON MANGROVES**
- 11. ANY OTHER BUSINESS**
- 12. ADOPTION OF THE REPORT OF THE MEETING**
- 13. CLOSURE OF THE MEETING**

⁵ START = the Global Change SysTem for Analysis, Research and Training

ANNEX 4**Members of the National Mangrove Committees and Sub-committees in the Participating Countries**

Members of Cambodia's National Mangrove & Wetland Committee⁶		
Name	Expertise	Office
Mr. Ke Vongwattana	Mangrove wetland ecology	Ministry of Environment
Mr. Neam Synouk	Planning	Chief, Kampot Tourism Unit
Mr. Khem Bunheng	Forestry	Chief, Kampot Environmental. Unit
Mr. Kev Neam	Agronomy	Vice Chief Kampot Agriculture, Forestry and Fishery Unit
Mr. Leum Sambo	Planning	Chief Kampot Public Work and Transport Unit
Mr. Chhun Hin	Chemistry	Vive Chief Kampot Industry, Mine and Energy Unit
Mr. Pang Bunnareth	Technology and civil construction	Chief Kampot Land Management, Urbanization and Construction Unit
Mr. Hem Saroeun	Environmentalist	Chief Kompong Som Environmental Unit
Mr. Buoy Rottana	Fishery science	Chief Kompong Som Agriculture, Forestry and Fishery Unit
Mr. So Chunhou	Planning	Chief Komponh Som Transport and Public Work Unit
Mr. Pra Chanroeun	Economy	Vice Chief Kompong Som Industry, Mine and Energy Unit
Mr. Teng Yuy	Psychology and pedagogy	Chief Kompong Som Tourism Unit
Mr. So Sok	Lang Planning	Chief Kompong Som land Management, Urbanization and Construction Unit
Mr. Chourb Kao	Mangrove ecology	Chief Kep Environmental Unit
Mr. Chum Khem	Forest management	Chief Kep Agriculture, Forestry and Fishery Unit
Mr. Hang Samuon	Planning	Chief Kep Transport and Public Work Unit
Mr. Oum Kimsun	Law legislation	Vice Chief Kep Industry, Mine and Energy Unit
Mr. Sok Cheav	Planning	Chief Kep Tourism Unit
Mr. Va Sokha	Land use management	Chief Kep Land Management, Urbanization and Construction Unit
Mr. Sao Sinhuon	Resource conservation	Chief Koh Kong Environmental Unit
Mr. Hak Hoeun	Forestry management	Chief Koh Kong Agriculture, Forestry and Fishery Unit
Mr. Ley Sareth	Road and bridge construction	Chief Koh Kong Transport and Public Work Unit
Mr. Yeun Saroum	Planning	Chief Koh Kong Industry, Mine and Energy Unit
Mr. Duong Sovathara	Resource conservation	Vice Chief Koh Kong Tourism Unit
Mr. Bou Sophan	Urban planning	Chief Koh Kong Land Management, Urbanization and Construction Unit

⁶ The Cambodian Government decided to convene a joint committee encompassing responsibilities for wetlands and mangroves, rather than to establish two independent national committees.

Members of China's National Mangrove Sub-Committee (as of September 2 002)		
Name	Expertise	Office
FAN Hangqing	Mangrove ecology aquaculture	Professor & Director, of Guangxi Mangrove Research Center
Zhang Qiaoming	Mangrove coastal geology	Professor of Oceanography Institute of South Sea, China Science Academy, Guangdong
Cheng Guizhu	Mangrove pollution and environment	Professor of Zhongshan University, Guangdong
Song Jianjun	Economy	Professor of Institute of National Land Exploitation and Regional Economy, Beijing
Li Cungang	Mangrove GIS	Professor of Guangxi Forestry Survey & Planning Institute, Guangxi
Li Guangzao	Mangrove coastal resources and landform	Professor of Guangxi Oceanography Institute, Guangxi
Jin Daijun	Mangrove associated plants	Professor of Guangxi Institute of Botany, China Science Academy
Han Weidong	Mangrove ecology	Vice-professor of Zhangjiang Marine University, Guangdong
Huang Zhongqi	Mangrove protection	Senior Researcher & Vice-director of Dongzaigang Mangrove Natural Reserve, Hainan
Liu Jinfa	Management of mangrove and ecotone resources	Senior Researcher & Director of Fangchenggang Municipal Bureau of Land and natural resources, Guangxi
He Bingyuan	Mangrove benthos	Vice-professor of Guangxi mangrove Research Center
Mo Zhucheng	Mangrove plantation	Vice-professor of Guangxi mangrove Research Center

Note: According to decision of the Guangxi Government the Guangxi Mangrove Research Center and Guangxi Oceanography Institute were separated into two completely independent agencies in June 2002 as part of the reform of the science and technology sector.

Members of Indonesia's National Mangrove Sub-Committee		
Name	Expertise	Office
Nyoto SANTOSO	Biodiversity ecology and management	Executive Director, Indonesia Mangrove Research & Development (IMRED)
Hadi S. Alikodra	Wildlife Management	Faculty of Forestry, Bogor Agriculture University
Cecep Kusmana	Policy Analysis and Institutional Capacity Building	Faculty of Forestry, Bogor Agriculture University
Dedi Sudharma	Water Quality	Faculty of Fishery, Bogor Agriculture University
Sukristiono Sudkardjo	Mangrove Ecology and Legislation	Indonesian Institute of Science
Yunius	Environmental Economic	Ministry of Environment
Rinekso Sukmadi	Environmental Economic And Valuation	Faculty of Forestry, Bogor Agriculture University
Agus Priyono	Aquatic Ecology	Faculty of Forestry, Bogor Agriculture University
Ahmad Faisal Siregar	BS in Resource Conservation	Indonesia Mangrove Research ^& Development (IMRED)
Bayu Catur Nurcahya	BS in Resource Conservation	Indonesia Mangrove Research ^& Development (IMRED)
Taju Solihin	BS in Resource Conservation	Indonesia Mangrove Research ^& Development (IMRED)
Rismunandar	BS in Forest Management	Indonesia Mangrove Research & Development (IMRED)
Khumaedi	BS in Forest Management	Indonesia Mangrove Research & Development (IMRED)
Rinawaty Suwandi	BS in Economic	Indonesia Mangrove Research & Development (IMRED)
Eny Naryanti	BS in Law	Indonesia Mangrove Research & Development (IMRED)
Reza Maulana	BS in Computer	Indonesia Mangrove Research & Development (IMRED)
Toto Supartono	BS in Resource Conservation	Indonesia Mangrove Research & Development (IMRED)
Bugiono	BS in Resource Conservation	Indonesia Mangrove Research & Development (IMRED)

Members of Malaysia's National Mangrove Committee ⁷		
Name	Expertise	Office

⁷ Membership of the committee responsible for management of this sub-component is not yet complete, although a National Mangroves Committee continues to exist in Malaysia operating at a rather low level since the closure of the UNESCO COMAR Programme.

Members of Philippines' National Mangrove Committee		
Name	Expertise	Office
Florendo Barangan	Mangrove management and ecology	Executive Director , Coastal and Marine Management Office, Department of Environment and Natural Resources, Visayas Avenue, Diliman, Quezon City
Cesar A. Orallo	Mangrove identification, physiology, management and ecology	Division Chief, CMMD DENR Region I, San Fernando City, La Union
Emma E. Melana	Mangrove identification, ecology, rehabilitation and management	Chief, Coastal and Marine Management Division DENR-Region VII, Banilad, Mandaue City, Cebu
Elvero Eusebio	Mangrove rehabilitation and management	Assistant Regional Executive Director for Technical Services, DENR Region IV-B, 1515 Roxas Blvd, Metro Manila
Apollo Regalo	Mangrove ecology, rehabilitation and management	Forester, Palawan Council for Sustainable Development, Puerto Princesa, Palawan
Honorato Palis	Mangrove identification, ecology, rehabilitation and management	Supervising Science Research Specialist/Chief, Mangrove Section, Ecosystems Research and Development Bureau, DENR, College, Laguna
Jimmy Aberin	Mangrove rehabilitation and management	Technical Staff, Coastal and Marine Management Division, DENR-Region III San Fernando City, Pampanga

Members of Thailand's National Mangrove Sub-Committee⁸		
Name	Expertise	Office
Dr. Sonjai Havanond	Mangrove ecology, CZM	Director, Mangrove & Wetland Management Division, Royal Forest Department
Prof. Sanit Aksornkoae	Mangrove Ecology	Professor, Kasetsart University
Associate Prof. Pipat Patanaponpaiboon	Physiology	Chulalongkorn University
Dr. Noparat Banroongrugsa	Silviculture Plantation	Prince of Songkla University
Mr. Pipop Chantanawarangkool	Natural Parks	Royal Forest Department
Ass. Prof. Sunanta Suwannadom	Socio-economics	Chulalongkorn University
Associate Prof. Nittharatana Paphavasit	Marine Fauna	Chulalongkorn University
Dr. Tanuwong Sangtiean	Microbiology	Royal Forest Department (Secretary)
Dr. Gullaya Wattayakorn	Marine chemistry	Professor, Chulalongkorn University
Ms. Wanida Pornpaiboon	Law Legislation	Royal Forest Department

⁸ Thailand's National Mangrove Committee is a large and high-level body, which meets biennially. The present committee is constituted as a sub-committee of this National Committee.

Members of Vietnam's National Mangrove Committee		
Name	Expertise	Office
Do Dinh Sam	Mangrove ecology	Vice-Director & Director, Forest Science Institute of Vietnam
Ngo Dinh Que	Silviculture of mangroves	Research Centre for Forest Ecology and Environment
Nguyen Hoang Tri	Ecosystem ecology & valuation	Director Centre for Environmental Research & Education, Hanoi University of Education
Nguyen Ngoc Binh	Forestry Expert	Vietnam Soil Association
Nguyen Thi Yen	Forestry Expert	Director Project Protection and Development of Wetland of Coastal Areas
Nguyen Van Trong	Forestry Expert	Fishery Research Institute
Nguyen Huu Ninh	Economic expert	Director Centre for Environment Research, Education and Development
Dang Trung Tan	Silviculture and biodiversity of mangroves	Director Research Centre and Application of Mangrove Forest Minh Hai
Phan Nguyen Hong	Ecology & Biodiversity	Centre for Natural Resources and Environment Studies
Vu Trung Tang	Fishery Expert	National University Hanoi
Nguyen Thi Thanh	Planner on Wetland	Vice Director Forest Inventory and Planning Sub-Institute
Nguyen Ngoc Sinh	Policy maker	Director general Environment Department
Bui Dinh Chung	Fishery expert	Fishery Research Institute, Hai Phong City
Tran Hong Ha	Policy Maker	Deputy Director General Environment Department
Dang Kim Khanh	Secretary	International Co-operation Division – FSIV
Vu Tan Phuong	Secretary	Forest Science Institute of Vietnam

ANNEX 5

Format for Country Reviews of Past and Ongoing Mangrove Activities

Activities Sub-activity	1990-1994	1995-2000	2001-2005
1 Data and information management			
1.1 Mapping (area, distribution)			
1.2 Remote Sensing			
1.3 GIS			
1.4 Database			
2 Research			
2.1 Environmental (phys/chem.)			
2.2 Forestry			
2.3 Fisheries			
2.4 Socio-economic			
2.5 Policy research			
2.6 Others			
3 Training/Seminar/workshop (Natl/Intl)			
3.1 Seminars			
3.2 Workshop			
3.3 Training			
4 Management			
4.1 production			
4.1.1 timber			
4.1.2 fisheries			
4.1.3 other			
4.2 protection			
4.2.1 tourism/education/research			
4.2.2 coastal protection			
4.2.3 biodiversity conservation			

5. Reafforestation/restoration			
5.1 Site selection			
5.2 Nursery technique			
5.3 Planting technique			
5.4 Maintenance			
6. Policy			
6.1 Legislation			
6.2 Organisation/Institution			
6.3 Land Use			

ANNEX 6

**List of True and Associate Mangrove Species for the Participating Countries
Bordering the South China Sea**

Table 1. List of “True” mangrove species recorded from the countries bordering the South China Sea. XX = dominant elements of the Flora; X = known to occur.

	Cambodia	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
<i>Acanthus ebracteatus</i>	X	X	X	X		X	X
<i>Acanthus ilicifolius</i>	X	X	X	X		X	X
<i>Acanthus xiamenensis</i>		X					
<i>Acrostichum aureum</i>	X	X	X	X	X	X	X
<i>Acrostichum Speciosum</i>	X	X	X	X	X	X	
<i>Aegialitis rotundifolia</i>	X			?			
<i>Aegiceras corniculatum</i>	X	X	X	X	X	X	X
<i>Aegiceras floridum</i>	X		X	?	X	–	X
<i>Avicennia alba</i>	X		XX	X	XX	X	X
<i>Avicennia eucalyptifolia</i>					XX	–	
<i>Avicennia marina</i>	X	X	XX	X	XX	X	X
<i>Avicennia marina var rumphiana</i>			XX		XX	–	
<i>Avicennia officinalis</i>	X		XX	X	XX	X	X
<i>Brownlowia tersa</i> ⁹	X			X		X	
<i>Bruguiera cylindrica</i>	X	X	XX	X	XX	X	X
<i>Bruguiera gymnorrhiza</i>	X	X	XX	X	XX	X	X
<i>Bruguiera hainesii</i>				?		X	
<i>Bruguiera parviflora</i>			XX	X	XX	X	
<i>Bruguiera sexangula</i>	X	X	XX	X	XX	X	X
<i>Bruguiera sexangula Var Rhyncopetala</i>			XX			–	
<i>Camptostemon philippinense</i>			X		X	–	
<i>Ceriops decandra</i>	X		XX	?	XX	X	X
<i>Ceriops tagal</i>	X	X	XX	X	XX	X	X
<i>Excoecaria agallocha</i>	X	X	XX	X	X	X	X
<i>Heritiera littoralis</i>	X	X	X	X	X	X	X
<i>Kandelia candel</i>	X	X	X	X		X	X
<i>Lumnitzera littorea</i>	X	X	XX	X	XX	X	X
<i>Lumnitzera racemosa</i>	X	X	XX	X	XX	X	X
<i>Nypa fruticans</i>	X	N	XX	X	XX	X	X
<i>Osbornia octodonta</i>			X	?	X	–	
<i>Pemphis acidula</i>			X	?		X	
<i>Peltophorum pterocarpum</i>				?		X	
<i>Phoenix paludosa</i>	X			X		X	X
<i>Rhizophora apiculata</i>	X	X	XX	X	XX	X	X
<i>Rhizophora mucronata</i>	X	X	XX	X	XX	X	X
<i>Phizophora stylosa</i>		X	XX	?	XX	–	X
<i>Scyphiphora hydrophyllacea</i>		X	X	X	X	X	X
<i>Sonneratia alba</i>	X	X	XX	X	XX	X	X
<i>Sonneratia caseolaris</i>	X	X	XX	X	XX	X	X
<i>Sonneratia griffithi</i>	X		X	X ¹⁰		X	
<i>Sonneratia hainanensis</i>		X			–	–	
<i>Sonneratia ovata</i>	X	X	XX	X		X	X
<i>Sueda maritime</i>				?		X	
<i>Xylocarpus granatum</i>	X	X	X	X	X	X	X
<i>Xylocarpus moluccensis</i>	X		X	X	X	X	X
<i>Xylocarpus corniculatum</i>		X					

⁹ Based on the IUCN Plant Red Data Book, *Brownlowia tersa* and *Bruguiera hainesii* are considered endangered.

¹⁰ Some question exists regarding the validity of this species designation.

Table 2. Associate Mangrove species known to occur in the countries bordering the South China Sea.

	Cambodia	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
<i>Allophyllus cobbe</i>	X			?		X	
<i>Amoora cucullata</i>				?		X	
<i>Ardisia littoralis</i>			X	?		X	
<i>Barringtonia asiatica</i>							
<i>Barringtonia asiatica</i>			X	X		X	
<i>Barringtonia racemosa</i>	X	X		X		X	
<i>Cerbera manghas</i>		X	X	X		X	
<i>C. odollam</i>	X		X	X		X	
<i>Clerodendrum inerme</i>	X			X		X	
<i>Cynometra ramiflora</i>			X	X		X	
<i>Cycas rumphii</i>			X	X		X	
<i>Dendrolobium umbellatum</i>			X	?		X	
<i>Derris indica</i>			X	X		X	
<i>Diospyros ferrea</i>				X		X	
<i>Dolichandrone spathacea</i>		X	X	X		X	X
<i>Ficus microcarpa</i>			X	X		X	
<i>Glochidion littoral</i>				?		X	
<i>Guettarda speciosa</i>				?		X	
<i>Hernandia Sonora</i>		X		?		--	
<i>Hibiscus tiliaceus</i>	X	X	X	X		X	
<i>Horsfieldia inva</i>			X	?		X	
<i>Intsia bijuga</i>	X		X	X		X	
<i>Melaleuca leucadendra</i>			X	?		X	
<i>Melastoma villosum</i>			X	??		X	
<i>Oncosperma tigillaria</i>			X	X		X	
<i>Pandanus odoratissimus</i>			X	X		X	
<i>Planchonella obovata</i>			X	?		X	
<i>Pluchea indica</i>		X	X	?		X	
<i>Pongamia pinnata</i>		X	X	X		--	
<i>Premna obtusifolia</i>	X	X	X	?		X	
<i>Rapanea porteriiana</i>				?		X	
<i>Sapium indicum</i>	X			?		X	
<i>Scolopia macrophylla</i>			X	?		X	
<i>Thespesia populnea</i>		X	X	X		X	
<i>Xylocarpus gangeticus</i>				?		X	

ANNEX 7

An Example of an Analysis of Institutional and Legal Arrangements from Vietnam

Table 1. Eco-Institutional Space Analysis for Shrimp Industry and Mangrove Management in Ca Mau Province, South Vietnam

Institutional arrangement	Mangrove Forests				Shrimp Ponds				Political and technical Interventions	
	Protected areas Special Forests	Forests managed by FEs	Forests New -planted by Districts communes	Forests in private lands	Ponds managed by state enterprises	Ponds managed by local associations	Ponds managed by HHs signed contracts with FEs	Ponds managed by owned- HHs	Launching Regulations	Functions
National Assembly	*	*	*	*	*	*	*	*	Law of Land-use	Approved
PM Bureau/ Provincial Administration	*	*	*	*	*	*	*	*	Ordinances and Decisions	Implementation Guidance
District/Com. Adm.				*				*	Red Books	Direct management
MARD/ DARD/ FEs	*	*	*		*	*	*		Green Books	Direct Monitor
MoF/ DoF					*	*	*	*	Disease control	Technical guides Product , market guides and extension
MoF/PFs					*	*	*	*	Product quality	
					*	*	*	*	Hatchery control	
					*	*	*	*	Product quality	
					*	*	*	*	Market guides	
					*	*	*	*	Collection network	
Feeding Companies					*	*	*	*	Extension and investment	Pond promotion
Trading companies					*	*	*	*	Extension and investment	Pond promotion
Private trades					*	*	*	*	Local relation & confidence	Direct collection
Nat. banks and credits					*	*	*	*	Credit regulations	Pond promotion

HHs: Households; PM: Prime Minister; MARD: Ministry of Agriculture and Rural Development; DARD: Department of Agriculture and Rural Development at Province level; MoF: Ministry of Fishery; DoF: Department of Fishery at Province level; FEs: Forestry Enterprises; PFs: Processing Factories.

Table 2. Eco-Institutional Space Analysis for Shrimp Industry and Mangrove Management in Quang Ninh Province, North Vietnam

Institutional arrangement	Mangrove Forests			Shrimp Ponds		Politic and technical Interventions	
	State owned Forests	Forests New - planted by Districts/ communes	Forests in private lands	Ponds managed by HHs signed contacts with Dist. Adm.	Ponds managed by owned - HHs	Launching Regulations	Functions
National Assembly	X	X	X	X	X	Law of Land-use	Approved
PM Bureau/ Provincial Administration	X	X	X	X	X	Ordinances and Decisions	Implementation Guidance
District/ Commune Administration					X	Red Books	Direct management
				X		Contracts	
	X	X	X			Administrative management	Direct control
MARD/ DARD MoF/ DoF	X	X	X			Protection and Extension	Monitor Technical guides
				X	X	Disease control	
				X	X	Product quality	
				X	X	Hatchery control	
MoF/ PFs				X	X	Product quality	Product, market guides and extension
				X	X	Market guides	
				X	X	Collection network	
Feeding Companies				X	X	Extension and investment	Pond promotion
Trading companies				X	X	Extension and investment	Pond promotion
Private trades				X	X	Local relation & confidence	Direct collection
Nat. banks and credits				X	X	Credit regulations	Pond promotion

HHs: Households; PM: Prime Minister; MARD: Ministry of Agriculture and Rural Development; DARD: Department of Agriculture and Rural Development at Province level; MoF: Ministry of Fishery; DoF: Department of Fishery at Province level; PFs: Processing Factories;

Table 3. Eco-Institutional Space Analysis for Shrimp Industry and Mangrove Management in Nam Dinh and Thai Binh Provinces in the Red River Delta, North Vietnam

Institutional arrangement	Mangrove Forests			Shrimp Ponds and Clam Beds			Politic and technical Interventions	
	Forests in Protected Areas	State owned Forests	Forests New - planted by Districts/ communes	Ponds managed by HHs signed contacts with Dist. Adm.	Ponds managed by owned- HHs	Clam beds managed by HHs signed contacts with Dist. Adm.	Launching Regulations	Functions
National Assembly	X	X	X	X	X	X	Law of Land-use	Approved
PM Bureau/ Provincial Administration	X	X	X	X	X	X	Ordinances and Decisions	Implementation Guidance
District/ Commune Administration					X		Red Books	Direct management
				X		X	Contracts	
	X	X	X				Administrative management	Direct control
MARD/ DARD	X	X	X				Protection and Extension	Direct control & Monitor
MoF/ DoF				X	X	X	Disease control	Technical guides
				X	X	X	Product quality	
				X	X	X	Hatchery control	
MoF/ PFs				X	X	X	Product quality	Product,
				X	X	X	Market guides	market guides
				X	X	X	Collection network	and extension
Feeding Companies				X	X	X	Extension and investment	Pond promotion
Trading companies				X	X	X	Extension and investment	Pond promotion
Private trades				X	X	X	Local relation & confidence	Direct collection
Nat. banks and credits				X	X	X	Credit regulations	Pond promotion

HHs: Households; PM: Prime Minister; MARD: Ministry of Agriculture and Rural Development; DARD: Department of Agriculture and Rural Development at Province level; MoF: Ministry of Fishery; DoF: Department of Fishery at Province level; PFs: Processing Factories.

Renovation policy (Doi Moi) The law of land

Project 327: Decision No. 327/CT date: 15 Sept.1992

Forest protection and reforestation on bare lands in up-land areas

- Bare lands should be reforested every year 1992- 2000
- Allocation of forestry lands for households to manage in collaboration with collective and state enterprises
- Stopping immigration and mobilization of fixed cultivation and residence
- State investing for reforestation through households, communities and collectives

1993 the law of land was approved by the Vietnam National Assembly to mark a big change for right to use lands in Vietnam.

The land is still owned by the government, but the law recognized five rights for those people are allocated the land. They are:

- The right to use
- The right to transfer
- The right to inherit
- The right to rent
- The right to mortgage

During the period of 20 years for annual crop and 50 years for perennial crops

Benefits and responsibility of the land owners

Benefits

- Receive the certification of the right to use lands
- Receive all policy of government incentives, technology transfer, and compensation...
- Harvest all products on the used lands

Responsibility

- Charged of implementation of all laws and regulations launched by the government
- Pay tax as regulations of the government

Resolution 08/QH date 15-12-1997

Afforestation of 5 millions ha during 1998 - 2010

- Mobilization of financial investment for afforestation 5 million ha
- Innovation, regulation and accomplishment of land and forest allocation policy for forestation
- Tax reduction for all economic sectors in /or related reforestation
- Implementation planning for all sectors and public awareness

Decision 661/QĐ.TTG 29 July 1998

Implementation planning for Project of afforestation 5 million ha

- Long-term use of forestry lands for households allocating forestry lands
- Credit mobilization for forestation households
- State assists individuals, economic sectors to loan without benefit rates for forestation
- Plantation planters have all benefits from forestry products as mentioned in forestry law

Un-charge of land use for households of forestation

AQUACULTURE

Decision of Chairman of Ministry Council 169-CT date 26-3-1983

Giving responsibilities on giving permits of quality of aquatic products before exports

Chi thi of Chairman of Ministry Council 124-CT date 4-5-1983

Promotion of aquaculture development

Decision of Minister of Ministry of Fishery 347-TS/QĐ date 31-5-1984

Launching the **regulations of organization and activities** of center for Control and Giving Permits on Quality of Aquatic Products for Exports.

(Launch accompanying with Decision of Minister of Ministry of Fishery 347-TS/QD dates 31-5-1984)

Decision of Chairman of Ministry Council 349-CP date 17-12-1987

Giving permits of establishment of Vietnam association of people rearing shrimp for export

Thong tu 02/TT/LB date 24-5-1996 of Inter-Ministries of Ministry of Science, Technology and Environment, Ministry of Fishery

Implementation guide of Resolution, Government 86/CP dates 8-12-1995

Resolution, Government 86/CP dates 8-12-1995

Distribution of responsibilities on state management of good/commodity quality

Chi thi of Chairman of Ministry Council 96-CT date 28-3-1987

Promotion of production exports of aquatic products and encourage to meet beyond the plan level for 1987 and five-years plan 1986-1990

Law of water resources National Assembly dates 20-5-1998

Decision of Chairman of Ministry Council 10-HDBT date 30-1-1989

Regulations on function, responsibility, limit power and organization of Sepronex company, within Ministry of Fishery

Legal orders for protection and development of aquatic resources, Minister of Ministry Council, date 25-4-1989

Decision of Prime Minister 988/TTg date 30-12-1996

Approval of master plan for socio-economic development of Quang Ninh Province, period 1996-2010

Decision of Prime Minister 116/1999/QD.TTg date 3-5-1999

Approval of plan of zonation of mangrove rehabilitation (project area) in Ca Mau, Soc Trang, Bac Lieu and Tra Vinh (44 000 ha): Ca Mau (25 262), Soc Trang (8 441), Bac Lieu (4 172) and Tra Vinh (6 525) 66% area for productive forests 40 % area for development of aquatic products, agriculture and other purposes

Resolution, Government 179/1999/ND-CP date 30-12-1999

Regulations in implementing the Law of water resources

Decision of Minister of Ministry Council of Fishery 01/2000/QD-BTS date 3-1-2000

Regulations for controlling and giving permits on meeting standards of food security and hygienic of production and business units on aquatic products

Decision of Minister of Ministry of Fishery 09/2000/QD-BTS date 17-12-2000

Giving permits on meeting standards of food security and hygienic of production and business units on aquatic products

Regulations	Policies related							
	Land reform policy	Input policy	Credit policy	Export policy	Processing policy	Coastal planning policy	Research policy	Other policies
							Efficiency (economic optimum use)	Equity (income distribution)

- Efficiency: in neoclassical economics efficiency refers to making the economic optimum use of a given set of national resources, i.e. achieving the highest level of material welfare for the consumer of society as a whole for a given set of prices in resources and output markets.

Growth can occur either by moving from a less efficient to a more efficient use of existing resources, or by increasing the productivity of resources so that more output can be obtained from a given level of resources.

- Equity, by contrast, refers to the distribution of this total output between individuals or social groups within the society. It is a standard finding of welfare economics that whereas efficiency is an objective phenomenon - a unique most efficiency outcome can be specified for a given initial income distribution. Equity is a subjective phenomenon - decisions about income distribution require value judgement about the 'fairness' or otherwise of the outcome for different groups of people.

ANNEX 8

Workplan and Timetable for Mangrove Related Activities 2002-2003

Table 1. Provisional Schedule of meetings for 2003

	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		
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					
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					
					Chinese N.Y.																	RWG-F-3								RWG-LbP-3								
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		
								RWG-M-3																								RWG-S-3						
								RWG-W-3																						RWG-C-3								
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							
													Thai N.Y.																									
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				
								RSTC-3																														
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			
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-4									
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-F-4															RWG-S-4						RWG-C-4									
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					
			Cont.					RWG-W-4							RWG-M-4																Ramadan							
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			
						Ramadan																																
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							
				Regional Sci. Mtg.				RSTC-4							PSC-3											Xmas												

[illegible][illegible]

Key to numbered outputs scheduled in Table 2 of the workplan and timetable of agreed activities in the Mangroves sub-component.

1. E-mail addresses of National Committee members to be supplied to PCU by 24th September 2002.
2. Review of past and on-going projects to be submitted to Chairperson and Project Co-ordinating United Nations by October 25th 2002 in the format contained in Annex 5 of this document.
3. Review of national data and information to be sent to the PCU by October 25th 2002 for onward transmission to the RSTC and PSC.
4. First drafts of identification and characterisation of sites to be submitted to Chairman and PCU by 30th November 2002.
5. Revised complete and final listing of sites to be sent to the PCU by January 31st 2003.
6. First drafts of the Reviews of National Legislation to be sent to the PCU by November 30th for review and presentation to the RSTC and PSC.
7. Revised draft of the Reviews of National Legislation for finalisation at the 3rd RWG-M to be sent to PCU by January 31st 2003.
8. Final draft for publication and dissemination March 10th 2003.
9. Complete and return tables M1.1 to M1.3 to the PCU and SEA START RC no later than October 15th 2002.
10. Questionnaires to be revised by SEA START RC and returned to Focal Points no later than October 15th 2002.
11. First drafts of completed questionnaires to be completed and submitted to PCU and SEA START RC no later than November 30th.
12. Third meeting of the RWG-M, 3rd - 6th March 2003.
13. Fourth meeting of the RWG-M, 14th - 17th October 2003.