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

REPORT

**Fifth Meeting of the Regional Working Group for
the Fisheries Component**

Phu Quoc Island, Viet Nam, 11th – 14th October 2004



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Report of the Meeting

1. OPENING OF THE MEETING

1.1 Welcome Address

1.1.1 Dr. John Pernetta, Project Director opened the meeting, at 08:30 am on 11th October 2004 and welcomed participants on behalf of the Executive Director of UNEP, Dr. Klaus Töpfer; and the Assistant Executive Director, and Director of the UNEP Division of Global Environment Facility Co-ordination, Dr. Ahmed Djoghlaif.

1.1.2 Dr. Pernetta noted that the project had now entered its operational phase and an important item for consideration by the meeting was how to meet the target of developing a system of refugia in the Gulf of Thailand and to have this approved by the respective governments by the completion of the project in December 2007. He noted that the operational project documents for the habitat component demonstration sites were under finalisation and that those for the sites funded from the project budget would be operational in the next two months whilst those for the sites funded through the medium sized project mechanism would likely become operational as of May next year.

1.1.3 Dr. Pernetta further noted that the project had been the subject of three separate evaluations during the course of this year, the mid-term evaluation, a Specially Managed Project Review and an evaluation as part of the International Waters Portfolio Review by the GEF Secretariat and that the group would need to consider the result of these evaluations in finalising their work plan for the next three years. He expressed the hope that the meeting would successfully complete the items on the agenda, and that despite the volume of work it would be an enjoyable experience for all participants.

1.2 Introduction of Members

1.2.1 Participants noted with regret the absence of Dr. Widodo, expert Member from Indonesia, due to a serious illness and extended their best wishes to him. Participants noted further the absence of Mr. Ing Try and Ir. Parlin Tambunan and welcomed Mr. Pich Sereywath, as alternate for Mr. Try.

1.2.2 Participants were invited to introduce themselves to the meeting and there followed a *tour de table* during which members introduced themselves and briefly informed the meeting of their roles and relationships to the project. The Provisional List of Participants is attached as Annex 1 to this report.

2. ORGANISATION OF THE MEETING

2.1 Election of Officers

2.1.1 Members recalled that at the last meeting of the Regional Working Group on Fisheries (RWG-F) held in Manila, 26-29 April 2004, Mr. Noel Barut, Focal Point from the Philippines, Dr. Dao Manh Son, the Focal Point from Viet Nam, and Mr. Ing Try, the Focal Point from Cambodia were elected as, Chairperson, Vice-Chairperson and Rapporteur respectively.

2.1.2 Participants noted that the Rules of Procedure state that, the Regional Working Group shall elect, from amongst the members, a Chairperson, Vice-Chairperson and Rapporteur to serve for one year. The rules state further that, officers shall be eligible for re-election no more than once. Owing to delays in holding the 4th meeting, this 5th meeting was convened only six months after the last meeting, and thus the office bearers had served for only 6 months. With the exception of Mr. Try, who was absent, they were therefore eligible for re-election.

2.1.3 Dr. Son proposed that Mr. Barut continue as Chairperson and there being no further nominations Mr. Barut was duly elected Chairperson. Mr. Barut proposed that Dr. Son serve as Vice-Chairperson and that Mr. Pirochana Saikliang as Rapporteur. Dr. Son, and Mr. Pirochana were duly elected by, the meeting as Vice-Chairperson and Rapporteur respectively.

2.2 Documentation Available to the Meeting

2.2.1 The Chairperson invited Mr. Kelvin Passfield to introduce the documentation available to the meeting and Mr. Passfield briefly reviewed the information and discussion documents, a list of which is contained in Annex 2 of this report.

2.3 Organisation of Work

2.3.1 The Chairperson invited Mr. Passfield to introduce the draft programme for the conduct of business contained in document UNEP/GEF/SCS/RWG-F.5/Inf.3. Mr. Passfield noted that, the meeting would be conducted in English and in plenary although he hoped that time would be made available to finalise the amendments to the Memoranda of Understanding during the course of the next few days.

2.3.2 Dr. Son informed the meeting that it was his intention to discuss with the local Fisheries authorities the field-trip planned for the last day of the meeting and that he would inform participants of the arrangements when they were finalised.

3. ADOPTION OF THE MEETING AGENDA

3.1 The Chairperson introduced the Provisional Agenda prepared for the meeting as document UNEP/GEF/SCS/RWG-F.5/1, and the Annotated Provisional Agenda, document UNEP/GEF/SCS/RWG-F.5/2 and invited members to propose any amendments or changes.

3.2 No additional items or amendments were proposed and the agenda was adopted as it appears in Annex 3 of this report.

4. THE STATUS OF THE PREPARATORY PHASE OUTPUTS DUE 30TH JUNE 2004

4.1 Reports from the Focal Points on the Status of the National Outputs from the Preparatory Phase

4.1.1 Mr. Sereywath informed the meeting that a field guide to the marine aquatic species of Cambodia was being finalised and a brochure on important marine habitats had been produced for distribution in all coastal areas. Posters had also been produced to highlight endangered species in Cambodia.

4.1.2 During discussion Mr. Passfield noted that Cambodia had not produced the GIS data reports and that these must be finalised prior to further funds being transmitted to the Department of Fisheries in Cambodia. He noted that this issue had been raised during the last meeting and that he had further raised the matter with Mr. Try the previous week.

4.1.3 Mr. Barut noted that the Philippines final report had been delayed in order to accommodate further stakeholder consultations in Pangasinan and the executive summary was currently being edited in local language for wider distribution in the country. Public awareness materials had been finalised in the form of a series of flip charts for wide distribution in the fisheries offices in the coastal provinces. These were portable and could be taken to villages during public awareness meetings. In addition a twenty-minute film had been prepared in conjunction with other activities of the Bureau of Fisheries and Aquatic Resources, specifically the Fisheries Resources Management Project.

4.1.4 Mr. Somsak Chullasorn questioned whether or not any evaluation of the effectiveness of the public awareness materials had been undertaken. Dr. Simon Funge-Smith observer from FAO noted the STREAM¹ initiative of NACA, had conducted an analysis of communication strategies in the Philippines and Cambodia, which had included consideration of the views of stakeholders regarding the optimum form that such materials should take.

¹ See Internet link: <http://www.streaminitiative.org/>

4.1.5 Mr. Pirochana noted that the Thai report had been translated into Thai and already a review of fisheries policy was underway based on the recommended actions in the report. Stakeholder consultations with fisheries officers, university staff, fisherman's associations and NGO's to review and propose recommendations regarding fisheries policy had also been held in late June. Awareness materials, including stickers, had been produced for distribution in coastal villages, schools, and ports and a short video on reversing degradation of marine life and fisheries had been produced on VCD for wide distribution.

4.1.6 Dr. Pernetta noted with regret the absence of the project logo from all the Thai public awareness materials since the presence of the project logo was in some respects more important than the inclusion of the GEF and UNEP logos. The project logo automatically conveys permission to use the UNEP and GEF logos which can otherwise only be used with the written permission of the two organisations concerned. Mr. Pirochana apologised for overlooking the inclusion of the project logo and undertook to rectify this in due course.

4.1.7 Dr. Son noted that the Vietnamese report was completed and had been revised and submitted to the PCU on 6th October. A draft version in Vietnamese had also been prepared and the meta-database submitted to the PCU in Bangkok in June. A booklet had also been produced on marine resources together with a calendar and two types of poster, a small one for display in offices and schools, and a larger one for use on the roadside. Draft guidelines for responsible fisheries had also been prepared both in English and in Vietnamese.

4.1.8 Mr. Somsak requested clarification regarding the relationship between the SEAFDEC guidelines on responsible fisheries and those prepared by Viet Nam. In response Dr. Son noted that the Vietnamese guidelines had been prepared based on those of SEAFDEC but were directed specifically towards Vietnamese fishing communities, included background information from the national report, and highlighted specifically the destructive fishing practices prevalent in Viet Nam.

4.1.9 Dr. Pernetta pointed out that ideally the materials should carry the logo of the Specialised Executing Agency in addition to those of the GEF, UNEP, and the project. He noted further that these could be used in any order and Mr. Passfield further pointed out that the habitat regional reviews carried the logos of all the Specialised Executing Agencies, in addition to those of the GEF, UNEP, and the South China Sea Project.

4.1.10 A list of all public awareness materials prepared at the national level was prepared and is included in the list of documents in Annex 2.

4.2 Update from the PCU on the Status of English Editing of National Fisheries Reports

4.2.1 Mr. Passfield provided a brief update on the progress of the English editing of the National Fisheries Reports for each country, noting that the English editing had been completed and the edited version together with comments requiring clarification from the authors had been returned to the Specialised Executing Agencies. To date the final report with corrections had been received only from Viet Nam.

4.2.2 Mr. Passfield reiterated the importance of completing all of the preparatory phase outputs prior to the commencement of the next phase activities, again noting that no further funds could be remitted until such time as this had been done.

5. STATUS OF THE ADMINISTRATIVE REPORTS AND EXTENSION OF THE MEMORANDA OF UNDERSTANDING

5.1 Status of Mid-year Progress Reports, Expenditure Reports, and Budgets

5.1.1 The Chairperson invited Mr. Passfield to introduce document UNEP/GEF/SCS/RWG-F.5/4, "*Current status of budgets and reports from the Specialised Executing Agencies in the participating countries*" and to draw to the attention of the meeting any outstanding issues or matters requiring the attention of the working group.

5.1.2 Mr. Passfield drew the attention of members to Table 1 of the document in which were recorded the dates of receipt of the various reports. He noted in particular that reports for the first six months of 2004 had not been received from either Thailand or Indonesia and noted further that he had discussed this matter with Ir. Tambunan who had assured him that these reports would be forthcoming in the immediate future.

5.1.3 Mr. Passfield further noted that in cases where the reports had not been received it was not possible to finalise the budget for the next phase and consequently it would not be possible to finalise and sign the amendment to the MoU during this meeting.

5.1.4 Dr. Pernetta, informed the meeting that there were additional consequences resulting from the non-submission of these administrative reports and these were illustrated in Tables 2 and 3 of the document. Where the reports were not submitted on time substantial cash balances were shown in the project accounts as being held by the Specialised Executing Agency concerned. An auditor examining these accounts would automatically assume that interest had been earned on the money and in the event that the agency concerned had failed to report interest earned then the SEA would be required to refund to the UN such interest at the closure of the project. He urged focal points to ensure that they did report interest earned, however small the amount.

5.1.5 Dr. Pernetta briefed the meeting on the manner in which in-kind co-financing is calculated within the project stating that, this was based on the six month progress reports and in particular on the numbers, duration and size of meetings. Table 3 provides such data compared with the original estimates agreed by the Project Steering Committee during its first meeting. He noted that overall the actual co-financing showed a shortfall of in excess of US\$ 22,000, with one country Viet Nam accounting for over 50% of the total co-financing. One conclusion that might be drawn from these figures was that all countries took this component of the project less seriously than did Viet Nam, a conclusion, which in Dr. Pernetta's view was incorrect.

5.1.6 Mr. Passfield further noted that he had just been handed two meeting reports from Mr. Barut and if the co-financing represented by these two meetings was added to the existing total then in-kind co-financing by the Philippines had almost reached the anticipated level. This demonstrated the importance of progress reports being submitted in full.

5.1.7 Mr. Pirochana apologised for the delay in submission of the reports and undertook to rectify this upon his return to Bangkok, explaining that a number of commitments had been made late in June which had not yet been paid. Mr. Passfield noted that the expenditure report should be submitted as promptly as possible to enable revisions to the budget to be completed that re-phase unspent funds to the subsequent period.

5.1.8 Mr. Barut noted that he had encountered a problem in that since the MoU had expired on 30th June his financial authorities had refused to disburse funds committed earlier and currently held in the project account. In response Dr. Pernetta noted that had he been informed of this he could have despatched a letter authorising continuation of expenditures in accordance with the previously agreed allocations, until such time as the MoU amendment was finalised.

5.2 Extension of the Memoranda of Understanding for the Fisheries Specialised Executing Agencies

5.2.1 The Project Director provided information regarding the process of extension of the MoUs between UNEP and the SEAs recalling that an earlier draft had been discussed during the 4th Meeting of the RWG-F in Manila in April this year. That draft had since been slightly modified, and was provided in document UNEP/GEF/SCS/RWG-F.5/5.

5.2.2 Dr. Pernetta drew members' attention to the decisions of the Project Steering Committee with respect to the budgets for national co-ordination under the extension of the MoUs as follows:

8.2.7 Mr. Manuel D. Gerochi stated that he was of the view that the costs for national co-ordination should be switched from the GEF grant funds to government recurrent budgets, as this is an appropriate step towards achieving sustainability of project benefits following expenditure of the GEF grant funds. He proposed, and the meeting agreed with this principle.

8.2.8 *Regarding the progressive percentages to be used in phasing out the GEF support to national co-ordination, he further suggested that the committee could agree on the proposed percentage on a trial basis and review the situation at its next meeting in December 2004. Should it prove necessary the committee could make any necessary adjustments once the government departments had reviewed both the costs and the frequency of meetings. The meeting agreed with the suggestion made by Mr. Gerochi and decided that:*

- i) A combination of scenarios 2 and 3, as proposed by the PCU in the document UNEP/GEF/SCS/PSC.3/9, should be used in calculating allocations;*
- ii) The overall level of support from the GEF grant should be 100% in 2004-2005; 50% in 2005-2006; and 25% in 2006-2007.*

5.2.3 Dr. Pernetta noted further that these conditions apply to all future MoU extensions and that it was important therefore for members to try and ensure that funds were allocated within the line Ministry budgets to support the work of the National Committees from July 2005 onwards. In the event of difficulties, focal points were requested to inform the PCU as promptly as possible so that appropriate action could be taken by the PCU.

5.2.4 Mr. Barut raised a problem regarding the co-financing in cash of national meetings and workshops due to the recently declared fiscal crisis in the Philippines and restrictions imposed on government officials' travel, unless externally funded. Dr. Pernetta requested Mr. Barut to inform him officially of this once the budget for 2005 had been approved by the Philippines Government.

5.2.5 Mr. Passfield then projected the tasks on the screen and members reviewed them item by item agreeing that these were in line with previous agreements and that this was an appropriate description of their responsibilities during the operational phase of the project. During discussion it was noted that Item xxi should be specifically worded in each MoU to identify the outputs from the preparatory phase, which had not been produced by the SEA to date. Hence this item would differ in each MoU, being deleted totally from the Vietnamese amendment since all outputs had now been produced and received by the PCU.

6. PROJECT EVALUATION

6.1 Report of the Independent Mid-Term Evaluation of the Project

6.1.1 Dr. Pernetta introduced the mid-term evaluation of the project that had been conducted over the period February to July 2004 by two independent evaluators, Dr. Mike Bewers and Professor Su Jilan. Their report has been finalised and accepted by the Monitoring and Evaluation Unit of the Office of the Executive Director of UNEP and is in the process of being formally published. A copy has been lodged on the Project Website and was included in the documents for this meeting.

6.1.2 Dr. Pernetta noted the extremely high rating of project success to date and noted further that this reflected the strong commitment and hard work of all the Focal Points in each component.

6.1.3 Dr. Pernetta drew the attention of the meeting to the extracts specifically related to the fisheries component that had been reproduced in the annotated agenda. He noted that the evaluators had highlighted the difficulty that the RWG-F might face in finalising and agreeing upon a system of refugia in the Gulf of Thailand consequent upon the non-participation of Malaysia in the Fisheries component of the Project. He noted that this matter had been extensively discussed in previous meetings but that no progress had been made in this regard to date.

6.1.4 There followed an extensive discussion on how the involvement of Malaysia might be encouraged, and whether or not it were possible for the Project Director to directly invite the Department of Fisheries to send a representative to the meetings of the RWG-F. Dr. Pernetta explained that he was constrained in this regard to working with all entities in the Malaysian Government via the official UNEP Focal Point, which was the Ministry of Environment. It was agreed that all members would continue to discuss this matter with their counterparts when the opportunity arose.

6.1.5 The Chairperson congratulated Dr. Pernetta on the successful rating of the project and in response Dr. Pernetta noted that the effectiveness of project management was not the sole reason for a rating of 1, which as stated earlier, reflected the strong commitment and hard work of all the focal points in the Specialised Executing Agencies.

6.1.6 Mr. Somsak noted that in addition to the blast fishing trials, the evaluation had made reference to the responsibility of the Regional Working Group to promote the code of conduct on responsible fisheries and suggested that the group explore with SEAFDEC and FAO how the activities of all three entities could be co-ordinated to maximise synergy and minimise duplication. Dr. Funge-Smith supported this suggestion and noted that he would present some ideas regarding this matter during his presentation under agenda item 11.

6.1.7 In view of the importance of co-ordination with other organisations it was agreed that item 11 of the adopted agenda would be taken in advance of items 8 and 9 which concerned the important elements of the work of the RWG-F for the next three years. This would ensure that the experiences and activities of the various organisations represented in the meeting could be taken into consideration when planning the future work of the group.

6.2 Specially Managed Project Review by the Monitoring and Evaluation Unit of the GEF Secretariat

6.2.1 Dr. Pernetta informed the meeting that the GEF Monitoring and Evaluation Unit in consultation with the GEF Secretariat had selected the UNEP/GEF South China Sea project as one of two International Waters projects from the GEF portfolio, to be included in the Specially Managed Project Review for 2004. The outputs from this process are reported directly to the GEF Council, hence this process is of significance from the perspective of the profile of the South China Sea project within the GEF, but perhaps more importantly it provides country focal points with an opportunity to provide more directly, their views regarding the GEF, in general and this project in particular.

6.2.2 Dr. Pernetta noted that the SMPR is a specific GEF Monitoring and Evaluation (M & E) modality, which is complementary to the existing monitoring and evaluation mechanisms in the GEF. The independence and objectivity of the SMPR is maintained by: (a) staff from the Implementing Agency whose project is being reviewed not participating in the SMPR panel, and (b) by the final clearance of the individual SMPR report by the Director of the GEF M & E Unit.

6.2.3 Dr. Pernetta noted that the SMPR evaluation team for the South China Sea Project consisted of the Chief of the GEF M & E Unit; an International Waters Program Manager from the GEF Secretariat; the Senior Evaluator from the UNDP/GEF, M & E Unit; together with the UNEP GEF Task Manager as an observer. The team visited Bangkok on 21st September to talk with the PCU and Thai National authorities. They then accompanied the Regional Working Group for Mangroves to Trat Province to observe the work of the Regional Working Group and talk to the Provincial authorities responsible for implementation of the Trat demonstration site. On 29th September the team split into two pairs. One pair travelled to Indonesia to talk to the National Focal points for all components, and the other went to China to talk to the National Focal Points and also to visit the Fangchenggang mangrove demonstration site.

6.2.4 Regrettably the limited time available to the team to complete the review, had meant that they were unable to visit all the participating countries, though they did consult some focal points by telephone during the period 22nd to 29th September.

6.2.5 The Chairperson requested that focal points who had talked with the team either personally or by phone brief the meeting on the outcome of these discussions. Mr. Pirochana informed the meeting that he had participated in a two hour National Technical Working Group meeting and had subsequently met and talked with the evaluators regarding the benefits of the project for Thailand.

6.2.6 Dr. Son informed the meeting that he had been contacted by phone and had been questioned on various aspects of the project including the effectiveness of the Inter-Ministry Committee, the benefits to Viet Nam of the project and the extent to which stakeholders had been consulted during the preparatory phase of the project.

6.2.7 Mr. Barut informed the meeting that he also had been consulted by phone and that the questions posed to him were much the same as those answered by Dr. Son and Mr. Pirochana. He noted that the discussions were quite cordial and all agreed that the overall impression of the experience was quite positive.

6.2.8 Dr. Pernetta noted that he had not yet received the draft report but once this was received it would be circulated to all participants for their inputs. The final report would be posted on the GEF Project website. He noted also that it was the intention of the GEF M & E Unit to develop best practice guidance on regional project management based on the management framework of the South China Sea project.

6.3 International Waters Programme Study 2004

6.3.1 Dr. Pernetta noted that a third review of the Project had been undertaken this year as part of the International Waters Programme Study 2004, conducted by Professor Laurence Mee during a 3 day visit to Bangkok in May of this year. Fortunately Professor Mee had been able to meet a number of project personnel from four countries who were in Bangkok for a meeting of the Executive Committee of the Regional Scientific and Technical Committee.

6.3.2 Dr. Pernetta provided a brief summary of this review, and noted that the project had been highlighted in a number of sections of the report as an example of a successful GEF Project. A one page box highlighted the management structure whilst a smaller box highlighted the scientific leveraging that had occurred as a consequence of the Chinese governments cash co-financing of the SEAs. This had enabled the seagrass component to produce GIS maps of seagrass distribution along the southern coast of China, the first time that such information had been gathered and made available internationally.

7. STATUS OF THE PROPOSAL FOR TRIAL OF A BLAST FISHING DETECTION DEVICE

7.1 Mr. Passfield reminded participants that at the last meeting in Manila, the RWG-F had discussed the draft proposal for the trial of a blast fishing detection device, which had been prepared by the Teng Hoi Conservation Organisation in collaboration with the RWG-F and the PCU. At that time, members had expressed concern at testing the device in Sabah, if Malaysia was not participating in the fisheries component of the project. Subsequent to that meeting in Manila, the PCU had received a letter of commitment from the Department of Fisheries, Sabah, regarding their agreement to cooperate in testing the device in the Tun Mustafa National Park.

7.2 It was suggested during the last meeting that the PCU should continue to try and persuade Malaysia to join the Fisheries component, and now that a letter had been received from the State fisheries department it was the intention of the PCU to once again contact the Malaysian authorities regarding their participation in the fisheries component. Meanwhile, preparation would continue for testing the device in Sabah, as the proposed site of testing had been selected as a demonstration site under the coral reef component of the project.

7.3 Mr. Passfield informed the meeting that, the PCU is currently drafting a Memorandum of Agreement (MoA) with the Teng Hoi Conservation Organisation, the Department of Fisheries, Sabah, and the SCS Project. Some delays have resulted from the slow progress in registering the Teng Hoi Conservation Organisation as a non-profit company in Hong Kong, but this should be finalised in the immediate future, according to Dr. Woodman. Following the signing of the MoA, activities can commence according to the work plan included in the proposal.

7.4 During discussion Mr. Barut noted that the Philippines authorities were also interested in testing the device in Palawan at one of the initially proposed coral reef demonstration sites. Their proposal was based on the fact that newly acquired patrol boats were available for enforcement and that during local consultations this proposal had received strong support from local government and other stakeholders. It was agreed that Mr. Passfield would work with Mr. Barut regarding the costs of such a trial and that efforts would be made to include this in the agreement with the Teng Hoi Conservation Organisation.

7.5 Dr. Theo Ebbers noted that even if prosecutions were not successful the mere presence of the device and the rapid response of the patrol boats might serve as a significant deterrent to fishermen using this technique. Mr. Len Garces of the WorldFish Center expressed the view that there were considerable advantages in including the Philippines in the trial since this would provide two different modes of enforcement with that in the Tun Mustapha Park being operated at the state level and that in the Philippines being operated at a more local level. This would provide a comparison of the effectiveness of the two modes of implementation.

8. A SYSTEM OF *REFUGIA* FOR FISH STOCKS OF TRANSBOUNDARY SIGNIFICANCE IN THE GULF OF THAILAND

8.1 The Chairperson recalled that at the last meeting of the RWG-F, there had been considerable discussion on the establishment of a system of *refugia* for fish stocks of transboundary significance, referred to in the work plan for the fisheries component. That meeting had reviewed the sites selected as demonstration sites in the habitat component, and also the sites identified in the National Fisheries Reports as being important as breeding, nursery, and feeding grounds for transboundary fish stocks, from the perspective of their suitability or otherwise as potential *refugia*.

8.2 While that meeting had agreed that there was justification for establishing *refugia*, and even went as far as to make some recommendations based on the demonstration sites selected under the habitat component, knowledge was lacking among members on the formal process required to establish these *refugia* in each country. Representatives from SEAFDEC and from the WorldFish Center also expressed strong support for the idea of integrating *refugia* into fisheries management initiatives in the region, and also indicated their willingness to collaborate with the project in achieving this.

8.3 The Chairperson noted that based on the presentations from collaborating organisations and in particular the experiences of IUCN regarding the establishment of *refugia* and marine protected areas the meeting now had a basis on which to identify the steps required to initiate the process of establishing the *refugia*.

8.4 Mr. Somsak requested clarification from the IUCN representative regarding the criteria used by IUCN in establishing *refugia* and how these related to the criteria for marine protected areas. Ms. Hien outlined the different categories of marine protected areas and noted that there were no specific criteria relating to the identification or establishment of *refugia*.

8.5 A discussion ensued during which members understanding of the concept of *refugia* were discussed. There was a general commonality of understanding that *refugia* related to specific areas of significance to the life-cycle of particular species. Discussion of the kinds of fisheries management approaches that could be applied in such areas included recognition of the importance of closing areas during critical periods of the life-cycle such as peak spawning periods, regulating the use of types of gear in sensitive habitats and/or nursery grounds and other classical fisheries management techniques.

8.6 It was agreed that:

- Mr. Passfield would prepare, in collaboration with SEA START RC a GIS database of important areas and species derived from the national reports and this would be circulated inter-sessionally. The purpose would be to identify areas that were considered of biological significance for each species and identify areas of overlap and commonality between species;
- Focal points would review the national demonstration sites to examine possible overlap with defined areas of significance to the life cycle of transboundary fish species.

8.7 It was suggested by Mr. Garces that using the identified list of fish species of transboundary importance an attempt should be made to identify which gear were used to exploit each species. This stimulated a discussion of the multi-species nature of the fisheries in the region and the fact that many species life-cycles involved quite long-distance movements over the duration of the life-cycle.

8.8 Dr. Theo Ebbers and Dr. Funge-Smith produced a draft working document on the nature of *refugia* and the potential management measures that might be applied in such areas. This was discussed, amended and approved as a working text for the guidance of members in further considering the issue at the national level during the inter-sessional period. The text is attached as Annex 4 to this report.

9. PROMOTION OF THE GUIDELINES FOR RESPONSIBLE FISHERIES

9.1 At the 4th Meeting of the RWG-F, Dr. Torell and Dr. Kato from SEAFDEC briefed the Regional Working Group on a series of activities planned by SEAFDEC to promote the guidelines for responsible fisheries in the region, and indicated that there were areas where SEAFDEC and the SCS project could work together on this objective. Since then, RWG members have participated in a SEAFDEC organised meeting in Phnom Penh as a first step towards this collaboration. The presence of FAO at this meeting provides an opportunity for further discussion of areas where SEAFDEC, FAO, and the SCS project can collaborate on this important objective.

9.2 Dr. Son noted that they had already translated in draft the SEAFDEC regional guidelines for responsible fishing operations and the intention was that when these translations had been finalised the documents would be printed and distributed to fishermen throughout the country.

9.3 Dr. Ebbers noted that SEAFDEC responded to country requests for assistance and that such assistance included amplification of issues in the Code that were unclear or regarding which the countries concerned lacked experience, such as for example, rights based fisheries and the work on responsible aquaculture in mangrove areas.

9.4 Mr. Garces highlighted the need for documentation of experiences at the country level in implementing the code and comparing the existing national regulations with the Code of Conduct for Responsible Fisheries (CCRF).

9.5 During discussion it was suggested that the project could help to promote elements from the CCRF that are applicable to the habitats and demonstration sites, and to national fisheries laws and regulations, and produce appropriately prepared materials for fishing communities in these areas.

9.6 There was an extensive discussion on the need for translations of the Regional Guidelines of the CCRF and it was suggested that the SCS Project might be able to reach higher policy levels in the countries, hence there might be value in translating the entire Regional Guidelines for the Code, but that such translations were unlikely to be of interest to fishermen or the general public.

9.7 Dr. Funge-Smith noted that FAO has a headquarters-based programme directed towards providing assistance at country level but that it might be difficult to integrate these activities with those of the SCS project.

9.8 It was agreed that, as an initial step in determining which elements of the guidelines for the Code that countries should concentrate on, focal points would provide to the RWG-F, through the PCU, information on the activities that had already been undertaken, or were planned for the near future, in relation to promotion of the regional guidelines.

9.9 It was further agreed that the most suitable aspects of the Code to promote would be those that had particular relevance to any fisheries issues that existed in the habitat demonstration sites proposed under the project.

10. CURRENT STATUS OF DEMONSTRATION SITE PROPOSALS FROM THE HABITAT COMPONENT

10.1 The Project Director briefed the meeting on the current status of the demonstration site proposals under the habitat component of the project. He noted that originally it had been proposed to establish three demonstration sites under each of the mangrove, seagrass and coral reef sub-components of the project. During the Regional Scientific Conference held in February 2004 the representative of the GEF Secretariat had indicated their willingness to fund a further seven such sites through the medium sized project window of the GEF.

10.2 Dr. Pernetta noted that: the process of selecting demonstration sites had been developed by, the Regional Working Groups; sites had been clustered on the basis of their similarity; and rankings determined on the basis of environmental and socio-economic criteria. The recommendations of the Regional Working Groups had been considered by the Regional Scientific and Technical Committee which had then made recommendations to the Project Steering Committee regarding the choice of sites to be funded through the project grant and through the medium sized project mechanism.

10.3 The final selection had included twelve sites to be funded through the project grant and seven to be funded through the medium sized project grants including three wetland sites. Those funded through the project were currently being finalised and all should become operational before the end of this year. The medium sized project proposals would likely come on stream during the first half of 2005. He noted that all proposals involved substantial cash co-financing by local, provincial, and central governments and they would all be executed at the local level.

10.4 Dr. Pernetta sought the advice of focal points regarding whether or not they had been consulted during the finalisation of the demonstration site proposals and suggested that focal points should review these proposals to ensure that fisheries related activities were consonant with the decisions of the Regional Working Group.

10.5 During the ensuing discussion all focal points indicated that they had held consultations with the other focal points regarding the demonstration sites and provided advice regarding the fisheries related activities that were to be executed at these sites.

11. UPDATE ON COLLABORATION WITH OTHER ORGANISATIONS

11.1 Food and Agriculture Organisation (FAO)

11.1.1 The Chairperson invited Dr. Funge-Smith, the representative of FAO, to make a presentation regarding the activities and programmes of FAO that might be relevant to the work of the South China Sea Project. He noted that this was the first time that a representative from FAO had joined a RWG-F meeting, and he welcomed the interest of FAO in the work of the Group.

11.1.2 Dr. Funge-Smith opened his presentation (Annex 5a) by providing some brief information on publications he had brought to the meeting for information of the participants, including a directory of organisations in the region having interests or involvement in, the area of fisheries and the report of the recently held Twenty-Eighth session of the Asia Pacific Fishery Commission.

11.1.3 Dr. Funge-Smith outlined the basic approaches of FAO's work in general and to the region in particular, which focus on: normative work such as that related to promoting the code of conduct on responsible fisheries; and field work on projects linked to the implementation of the normative programme, or supported by donors, or specifically requested by the regional governments.

11.1.4 Dr. Funge-Smith noted that collaboration with other organisations was the key to FAOs approach in the region and was also important to the work of the Asia Pacific Fisheries Commission. He highlighted three large projects – the proposed Bay of Bengal Large Marine Ecosystem Project, a GEF supported and World Bank implemented project which will have a large fisheries component; the Asian Development Bank financed Tonle Sap Environmental Management Project; and the FAO/SIDA project on strengthening information gathering for fisheries management, supported by direct funding by SIDA to the FAO Regional Office. This project was concerned with information relating to fisheries but was broader than merely fisheries statistics,

11.1.5 National projects in which FAO had involvement included one in Thailand concerned with reducing fishing capacity in the Gulf of Thailand through identification of alternative livelihoods, examination of issues such as labour mobility, the cost benefits of a buy back scheme, and possible rights based, community-based fisheries. In Viet Nam the FAO/SIDA project was supporting activities to improve socio-economic information collection for issues surrounding coastal fisheries and in Cambodia consultation and conflict resolution in the fisheries sector.

11.1.6 Dr. Funge-Smith requested information regarding the availability of the National Reports and the regional synthesis and noted that APFIC had recently completed an overview of the state of fisheries in the region, copies of which he would make available to the PCU for distribution to focal points and other interested parties. Dr. Pernetta noted that the national reports were currently being finalised for publication and that when published copies would be publicly available via the project website. He noted that the form of the regional synthesis had yet to be agreed but that this would also be made publicly available once finalised.

11.1.7 Dr. Funge-Smith raised a number of questions including: the function of the GIS database and whether this would be maintained beyond the life of the project and, whether the Regional Task Force on Economic Evaluation would address fisheries valuation issues. He noted in this regard that APFIC would be convening a meeting on trash fish in collaboration with SEAFDEC, WorldFish, ACIAR and NACA, that would include aspects of economic valuation, and suggested that the SCS might wish to support participation of members of the Regional Working Group in this meeting.

11.1.8 Concerning the SCS *refugia* activities Dr. Funge-Smith noted that the FAO/SIDA project had activities in Viet Nam, Thailand, and Cambodia that were relevant to this issue. He further expressed the view that in relation to the Code of Conduct on Responsible Fisheries (CCRF) it was important to recognise the need to "interpret" these to the national and local context, and asked whether the relationship between national laws and the CCRF was to be examined by the Regional Task Force on Legal Matters. He noted that the project was also focussing on community level information and awareness and questioned whether this was confined to the demonstration sites and whether a communications strategy had been developed. He indicated that FAO could assist in this regard possibly through the coordination with the STREAM initiative and the Communications Unit established between MOE and MAF under a recently completed FAO TCP.

11.1.9 Dr. Pernetta responded stating that the GIS database activities were being undertaken by SEA START Regional Centre on behalf of the Project and that this Centre in Chulalongkorn University, Bangkok, would continue to maintain the database beyond the life of the project. He further noted that the Project budget could support participation of RWG members in relevant FAO and SEAFDEC activities. He expressed regret that although he could put the possibility of comparing the national fisheries laws and regulations with the CCRF to the Regional Task Force on Legal Matters he was of the opinion that their existing work load and the expertise of the members was such that this would not be possible. With respect to the community based communication and awareness activities he noted that these were primarily intended, to be executed in the demonstration sites but that it was possible to extend such activities beyond the demonstration sites.

11.1.10 Mr. Somsak noted that the South China Sea had no existing body with responsibility for fisheries management, although there were some advisory, and technical bodies, and he raised the question of how such a body could be developed. In this context he noted that the FAO SCS programme had been very useful and noted with regret that this had now been phased out.

11.1.11 Concerning the relationship between national fisheries law and the code of conduct Dr. Funge-Smith indicated that this had been partially completed by FAO in Cambodia as background to the ADB Tonle Sap Environmental Management project. He drew the meeting's attention to the FAO FAOLEX comprehensive database of legislation which is available on line.

11.2 SEAFDEC

11.2.1 The Chairperson noted that the 4th Meeting of the RWG-F was attended by, 2 representatives from SEAFDEC, Dr. Kato and Dr. Torell. As a direct result of their attendance at that meeting, members of the RWG-F were invited to attend the ASEAN-SEAFDEC Regional Technical Consultation on Human Resource Development in Fisheries Management, held in Phnom Penh, Cambodia, 3rd – 6th June 2004. The report of that meeting was included in the documentation available to the meeting.

11.2.2 The Chairperson invited the SEAFDEC representatives to provide an update on any follow-up activities that resulted from that meeting, and also to provide any information on other areas of possible collaboration, that were discussed at those meetings in Manila and Phnom Penh.

11.2.3 Dr. Theo Ebberts then presented an outline (Annex 5b) of possible areas of collaboration between SEAFDEC and the SCS Project and noted that the resource enhancement project of SEAFDEC might be of relevance to the issue of *refugia*.

11.2.4 In response to previous discussions of artificial reefs and their potential value in *refugia* Dr. Ebberts noted that SEAFDEC is presently conducting an impact analysis of artificial reefs. A regional workshop on resource enhancement had suggested the construction of a regional database on artificial reefs (ARs). He noted further that artificial reefs could provide an excellent entry point for community based involvement and rights based fisheries. He suggested however that all ARs should have a management plan.

11.2.5 Dr. Ebberts noted an upcoming SEAFDEC programme relevant to the issue of *refugia* that involved four countries: Brunei, Philippines, Malaysia and Indonesia where surveys, determined on nationally identified priorities, would be conducted to identify spawning grounds through collection of juveniles and eggs of important species. This involved some 40 sites in each country, 30 targeting demersal species and 10 pelagic species. The detailed survey plan would be developed during a regional consultation to be convened March/April 2005. In this connection Mr. Barut noted that the Indonesian sites had been selected on the basis of information contained in the national report regarding spawning and nursery grounds and other areas of concern to Indonesia.

11.2.6 As part of their ongoing programme of activities related to producing regional guidelines on the Code of Conduct for Responsible Fisheries SEAFDEC had conducted a regional consultation on Responsible aquaculture in mangroves and it was very unfortunate that the SCS Regional Working Group on Mangroves had been unable to send a participant to this meeting. Other relevant meetings include a regional consultation on rights based fisheries and freezing the number of fishing boats at present levels, which is mandated by the "Resolution and Plan of Action for Sustainable Fisheries in the ASEAN region".

11.2.7 SEAFDEC is currently reviewing rights based fisheries management systems to identify suitable user rights systems for the region. Information collection for sustainable pelagic fisheries in the South China Sea was another SEAFDEC activity that was potentially important to the SCS project.

11.2.8 Mr. Pirochana noted that Thailand had proposed to SEAFDEC to use their research vessel in surveys in the Gulf of Thailand, that the first cruise had been completed and the second will take place next month. Next year three cruises were under consideration to survey the middle Gulf of Thailand and these would include fish larval surveys.

11.2.9 Dr. Son noted that in Viet Nam resource surveys on the continental slope had been proposed to SEAFDEC and were under consideration for inclusion in the work plan.

11.2.10 Mr. Pirochana noted the importance of data on fish egg and larval distribution and encouraged each country to ensure that such surveys were included in the Programme of work in each country since this was fundamental to identifying areas for *refugia*.

11.2.11 Dr. Worawit Wanchana made a presentation on the SEAFDEC-Sida collaborative project concerned with the Regionalisation of the CCRF including: human resource development programmes in fisheries management; future collaboration with the SCS Project in implementing the pilot process of the SEAFDEC-Sida project is outlined in Annex 5c.

11.2.12 Referring to directions given at the SEAFDEC Council meeting in 2001 he noted that SEAFDEC is looking for future and closer collaboration with other organisations. Activities in 2004 had included the ASEAN SEAFDEC regional workshop on human resource development in Cambodia in June that had developed a framework for human resource development and development of Regional Databases. It also included development of a network for information collection, a directory of Institutions and individuals, co-ordination of communication between interested parties; development of regional materials from HRD programmes and activities, local translations and promotional materials. He noted that the report highlighted the need to integrate fisheries and habitat management as a consequence of RWG-F members' participation in the workshop.

11.2.13 In closing Dr. Worawit suggested that it might be of value to convene a meeting of FAO, SEAFDEC and the SCS-PCU to pursue a common strategy towards promoting the Code of Conduct on Responsible Fisheries.

11.3 WorldFish Center

11.3.1 The Chairperson invited Mr. Len Garces to present a report of the possible collaboration between the WorldFish Center and the South China Sea Project, noting that a representative from the WorldFish had also attended the 4th Meeting of the RWG-F in Manila Mr. Garces indicated in his presentation (Annex 5d) that there were various activities that could provide support to the 4 issues of interest to the South China Sea Project and with which WorldFish may be in a position to collaborate. These were:

1. Preparation of a regional management plan for the maintenance of habitats of importance to transboundary fish stocks in the Gulf of Thailand. Elements of the work of the WorldFish Center relevant to the project included:
 - Connectivity of reefs (PISCES project);
 - Trawl Base status and distribution of stocks;
 - Reef Base status and distribution of reefs;
 - Institutional relationships and arrangements, Policy and Social Sciences programme;
 - Approaches to the planning process technical assistance.
2. Establishment of a regional system of *refugia* for fishery stock conservation and protection of endangered species.
 - Information needs spawning areas, location of resources, stock structure;
 - Impact analysis case study before and after;
 - Assessment of impact of artificial reefs in the Gulf of Thailand.
3. Assistance in promoting the Code of Conduct for Responsible Fisheries (relevant to SE Asia and small-scale fisheries context).
 - Technical support to a project in Malaysia concerned with fishing fleet reduction;
 - Technical support to small scale fisheries, in Songkla, Thailand, and Kampot Cambodia examining conflicts between small scale fisheries and documenting conflicts, identification of mitigation measures and socio-economic surveys at village level. Consultation meetings (Fish Fights over Fish Rights) would be held in Songkla, Thailand, from November 17th to 18th and in Phnom Penh, Cambodia, from November 10th to 11th.
4. Stronger links with information system databases.
 - ReefBase, Coordinator for CR monitoring data in the region was based at WorldFish, and possible hosting SCS project data;
 - Fishbase, Tools for analysis trophic level population parameters on Fishbase;
 - Trawlbase has data on fish species distribution and abundance and is collaborating with FAO and Malaysia on trash fish;
 - WorldFish Regional portfolios and campaigns.

11.3.2 Mr. Passfield queried whether Trawlbase included biological and size data and Mr. Garces indicated that the database contained information on species distribution and contained temporal series, plus size data, but reproductive data were not currently available.

11.3.3 Mr. Somsak noted that artificial reefs in the GOT had been constructed since 1981 and were intended to: enhance resources; prevent trawling and push netting in inshore areas; as income generation for small scale fishermen; and as tourist/diving sites. Information collected regarding the benefits of the programme were not so clear and costs had been high. He noted that these reefs acted as fish aggregating devices and although fish catch might be enhanced through such devices the sustainability of these higher catches was unknown.

11.3.4 Dr. Worawit noted that the resources enhancement programme in SEAFDEC to promote responsible fisheries in the region required information on bottom topography and type, and Mr. Barut noted that now the Philippines has management plan requirements for the creation of any new reef.

Cambodia planned to undertake coastal surveys to establish reefs in Koh Kong as a means of resolving conflicts between small and large scale fisheries. Mr. Barut noted that in Palawan fish productivity in coral reef areas had been enhanced in areas adjacent to seaweed farms.

11.4 The World Conservation Union (IUCN)

11.4.1 The Chairperson welcomed Ms. Hien Thi Thu Bui, representative of IUCN, noting that this was the first time that IUCN has joined a RWG-F meeting and invited her to provide information to the meeting on areas of possible future collaboration between IUCN and the Project and IUCN's experience in the development of *refugia*.

11.4.2 Ms. Hien commenced her presentation (Annex 5e) by briefly introducing IUCN and stating that it is the oldest and largest global conservation body encompassing membership from more than 140 countries and with a series of 41 regional programmes. She noted that IUCN was the leading institution with experience in protected areas and that the Commission on Parks and Protected Areas had over the last 20 years been promoting new concepts and innovative ideas regarding protected areas and their management.

11.4.3 Ms. Hien highlighted an IUCN project involving MPA development in Cambodia, Thailand, and Viet Nam, noting that in the case of Cambodia there was no existing MPA, information was scarce and the institutions weak in terms of capacity. She noted that Viet Nam had better equipment, good data and information and that the Ministry of Fisheries was planning a system of 15 MPAs including the 2 existing ones. She noted further that in Thailand, fish sanctuaries and national parks have a long history and Thailand has a very advanced capacity in marine science and MPA management.

11.4.4 IUCN's involvement in the proposed World Bank FAO GEF Bay of Bengal Large Marine Ecosystem Project involved providing technical support to the development of the *refugia* component and Ms Hien noted that potential benefits from such a system included protection of minimum biomass and habitat areas, improved long-term yield, and that potentially they would enable scientists to disentangle the impacts of fishing activities and environmental change on fish stocks.

11.4.5 The BOBLME proposal involves regional technical workshops concerning the inventory, classification and mapping of existing fish *refugia* and marine protected areas; field based studies of selected *refugia*; establishment of common regional data requirements and protocols to promote national efforts to establish *refugia*; institutional arrangements; regional action plan; training and capacity building; awareness and outreach to enhance awareness of the functions of *refugia* amongst all stakeholders.

11.4.6 Ms. Hien noted that *refugia* may be defined in both space or time, and serve to protect spawning aggregations, nursery grounds and migratory routes. Whilst *refugia* might not be recognised in legal terms, various fishery management techniques could be applied and responsibilities executed to achieve the objectives of the *refugia*. Constraints to their development include a lack of data, management, technical and financial resources and poor enforcement. Clear goals need to be defined for *refugia* together with explanations of why they are to be located in a particular place and what benefits will be derived from their designation.

11.4.7 IUCN could also serve as a resource base for technical support and to provide backstopping to building capacity based on its country presence. The Asia Regional Office is based in Bangkok and the 8 regional programmes and six country offices provide effective linkages with 41 regional offices, and 6 commissions. In addition assistance can be provided in the establishment of *refugia* in Cambodia, Thailand and Viet Nam.

11.4.8 During discussion various issues were raised including the criteria used by IUCN to classify marine protected areas and the fact that "Protected Area" was perhaps a non applicable term in this region since all coastal areas are under some form of use at present. Dr. Pernetta indicated that the project demonstration sites all focussed on sustainable use rather than protection, although it was quite likely that restrictions on certain activities would be incorporated into the management plans of the demonstration sites.

11.4.9 A point raised regarding the legal status of *refugia* resulted in a discussion of the means of enforcing management decisions including establishment of *refugia* at the local level. Mr. Barut noted that in the Philippines fish sanctuaries could be established under local ordinances and that the Philippines government encouraged local governments to pass municipal ordinances based on a single national enabling law giving power to local level communities.

12. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON FISHERIES

12.1 Based on the discussion and agreements reached under previous agenda items, the Regional Working Group considered its work plan for the period 2004 – 2007, including the timetable for finalisation of overdue preparatory phase outputs. Particular attention was given to activities supporting the establishment of a regional system of *refugia*, promotion of guidelines for responsible fisheries in the region, and to oversight of the blast fishing detection trials.

12.2 The draft work plan prepared by the PCU as document UNEP/GEF/SCS/RWG-F.5/6 was presented and discussed in detail, amended and agreed as it appears in Annex 6 of this report.

13. DATE AND PLACE OF THE SIXTH MEETING OF THE REGIONAL WORKING GROUP ON FISHERIES

13.1 Members of the Regional Working Group were reminded that, according to the decision of the Project Steering Committee, all future Regional Working Group meetings are to be convened at the demonstration sites. It was further noted that, the Regional Working Group will have only one meeting each year from 2005 to 2007.

13.2 Following consideration of the individual calendars and commitments for 2005 the members agreed to convene the sixth meeting of the Regional Working Group from 5th to 8th September 2005.

13.3 Following a discussion of potential alternative locations at which to convene the next meeting the participants agreed that since testing of the blast fishing detection system would take place in the Tun Mustapha National Park it would be advantageous to convene the meeting in Sabah in order to inspect the system and hear the experiences of the Malaysian authorities in its use. The participants requested the Project Director to liaise with Professor Ridzwan regarding the possibility of convening the meeting in Sabah.

14. ANY OTHER BUSINESS

14.1 No additional items were considered by the meeting.

15. ADOPTION OF THE REPORT OF THE MEETING

15.1 Mr. Pirochana, the Rapporteur presented the draft report of the meeting, prepared by the secretariat during the meeting. The report was considered, amended, and adopted as it appears in this document.

16. CLOSURE OF THE MEETING

16.1 Mr. Passfield expressed his thanks to Dr. Son on behalf of the participants for his support to the organisation of the meeting and in particular the well organised and enjoyable field trip.

16.2 The Chairperson expressed his appreciation for the contributions of all participants and particularly to the invited representatives from FAO, SEAFDEC, WorldFish and IUCN and expressed thanks to the PCU for their support to the successful conduct of the meeting.

16.3 The Chairperson formally closed the meeting at 1730 on Thursday 14th October 2004.

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ANNEX 2

List of Documents

Discussion documents

UNEP/GEF/SCS/RWG-F.5/1	Agenda
UNEP/GEF/SCS/RWG-F.5/2	Annotated Agenda
UNEP/GEF/SCS/RWG-F.5/3	Report of the Meeting
UNEP/GEF/SCS/RWG-F.5/4	Current Status of Budgets and Reports from the Specialised Executing Agencies in the Participating Countries
UNEP/GEF/SCS/RWG-F.5/5	Draft Amendments to the Memoranda of Understanding to Cover the Period July 2004 to June 30 th 2007.
UNEP/GEF/SCS/RWG-F.5/6	Proposed Work Plan and Timetable for the Regional Working Group on Fisheries to June 2007.

Information documents

UNEP/GEF/SCS/RWG-F.5/Inf.1	List of Participants
UNEP/GEF/SCS/RWG-F.5/Inf.2	List of Documents
UNEP/GEF/SCS/RWG-F.5/Inf.3	Draft Programme
UNEP/GEF/SCS/RWG-F.5/Inf.4	Specially Managed Project Reviews (SMPR) 2004
UNEP EAS/RCU	<i>Strategic Action Programme for the South China Sea</i> (Draft Version 3, 24 February 1999) East Asian Seas Regional Coordinating Unit. 69pp.
J. Michael Bowers and Su Jilan	Mid-Term Evaluation Of GEF Project No. GF/2730-02-4340 Entitled <i>"Reversing Environmental Degradation Trends In The South China Sea and Gulf of Thailand"</i> July 2004.
SEAFDEC	Report of the ASEAN-SEAFDEC Regional Technical Consultation on Human Resource Development in Fisheries Management, Phnom Penh, Cambodia, 3 rd - 6 th June 2004.

The following documents are supplied in published form.

UNEP/GEF/SCS/RTF-E.2/3	Second Meeting of the Regional Task Force on Economic Valuation for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Siem Reap, Cambodia, 31 st May – 2 nd June 2004 UNEP/GEF/SCS/RTF-E.2/3.
UNEP/GEF/SCS/RTF-L.2/3	Second Meeting of the Regional Task Force on Legal Matters for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Phu Quoc Island, Viet Nam, 3 rd – 6 th May 2004 UNEP/GEF/SCS/RTF-L.2/3.
UNEP/GEF/SCS/RWG-F.4/3	Fourth Meeting of the Regional Working Group on the Fisheries Component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Manila, Philippines, 26 th – 29 th April 2004 UNEP/GEF/SCS/RWG-F.4/3.

UNEP/GEF/SCS/RWG-LbP.4/3	Fourth Meeting of the Regional Working Group on the Land-based Pollution Component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Guangzhou, China, 30 th March – 2 nd April 2004 UNEP/GEF/SCS/RWG-LbP.4/3.
UNEP/GEF/SCS/PSC.3/3	Third 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. Manila, Philippines, 25 th – 27 th February 2004 UNEP/GEF/SCS/PSC.3/3.
UNEP/GEF/SCS/RSTC.4/3	Fourth Meeting of the Regional Scientific and 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. Pattaya, Thailand, 15 th – 17 th February 2004 UNEP/GEF/SCS/RSTC.4/3.
UNEP/GEF/SCS/RWG-W.4/3	Fourth Meeting of the Regional Working Group on the Wetlands Sub-component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Kuala Lumpur, Malaysia, 15 th – 18 th December 2003 UNEP/GEF/SCS/RWG-W.4/3.
UNEP/GEF/SCS/RWG-SG.4/3	Fourth Meeting of the Regional Working Group on the Seagrass Sub-component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Guangzhou, China, 29 th November – 2 nd December 2003 UNEP/GEF/SCS/RWG-SG.4/3.
UNEP/GEF/SCS/RWG-CR.4/3	Fourth Meeting of the Regional Working Group on the Coral Reefs Sub-component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Guangzhou, China, 27 th – 30 th November 2003 UNEP/GEF/SCS/RWG-CR.4/3.
UNEP/GEF/SCS/RWG-M.4/3	Fourth Meeting of the Regional Working Group on the Mangroves Sub-component for the UNEP/GEF Project <i>"Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand"</i> . Report of the Meeting. Beihai, China, 14 th – 17 th October 2003 UNEP/GEF/SCS/RWG-M.4/3.

The following awareness raising materials were presented by the focal points at the meeting.

Cambodia	Leaflet on destructive fisheries and coral reefs Poster "Marine endangered species in Cambodia" Field guide to Cambodian marine life
Thailand	VCD "Recovery from the Fishery Crisis in Thailand" A set of 5 stickers highlighting specific fishery issues in Thailand
Viet Nam	Calendar "Lets protect the marine environment and resources for us and our future generations" Small poster " Keep the environment and marine resources for us and future generations" Large poster (similar to small poster, but placed on billboards in Viet Nam, only photograph received) Leaflet "Lets Protect Our Marine Resources" Bilingual English and Vietnamese

Note: A VCD on Vietnamese fisheries, and a leaflet, were submitted previously at the 4th Meeting of the RWG-F.

ANNEX 3

Agenda

- 1. OPENING OF THE MEETING**
 - 1.1 Welcome Address
 - 1.2 Introduction of Members
- 2. ORGANISATION OF THE MEETING**
 - 2.1 Election of Officers
 - 2.2 Documentation Available to the Meeting
 - 2.3 Organisation of Work
- 3. ADOPTION OF THE MEETING AGENDA**
- 4. THE STATUS OF THE PREPARATORY PHASE OUTPUTS DUE 30TH JUNE 2004**
 - 4.1 Reports from the Focal Points on the Status of the National Outputs from the Preparatory Phase
 - 4.2 Update from the PCU on the Status of English Editing of National Fisheries Reports
- 5. STATUS OF THE ADMINISTRATIVE REPORTS AND EXTENSION OF THE MEMORANDA OF UNDERSTANDING**
 - 5.1 Status of Mid-year Progress Reports, Expenditure Reports, and Budgets
 - 5.2 Extension of the Memoranda of Understanding for the Fisheries Specialised Executing Agencies
- 6. PROJECT EVALUATION**
 - 6.1 Report of the Independent Mid-Term Evaluation of the Project
 - 6.2 Specially Managed Project Review by the Monitoring and Evaluation Unit of the GEF Secretariat
 - 6.3 International Waters Programme Study 2004
- 7. STATUS OF THE PROPOSAL FOR TRIAL OF A BLAST FISHING DETECTION DEVICE**
- 8. A SYSTEM OF REFUGIA FOR FISH STOCKS OF TRANSBOUNDARY SIGNIFICANCE IN THE GULF OF THAILAND**
- 9. PROMOTION OF THE GUIDELINES FOR RESPONSIBLE FISHERIES**
- 10. CURRENT STATUS OF DEMONSTRATION SITE PROPOSALS FROM THE HABITAT COMPONENT**
- 11. UPDATE ON COLLABORATION WITH OTHER ORGANISATIONS**
 - 11.1 Food and Agriculture Organisation (FAO)
 - 11.2 SEAFDEC
 - 11.3 WorldFish Center
 - 11.4 The World Conservation Union (IUCN)
- 12. REVISION OF THE WORK PLAN AND ACTIVITIES FOR THE REGIONAL WORKING GROUP ON FISHERIES**
- 13. DATE AND PLACE OF THE SIXTH MEETING OF THE REGIONAL WORKING GROUP ON FISHERIES**
- 14. ANY OTHER BUSINESS**
- 15. ADOPTION OF THE REPORT OF THE MEETING**
- 16. CLOSURE OF THE MEETING**

ANNEX 4

Definition and Explanatory Notes for the Term *refugia* in the Context of the SCS Project

Refugia:

"A spatially and geographically defined, marine or coastal area in which specific management measures are applied to sustain important species² [fisheries resources] during critical stages of their lifecycle, for their sustainable use."

Explanatory notes:

- Should not be a "no take zone".
- Have the objective of sustainable use for the benefit of present and future generations.
- Some areas within a *refugia* might be permanently closed due to their critical importance [essential contribution] to the life cycle of a species or group of species.).
- Critical areas of importance in the life cycle include spawning, and nursery grounds, or areas of habitat required for the maintenance of broodstock.
- *Refugia* will have different characteristics according to their purpose and the species or species groups for which they are established and within which different management measures will apply.
- *Refugia* may be sub-divided reflecting the differing importance of sub-areas to the species or species group. A management plan for the *refugia* will reflect different measures for the subdivisions.

Management measures that may be applied would be drawn from the following [non-exhaustive] list:

- Exclusion of a fishing method (e.g. light fishing).
- Restricted gears (e.g. mesh size).
- Prohibited gears (e.g. push nets, bottom trawl).
- Vessel size /motorization.
- Seasonal closures during critical periods.
- Seasonal restrictions (specific gears that may trap larvae).
- Limit access.

² In the context of this project the initial focus is on a system of *refugia* for transboundary species.

ANNEX 5

Presentations on Possible Areas for Collaboration

By FAO, SEAFDEC, WorldFish and IUCN

ANNEX 5a

Possible areas of collaboration between FAO and the UNEP/GEF South China Sea Project

FAO Programmes & Activities In The Region

- **Normative work**
 - Guided by the CCRF & COFI recommendations
- **Field programme**
 - Linked to implementation of the CCRF
 - Local priorities & needs
 - Areas of donor interest
- **Collaborations**
 - Asia Pacific Fishery Commission (APFIC)
 - Regional partnerships that combine different competencies
 - Added value of coordinating activities and sharing results
 - Regional forum on fishery issues
 - Forum meeting in 2006

FAO activities in the region

- **Bay of Bengal Large Marine Ecosystem project proposal**
 - Bay of Bengal, GEF and World Bank, this will have a strong fisheries emphasis
- **ADB Tonle Sap Environmental Management Project**
 - Fisheries component - promotion of community based management of natural resources especially fisheries
- **FAO/SIDA "Strengthening information gathering for fisheries management"**
 - Strengthening information for management – info needs on possibilities for management intervention

"Strengthening Information Gathering for Fisheries Management"

- **Thailand** - "Reduction of capacity in the trawl fishery of the Gulf of Thailand"
 - What are alternative jobs/livelihoods, labour mobility and potential impacts?
 - What would be cost benefit of a 'buy back' scheme
 - Investigate possibilities rights-based fisheries/community-based fisheries
- **Viet Nam** - improved socio-economic information and understanding of issues facing the coastal fisheries in the South China Sea
- **Cambodia** - conflict resolution and improved understanding of the coastal fisheries of Cambodia

Species of transboundary significance - the national reports cover the current status of, and threats to, these species and their habitats, areas of importance in the maintenance of exploited fish stocks, current management regimes, and recommended actions.

National reports & regional synthesis

- Are these reports available as resource information documents to interested organizations?
- Preparation of a comprehensive regional synthesis of data and information regarding fisheries in the South China Sea.
- FAO (RAP) as a global broker of fisheries information and source of synthesis and analysis is of course extremely interested in this output.
- When might we expect this to be undertaken/finalized?

“Preparing the regional GIS database would be to compile a regional base map that includes shorelines, coastal administrative boundaries and river catchments.”

GIS database

- What is the function of the GIS database?
- Is it focussed on the project, or is there a longer terms regional/national function envisaged.
- Is (will) the information available to external parties?

“The task force recognized the need to examine and agree upon the underlying issues involved in economic valuation of coastal resources, habitats and environmental goods and services specifically in the region”

Regional Task Force on Economic Valuation

- This is of interest to FAORAP – which will be convening a meeting in June 2005 on the issue of trash fisheries in the Region (SCS & GOT).
- As part of this meeting some of the economic aspects of the value of the fishery will be considered as well as.
- The interactions with aquaculture as a source of demand for trash fish and fish meal.
- Participation of key members of the RFWG would be appropriate if this could be supported by the UNEP-SCS project.

“Develop sub-regional, and national management plans...result in the establishment of a system of refugia based on marine protected areas identified as critical habitats for fish stock conservation and protection.”

Assessment and promotion of refugia for fisheries protection & management

- The FAO/SIDA project has become operational and will be undertaking complementary activities in Viet Nam, Thailand and Cambodia.
- How information can be more effectively obtained for use in pursuit of management objectives.
- These will look at ways of tackling the problems of conflicts in the fisheries as well as over-capacity.
- A more comprehensive understanding of the real issues facing fishers in the Gulf as well as an indication of their opinion of what can be done to deal with the problems of over-capacity and conflicts between large and small –scale fishing.

“Promotion of the Regional Guidelines on the Code of Conduct for Responsible Fisheries through National and Regional Workshops”

- Promotion of the CCRF (Regional) – there are several issues here with respect to what is being promoted and how.
- The CCRF is a set of guidelines – is there any interpretation provided?
- Are existing practices being reviewed/evaluated in the light of the CCRF?
- Are national laws also communicated that relate to CCRF?

“Develop and implement programmes to provide information at the community level, on fish stock conservation and sustainable fishery practices among small and artisanal fishing communities:”

Provide information at the community level, on fish stock conservation and sustainable fishery practices:

- This implies that there is a communications strategy for reaching the communities
 - Is this confined to the demonstration sites?
 - What is the form of implementation of this?
-

ANNEX 5b**Areas of Potential Cooperation between SEAFDEC and UNEP/GEF SCS****Directions**

“SEAFDEC has been ongoing to establish new collaboration with non-member governments, regional and international organizations. Much moreover, SEAFDEC is looking for more future and closer collaborations with existing organization and institutions that are in the relationship in fields of mutual interest, with a wish that countries in the region shall receive a most beneficiaries from cooperation and collaboration” (SEAFDEC’s Council Meeting 2001).

SEAFDEC’s programs with relevance to UNEP/GEF SCS

- Regionalization of the Code of Conduct for the Responsible Fisheries (RCCRF).
- Information collection for Sustainable Pelagic Fisheries in the South China Sea.
- Resource Enhancement.
- Regional Guidelines for responsible aquaculture in mangrove areas.
- HRD on the Support of Implementation of the Code of Conduct for Responsible Fisheries Management for the ASEAN Region (SEAFDEC-SIDA 2003-2006).

SEAFDEC projects relevant to establishment of a *refugia* network

- **Information collection for responsible pelagic fisheries in the South China Sea**
 - Among other objectives: Identifying stocks of two major economic species for clarification of transboundary issues; spawning areas.
- **Rights-based fisheries and decentralization**
 - “Freezing” the fishing fleets.
 - Regional review of user-rights systems which have been tested in the region / which are suitable for the region.
 - Regional “guidelines” for rights-based fisheries.
- **Resource enhancement:**
 - Ecological and socio-economic impacts of ARs.
- **Regional guidelines for responsible aquaculture in mangrove areas**

Planned SEAFDEC projects relevant to establishment of a *refugia* network

- **Sustainable Fisheries Development Project in the BIMP-EAGA Region**
 - Determination of ecological important areas in the region through sampling and collection of eggs and juveniles for commercially important species.

SEAFDEC-SIDA Project Activities in 2004

- **Co-organization of the ASEAN-SEAFDEC Regional Workshop on Human Resource Development in Fisheries, Kuala Lumpur, Malaysia, 20-23 February 2004**
 - Strategy for HRD in Fisheries in the ASEAN Region.
- **Organization of the ASEAN-SEAFDEC Regional Workshop on Human Resource Development in Fisheries Management, Phnom Penh, Cambodia, 3-6 June 2004**
 - Plan and framework for HRD in Fisheries Management.
 - Development of Regional Database and Network for Information Collection on HRD in Fisheries.
 - Development of Regional Materials for HRD programs/activities.

- **Organization of the ASEAN-SEAFDEC Preparatory Expert Meeting on Fishing Capacity and Related Human Resource Development Needs in the ASEAN Region, Bangkok, Thailand, 14-16 September 2004**
 - Pilot process/study in the set of representative countries (Cambodia, Indonesia, Thailand and Viet Nam).

2005 SEFADEC-SIDA Project Activities Planned

- **Pilot Process/Study**
 - National Consultations/Meeting.
 - Meeting with Cooperative Project.
 - Preparatory of the Supporting Materials for HRD programs/activities.
 - National Workshop/On-site Training.
- **The Second Regional Technical Consultation on Fisheries Management**
- **Information collection on the Regional Inventory, Database and Network for Human Resource Development in Fisheries**
- **Establishment of the Regional Inventory, Database and Network for Information Collection on Human Resource Development in Fisheries**

ANNEX 5c

**Pilot Process for the SEAFDEC-SIDA HRD Program Implementation
in Fisheries Management
(including management of Fishing Capacity)³**

Through the WGRFP organize a planning and criteria setting meeting with countries

- ↓
- Initiate and have meetings in Cambodia, Indonesian, Thailand and Viet Nam
 - Establish/confirm links and cooperation with FISH Project (the Philippines), MTCP (Malaysia) and UNEP/GEF Fisheries Component
 - Meeting with MRC on their HRD program for inland fisheries

Pilot Process 1a: Organization of National Consultations

- ↓
- Mobilization of SEAFDEC and other resource persons as indicated during planning and criteria setting
 - Mobilization/invitation of relevant institutions and expertise within the country.

Pilot Process 1b: Meeting with cooperating projects

- ↓
- Arrange meeting with FISH Project (the Philippines), MTCP (Malaysia) and UNEP/GEF Fisheries, respectively, and/or take part in some relevant event under each/either of the projects
 - Follow up on MRC experiences as indicated during earlier meeting

Pilot Process 2a + 2b: Continued activities, dialogue and/or “on-site training”

(including references and materials development)

Build on results and recommendations from stage 1a and 1b, by:

- ↓
- As recommended, on a country by country basis, embark on sequence of “on-site training” (similar to the ones for statistics in the CLMV countries) and in a learning-by-doing process gather experiences to be shared at the regional level
 - In other countries establish links/cooperation with major project(s) to share experiences at the regional level
 - Continue the dialogue/cooperation with FISH, MTCP and UNEP/GEF Fisheries to share experiences at the regional level

Pilot Process 3: Lessons learned and experiences to share

- ↓
- As needed a final sequence of the “on-site-training”
 - Mobilization of SEAFDEC and other resource persons to analyze lessons learned and experiences to share
 - Preparation for a Regional Technical Consultation, including mobilization and invitation of relevant institutions and expertise

Organization of the Regional technical consultation

(Fisheries Management and the Management of Fishing Capacity)

³ Discuss with Dr. Theo Ebberts (Rights Based Fisheries) on practical links in the processes ahead.

ANNEX 5d

Future Areas for Collaboration between UNEP/GEF South China Sea Project and WorldFish Center

Possible Areas for Future Collaboration between UNEP-SCS Project and WorldFish Preparation of a regional management plan for the maintenance of habitats of importance to transboundary fish stocks in the Gulf of Thailand Establishment of a regional system of marine protected areas for fishery stock conservation of protection of endangered species.

- Assistance in implementation of the Code of Conduct for Responsible Fisheries (relevant to SE Asia and small-scale fisheries context)
- Stronger links with information system databases (i.e., FishBase, ReefBase & TrawlBase)

Preparation of a regional management plan in the Gulf of Thailand

- Information of the status of habitats and population structure
- Connectivity of reefs (PISCES project)
- 'TrawlBase' – status and distribution of stocks & country management plans
- 'ReefBase' – status and distribution of reefs
- Institutional relationships and arrangements
- Policy and Social Sciences (PRIAP) work
- Approaches to planning process

Establishment of a regional system of marine protected areas ("system of refugia") Information needs (e.g., spawning areas, location of resources, stock structure)

- Impact analysis – 'Case Study' (assessment before and after establishment)
- Assessment on impact of artificial reefs in GOT?

Assistance in implementation of the Code of Conduct for Responsible Fisheries

- SEAFDEC/FAO workshops & consultations
- Technical support in the implementation of the Code (e.g., WorldFish & DOF- Malaysia – Exit Project in NW coast)
- Technical support relevant to SE Asia and small-scale fisheries context (e.g., Fisheries conflicts project – Songkla, Thailand & Kampot, Cambodia)

Links with information system and databases

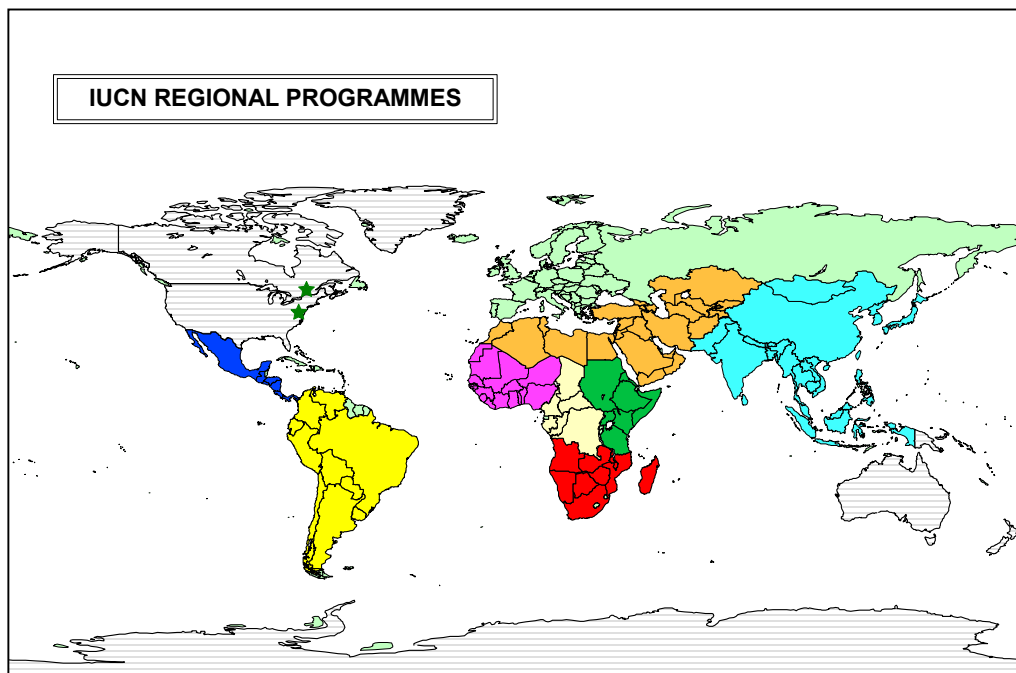
- ReefBase
- Information on status of reefs
- SEA coordination of monitoring data on reefs (GCRMN)
- Hosting of SCS project data (a possibility)
- FishBase
- Biological information of fish species
- Tools for analysis (e.g., trophic level of catch, population parameters)
- TrawlBase
- Data on species distribution and abundance
- Further analysis of data in Malaysia and GOT (e.g., Trashfish study with FAO)

New structure and research focus at WorldFish

- Regional Portfolios
- East and Southeast Asia (Dr. Madan Dey)
- Mekong (Dr. Blake Ratner)
- Pacific (Dr. Warwick Nash)
- South Asia (Dr. Kuperan Visawanathan)
- Africa, SADAC
- Campaigns ("Research Themes")
- Coastal Fisheries and Livelihoods
- Aquaculture for the Poor
- Fish Trade and Markets
- Water and Fish

ANNEX 5e**Potential Collaboration between UNEP and IUCN in the framework of the UNEP/GEF South China Sea Project****Who We Are**

- Created in 1948 - the world's oldest and largest global conservation body.
- 1031 members (states, government agencies, NGOs, and affiliates) in more than 140 countries.
- More than 10,000 scientists and experts from 181 countries in a unique worldwide network – IUCN's Commissions.
- The Secretariat is headquartered in Switzerland, with more than 40 offices around the world.

**IUCN's experiences**

- IUCN is the leading institution on many issues related to biodiversity conservation and particularly on protected area issues.
- Through its Programme on Protected Areas and the World Commission on Protected Areas (WCPA), IUCN has been at the forefront of global efforts for the establishment and management of a world-wide representative network of terrestrial and marine protected areas. During the last 20 years IUCN has been promoting new concepts and innovative ideas on protected areas issues including a global system for protected areas management categories, the concept and practice of co-management, the notion of system planning and the need to plan and manage protected areas as part of the broader landscapes.
- All these concepts are based on best-practice experiences in protected area management worldwide, which are compiled and evaluated through the WCPA Network.

Current MPAs development in Cambodia, Thailand and Viet Nam

Three neighboring countries: Cambodia, Thailand and Viet Nam, are in an almost sequential state of MPA development. The coastal and marine areas of Viet Nam, Cambodia and Thailand represent a major section of South China Sea, and host significant populations of rare and endangered marine species.

Cambodia

Little scientific information is available about marine biodiversity and island ecosystems, either within or outside MPAs. National and institutional capacities in marine sciences and MPA development are generally weak.

Viet Nam

Better equipped for MPA development, with core team of marine researchers from several long standing oceanographic marine resources institutes. Ministry of Fisheries are preparing the Regulation and Planning for the system of 15 MPAs.

Thailand

The establishment of fish sanctuaries and national park has a long history, Thailand is also one of more advance countries in Southeast Asia in the field of marine sciences and MPA.

IUCN's Case study

- IUCN's involvement in the BoB LME project. IUCN provided technical input in developing the activities for the proposed MSP to take a large responsibility for the implementation of the fish *refugia* component.
- Various 'establishment of representative network of MPAs' initiatives e.g. In Sri Lanka (IUCN SL), GEF proposal under development for Viet Nam-Cambodia-Thailand (RMPA) as well as the WCPA/South East Asia initiative on Regional Action Plan (RAP) to Strengthen a Resilient Network of Effective Marine Protected Areas in Southeast Asia 2002-2012.

Why MPAs, Marine Reserves, No-Take zone...

What are some of the potential benefits of MPAs, Marine reserves, No-Take zone ... etc ?

1. Protection against management errors and uncertainty in stock assessment by setting aside a minimum spawning biomass.
2. Protect habitat from human disturbance, from fishing, pollution, development..etc,
3. Protection from weak stocks in mixed species assemblages.
4. Improvement to long-term yield by allowing the fish within the reserve to attain a natural age structure resulting in an increase in potential recruits to the fishery.
5. Enable scientist to disentangle effect of the fishing and environment change on fisheries communities and ecosystem they depend on.

Case study: Fish *refugia* Bay of Bengal Large Marine Ecosystem

Bounded by Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thai Land, the Bay of Bengal is one of the world's over 60 large marine ecosystem. More than 2 million people make a living by fishing in the coastal and offshore water of the Bay.

Under this sub-component on establishment fish *refugia*, the BOBLME project would support the following activities:

- (i) Regional technical expert workshops;
- (ii) An inventory, classification and eventual mapping using GIS technology, of the existing fish *refugia* and marine protected areas (MPAs) in the region;
- (iii) Field-based case studies on selected fish *refugia* and MPAs, e.g. identifying how and to what extent these areas function as fish *refugia* (i.e. protection of key habitats, spawning aggregations, nursing grounds etc), and identifying to what extent they form a system/network (e.g. through pilot projects on connectivity between populations of key fish species);
- (iv) Establishment of common regional data requirements and protocols to promote national efforts to establish fish *refugia*;
- (v) Identification/establishment of institutional arrangements for a regional approach to management of fish *refugia*;
- (vi) Development of regional action plan on fish *refugia* (including need, development priorities, methods, collaboration, potential areas etc.);

- (vii) Training and capacity building;
- (viii) Awareness and outreach, enhancing understanding and acceptance of fish *refugia*, their function and benefits among key stakeholder groups, including fishers;
- (ix) Supporting studies e.g.:
 - a. A literature review of global “best practices” and “lessons learned” associated with fish *refugia*;
 - b. Legal analysis of constraints/needs to facilitate the creation of fish *refugia* in the region;
 - c. Identification of shared stocks in the region justifying the establishment of multi-country system of fish *refugia* as a management tool; (some overlap with iii)
 - d. Socio-economic issues and mitigation measures associated with the establishment of fish *refugia*, including economic analysis of fish *refugia*, costs and benefits to key stakeholder groups etc.
- (x) In addition, the BOBLME will provide additional support for fish *refugia* through the incorporation of *refugia* as a specific management tool in the preparation of the regional and sub-regional fishery management plans supported under the Program.

Fish *Refugia*

- Fish *refugia* can work in both space and time (e.g. geographically or seasonally defined areas close to fishing or with restriction on gears and effort.) Important natural *refugia* include fish spawning aggregations, nursery ground and migratory routes.
- Fish *refugia* can contribute to maintaining populations and breeding stocks, hence sustaining a fishery, they maintain connectivity between populations, increasing resistance and resilience (e.g. to over harvesting, pollution, habitat destruction, and climate change) and contribute to biodiversity conservation.
- MPAs may work as fish *refugia*, but this function is mostly not stated objectives in the MPA definition and establishment process, and there is often little knowledge of how MPA act as fish *refugia*, beyond preventing fishing, habitat protection..etc.
- Basic for legal recognition of fish *refugia* varies, and establishment is often under a different name (e.g. fisheries management areas).
- Jurisdiction over fish *refugia* also varies (e.g. with the act/ordinance under which area is declared).
- Different management /protected areas in one country can fall under different ministries, frequently with insufficient management coordination between these, although mandates may also overlap (MPAs, Fisheries..etc).
- The most obvious constraints to the creation of fish *refugia* is lack of data and information (e.g spawning, nursing, larval transport and connectivity, quantified benefits from *refugia* .etc).
- A storage of technical and financial resources, lack of coordination, poverty among coastal populations and lack of alternative livelihood means management and enforcement remains poor in any MPAs and fisheries management areas.

Establishing Fish *refugia* Addressing this is a high priority when establishing a fish *refugia*:

- Focus on identifying data need and filling gaps undertaking supporting studies (legal review, best practices, economic valuation, socio economic issues and mitigation measures associated with fish *refugia* establishment. etc);
- Establishing protocols to promote national efforts to establish fish *refugia*, development of a regional action plan, training and capacity building, awareness and outreach;
- Stakeholders need to be identified early in the process of establishing fish *refugia*;
- Public education should reinforce compliance and help lessen the need for enforcement, which are necessary and should be considered in the design and implementation process;
- Planning should consider the range of needs and concern, resources available, and opportunities for cooperation among local, state, regional in compliance and carrying out enforcements.
- What issues must be taken into consideration in the development?
 - Establish clear goals for each proposed area. These include such question as: Exactly why is the *refugia* being proposed? What are expected benefits?

- Analysis the impacts (social, economic, etc.) and potential mitigation measures for coastal communities, as well as recreational commercial fisheries.
- Involve all potentially impacted by the reserved from the onset in a meaningful manner.
- Develop an achievable enforcement regime and identify appropriated funding sources prior to the designation of the area in order for enforcement to be implemented concurrent to the *refugia*.
- Collect biological baseline information and develop a monitoring programme to be continued after the area is designed as a *refugia*.
- Other management tool must be utilized coincident with the *refugia* (e.g limited entry, time/area closures.)

IUCN's collaborationIUCN is a resource base for technical support on a broad range of issues marine as well as terrestrial, and has expertise on biodiversity, economics, protected areas, law, policy, outreach ...etc.

- IUCN can lead the implementation of projects, provide technical backstopping, undertake reviews and evaluations and abroad range of capacity building activities.
- IUCN also has a presence in several countries as well as the regional programmes, and the commissions are an unrivalled resource.
- With IUCN organizations and it's structure in Asia
 - The existing profile and structure of IUCN in the region, which include Asia Regional Office in Bangkok, 8 Regional Thematic Programmes and 6 Country Offices.
 - The Global structure of IUCN allows for effective linkage with other 41 Regional and Country Officers, 11 global programmes and 6 commissions of experts, all of them working on issues related to this regional project, thus providing the opportunities to link regional and global activities.
- Possible areas for future collaboration:
 - Provide assistance in preparing Regional Management Plan for the establishment of system of MPAs and Fish refugia in the Gulf of Thailand.
 - Assist the establishment process of fish refugia and MPAs in Cambodia, Thailand and Viet Nam.
 - Sharing information, lesson learned, case study and best practices on Fish refugia and MPAs management in the region.
 - Others...

Frame 1: MPA categories

- I. Strict Nature Reserve/Wildness Area.
 - Ia. Strict Nature Reserve Area
 - Ib. Wildness Area
- II. Marine Park: to protect eco-systems but it can be used for entertainment, resort and tourism.
- III. Marine Natural Monument: to protect some components of marine nature and culture that are valuable.
- IV. Marine Habitat/Species Management Area: to protect environment in special habitats of valuable marine organisms.
- V. Marine Landscape Protected Area: to protect Marine natural landscapes, that have high value on aesthetic aspect, for entertainment, resort and tourism.
- VI. Managed Marine Resource Protected Area: to conserve natural resources by management measures.

ANNEX 6

Work Plan and Time Table for the Fisheries Component to June 30th 2007

Figure1 Work Plan and Time Table for Fisheries Component to June 30th 2007.

[illegible]

Figure1 continued

[illegible]

Table 2 Schedule of Meetings for 2005. (RWG = Regional Working Group; -M = Mangroves; -CR = Coral reefs; -SG = Seagrass; -W = Wetlands; -F= Fisheries; LbP = Land-based Pollution; RTF-E = Regional Task Force on Economic Valuation; RTF-L = Regional Task Force on Legal Matters) (H = United Nations Holidays)

	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M							
January							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
									H																		H										
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 NY													RSTC EXCOM	H													
March			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
			RTF-L-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		
											H							H					RTF-E-3														
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						
																						H															
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	
																							RWG-LbP-6														
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-M-6											H										RWG-CR-6														
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-6							RWG-W-6														RWG-SG-6							
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	
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			H											RSC-2																				
December					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
								H				RSTC-6				PSC-5													Xmas	H							