



**AQUATIC RESOURCES VALUATION AND POLICIES
FOR POVERTY ELIMINATION IN THE
LOWER MEKONG BASIN**

**Final Report
Volume 1
PROJECT IMPLEMENTATION
AND OUTCOMES**

April 2005

Disclaimer

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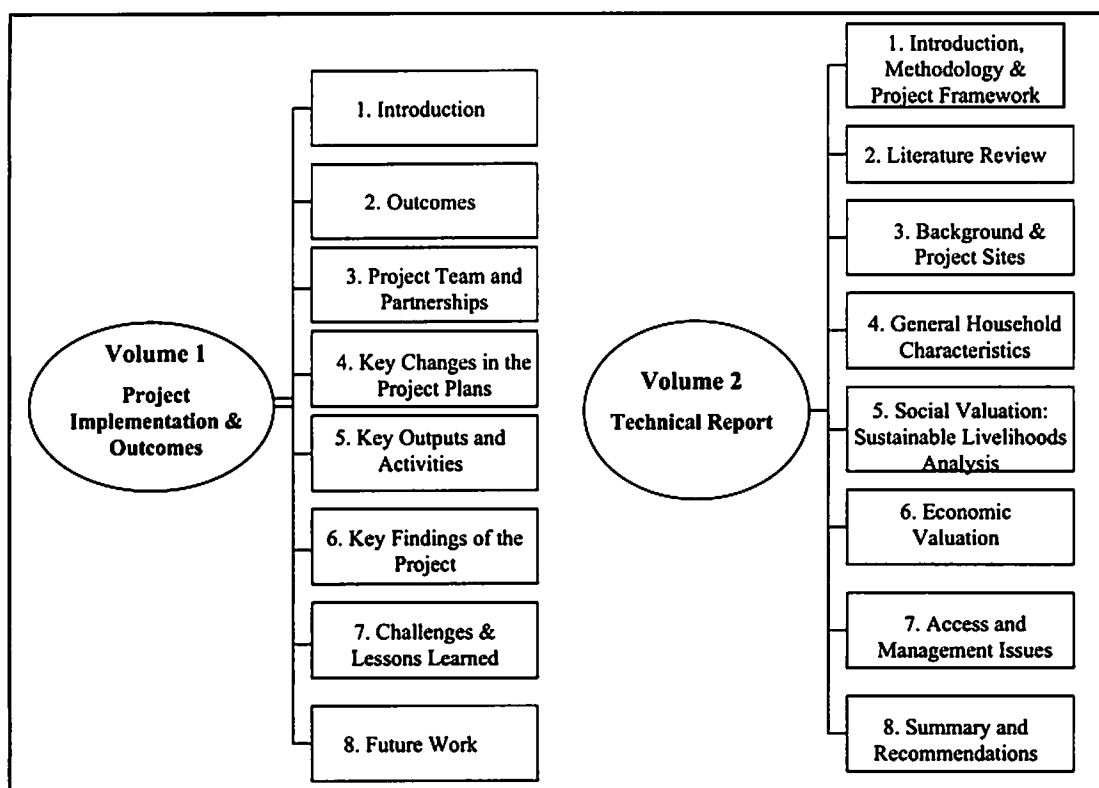
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1 Introduction

This report presents the final outputs of the project on Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin, hereunder referred to as “the project”. The full report is composed of two volumes. This volume (Volume 1) summarizes the implementation process, outcomes and key lessons of the project while Volume 2 presents the project framework, methodology, key findings and policy implications. Figure 1 illustrates the key components and overview of the report.

Figure 1: Overview of the Report Structure



1.1 Background of the Project

In 2002, the Department for International Development (DFID) of the United Kingdom sponsored a study with the overall objective to design a research programme to establish the social and economic value of aquatic resources of the Mekong River. Specific recommendations were made to design a study for a four-year programme. This two-year project was conceived as a first step towards addressing the recommendations of the scoping study with an initial focus on Cambodia. The project was implemented by the WorldFish Center in partnership with the

Department of Fisheries (DOF), Cambodia and was funded by DFID from 1 January 2003 to 31 March 2005.

The project was developed to improve understanding of the economic and social values of aquatic resources, as a step towards improving institutional and policy processes in the Lower Mekong Basin so that resource management decisions better reflect the interests of the rural poor. Rural communities of the Lower Mekong Basin depend critically on aquatic resources for their source of livelihood and support for daily needs. The fact that approximately 85 percent of Cambodia lies within the basin (McKenney et al. 2002) while 90 percent of its population lives within the Great Lake and Mekong floodplain areas (Touch 2001) demonstrates the importance of these resources in Cambodia on a national scale. This is also an important reason why the DFID-sponsored scoping study recommended Cambodia to be the first country on which to pilot the project.

1.2 Project Goals and Outputs

The *overall goal* of the project was to contribute towards reducing poverty and improving livelihoods of the poor people dependent on aquatic resources in the Lower Mekong Basin countries with a focus on Cambodia. This objective was pursued by conducting research to assess the value of aquatic resources to the users and the constraints they (in particular the poor) face in accessing these resources.

The purpose of the project was to incorporate stakeholder perspectives/values in the development of policies that ensures improved livelihoods and resource management outcomes

The *main outputs* of the project include the generation of:

- a) social and economic values of aquatic resources of users at different levels of society;
- b) baseline information on existing constraints to access of resources by users, particularly the poor; and
- c) new approaches for enabling greater uptake of knowledge generated by research for policy implementation.

The overall goals, objective, purpose and activities are summarized in the logical framework of the project (presented in Appendix A). The framework provided the basis for the development and planning of the project and was reviewed and updated periodically. The framework also provides details and dates of the activities carried out to meet respective project objectives.

2 Outcomes

This section briefly outlines the outcomes of the project and presents a broad overview of the project achievements in meeting the intended outputs, goals and purpose. As stated in the logical framework, the purpose of the project was to ensure that “stakeholder perspectives/values are incorporated in the development of policies that ensure improved livelihoods and resource management outcomes”. Five project indicators that were reflected in the project logical framework provided the means to measure the broad results of the project. Corresponding project outcomes in relation to the indicators are reported below:

Indicator 1: Policy formulation process reflects improved understanding of the values of aquatic resources

The project focused on increasing capacity, links and understanding on the values of aquatic resources among relevant groups as a means of influencing aquatic resources related policy formulation processes. The relevant groups include staff of government and non-government organizations (NGOs) that were involved in varying capacity related to the policy formulation process in Cambodia. Examples of the agencies include: (i) National level – related offices within the DOF and Ministry of Environment, etc. (ii) Provincial level – Department of Agriculture, Fisheries Office, Rural Development Office, Water and Infrastructure Department, etc. (iii) NGOs and international organizations active at the provincial level – Chamroeun Cheat Khmer¹ (CCK), Culture and Environment Preservation Association (CEPA), Fisheries Action Coalition Team (FACT), Food and Agriculture Organization (FAO), World Conservation Union (IUCN) and Oxfam Community Aid Abroad (OCAA).

Due to the duration of the project, it will only be possible to assess the extent of the influence into the policy formulation process over the course of the next 1-2 years. However, direct examples of preliminary outcomes include:

- Wide sharing of information at provincial and national workshops with relevant agencies besides the DOF promoted stronger links and discussions on the values of aquatic resources and enhanced understanding and appreciation of these values.
- Through project team discussions, workshops, training and fieldwork, staff of DOF, provincial officers and local NGO staff that were part of the project team improved their skills at facilitating discussions on aquatic resources values at the national, provincial, district and village levels. They were able to appreciate the importance of aquatic resource values and relate to policy processes with the aim to enhance livelihoods and management of resource systems. This was evident from the leadership and independence that they displayed especially in facilitating local level discussions in Khmer. As the project progressed, they demonstrated strong understanding of the issues and relied less on the guidance of the project scientist compared to the initial stages.

¹ Translated into English, the name means “development of the Cambodian nation”.

Indicator 2: Significant involvement of poorer stakeholders in the policy process

A key approach of the project included the need to reflect the values of poor stakeholders in policy processes. This resulted in extensive interactions and consultations among the poorer stakeholders.

- Perspectives of poor stakeholders were considerably represented in relevant policy dialogue as the project facilitated the flow of information and findings derived from local level consultations, assessments and appraisals at workshops organized at the provincial and national levels. The participants of workshops were invited based on their involvement in the management of aquatic resources and policy processes. Key local representatives were also invited and participated at the provincial workshops that provided direct local link to the provincial level.
- The unique team composition at the local level encouraged strong NGO presence that enhanced their collaboration with government staff. This provided the basis of an efficient and innovative team to relate and support poor stakeholders in terms of aquatic resources management. This significantly strengthened the network and linkages between the poor people of the project sites and the relevant people in the policy process.
- At the local level, the project strived to balance participation among different wealth groups. Efforts were pursued to ensure that the poorest of the poor had the opportunity to participate in village discussions, household and longitudinal surveys and final village workshops. Through group discussions and with the help of the village head, wealth groups were identified. Participants were randomly picked from these wealth groups (usually with pieces of paper from a container) to ensure that the poorest group was represented. Women were also encouraged to be involved in the village consultation processes. Within the available time and scope of the project, specific sections relating to women were included in the household survey.

Indicator 3: Participatory action research in three representative sites in Cambodia designed and tested

Elements of action research such as participation of marginalized groups, two-way learning systems, facilitation of self-help development and encouragement to adapt to increased knowledge enhanced and improved the value of the research outputs. Specific examples are cited below:

- The design of sampling procedures at the village level ensured a framework that involved a cross section of stakeholder groups at the village level. In addition, information from key informants and provincial fisheries officers were used to identify poor local communities. These steps ensured the participation of marginalized groups in the project.
- The project highly emphasized two-way learning systems from national and provincial workshops to village consultations. At the national level, preliminary workshops were conducted before actual field work was carried out to learn from the lessons and knowledge of relevant agencies involved in aquatic resources management, while at the provincial level, NGOs contributed to the development of the research tools while being trained in field-survey methodologies. At the village level, initial consultations with key informants provided critical background information of the project and through the

research findings, the project was able to share information collected from the villagers and relate to the process that were relevant to the livelihoods of the community.

- Opportunities to mobilize community participation, leadership and self development were created with follow up initiatives of the project that provided technical support and funds to carry out activities decided by the villagers. These were specifically related to the new knowledge gained from the project, particularly focusing on how the community can improve awareness and sharing of knowledge on the values of aquatic resources and management and that would benefit the villages as a whole. Examples of the projects proposed include plans to improve existing conservation area and creating signboards for conservation areas in the village.

Indicator 4: By end of project period, wider sharing of evidence, stronger links and policy dialogue among the government, NGOs and community based organizations

Beyond the project period, links among the government, NGO and community based organizations are critical to ensure that the initiatives to reflect stakeholder values in policy processes are sustained. Related outcomes are described below.

- Networks and direct links among relevant officers of DOF (both national and provincial) and local NGOs were substantially strengthened due to the government-NGO team that conducted the project fieldwork. The project required both government personnel and local NGOs to keep in touch at regular basis to discuss the planning and implementation of village workshops and surveys.
- Regular consultations at the village level also promoted both formal and informal dialogues among government, NGOs and community-based organizations.

Indicator 5: Increased understanding of key policy issues by different stakeholders

Project activities facilitated greater understanding of key policy issues by different stakeholders as briefly discussed below:

- Workshops on the design of field surveys and project findings provided relevant partners at the national and provincial levels an opportunity to share and improve their understanding of key policy issues on aquatic resources management and valuation. The key lesson demonstrated by the project that underlined the importance of aquatic resources to supplement rural livelihoods (apart from fishing) enhanced their understanding in terms of the magnitude/quantification.
- Responses from village level consultations demonstrated significant improvements in understanding issues related to aquatic resources values, management and policies. The following are examples (see Appendix G for workshop report) of the range of outcomes that were revealed through feedback sessions with villages on how the project findings are useful to support management of aquatic resources in their village (translated and edited from Khmer).
 - Project findings provided a rationale for creating a by-law by the Community Fisheries to manage aquatic resources in the best way (*Kdol Chrum village, Takeo Province*)

- The project findings provided a better understanding of actions needed to help protect aquatic resources and stop illegal fishing activities (*Sangkum Mean Chey village, Takeo Province*)
- The findings reflected views from the local people (*Tboung Khla village, Stung Treng*)
- The findings provided an understanding that if aquatic resources are well managed, the village livelihood will improve (*Ou Chralang village, Stung Treng*).
- The findings provided an important reference for the management of aquatic resources for the next generation (*Ou Taput village, Siem Reap*)
- The findings provided guidance on the importance of aquatic resource that the local people are heavily dependent upon (*Prek Sramoach village. Siem Reap*)

3 Project Team and Partnerships

3.1 Project Team

The core project team is composed of staff from the WorldFish Center, the DOF national office and provincial sites and an Associate Professional Officer (APO) hosted by DFID. The project also maintained close partnerships with the relevant NGOs and international organizations active at the provincial level that made up the field research team of the project during the implementation of surveys and rural appraisals. The information on team structure and project partnerships is presented in Appendix B.

The project provided partial support to the National Project Director for his Masters of Science studies in Fisheries Management at the Department of Aquaculture and Aquatic Resources Environment, Royal University of Agriculture since 2003. The candidate is expected to complete the course in May 2005. This provision further strengthens the capacity of the project partners.

During the implementation of the project, a few related on-going WorldFish projects were being carried out. These projects included the WorldFish-Asian Development Bank-DOF technical assistance to the IFReDI and Legal and Institutional Framework and Economic Valuation of Resources and Environment in the Mekong River Region: A Wetlands Approach. This provided opportunity to learn from the lessons and findings of the projects. Considerations were given to prioritize the issues and study sites using lessons and findings from these projects.

The project was set up and based at the Community Fisheries Development Office (CFDO) of DOF. This provided a strong anchor and link to the evolving development and relevant policy processes relating to CFDO. This link provided valuable opportunities for the project to strengthen synergies and gain beneficial knowledge on the evolving policies of community fisheries policies in Cambodia. More importantly, the project benefited from an opportunity for the head of CFDO to facilitate final village consultations together with local NGOs and agencies, hence strengthening the links at the national and provincial levels particularly related to fisheries management.

3.2 Partnerships

Wider consultations and partnerships were sought at the beginning of the project with a number of regional and international agencies operating in the Mekong region. At the project inception workshop, potential partners such as the Mekong River Commission (MRC), Asian Institute of Technology (AIT), World Wide Fund for Nature (WWF) and World Conservation Union (IUCN) were invited to provide a background of their own initiatives related to policies for fisheries and aquatic resources management. Discussions among the potential partners led to the identification of areas of potential collaboration and cooperation².

² A summary of the potential collaboration is summarized in Table 1.4, Appendix G on workshop reports.

a) Partnerships with related initiatives at the national level

Based on the early consultations, the project established partnerships at the national and local levels that facilitated the implementation of core project components. At the national level, the project worked closely with IUCN. IUCN in partnership with United Nations Development Programme (UNDP) and MRC is implementing the Mekong River Basin Wetland Biodiversity Conservation and Sustainable Use project, which includes a DFID funded project on Integrating Wetland Values into River Basin Management (IUCN-DFID project). The collaboration with IUCN included implementation of fieldwork, methodology and dissemination of results. An addendum to an existing WorldFish and IUCN Memorandum of Agreement was signed to signify the collaboration.

b) Partnerships at the provincial level

The project also initiated partnerships with NGOs throughout the implementation of field activities. The NGOs participated and contributed in various project activities including training of survey administration, questionnaire design, village consultations and verification. The provincial organizations included Chamroeun Cheat Khmer (CCK), Culture and Environment Preservation Association (CEPA), Fisheries Action Coalition Team (FACT). The project also involved the participation of local staff of various international organizations at the provincial level such as the Food and Agriculture Organization (FAO), World Conservation Union (IUCN) and Oxfam Community Aid Abroad (OCAA); and relevant development projects such as the Support Programme for Agriculture Sector in Cambodia (PRASAC). The institutions and NGOs which participated in the project are listed in Appendix B.

c) Collaboration with United Kingdom Universities

The project also collaborated with the University of Portsmouth and Imperial College in the United Kingdom by facilitating and supporting the travel and field research of Masters students. A supervisor from each of the universities was invited to visit the students in Cambodia and to provide assistance and advice on their fieldwork. The project also provided relevant support such as providing background information of the project sites, arranging for translation needs and logistics assistance. Abstracts of their theses and details of the students, supervisors, theses titles and feedback on the collaboration are presented in Appendix C. The students completed their field research and submitted their theses as part of their Masters course. Copies of these theses were submitted to the IFReDI library to share the outputs of the collaboration and also wider dissemination among researchers. In order to evaluate the effectiveness of the collaboration and improvements for future arrangements, the students completed a form to provide their inputs and comments on the collaboration.

4 Necessary Modifications in the Project Plans

Most of the key activities were undertaken as planned. However the project made adaptations and necessary changes during the course of implementation and internal reviews, including guidance from DFID, Cambodia. The changes are reflected in the project work plan (see Appendix D) and are summarized below.

The areas of modification in the project included (details below):

- (a) Scope of the project
- (b) Greater participation of NGOs
- (c) No cost extension

One of the major changes in the plans agreed during implementation was the decision to postpone “development of participatory plans”. As an alternative to the participatory plans, two additional activities were undertaken within the timeframe and parameters of the project. First, the project initiated the development of village profiles that contained information such as background of the villages, socioeconomic overview, physical and natural characteristics. These profiles will be translated into Khmer and disseminated to the villages. Second, the project encouraged active participation of the villages towards improved management of aquatic resources based on the results of the project. In particular, the project consulted the villages regarding the type of small-scale activities they would like to carry out and type of projects that can be developed to assist in the dissemination of knowledge gained from the project results.

These details and other main features of the changes, justification and additional project activities are summarized in Table 1:

Table 1: Modifications and Justification

<i>Area of change</i>	<i>Brief Description of Changes</i>	<i>Background/Justification</i>
<i>Scope of the project</i>	<ul style="list-style-type: none"> • <i>Longitudinal survey</i> At the Project Planning and Inception Workshop held on 6-7 May 2003, a major recommendation was to consider implementing longitudinal surveys as an additional research activity. • <i>Participatory Management</i> 	<ul style="list-style-type: none"> • The recommendation was made in view of the limited knowledge and studies on the dependence and use of aquatic resource among the poor across seasons and time periods in Cambodia. • After consultations with the national and provincial counterparts and rapid assessments of its possibility, the project started the longitudinal monitoring in November 2003 and ended a one-year monitoring cycle in October 2004. • Postponement of the participatory

	<p>Plans Based on discussions with Chris Price³, the DFID Senior Livelihoods Advisor in Cambodia, the scope of the project was streamlined postponing the development and testing of participatory plans to the next project phase.</p>	<p>plans was agreed in order to emphasize the focus of the project in understanding the access constraints, and social and economic values, building upon stakeholder-based consultations.</p> <ul style="list-style-type: none"> • It also provided the gradual platform for building upon the research outputs of social and economic valuation of aquatic resources and continuing the project collaboration with relevant partners including NGOs of the project. • However, instead of participatory plans, the project ensured that village profiles were developed based on household survey data, participatory rural appraisals (PRAs) and key informant interviews in order to provide strong background materials for future planning and management initiatives. These profiles, which are added outputs of the project, will be translated into Khmer as part of the publication initiative of the project. The profiles will be disseminated to the nine participating villages in order to meet the request of the local partners and also increase the ownership of the project results among the local communities. • Based on the positive response and keen participation of the local communities, the project conducted a brief session to find out what specific activities the local communities would like to carry out in order to improve aquatic resources management and dissemination of the values of aquatic resources collectively on a small scale. A trust fund of US\$500 was provided to each village with an appropriate mechanism set up to monitor and examine the outcome of the fund.
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³ Meeting with Chris Price at the DFID Office in Cambodia on 9 June 2004.

		This was encouraged in order to promote empowerment and capacity of the local communities while keeping their momentum on the issue by realizing an activity that the communities suggested based on the findings of the project.
Greater participation and partnerships with local NGOs	<ul style="list-style-type: none"> • Increased NGO involvement While the organization and logistics arrangements of the project were carried out at the national level within the DOF, the team on the ground included a strong presence and collaboration of NGOs. Additional funds were channelled to enable active participation and contribution by the NGOs. 	<ul style="list-style-type: none"> • The involvement of the local NGOs started from the design of the initial field surveys in terms of training, and developing and administration of the questionnaires to facilitate village level consultations and discussions.
No-cost extension of the project	<ul style="list-style-type: none"> • Extension of project to March 2005 In a letter to DFID dated 7 December 2004, the project requested for a no-cost extension of the project that was approved on the 22 December 2004. 	<ul style="list-style-type: none"> • The extension enabled the project to organize and analyze the data from the longitudinal surveys to be integrated into the final project document⁴. • In addition, the project was able to conduct village level presentations and verifications through sustained partnerships with the local NGOs after obtaining feedback at the national and provincial workshops. • It also enabled the development of village profiles that will be translated into Khmer to be disseminated to the local communities.

⁴ As highlighted the longitudinal survey evolved into a major component of the project survey work based on recommendations at the inception of the project.

5 Key Outputs and Activities

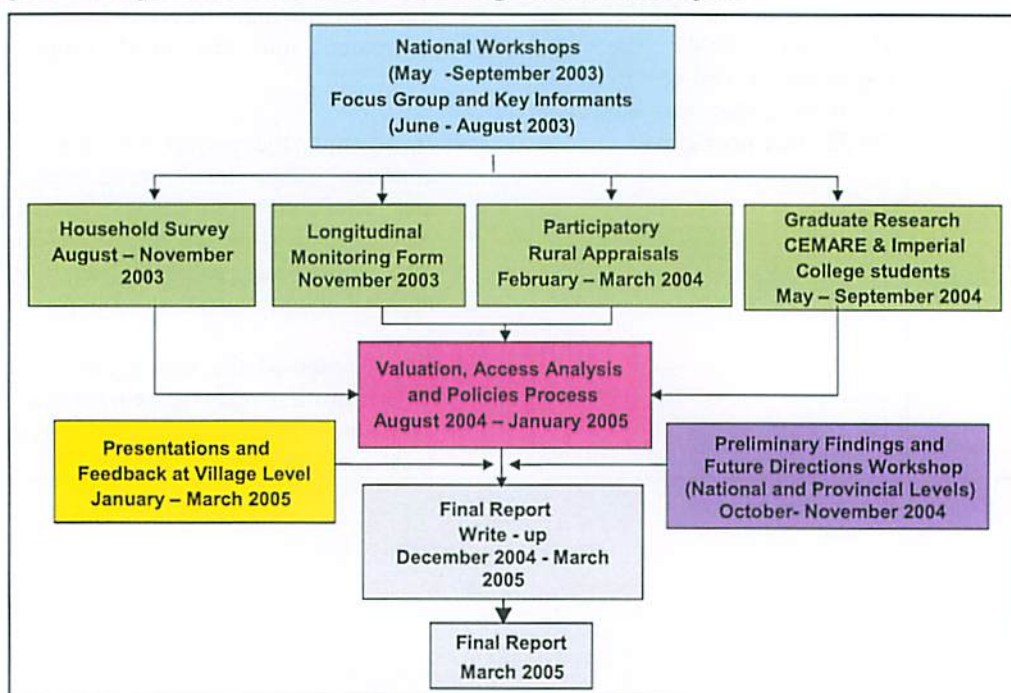
5.1 Project Activities

This section summarizes major activities conducted during the project (Please see Appendix E for photo captions). The overview and duration of project activities are shown in Figure 2.

Based on discussions at national workshops (May - September 2003) and preliminary consultations at the provincial, district and village levels (June - August 2003), background information was collated together with rapid assessments to provide an understanding of the key issues. A summary list of workshops conducted is attached in Appendix F.

These initiatives contributed to the development of four major research activities of the project that include (i) household surveys, (ii) longitudinal monitoring, (iii) PRAs and (iv) research theses by students from Imperial College London and Centre for the Economics and Management of Aquatic Resources (CEMARE), University of Portsmouth, United Kingdom

Figure 2 Major Activities of The Mekong Valuation Project



While these core activities provided the basis for the valuation, access analysis and policy recommendations, consultations through workshops at the national and provincial levels (October - November 2004) enhanced the analysis of findings. These were further complemented with policy process interviews carried out at the national level. Further dialogues, verification

and consultations at the village levels (January - March 2005) strengthened the project findings, and provided the opportunity to communicate project results to the villagers⁵.

The chronological order of the activities is summarized in Boxes 1 and 2.

Box 1: Chronological order of activities from January to December 2003

- First quarter of 2003 –
 - (i) Project office and team were established in the DOF main office in Phnom Penh, Cambodia. The project team was organized with staff coming from the WorldFish Center, the DOF national office, and the DOF offices in the three provincial sites. The location of the project office within the CFDO provides an on-ground presence of the project while the involvement of the DOF makes the project a cooperative effort between the government and the research and development community leading to increased likelihood of adoption of project outputs.
 - (ii) A mini-library was set up soon thereafter. The literature in this library served as the materials for the review of literature presented in this report on social and economic valuation, access constraints analysis and other background research work conducted by the project.
- In May 2003, a Project Planning and Inception Workshop was conducted by the project together its different project partners where a concrete work plan of action for the implementation of project activities was drafted and approved.
- In May 2003, a Stakeholder Workshop was conducted involving the provincial counterpart staff to consider project implementation, village characterization, and stakeholder analysis for selected communes in the three provincial sites of the study. This workshop provided an avenue for a brainstorming session and training on village characterization and stakeholder analysis.
- In June-July 2003, fieldwork for village characterization and stakeholder analysis was conducted. Focus group workshops and key informant interviews were conducted in villages that were potential project sites. These field activities provided data and information for the selection of the actual villages to be covered by the project and development of the sample of households to be covered in the forthcoming surveys.
- The project conducted an internal workshop in August 2003 to select the villages to be covered by the project. Based on the village characterization and stakeholder analysis, 18 villages were selected for a household survey, six each from the three provincial sites of the project. The villages were chosen on the bases of various criteria including the existence of important resource management and access problems in the villages, village fishing intensity, wealth level, population, distance, security and other important factors.
- A household survey questionnaire was prepared in August-September 2003 for the economic valuation and access constraints analysis. Trained NGO and provincial staff served as enumerators in the implementation of the survey in September-November 2003.
- To supplement the household survey, longitudinal monitoring was conducted by the project. A form was prepared in August-September 2003 for a one-year monitoring of selected households in the action villages in the three provincial sites. Longitudinal monitoring commenced in November 2003 and ended in October 2004.

⁵ The summary list of workshops is provided in Appendix F and detailed reports are in Appendix G.

Box 2: Chronological order of activities from January 2004 to March 2005

- To further supplement the household survey and longitudinal monitoring, PRA was conducted in the 9 action villages covered by the project in February-March 2004. The PRA used various techniques and gathered background and other information useful for the analysis of the villages and the villagers.
- The CEMARE and Imperial College graduate students conducted their research in the village sites in May-September 2004. The master dissertation outputs of the students are submitted as separate attachments of this report.
- In August-January 2004, continuous analysis of the data coming from the different data collection activities was conducted. The data and analysis are part of the main text of this final report.
- In October-November 2004, preliminary findings of the project were presented in a national workshop and three provincial workshops attended by all stakeholders of the project.
- In January-March 2005, preliminary findings in Khmer were presented in three commune and village workshops attended by the villagers. At these workshops, collected data and information were further checked and verified with the villagers. Besides NGOs, the head of the CFDO of the DOF was also present to facilitate and meet the villagers. The project also undertook consultations with the villages of the immediate actions they would like to undertake towards better management of aquatic resources, particularly in disseminating the project results and increasing awareness. The recommendations were collected and a small grant was provided for their implementation by the villages. Return visits to continue dialogues and monitor the output of the funds have been also been planned.
- In the first week of March 2005, a first draft of the final report was completed. In-house staff of the WorldFish Center and DOF counterparts reviewed the draft for final submission to the donor, DFID, in the first week of April 2005.

5.2 Key Outputs

This section provides an overview of the key outputs generated by the project.

a) *Workshops*

The project conducted workshops at the national, provincial and village levels to identify relevant issues to assist in the design of the project and also verification of project results towards the end of the project duration. A list of these workshops is summarized in Appendix F. The full workshop notes are attached in Appendix G.

b) *Training and capacity building*

As part of the key findings of the DFID 2002 scoping study, the lack of local research capacity was identified as a challenge in terms of information gaps and capacity to undertake

the necessary research. This was identified at the beginning of the project particularly through the implementation of preliminary workshops and rapid assessment of the project team.

The project appreciated the vital need to provide training and capacity building opportunities within the project and also relevant stakeholder groups. The following approaches and strategies were undertaken to address capacity building needs:

i) Improving scientific and technical knowledge –

The project promoted a two-way learning process by incorporating local expertise on technical issues from the national counterparts and stakeholders. At same time, the project organized training workshops together with the project team during different phases of the project. The list of training workshops conducted is summarized in Appendix H. Examples of the trainings include:

- Enumerator Training on Questionnaire Discussion
- Data Encoding Training
- Training on PRA and Sustainable Livelihoods Approaches

The training sessions encouraged open-ended discussions and promoted sharing of knowledge among the participants and trainers. The sessions relied heavily upon colour cards, illustrations and role-playing exercises to enhance the understanding of the participants.

ii) Participatory process to encourage learning (particularly encouraging women's participation)

The project encouraged the use of participatory processes to enhance an inclusive approach to sharing of ideas and discussions. Various processes and tools were used to encourage each individual involved in the process to participate. During training sessions with the facilitators (NGOs and project staff), sessions were organized to discuss ways to encourage active and balanced participation among the participants (including women and older generation who found it difficult to speak up in large groups).

iii) Project management and accounting skills –

Implementation of the project that involved logistics arrangements at the village, provincial and national levels demanded good project management and organizational skills. The project relied heavily on the national counterparts which in-turn provided the opportunity for improving their skills in project management. In meeting the stringent accounting needs of the WorldFish Center, the national counterparts were also trained and exposed to the process of accounting detailed expenses of the project. The National Project Director was provided the opportunity to be involved in the WorldFish annual Science Week in Penang from 23-27 August 2004.

iv) Partial scholarship sponsorship

As part of the capacity building effort, the project supported a partial scholarship to support the National Project Director for his Masters of Science studies in Fisheries

Management at the Department of Aquaculture and Aquatic Resources Environment, Royal University of Agriculture since 2003. The candidate is expected to complete the course in May 2005.

v) *Capacity building through Masters research opportunities*

Through the collaboration with Imperial College and University of Portsmouth, four students were provided the opportunity to examine developing country issues and challenges as part of their Masters theses. Living in the villages for some period of time to collect data and opportunities to have a free hand to plan their field work and research topic provided the students a chance to explore their specific areas of interest and organization skills.

c) *Papers on economic and social valuation and access issues*

Related papers were developed throughout the project implementation phase as a means to share project activities, methodology and findings. These papers were presented at various forums as indicated below and incorporated into Volume 2 of this report.

(i) Literature Review: The Aquatic Resources of Cambodia – An Overview⁶

(ii) Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin: Review of the Project and Economic Valuation Methods⁷.

(iii) Presentations at the Asian Fisheries Forum 2004⁸

- o User Values of Aquatic Resources in the Lower Mekong Basin
- o Economic Valuation, Access Analysis and Stakeholder-Based Planning for Aquatic Resources Management in the Lower Mekong Basin

iv) Masters theses submitted by students of the Imperial College and University of Portsmouth (see Appendix C for theses abstracts and feedback from the students).

Full papers of items (i) and (ii) were provided in an earlier project Annual Report 2003.

d) *Village profiles*

Village profiles were summarized based on the findings of the household survey and participatory rural appraisals that have been incorporated and summarized in Volume 2. In particular, maps that were drawn by the villagers during the participatory rural appraisals were digitized and converted into electronic-version maps. Before digitizing and finalizing the maps, a process of cross-check and verification were undertaken with the village representatives. These maps will be incorporated into the 9 village profiles, which will be translated into Khmer for dissemination to the communities.

⁶ Paper presented at the Project Inception Workshop in Phnom Penh, 6-7 May 2003.

⁷ Paper presented at the Workshop on Integrating Environmental Impacts into Water Allocation models of the Mekong River Basin in Vietnam, 15 December 2003.

⁸ Held in Penang in December 2004.

e) Communication materials

The project developed a one-page project brief that was used as background material during consultations with relevant partners and Government agencies at the district, provincial and national levels.

Besides that the project also developed a collage comprising pictures of aquatic resources that was used as a pictorial tool in order to communicate at the village level of what can be considered as aquatic resources. These pictures were collected from rapid field appraisals at the start of the project.

At the final national and provincial workshops, press coverage of the workshops was broadcasted on national and provincial television channels. A video CD of the broadcast at the national level is attached in the report.

f) Policy process interviews

Policy process interviews were initiated to understand the institutional context related to the values and benefits of aquatic resources. The project conducted four interviews at the national level and four at the provincial levels (including NGOs) (see Appendix I for interview notes and list of people interviewed).

These interview results will serve as background materials and guidelines to further examine the policy process and development of participatory action plans in the villages as follow-up next level of intervention. Earlier discussions and agreement with DFID, Cambodia led to the conclusion that the full appraisal and development of the participatory action plans will only be pursued as part of a next phase intervention in due course.

6 Key Findings of the Project

The key findings of the project are summarized below⁹: The project highlighted and addressed three key research questions and information gaps on aquatic resources management in Cambodia as below:

- What are the diversity of values generated from the availability and use of aquatic resources?
- What are the range and magnitude of economic values to local communities?
- What are the constraints to resource access by the poor, and what are the other issues beyond values and benefits from aquatic resources (such as education and health) that affect the local communities and their ability to improve their well-being?

These findings incorporate the results from household surveys in 18 villages and PRAs, key informant interviews, and longitudinal surveys in 9 villages, in three provinces representing a diversity of types of livelihood dependency on aquatic resources within the Mekong Basin in Cambodia: Stung Treng, noted for its rich biodiversity, Siem Reap characterized by multiple uses of aquatic resources including intensive fishing and tourism, and Takeo, characterized by unique agriculture activities such as duck-raising and busy navigation routes at the boundary with Vietnam.

Social and Economic Valuation

- Rural communities along the Mekong River and associated water bodies are highly depend on aquatic resources not only for their livelihoods and primary occupations such as fishing and rice farming, but also for other related aquatic resources activities that support their basic needs such as gathering of aquatic plants and animals and transportation. Rice farming (63 percent in Stung Treng and 77 percent in Takeo) and fishing (nearly 77 percent in Siem Reap) were considered major occupations among the household heads included in the study. Likewise, 89 percent of the households were found to depend on aquatic resources for gathering aquatic plants and animals; 100 percent, on rivers for transportation and navigation purposes; and 77 percent, on aquatic wood gathering. To appreciate the importance of aquatic resources as a whole, it is important to consider its backward and forward linkages in the rural economy. For example, dependence on fishing also contributed to other spin-off activities of the households such as fish processing and marketing (61 and 76 percent of the households respectively).
- Local communities also depend heavily on aquatic animals and plants to supply household nutrition and consumption. 92 percent of the animal protein consumed at home is sourced from aquatic animals (79 percent being fish protein). 53 percent of vegetables consumed by the communities are sourced from aquatic plants during the wet season. The study found that the lower wealth groups (61 percent) have a greater dependence on aquatic plants for vegetable sources compared to higher wealth groups (45 percent). Moreover, nearly 10 percent

⁹ This section is also highlighted in the executive summary of Volume 2.

of respondents depend on aquatic plants and animals as sources of traditional medicine; in Stung Treng, where traditional knowledge about the local resource base is most prevalent, the figure is 23 percent.

- Beyond the economic returns, aquatic resources have important social functions, which include recreational and cultural activities. As high as 74% of the households reported their participation in recreational, social and cultural activities centering on the aquatic environment (e.g., local festivals such as ‘float Pro tep’ and ‘Ngouttek’ – release of lanterns into the rivers), swimming and boat racing (though only certain communities could afford boat racing).
- Based on calculations of direct values from aquatic resource based activities, the estimated annual net economic value (NEV) to an average village community is 792 million riels or US\$197,898, deducting for the cost of labor. While labor costs form a substantial part of economic cost in the conduct of aquatic resources-based livelihood activities, it is generally a hidden item. Most labor used is not hired but is household labor in the conduct of household livelihoods activities. This average value is based on the survey of 18 villages in the 3 provinces, with an average village population of 825.
- There are significant differences in NEV across village communities and provinces due to the types of activities and market access. Village communities in Siem Reap have the highest annual NEV of aquatic resources-based activities (1.8 billion riels or US\$440,895), followed by Takeo (586.8 million riels or US\$146,694) and Stung Treng (24 million riels or US\$6,106). This is consistent with the degree of dependence on aquatic resources in the three provinces.
- The annual returns to labor or the amount the communities earn from aquatic activities in the villages covered by the project is also substantial, at 435 million riels or US\$108,614. The returns to labor are higher in Siem Reap than in Takeo or Stung Treng.
- Although the economic and social values of aquatic-based resources are substantial, households in the project sites remain generally poor. They lack basic social services like education and healthcare and are constrained by limited alternative livelihood opportunities. Some 30 percent of the households do not have formal education and are unable to read or write while only 3 percent of the household heads have studied at the tertiary level and above. High incidences of sickness, especially among children, were reported (average of 34 percent, based on PRA data). There is also a lack of medical facilities in the villages. These often lead to families borrowing money to buy medicine. Many families in the village communities find themselves trapped in a cycle of poverty where aquatic resources are an important buffer against food insecurity and the most valuable means to support their livelihoods, but where the benefits they derive nevertheless remain inadequate to offer a route out of poverty.

Access Analysis

- While aquatic resources are important economically and socially to the livelihoods of households in the project sites, serious constraints hamper access of the households to these resources. Access fees, presence of fishing lots and fish sanctuaries, and imposition of closed

season were identified as directly affecting access. Fifty-seven percent of the respondents revealed that the presence of fishing lots restricted their access to aquatic resources while 21 percent identified payment of access fees as a direct constraint. Only 14 percent attributed closed seasons as constraints to access while 11 percent reported that the presence of fishing sanctuaries reduced their level of access.

- There were other management issues that indirectly affected access in the sites covered by the project. These were consistently highlighted in surveys and community workshops as key factors constraining access to aquatic resources. As high as 96 percent of respondents considered the use of illegal gears and techniques as an issue while 90 percent indicated clearance of flooded forest as a factor indirectly affecting access by undermining the status of the resource. Other reasons cited included poor monitoring and enforcement of fishery laws (92 percent), overfishing because of too many fishers (85 percent), low participation in community affairs (71 percent) and lack of alternative jobs for small-scale fishers (61 percent).
- The main causes of illegal fishing as reported by communities through PRA exercises were limited awareness of the villagers of the laws and regulations against illegal fishing, the protection provided by the military and police to some illegal fishers, the poor monitoring and enforcement of the authorities, and the inability of the fishers to catch enough fish for their family without fishing illegally.

Institutional and Policy Implications

As summarized above, survey results and extensive consultations at the local level indicate that aquatic resources are highly valued by rural households and are fundamental to their livelihoods, and that poorer households are especially dependent on these resources for food security. The study indicates, moreover, that a variety of factors interact in ways that increase the vulnerability of aquatic resource dependent households, either by directly limiting resource access or by undermining the ecological status of the resource.

Several years after the introduction of major reforms that reduced the area of commercial fishing lots in favour of community access to Cambodia's inland fishing grounds, the direct access barriers have been reduced in most areas. Despite policy measures taken in support of the concept of community fisheries, the legal basis for community management is still not established, and the institutions needed to implement community management are in most places severely inadequate. As a result, the households included in this study face challenges stemming from a situation of largely open resource access characterized by very little enforcement, high competition, and a prevalence of illegal fishing.

A strongly positive finding of the study is the high level of awareness at the community level about the importance of aquatic resources to local livelihoods, the threats to those resources, and – most importantly, a strong willingness among households to sustaining them for the community. For example, in Takeo Province, where villagers are very concerned about ecosystem decline, 99 percent of households strongly believed that aquatic resources needed to be conserved for sustaining livelihoods. Ninety-seven percent were willing to contribute their

time for aquatic resources management related activities such as monitoring and enforcement, and 92 percent were willing to contribute their boats for these activities.

Willingness on the part of communities to engage in collective action to sustain the resource base is, however, not enough to achieve that end. It must be complemented by a legal framework that gives community organizations appropriate authority to plan and manage resource access within a given area. Given the persisting failures documented in this study to enforce existing laws effectively, it may also be appropriate to grant community organizations increased authority for enforcement, including authority to detain violators temporarily and to impose fines. This has been a key point of contention in the long-delayed draft Sub-decree on Community Fisheries, and one that needs to be quickly resolved. Recognizing that increasing enforcement authority at the community level also raises the potential for abuse, appropriate safeguards need to be in place as well to ensure the accountability of community leaders towards other community members.

Along with improvements to the legal framework must come more coherent efforts to improve institutional capacity. At the community level, many diverse initiatives are underway, most of them supported by official international development aid, to build community fishery organizations or more generally to build community capacity for rural development, including natural resources management. These efforts need to be more systematically compared and lessons from them shared so as to identify the most promising approaches, avoid repeating pitfalls, and channel the implications of this experience to the policy level. These efforts also need to be linked more thoroughly to the government's deconcentration and decentralization policy, which aims to locate significant decision-making authority particularly at the commune level, including authority to allocate local development budgets.

On the side of government line agencies, improving institutional capacity entails not only technical capacity and professionalism among individual departments at the provincial level and below where most of the interactions with communities occur; it also entails improving the capacity to coordinate effectively across sectoral lines. The social and economic valuation undertaken in this study demonstrates how interrelated the various functions of aquatic resources are in sustaining rural livelihoods. Likewise, effective institutional support from government requires the capacity to coordinate and align actions in sectors including fisheries, agriculture, environment, water resources, infrastructure and public works.

Lastly, this study demonstrates how much the success or failure of efforts at improving resource management is dependent on reducing other dimensions of vulnerability faced by rural households. In particular, the lack of basic health services and the high cost of securing medicine and medical care were consistently cited as reasons why families turn to illegal fishing or other destructive resource harvesting. Another major issue frequently cited, inadequate educational opportunity, is linked to the recurrent complaint that few alternative livelihood options exist that might reduce pressure on the resource base. Where market access is limited by poor transportation infrastructure, households are denied opportunities for income generation. Policies aimed at improving sustainability in the use of aquatic and other natural resources need to focus on how to address these multiple sources of vulnerability in rural livelihoods.

7 Challenges and Lessons Learned

The project has provided lessons that are useful to bear in mind in the development of future project initiatives. The following highlight some of the key challenges and lessons learned during the course of the implementation of the project.

1. Due to its short duration, the project could only focus on the baseline data and information gathering to estimate the potential values and benefits of aquatic resources. It could not be linked to a follow-up pilot scale intervention that would test the management approach in which stakeholder values are reflected. The momentum of the local consultations and network developed that would mobilize co-management initiatives may not be sustained in the absence of continuing dialogue and action at the community level.
2. Multi-sectoral cooperation and partnership was critical to ensuring that the research process was integrated into ongoing development activities. DOF participation provided the experienced personnel who in turn were trained by the project. The NGOs facilitated data and information gathering with their familiarity and actual experience in village work. The WorldFish Center provided technical expertise, management support and overall project leadership.
3. Training of the DOF and NGO project participants was essential not only in data collection and research-related activities but also in the financial and management aspects. The project team learned that introducing capacity-building elements into all aspects of the project whenever possible was crucial in the long-term development of qualified personnel in Cambodia on aquatic resources management. The project also discovered that good command of written and spoken English and the local language is indispensable in the data gathering process. DOF and NGO representatives who are bilingual are more effective data and information gatherers, data analysts and project presenters than their monolingual counterparts.
4. Knowledge of, sensitivity to and eagerness to learn local culture and practices among the international project staff and participants involved in the project were needed for them to be effective in their work. Furthermore, their willingness to travel to rural areas and stay there for extended periods made possible the generation of data and information that otherwise would not have been had.
5. Motivation and incentives played a key role in getting the right level of cooperation. Economic incentives were provided to the participants of village consultations and also DOF and NGO personnel. Individual incentives such as daily subsistence allowances, helped motivate both project staff and villagers to stay around in days-long activities. Group incentives, such as the funding of small aquatic resources management, encouraged communities to be active in the project as a village unit.
6. The project explored various ways to ensure unbiased participation of the villagers involved. For the longitudinal survey, it provided rice instead of direct cash. At the village level, it initiated the provision of food and useful materials (such as caps) as an incentive for village

participation and time taken among the poor households. However, after discussions with the NGOs who have set up long-term projects in the area, the project team learned that it was better to provide a direct financial token as these contributions were critically needed to ensure daily food requirements for their family and support to the villagers who had contributed their time in the village discussions.

7. The lack of relevant facilities and equipment such as computers and printers at the provincial level presented a major drawback in the implementation of the surveys particularly during tight time schedule. The project learned that while there is a need to equip the project staff at the national level, support to provincial facilities is also critical.

8 Future Work

This project has set the ground for further work based on the key findings and lessons. The development of future work will be designed within the broader context of the WorldFish Center's evolving strategy in the Mekong Region Subregion, and in response to stakeholder interests. Some of the priorities for future work identified in project consultations include:

1. Longer-term projects to support local development plans in the villages covered by the project, to experiment with approaches that improve aquatic resources management and local livelihoods.
2. Application of project findings in the preparation and implementation of stakeholder-based policies and plans for aquatic resources management.
3. Conduct of valuation of the non-economic values of aquatic resources and applying other valuation methods to deliver more comprehensive assessments of value, and development of simple approaches to estimate resource values in other locations based on criteria of comparability, without requirements for detailed study.
4. Expansion of the scope of work to cover other villages and provinces within Cambodia and villages in other Lower Mekong Basin countries.

List of Appendixes

- Appendix A Logical Framework
- Appendix B Project Team and Partner Information
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Appendix A. Logical Framework

Hierarchy of Objectives	Objectively Verifiable Indicator	Means of Verification	Assumptions
<p>SUPERGOAL</p> <p>Improve livelihoods of poor people dependent on aquatic resources</p>	<p>Improved food security, income, nutrition and diversity of diet</p> <p>Greater access to and control over the use of aquatic resources by poor people</p>	<p>Within project: baseline, impact monitoring and assessment reports, post project evaluation report</p> <p>Wider: long term monitoring and secondary source data on livelihoods of population relying on aquatic resources and key policy improvements</p>	
<p>GOAL</p> <p>Contribute to improved livelihoods for the poor through the development and implementation of aquatic resource management policies in the Lower Mekong Basin countries</p>	<p>Policy document reflecting the findings of the research approved and acted upon by the government of Cambodia</p> <p>Improved pro-poor aquatic resources policy, generated with stakeholder participation, initiated within two years of project end</p>	<p>Government of Cambodia policy documents</p> <p>Laws and rules (local and national) Project documents</p>	<p>The government of Cambodia remains interested in aquatic resources management</p> <p>Current political and administrative conditions remain stable</p>
<p>PURPOSE</p> <p>Stakeholder perspectives/values are incorporated in the development of policies that ensures improved livelihoods and resource management outcomes</p>	<p>Policy formulation process reflects improved understanding of the values of aquatic resources</p> <p>Significant involvement of poorer stakeholders in the policy process</p> <p>Participatory action research in three representative sites in Cambodia designed and tested</p>	<p>Government reports and official statistics</p> <p>Government reports.</p> <p>Meetings between different stakeholders Project reports</p>	<p>Cooperation of other projects, NGOs and international/ local institutions at the selected sites in Cambodia with project</p> <p>Cooperation of national, regional and local governments to the project</p>

	By end of project period, wider sharing of evidence, stronger links and policy dialogue among government, NGOs and community based organizations	Project and case studies reports	
	Increased understanding of key policy issues by different stakeholders	Project reports	

Logical Framework - Outputs

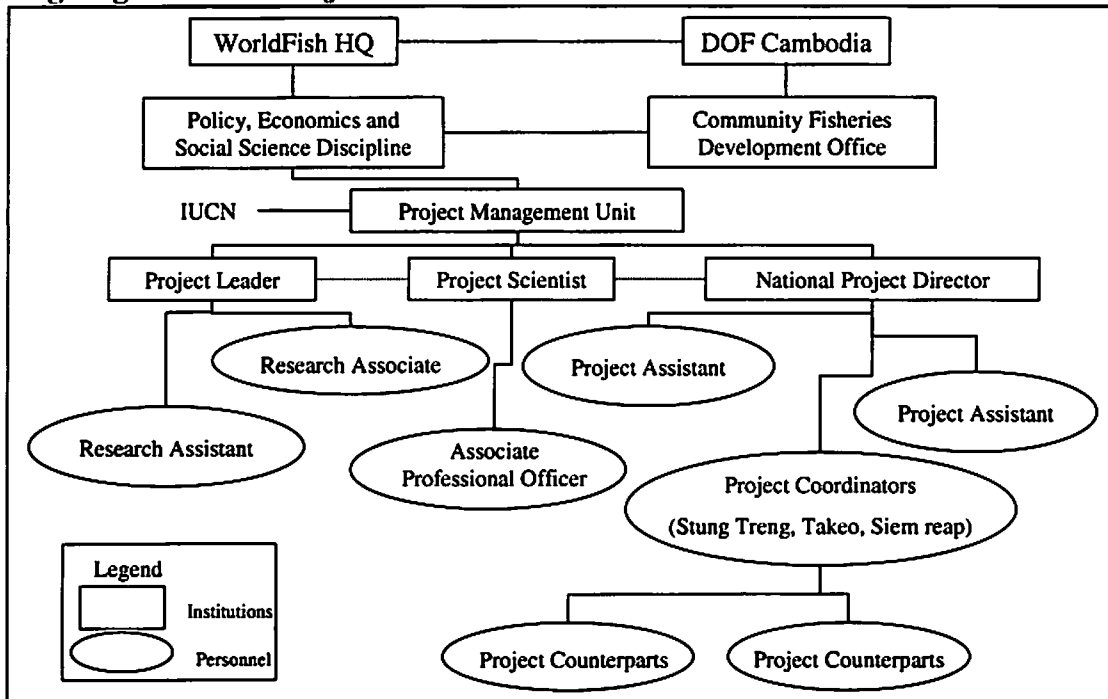
Project Outputs and Activities	OVI (from Logical Framework)	Achievements During Reporting Period and Comments
<p>Output 1: Social and economic values of aquatic resources for stakeholders at different levels of society assessed</p> <p><i>Activity:</i></p> <p>1.1 Organise an Inception Workshop for the Project to agree on project plan.</p> <p>1.2 Conduct literature review to understand the changing trends on values of aquatic resources at three selected sites</p> <p>1.3 In three selected sites, work with local communities through participatory processes to identify the values of aquatic resources and initiate dialogues with GOs and policy makers</p> <p>1.4 Conduct focus group discussions and PRA/ rapid appraisal exercise among stakeholders of aquatic resources in three selected sites to understand the livelihoods dependent on aquatic resources in different seasons</p> <p>1.5 Identify the seasonal values of aquatic resources through household survey and how it impacts on the lifestyle of stakeholders at the selected sites</p> <p>1.6 Compile the findings on the profile of stakeholders and</p>	<p>1.1 Total values of aquatic resources perceived by stakeholders at different levels of society estimated by year 2 of the project period</p> <p>1.2 Valuation of aquatic resources documented and presented at regional and national workshops by end of project</p> <p>1.3 Mechanisms for recognition of stakeholder-derived values developed by end of project</p> <p>1.4 Information gaps identified and appropriate methodologies for better information dissemination to different levels of society applied</p>	<p>1.1 Finalize household survey data analysis and complete report write-up (October 2004)</p> <p>1.2 Conduct longitudinal survey in order to capture aquatic resource use patterns over a period of one year to capture seasonal differences as a complement to the household survey (November 2003 to October 2004).</p> <p>1.3 Present household survey results and obtain feedback from project counterparts, partners and stakeholders (October 2004).</p> <p>1.4 Develop participatory plans (postponed).</p> <p>1.5 Present and test participatory plans presented (postponed).</p> <p>1.6 Revise participatory plan (postponed).</p> <p>1.7 Organize Final Project Workshop with key stakeholders, project partners and counterparts (October 2004, February 2005).</p>

Project Outputs and Activities	OVIs (from Logical Framework)	Achievements During Reporting Period and Comments
<p>their dependence on the aquatic resources for livelihood</p> <p>1.7 Estimate the values of aquatic resources to different stakeholders at different seasons of the year</p>		
<p>Output 2: Aquatic resources policy processes analysed, and constraints to access by stakeholders, particularly the poor, examined</p> <p>2.1 Understand the constraints to access to aquatic resources, roles and relationships of stakeholders in the policy-making processes through focus group discussions</p> <p>2.2 Analyze policy-making and implementation processes at local, national, and regional levels, understand institutional capacity, and identify strategy for improvement of policy-making and implementation processes</p> <p>2.3 Compile findings on constraints to access experienced by stakeholders at different seasons of the year</p> <p>2.4 Exchange information among stakeholders through dialogues and information exchange</p>	<p>2.1 Roles of stakeholders in policy making process assessed by project month 12</p> <p>2.2 Key constraints experienced by poorer stakeholders in 3 sites in Cambodia identified by project month 12.</p> <p>2.3 Potential for stakeholder participation in policy-making processes is examined by project month 15</p>	<p>2.1 Review the roles and mandate of relevant institutions involved in policy-making processes of aquatic resources management based on results from key informant discussions, internet search, literature review and interviews with relevant agencies (June to November 2004).</p> <p>2.2 Conduct household surveys and PRA exercises to identify key constraints experienced by poorer stakeholders (August – November 2003, February to March 2004)</p> <p>2.3 Complement existing findings from focus group and PRA exercises through participatory plan design and development exercise at three project sites (Takeo, Siem Reap and Stung Treng) (postponed).</p> <p>2.4 Present participatory plans and test them at selected field site (postponed).</p> <p>2.5 Community consultations and dialogues on the findings of the project and mechanisms for enhancing uptake of information (October 2004 and February 2005)</p>

<p>Output 3: Local participatory plans for aquatic resource management based on total social and economic values developed, tested, and assessed.</p> <p><i>Activity:</i></p> <p>3.1 Determine what management and access arrangements have existed in the past at each site</p> <p>3.2 Design participatory plans for aquatic resources management with participation from stakeholders at all level for selected sites</p> <p>3.3 Integrate social and economic values of aquatic resources into policy-making and implementation processes through stakeholder participation</p> <p>3.4 Organise stakeholders (community and local government) and facilitate implementation of participatory plans at local level</p> <p>3.5 Conduct focus group discussion to monitor and evaluate the benefits and impacts of socioeconomic values in policy-making processes, participatory planning and implementation at local level</p> <p>3.6 Organise workshop among stakeholders, GOs, NGOs, donors and community to disseminate models developed on more inclusive participatory policy-making and implementation processes</p>	<p>3.1 Participatory plans in 3 representative sites drafted by month 17</p> <p>3.2 Local organizations (community and local government) implement their plans by project month 20</p> <p>3.3 Assessment of the impacts of valuation, participatory planning and community implementation of plans by project month 22</p>	<p>3.1 Compile information on access arrangements from household survey to complement findings from focus group and PRA exercises (July 2004).</p> <p>3.2 Brainstorming session within project team and partners project partners on approach and framework of participatory plans exercises and integration of social and economic values into policy-making processes through consultative workshops (October 2004 and February 2005).</p> <p>3.3 Participatory plan design and development exercise at three project sites (postponed).</p> <p>3.4 Present participatory plans and test at selected field site (postponed)</p> <p>3.3 Synthesize the benefits and impacts of socioeconomic values in policy-making processes, participatory planning and implementation at local level (December, 2004).</p> <p>3.4 Organize final project workshop to disseminate models of participatory policy making and implementation process (postponed).</p>
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Appendix B. Project Team and Partner Information

Organogram of the Project Team



Project Partner Information

Organisation:	WorldFish Center and Department of Fisheries (DoF)
Collaborators:	International and local NGOs including the World Conservation Union (IUCN), Culture and Environment Preservation Association (CEPA), Oxfam Community Aid Abroad (OCAA), Chamroen Cheat Khmer (CCK), Support Programme for Agriculture Sector (PRASAC), Food and Agriculture Organization (FAO) and the Fisheries Action Coalition Team (FACT); Imperial College London, Centre for the Economics and Management of Aquatic Resources (CEMARE), University of Portsmouth, UK.
Project team and partners:	<p><u>WorldFish Center</u> Headquarters: Dr. Mahfuzuddin Ahmed (Project Advisor); Yeo Bee Hong (Research Associate); Hong Meen Chee (Research Assistant). Cambodia: Dr. Danilo Israel (Project Leadert); Gareth Clubb (Associate Professional Officer) from January to December 2003</p> <p><u>DOF, Cambodia</u> National: Thay Somony (former National Project Director); Ek Heng (Deputy National Project Director – replaced Thay Somony as National Project Director); Seng Mo Heth (Project Assistant); Chu Kim (Project Assistant), Chhan Sopheap (Project Assistant replaced Seng Mo Heth) Provincial: Chheng Vibolrith (Coordinator); Kim Sarith (Coordinator); Mao Chansaman (Coordinator); Thinny Sothy; Koth Kyleap; Heng Phaleap; Som Phea; Khai Si Rabo; Kim Sokha.</p> <p><u>Provincial Collaborating Organizations</u> Stung Treng: Touch Vannarith, Pen Makra, Peak Saven (CEPA); Prum Nga, Macos (IUCN); Sok Veasna, Von Savuth (OCAA) Siem Reap: Te Sokkhoeun, Chin Vuthy (FACT); Tann Thay An (FAO); RosSothy, Lang Lau (ADB Tonle Sap Environmental Mamangement. Project) Takeo: Tim Bunthoeun (PRASAC and Provincial Department of Rural Development); Keo Daren (CCK); Prum Sameth, Khut Khonna (OCAA)</p> <p><u>Resource Persons</u> Ly Vuthy (Head of CFDO) Liz Petersen – Resource Economist</p>
Dates:	1 January 2003 – 31 March 2005
Total Budget:	GBP 333,262

Appendix C. Summary of Students, Supervisors, Theses Titles, Abstract and Feedback

Theses Abstract

Centre for the Economics and Management of Aquatic Resources (CEMARE) Supervisor: Dr. David Whitmarsh Dates in Cambodia: (2/8/04 – 9/8/04)

Mario Guarracino

Theses: Social and economic evaluation of traditional aquaculture activities in the Siem Reap Province, Cambodia.

Abstract: Aquatic resources have a paramount role in guaranteeing food security in the lower Makong Basin, particularly in the rural areas. This is especially true in Cambodia, where most of the population is dispersed across villages in riparian and lacustrine areas, and consumption of aquatic organisms can account for more than 80% of meat intakes. This study examined traditional aquaculture activities in the Siem Reap Province, Cambodia, and it aimed to obtain an overview of the average social and economic conditions of the people involved with these activities. The stability of the sector was questioned, and the sensibility of various endogenous and exogenous variables observed. Finally, the correlations between food abundance and average income and/or production were investigated, as well as the role of traditional aquaculture towards food (and economic) security in poor rural communities in Cambodia.

It was found that households involved in traditional catfish culture, the main species cultured in the Siem Reap Province, have a relatively acceptable livelihood compared to others in the same villages. Nevertheless, the negative trend observed in catfish production in the past few years is a problem that needs careful considerations. Production and catfish sale price, which has risen due to the decreased supply and growing demand for the species, are the factors that most affect this market. The interactions between fishing and many aspects of traditional culture are profound and should not be ignored, while upward price fluctuations, of catfish and other relevant feed species, should be cautiously observed and managed.

It is suggested that traditional aquaculture is an important player in guaranteeing food security, a problem which was noticed also by the culturists themselves, and should receive more interest from the Cambodian government as well as national and international donors for a better managed, sustainability used and diversified sector.

Ana Norman

Theses: Effect of the reform of fishing lots in the year 2000 to the commercial fisheries and family scale fisheries in the province of Takeo.

Abstract: The aim of this study was to understand the effect of the reform of fishing lots in the year 2000 to the villagers in Sangkum Mean Chay and Klol Chrum (in the provinve of Takeo) and to the commercial fishermen around this area. In particular, it has been studied how the villagers have changed the production of rice and fisheries before and after the reform. In relation to the commercial fishermen, it has been studied the change in profitability of the commercial fisheries before and after the reform. Initially, the author produced a livelihood analysis in order to understand the way the different stakeholders accessed the resources and how have been affected by the reform of fishing lots in the year 2000. The quantitative data for the analysis of the villagers' responses was collected from a household survey questionnaire and the quantitative data for the commercial fishermen was collected through a key informant interview with lot operators and lot sub-lessees. This study has found a significant decline in sold fish catches since the reform and a significant increase in sold rice after the reform. The prices of both products have increased after the reform. The price of fish may have increased due to reduction in fish catches. The price of rice may have increased due to an increase in the demand of rice from Vietnam. The decline in fish catches may be partly a consequence of the increase in rice production. This increase in rice production may be due to the fact a significant amount of flooded forest has been transformed into rice fields and there has been an increase in the usage of fertilizers and pesticides. Villagers also pointed out fish catches have declined primarily due to an increase in the number of fishermen and an increase in the use of illegal fishing gear. Commercial fishermen also reported a decline in catches and an increase in prices after the reform. The profitability of commercial fishermen was found to decline after the reform. A sensitivity analysis carried out on a representative lot operator showed that for before and after the reform, profits seemed to be more sensitive to a change in catches and prices of blackfish compared to catches and prices of whitefish. If the sensitivity indicators of catches and prices of blackfish were compared before and after the reform, the profits made by the lot operator were more sensitive before the reform. On the other hand, if comparing the sensitivity indicators of catches and prices of whitefish before and after the reform, the profits made by the lot operator were more sensitive after the reform.

Graham Cookson

Theses: Poverty alleviation and Community Fisheries Co-management in the Cambodia Mekong.

Abstract: Many small-scale fisheries are experiencing increasing pressure from human exploitation and habitat degradation, and there is growing concern over the depletion of many fisheries, and the social and economic hardships that it entails for resource dependent communities. Yet there is a paucity of literature on the causes of poverty in small-scale fisheries and the impact of management regimes.

This study used techniques from Participatory Rural Appraisal to understand the linkages between resource degradation and decline and poverty in resource dependent communities. In particular, it analysed the impact of a co-management scheme on resource sustainability and poverty in a former open-access area in NE Cambodia – an area of extreme ecological importance due to the deep pools that characterise this stretch of the upper Mekong. Qualitative data gathered through the PRA was used in conjunction with quantitative household surveys and a fish length-frequency survey to explore the bio-economic status of the fishery and the impact of the current and potential management regime. Overall compliance with the community's rules was low. Villagers reported a perceived decline in stocks and aggregated CPUE but this was not substantiated by a length-frequency survey that showed no recruitment over fishing and low levels of growth over fishing, or official catch statistics. A sigmoid relationship was assumed between yield and effort based on other empirical studies and a bio-economic model developed. This showed that the fishery was exploited at approximately 72 percent of its asymptotic yield and that given increasing pressure yields could be expected to increase further. The model showed that even if compliance with the community rules was achieved the management objectives of increasing stock abundance and improving economic returns would not be met. This is because the CPUE (at high total effort levels) is relatively inert or responds in a non-monotonous way over a wide range of effort levels implying that reducing fishing effort will not necessarily increase aggregated CPUE and economic returns to effort, and nor should underlying community biomass be expected to increase.

Katherine Viner

Theses: Assessing Success of Community Fisheries in Cambodia: An institutional analysis of Co-management arrangements.

Abstract: Inland capture fisheries in Cambodia are heavily relied upon for livelihoods and food security. Currently, many fisheries are threatened by habitat changes and increasing fishing pressure. In an attempt to address this threat to sustainability, co-management has recently been introduced in small-scale open access fisheries. In this study an institutional analysis of one such co-management arrangement (known as a community fishery) was conducted, in order to evaluate its success. The main objectives of the research were a) to understand co-management arrangements in a community fishery, b) to assess current management performance, and c) to identify constraints to successful functioning of co-management. Results suggest that currently co-management is not performing very successfully, and a number of management objectives are not being met. Although equity and empowerment within the fishery have increased (most significantly in the decrease in illegal fishing), the introduction of co-management has not improved sustainability in the fishery. The main implications of current management performance for local users are insufficient catches to provide food and income security, and the risk of disillusionment with the co-management process. Additionally, due to the highly migratory nature of many species in the fishery, poor management performance may also have significant downstream impacts. The main reasons behind current management performance include poorly defined boundaries and access control to the fishery, and lack of property rights. Additionally, the absence of enabling legislation prevents resource users from creating effective rules governing appropriation and distribution of the resource. Consequently, there is incongruence between management objectives and current harvest control, and the fishery remains effectively open access with minimal control of fishing effort. However, community fisheries are still in a period of relative infancy and there may be scope to refine management. A number of measures to help address current constraints, and thereby improve management, are suggested.

Feedback and Lessons Learned

<p style="text-align: center;">Details of students</p> <p>Question</p>	<p>Mario Guarracino Theses: Social and economic evaluation of traditional aquaculture activities in the Siem Reap Province, Cambodia</p>	<p>Ana Norman Theses: Effect of the reform of fishing lots in the year 2000 to the commercial fisheries and family scale fisheries in the province of Takeo</p>	<p>Graham Cookson Theses: Poverty alleviation and Community Fisheries Co-management in the Cambodia Mekong</p>	<p>Katherine Viner Theses: : Assessing Success of Community Fisheries in Cambodia: An Institutional Analysis of Co-management Arrangements</p>
<p>Pre-departure How did you find out about the master's research positions with the project?</p>	<p>From a poster in CEMARE library and conversation with Dr.David Sampson, former Director of the centre.</p>	<p>I read about the position at CEMARE library.</p>	<p>A course-wide email from Prof. Trond Bjondal from our department and a Board Member of the WorldFish Center.</p>	<p>Position advertised via e-mail to everyone on master's course by Trond Bjorndal (WorldFish Board Member + lecturer at Imperial).</p>
<p>Did you face any difficulty in arranging the necessary administrative and travel needs before your travel? Do you have any feedback how this can be improved?</p>	<p>Not real difficulties, despite the very frequent e-correspondence with the always available staff in Penang. I believe that the travelling costs could have been reduced consistently if World Fish would have organized details in advance rather than only a few weeks before departure date. In my specific case, if told in advance, I would have probably been able to obtain funds to purchase the ticket myself and consequently get it reimbursed. As I was only told about this possibility in May, I did not have the ability of doing so. Also, although we were able to book convenient tickets through STA Travel Agency, WorldFish was not able to purchase them due to credit card restrictions. As the tickets subsequently purchased through another travel agency turned out to be significantly more expensive, it would have been appropriate for WorldFish</p>	<p>We were informed to buy our own tickets with less than a month before our trip to Cambodia. By this time, none of us were able to find the amount of money required to pay for the tickets. Finally, the World Fish Center bought the tickets but after the payment had been previously rejected by the University travel agency. (This agency is cheaper but it does not accept "American Express" corporate card). I believe tickets can be obtained at a much lower price in the future, if flight tickets are purchased several months in advance. Yes, we were given a general brief explanation of the project aim upon arrival. Nevertheless, in particular to my topic, I did not know the real situation of the area until I arrived into the village. Furthermore, I was given</p>	<p>No problems but would be easier if tickets were bought by the WorldFish Center rather than reimbursed.</p>	<p>Bought flight ticket with own fund and reimbursed in Cambodia. If possible, for flight to be paid for directly, earlier fund transfer would simplify the process.</p>

	to be more elastic about payment methods.	some wrong information before I went to the village the first time, such as "there are no burden books of fishing lots in Takeo. It would had been very helpful to have a chat with someone in the department that had a good understanding of fishing lots before I went to Takeo.		
In Cambodia Were you provided with a briefing of the project upon arrival? Was the information sufficient for the planning of your work? What information helped most? How can this process be improved?	There was a significant amount of information presented upon our arrival. Danny, the Project Leader, made everything he could to provide us with the best possible working conditions. The initial briefing was very important, the project team worked hard to answer all the questions we had: it was thank to them that the initial steps here in Cambodia were trouble free. The willingness to help of the Fisheries Office staff could not be possibly improved, sometimes the language barriers made it difficult, but people always tried very hard.	Yes, we were given a general brief explanation of the project aim upon arrival. Nevertheless, in particular to my topic, I did not know the real situation of the area until I arrived into the village. Furthermore, I was given some wrong information before I went to the village the first time, such as "there are no burden books of fishing lots in Takeo". Thank you very much for letting me participate in this project. The time in Cambodia has been a great experience for me.	Excellent briefings from Danny pm research aspects and from Ek heng on 'social aspects'. Everything went smoothly translators, etc. My research changed a lot in the first 10 days in office after speaking with library staff.. Information accumulated was very useful. Perhaps there could have more information at each of the sites when writing research prospects. It would have been better to share data from the earlier WorldFish Center project.	I would have liked a little more information on the project before arriving but once here, briefing was comprehensive. Firsthand experience of staff here who had visited the sites and were familiar with current situations was probably most helpful for planning research.
Were you able to work well with your translators? Did you face any major difficulties during your field visit and when working with your translators? Do you have any feedback how this can be improved?	During my fieldwork, I have used two different translators. With the first one, there were some language problems, but, after spending a considerable amount of time explaining the purpose of my project and individual questionnaire's questions, things worked fine. However he decided to stop	Two of my interpreters were exceptional (Mr Dara Yin and Mr Sitha Prum). Both were very good interpreters for several reasons: Their English was excellent. They were used to working in the field. They translated what the villagers said, without their personal point of view. They	Translators were ok, better than I imagined. But I think it is important to avoid translators with direct involvement in fisheries because they have a tendency to impose their views/ perceptions and not from respondents. Also some respondents may be cautious at speaking in front of government	Translators were good, but there was a slight problem of impartiality. The translator was employed by the provincial fisheries office and is known in capacity by the local people at the study site village. Therefore, answers to questions sometimes censored affected by this. If possible, and independent

	<p>working for me when he received an offer of collaboration from the Asian Development Bank. My second translator was recommended to me from the Siem Reap FAO office. His English was quite good, and he also worked fine.</p> <p>The major issue I found with both translators is that eventually it gets to a stage when they believe there is no point in asking certain questions as "they always give the same answer". It is sometimes difficult to ask translators to present those questions anyway, as they may get offended, and believe that their judgment is not trusted.</p> <p>Appropriate training would solve most of this issue, However there is also a component of prejudice, as it may be thought that foreigners will never be able to fully understand what is going on in the field, and that thus translator's advices should always be followed.</p>	<p>understood the aim of my research. So they were able to obtain the information I required from the villagers without asking unnecessary questions to the interviewees. They knew the area and understood the problem facing fishing lots, they were very committed towards helping me in my research. They even assisted me in my household questionnaire over a weekend. I am very grateful to them effort towards helping me. I believe a good interpreter should always have all the qualities I have mentioned above.</p>	<p>staff. However, it is important to have translators used to fieldwork and hiring in the field. Some did not appear happy at sleeping in the villages and working all day in the Sun. I thought it would be us 'barang' complaining not he locals.</p>	<p>translator (eg. Not from fisheries office) would be better.</p>
<p>Did you receive sufficient support from the project office? What did you find most helpful. What do you think can be improved?</p>	<p>I always felt supported by the project office. When I was in the field, in the absence of Danny, I was constantly in contact with Heng and Moheth (as well as with the other students) and they provided any help that was eventually</p>	<p>The project office staff have been very helpful too. They have always tried to answer my questions fully. In particular Mr Heng. has been of great support. I cannot suggest any improvement. The staff have been great.</p>	<p>Excellent support even in Danny's sad absence with regular phone/text contact. Moheth accompanied us to the village from Phnom Penh the first time and made sure we knew how to get about. We needed help in organizing things</p>	<p>Project office staff all very kind and helpful in administrative tasks etc. Generally, I was left to get on with my own research (which was good) but felt I could have asked for support if necessary. Improvements:</p>

	needed. Once again the language barrier may prevent in-depth conversations, but especially Heng was always prepared to deal with any kind of circumstance that may arise.		- not knowing the system or the language. I think it was excellent that our supervisor came over and it was timed after our first research in the field. The visit was very useful and unexpected.	More structured review of progress through research. (e.g., regular review of findings so far with Project Leader I felt that the Project Leader was extremely busy with his own tasks and the project and so didn't want to take up too much time discussing my thesis, although if I had any problems with the research I would approach him. Visa application process- advice on type of visa required before arriving in Cambodia (i.e., business and not tourist) would have helped.
Post Cambodia Will you continue to work in the same area? Would you be interested to participate in similar initiative in the future?	I hope I will be able to continue to work in the planning and development of the use of aquatic resources, and I would definitely be interested in future similar activities and/or opportunities for cooperation with the World Fish Centre.	In the near future, I will be away from Cambodia. I will start my PhD in October at the University of Portsmouth (UK). Nevertheless, I would love to come back to Cambodia later on in my life.	I will continue to do research and my PhD at Imperial College, but unsure whether to continue in fisheries economics. I would be interested in doing something similar again in the future.	The position offered a great introduction to work in fisheries management. I am keen to pursue a career in development/ natural resource management in the future
In finalizing the project report, should we need to contact you for your insight/verification of relevant research issues, would you be willing to be contacted?	Of Course!	I would be happy to be contacted. I would like to publish my theses if my research proves to be a good quality study.	Of course by e-mail or telephone. I have some photographs from the village as well.	Yes.
Any other comments:	I wish to thank World Fish for this opportunity, It has been a great chance to gain firsthand research experience in a developing country. It was an important experience to understand the living conditions	Thank you very much for letting me participate in this project. The time in Cambodia has been a great experience for me.	An excellent opportunity and an amazing experience. I would recommend it to anybody especially those considering a career in research or working in a developing country.	Letting us conduct our own research (choose own title) and direct thesis (rather than specifying title/ research area) work very well – allow detailed research on one specific topic of interest to be conducted, and the

	<p>of rural population depending on aquatic resources, and the importance and need of research in this field.</p>		<p>It is sad that we can't take part in the workshop and did not have the chance to meet other WorldFish Center members in Penang. Perhaps one day if there are enough students to work in the project there could be a Student Researcher Workshop to exchange experiences and lessons learnt.</p>	<p>thesis to be a complete piece of work, rather than just being a small part of the larger project.</p>
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Appendix D. Revised Workplan

No	Activities	2003												2004					2005				
		Wet Season					Dry season							Wet season			Dry season						
		June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March
1	Set-up of account for DoF at Cambodia	26 May																					
2	Draft Key-informants semi-structure Qs	1																					
3	Internal workshop with provincial counterparts	5-6																					
4	Project outline, brainstorming with provincial staff (Finalize semi-structure Qs)	5																					
5	Stakeholder analysis, prepare list of participants for provincial FGs, population information, village selection	6																					
6	Key informants/ stakeholders FGs & site selection (ST, Takeo & Siem Reap)	16-30	1-3																				
7	Compilation of literature on EV methodologies		7-31	1-15																			
8	Translation of field notes		4,7-18																				
9	Field notes compiled & field report completed, write up for output 2 (Preliminary summary of access & policy issues)		21-31	1-15																			
10	Draft matrix & identify gaps for data collection		21-31																				
11	Follow up data collection (wealth ranking etc)		24-31	1-12																			
12	Matrix completed & finalization of site selection (Main Qs and longitudinal)			13-15																			
13	First round of draft Qs & developed			11-20																			
14	Discussion & feedback on draft Qs & longitudinal logsheet			21																			
15	Qs & longitudinal logsheet translated & formatted			25-29																			
16	Half day workshop on project methodology & framework (Consultation with provincial staff on Qs in Phnom Penh)				2																		
17	Questionnaire pilot tested				4-5																		
18	Feedback from workshop & pilot test compiled & incorporated (Mm workshop including relevant projects in DOF)				8																		
19	Main Qs finalized, translated, formatted & printed				9-16																		
20	Enumerators trained in EV & Qs administration				12																		
21	Main survey & training launched in ST, Takeo & SR (incl HH selection)				15-30	1-10																	
22	Develop spreadsheet, coding form and training for household survey data entry					1-25																	
23	Draft write up of DFID half yearly report						1-15																
24	Finalize DFID half yearly report & submit for internal routing						15-30																
25	Data entry & checking						1-30	1-31	1-31	1-15													
26	Integration of data sheets & conversion to SPSS									1-29	1-15												
27	Tabulation & analysis of Data											1-30	1-31	1-30	1-31								
28	Longitudinal logsheet finalized & translated					1-31																	
29	Launch of longitudinal survey						1																
30	Develop spreadsheet & coding form for longitudinal survey						1-30																
31	Collect longitudinal forms periodically																						
32	Data entry & checking for longitudinal survey																						
33	Tabulation & analysis of longitudinal survey																						
34	Summary of preliminary findings & discussion (external)																						
35	Household survey write up																						
36	Presentation of Preliminary Findings & Future Direction Workshop (project partners & relevant stakeholders)																						
37	Presentation of Preliminary Findings and Future Direction in provinces (SR 22 Oct, ST 28 Oct, Takeo 2 Nov)																						
38	Consolidation of findings & draft write-up																						
39	Follow up visits and discussions in Takeo 1-3 Feb, ST 6-8 Feb & SR 6-8 March																						
40	Preparation of draft final report for the project																						
41	Finalize of draft project report (with Elizabeth Petersen)																						
42	Complete and circulate draft final report																						
43	Final revision of final report																						
44	Submission to DFID																						

Note:

EV- Economic valuation, Qs - Questionnaire, ST- Stung Treng, SR- Siem Reap

Appendix E. Project Photos

Livelihoods and Aquatic Resources Activities



Fishing



Women fishing



Aquaculture



Small scale aquaculture



Marketing of cooked fish



Fish marketing



Fish Cleaning



Processed fish marketing



Gathering of aquatic plants



Vegetable farming



Gathering of aquatic animal



Gathering of aquatic woods



Rice farming



Irrigation



Duck production



Duck raising



Boat making



Cage making



Transporting grass



Transporting passengers



Children swimming in the river



Preparing food for cultured animals



Dump site in the project site



Water pump

Village infrastructure and facilities



Floating school



Health center



Flooded houses



Stilt house



Road in the village



Market at Stung Treng town

Sampling, Mapping and Interviewing



Random sampling



Mapping



Pre-test



Key informant interview in Stung Treng

Workshops

1) Project Framework and Methodology Workshop, September 2003



2) Questionnaire discussion and remunerator training



3) Presentation of Preliminary Findings and Future Directions, National Workshop, 20th October 04



4) Presentation of Preliminary Findings and Future Directions, Provincial Workshop

Stung Treng



Takeo



Siem Reap



Participatory Rural Appraisal (PRA) Process



PRA in Stung Treng



PRA in Takeo



PRA in Siem Reap





Eating with villagers



Lady in action



PRA in a hut



PRA in a pagoda



PRA under a tree



Women participated in PRA



Household survey – showing picture of aquatic resources



Transect walk

Project Staff



Project Staff



Research students from CEMARE and Imperial College



Training session with NGOs and provincial counterparts in Stung Treng province



NGOs in Takeo Province

Appendix F. Workshop Details

No.	Workshop	Date	Venue	Objectives
1	Planning Workshop	6-7 May 2003	DOF Phnom Penh, Cambodia	<ul style="list-style-type: none"> - Understand other similar initiatives in the region. - Discuss possible collaboration with other regional agencies. - Identify roles and responsibilities of relevant agencies. - Discuss possible valuation methodologies. - Identify communities for the research within the three selected sites. - Finalise the work schedule for the project.
2	Stakeholder Workshop	5-6 June 2003	DOF Phnom Penh, Cambodia	<ul style="list-style-type: none"> - To discuss project background, list of responsibilities and literature review. - To have discussion on stakeholder analysis. - To identify candidates for focus groups and key informants interview. - To finalize semi-structured questionnaire.
3	Internal Workshop on Site Selection and Questionnaire Development	22 August 2003	DOF Phnom Penh, Cambodia	<ul style="list-style-type: none"> - To present the progress report of the project from commencement up to the present - To discuss and verify the sites selected for the survey; - To discuss the draft questionnaire for the survey; and - To plan for the implementation of the survey.
4	Project Methodology and Framework Review	11 Sep 2003	DOF, Phnom Penh, Cambodia	<ul style="list-style-type: none"> - Discuss the project methodology, framework and progress. - Present and discuss the draft survey questionnaire. - Explore avenues for cooperation among related projects in aquatic resources valuation and policy processes for poverty elimination in the Mekong region.

5	Workshop on Presentation of Preliminary Findings and Future Directions	20 October 2004	Department of Fisheries, Phnom Penh, Cambodia	<ul style="list-style-type: none"> - To present and obtain feedback on the preliminary findings of the project; - To discuss the pathways for research findings to be applied in future aquatic resources policy development and management in Cambodia. - To chart future project directions in terms of development and implementation of action plans (including partnerships)
6	Provincial Workshops on Presentation of Preliminary Findings and Future Directions	22 October 2004	Department of Agriculture, Forestry and Fishery, Siem Reap, Cambodia	<ul style="list-style-type: none"> - To present and obtain feedback on the preliminary findings of the project; - To discuss the pathways for research findings to be applied in future aquatic resources policy development and management in Siem Reap. - To chart future project directions in terms of development and implementation of action plans (including partnerships)
7	Provincial Workshops on Presentation of Preliminary Findings and Future Directions	28 October 2004	Department of Agriculture, Forestry and Fishery, Stung Treng, Cambodia	<ul style="list-style-type: none"> - To present and obtain feedback on the preliminary findings of the project; - To discuss the pathways for research findings to be applied in future aquatic resources policy development and management in Stung Treng. - To chart future project directions in terms of development and implementation of action plans (including partnerships)
8	Provincial Workshops on Presentation of Preliminary Findings and Future Directions	2 November 2004	Department of Agriculture, Forestry and Fishery, Takeo, Cambodia	<ul style="list-style-type: none"> - To present and obtain feedback on the preliminary findings of the project; - To discuss the pathways for research findings to be applied in future aquatic resources policy development and management in Takeo. - To chart future project directions in terms of development and implementation of action plans (including partnerships)

Appendix G. Workshop Reports and Notes
(Workshop notes with inputs from national and provincial counterparts)

G1. Planning Workshop On Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin

G2. Stakeholder and Planning Workshop

G3. Internal Workshop on Site Selection and Questionnaire Development

G4. Project Methodology and Framework Review Workshop

G5. Workshop on Presentation of Preliminary Findings and Future Directions for Poverty Elimination in the Lower Mekong Basin

G6. Workshop on Presentation of Preliminary Findings and Future Directions for Poverty Elimination in the Lower Mekong Basin – PROVINCIAL LEVEL

G6.1 Siem Reap Workshop

G6.2 Stung Treng Workshop

G6.3 Takeo Workshop

G7. Village Verification Workshop and Dialogues

G7.1 Village Verification Workshop and Dialogue in Takeo Province

G7.1 Village Verification Workshop and Dialogue in Stung Treng Province

G7.1 Village Verification Workshop and Dialogue in Siem Reap Province

G1. Planning Workshop On Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin

Date: 6-7 May 2003

Venue: Department of Fisheries, Phnom Penh, Cambodia

1.1 Workshop objectives

- a) Understand other similar initiatives in the region
- b) Discuss on possible collaborations with other regional agencies
- c) Identify roles and responsibilities of relevant agencies
- d) Discuss on possible valuation methodologies
- e) Identify villages for the research within the three selected sites
- f) Finalize the work schedule for the project

Table 1.1 Schedule of Activities

<i>Time</i>	<i>Activities</i>
	6th May 2003 (session one)
9.00am – 9.15am	Welcome address <i>Nao Thouk</i>
9:15am - 9:30am	Opening speech <i>Chris Price</i>
9:30am –9.45am	Introduction of the project and overview of workshop <i>Mahfuzuddin Ahmed</i>
9.45am – 10.00 am	Photo session
10.00am – 10.30 am	Tea break
10.30 am – 11.00 am	Review of literature on economic valuation and fisheries policy in Cambodia <i>Gareth Clubb</i>
11.00am – 11.20am	Discussion on selection of respondent for key informants interview and focus group <i>Provincial staffs</i>
10.20am – 12.30pm	Relevant project by other participating agencies <i>Blake Ratner, WorldFish Center; IUCN; WWF; AIT; MRC</i>
12.30pm – 14.00pm	Lunch break
14.00pm – 16.00pm	Discussion – Area of potential collaborations <i>Mahfuzuddin Ahmed</i>

Table 1.1 Continued...

<i>Time</i>	<i>Activities</i>
16.00pm – 16.30pm	Tea break
16.30pm – 17.00pm	Discussion – Area of potential collaborations (continued) <i>Mahfuzuddin Ahmed</i>
17.00pm – 19.00pm	Wrap-up <i>Mahfuzuddin Ahmed</i>
19.00pm	Welcome dinner
	6th May 2003 (session one)
9.00am – 5.00pm	Project planning with DOF (Full day) <i>Nao Thouk, Mahfuzuddin Ahmed, Others</i>

Table 1.2 List of Participants & Observers

No.	Name	Position	Organisation
1	Mr. Nao Thuok	Director	Department of Fisheries, Cambodia
2	Mr. Sam Nouv	Deputy Director	Department of Fisheries, Cambodia
3	Mr. Somony Thay	Chief, CFDO	Department of Fisheries, Cambodia
4	Ms Kaing Khim	CFDO	Department of Fisheries, Cambodia
5	Mr. Chhoun Kimchhea	CFDO	Department of Fisheries, Cambodia
6	Mr. Pech Bunna	CFDO	Department of Fisheries, Cambodia
7	Mr. Hun kimtek	CFDO	Department of Fisheries, Cambodia
8	Ms. Un Kanika	CFDO	Department of Fisheries, Cambodia
9	Ms. Thach Phandy	CFDO	Department of Fisheries, Cambodia
10	Ms. Phan Sota	CFDO	Department of Fisheries, Cambodia
11	Mr. Deap Polin	CFDO	Department of Fisheries, Cambodia
12	Mr. Ouk Vibol	Deputy Chief, FDO	Department of Fisheries, Cambodia
13	Mr. Sarith Kim	Chief, Takeo Fisheries Office	Department of Fisheries, Cambodia
14	Mr. Samorn Chan	Chief, Stung Treng Fisheries Office	Department of Fisheries, Cambodia
15	Mr. Vibolrith Cheng	Chief, Siem Reap Fisheries Office	Department of Fisheries, Cambodia

Table 1.2. Continued...

No.	Name	Position	Organisation
18	Mr. Srun Limsong	Director	IFReDI, DOF, Cambodia
19	Ms Hap Navy	Chief, SE Unit	IFReDI, DOF, Cambodia
20	Mr. Chap Piseth	Deputy Chief, SE Unit	IFReDI, DOF, Cambodia
21	Mr. Yin Dara	Deputy Chief, SE Unit	IFReDI, DOF, Cambodia
22	Dr. Peter-John Meynell	Manager	IUCN, Cambodia
23	Mr. Hav Viseth/ Mr. Eric Meusch	Project Director/Advisor	AIT, Cambodia
24	Mr. Toby Carson	CBNRM Project Advisor	WWF, Cambodia
25	Dr. Chris Barlow	Senior Programme Officer, Fisheries Programme	MRC, Phnom Penh, Cambodia
26	Mr. Chris Price	Rural Livelihood Program Advisor	DFID, Phnom Penh, Cambodia
27	Dr. Mahfuzuddin Ahmed	Project Manager	WorldFish Center HQ, Penang, Malaysia
28	Dr. Blake Ratner	Scientist/Project Leader	WorldFish Center HQ, Penang, Malaysia
29	Ms Chiew Kieok Chong	Research Associate	WorldFish Center HQ, Penang, Malaysia
30	Mr. Gareth Clubb	APO, DFID	WorldFish Center, Cambodia

Table 1.3. List of Presentation Materials

No.	Title
1	Introduction to Project and Overview of Workshop
2	Project Objectives, Design and Outputs
3	Economic Values of the Mekong Floods
4	Rural Development Through Aquatic Resources Management
5	MRC Fisheries programme and Environment Programme
6	Wrap up

1.2 Report of Planning Workshop on Aquatic Resources Valuation and Policies for Poverty Elimination in the Lower Mekong Basin

a) Welcome (Mr. Nao Thuok, Department of Fisheries, Cambodia)

- The Director of the Department of Fisheries welcomed workshop participants and expressed his gratitude to DFID for the financial support for the project and the continuing cooperation with WorldFish Center.
- The Director stressed the importance of understanding the constraints to access to aquatic resources and the stakeholders' role and responsibility in the formulation of fishery management policy.
- He also noted the importance of equitable access to natural resources for the development, progress and stability of Cambodian society. Cheap and illegal fishing, often conducted by those who have no access, the hungry and the poor, always degrades and destroys the environment and habitat of the aquatic resources, which also further enhance the poverty issues.

b) Introduction to the Project and Overview of the Workshop (Dr. Mahfuzuddin Ahmed, WorldFish Center)

- An overview of the project was provided by Dr. Ahmed, and the objectives of the workshop clarified.
- The various research partners were welcomed, and everyone was reminded that the project has a lot to accomplish in the upcoming eighteen months.
- The overall goal of the project is to reduce poverty and improve livelihoods of the poor people dependent on aquatic resources in the Lower Mekong Basin, through the development and implementation of stakeholder-based aquatic resource management policies. It is recognised that the scope of the project does not provide for fieldwork in the other Lower Mekong Basin countries; rather, the information and lessons learned from this project will find space for wider distribution within the other countries, while they will be of direct relevance to policy work in Cambodia.
- There are four objectives of the project; implicit in all is the inclusion and participation of the poorer sections of the community. Firstly, to gain an understanding of the social and economic values of aquatic resources as perceived by different stakeholders, at different levels of society. Secondly, to understand the constraints stakeholders (especially the poor) face when trying to access aquatic resources. Thirdly, to understand the current policy-making processes and the role of stakeholders at different levels. The success of the project will largely be determined by its accomplishment of the final objective: to incorporate perspectives and values of different stakeholders in the development of policies for improved livelihoods and resources management outcomes.
- The project expects to unearth values of, and access constraints to, aquatic resources. It should uncover the policy-making processes and the role of stakeholders at different levels, and should use these to encourage pro-poor social and political progress.
- The workshop aims to introduce partners more fully to the project, and to move some way towards agreeing areas of complementarity with them. In particular, it is desired to: understand other similar initiatives in the region;

discuss possible collaboration with other regional agencies; identify roles and responsibilities of various agencies; discuss possible valuation methodologies; identify communities for the research within the three selected sites; and finalise the work schedule for the project.

- Although the main physical outputs from the workshop will be the workshop report and a briefing paper, it is envisaged that all participants will have a much clearer vision of the project's aims by the workshop's end.
- The workshop timetable was reiterated by Dr. Ahmed.

c) Project Objectives, Design and Outputs (Ms. Chiew Kieok Chong)

- Ms. Chong restated the project objectives. She then provided greater detail on the project logframe, discussing the supergoal, goal, purpose and outputs, and the objectively verifiable indicators of each.
- The activities of the project were identified, and come under three main groupings.
- 'Social and economic values of aquatic resources for stakeholders at different levels of society assessed'. The Inception Workshop is the first step. A literature review has also been compiled, and the following presentation based upon it. Fieldwork will begin with participatory processes in local communities in the three selected sites, in order to identify the values of aquatic resources and initiate dialogues with policy makers and governmental bodies. Focus group discussions and PRA/rapid appraisal exercises among stakeholders of aquatic resources will follow in each site. The seasonal values of aquatic resources will be identified through household surveys, and crucially, how these values impact on the stakeholders' livelihood. The findings will be compiled, and an estimation of the social and economic values of aquatic resources at each site will be provided.
- 'Aquatic resources policy processes analysed, and constraints to access by stakeholders, particularly the poor, examined'. These activities are based on access constraints and policy processes. The project will understand the constraints stakeholders face in accessing aquatic resources, and the roles and relationships of stakeholders in the policy-making processes through focus group discussions. It will analyse the policy-making and implementation processes at local, national and regional levels, understand institutional capacity, and identify strategy for improvement of policy-making and implementation processes. Findings on access constraints will be compiled, and information exchanged with and between stakeholders by dialogue throughout the project's duration.
- 'Local participatory plans for aquatic resource management based on total social and economic values developed, tested, and assessed'. The primary phase is to establish what management and access arrangements have existed in the past at each site. This provides the foundation for helping design plans for aquatic resource management with participation from stakeholders at all levels. Clearly, the social and economic values derived beforehand will need to be integrated into the policy-making processes. The project will then facilitate implementation of management plans at the local level, and will conduct focus group discussions to monitor and evaluate the benefits and impacts of socio-economic values in policy-making, participatory planning, and implementation of management schemes.

d) Review of Literature on Aquatic Resources in Cambodia (Mr. Gareth Clubb, WorldFish Center/DFID)

- Mr. Clubb provided a synopsis of the literature review that he had conducted over the preceding months.
- The aquatic resources of Cambodia have tremendous value - not just in crude economic terms, but also in cultural, recreational, spiritual, social, aesthetic, and other non-extractive means. They provide environmental services of crucial importance to the people and nation of Cambodia. However, they are consistently undervalued by those with the capacity to manage them under a wide-ranging mandate.
- Institutional issues underpin the majority of the most pressing issues surrounding aquatic resources in Cambodia. Two pieces of legislation are currently under revision and will undoubtedly have a major impact on the management and use of aquatic resources. But one thing is clear; commercial interests are particularly powerful, and are applied to aquatic resources largely to the detriment of the poor. Conflict is inherent in many wetland and aquatic areas, as people have different ideas about resource exploitation. The upshot of such conflict is illegal fishing - practised widely and largely with impunity, such fishing methods are acknowledged by their users to be destructive, but their apparent helplessness in the face of more powerful agents encourages continued use.
- There is uncertainty as to the perceived decline in the resource base. Evidence is scant, and indeterminate; the decline is more likely to be a function of an increasing population accessing the aquatic resources than a gross decrease in yield. Certainly, the quality of the fishery resource is declining; in the ten years to 1998, grade I fish decreased from 20 to 10% of the catch. However, one of the great ironies of common pool resources is that in their degraded form they remain largely the preserve of the poor, whereas upon regeneration they become attractive to those with the capacity to appropriate them. Incentives for the wealthier sections of society could be expected to decrease as the integrity of the resource becomes eroded. The root of the problem is a finite subtractable resource with little conservation value; increasing membership of a fixed-return common resource diminishes the marginal benefits to each, increasing the incentive to free-ride.
- Historically, only finfish resources have been counted as value-derived assets. Non-fish resources have been sidelined. However, for many people, principally the poor, non-fish resources are a vital source of nutrition and income. One of the most important aspects of non-fish resources is that they can be gathered by sole operators, they accrue immediate remuneration or food value, and they require little or no capital investment to gather. For the poorest and the landless, they are of particular importance.
- The poor are disproportionately dependent on environmental resources. Even those living distant from aquatic resources depend on them, as many make long annual migrations to harvest the resource. This often happens during a slack period for agriculture, thus making productive use of otherwise 'dead' time. The harvest and use of aquatic resources is therefore a valuable livelihood option. Women continue to play a crucial role in the aquatic product chain, in particular in the accounting and trade aspects of the business. Community resource management is one important method of empowering

local communities; besides encouraging local protection of the resource and the environment, it provides people with the opportunity to challenge deeply entrenched paradigms, it encourages the formation of networks of alliance, trust and information, and as such is a powerful mechanism for pro-poor social change.

- The value of the aquatic resource is poorly quantified. The only statistics available are for the finfishery resource, and these are at best ball-park figures. A retail value of \$500 million has been estimated, while government revenue is less than \$3 million. It is much more difficult to allocate monetary value to non-pecuniary benefits. One thing is clear; without an enabling governance environment to encourage private investment in the aquatic resource harvesting, processing and transport infrastructure, there is little prospect for Cambodia's integration into the global aquatic products market.
- Many solutions to parts of the aquatic resource puzzle have been suggested. The development of alternative livelihood options would reduce the pressure on the aquatic resource, while provision of broader public finance would discourage the debt-servicing behaviour which is heavily implicated in resource depletion. Strict enforcement of regulations is a popular option amongst those living in fisheries-dependent communes. Revisiting fishing lot procedures to make them more transparent, and making public information public would go some way to reducing the conflicts currently plaguing the sector. A final point of note is that since common pool resource use is positively correlated with poverty, any intervention that boosts the development of the nation will reduce the pressure on the aquatic resources on which so many Cambodian people depend.

e) Mekong River Basin Wetland Biodiversity Conservation and Sustainable Use Programme (Mr. Mao Kosal, IUCN)

- Mr. Mao Kosal provided an insight into IUCN's work on wetlands in Cambodia.
- The goal of the project is the conservation and sustainable use of wetland biodiversity in the lower Mekong basin. The purpose is to strengthen regional capacity for conservation and sustainable use of wetlands in the lower Mekong basin.
- There are five themes to the programme; encouraging multi-sector planning at national and regional level and in demonstration sites, strengthening policy and economic frameworks for wetland conservation and sustainable use, increasing awareness and information about wetland biodiversity and its importance, enhancing human and technical resources, and the practical demonstration of these points in sites in each participating country.
- The programme is regional in scope, with demonstration sites in Thailand (Song Khram), Laos (Attepeu) and Vietnam (Plain of Reeds) in addition to that in Stung Treng.
- Field site outputs from Stung Treng will be integrated planning, community-based resource management, alternative livelihoods, networks of resource users, awareness raising, economic valuation, training programmes, and lesson learning.

- GEF funding is about 1/3 of the total, with a need for co-financing of the remainder. The programme is due to last for 6 years, with a total budget of \$30 million.
- The programme is part of a large project to develop a cross-regional toolkit of economic measures for wetland and river basin management. The other countries in this DFID-funded project are Costa Rica, Tanzania and Sri Lanka.
- At Stung Treng, the focus will be on wetland valuation in and around the Ramsar site. Several participatory poverty assessments have been conducted in the province. The economic valuation will identify and quantify the contribution of wetland products - both fish and non-fish - to local livelihoods. Alternative livelihood options will be distinguished, along with economic mechanisms to conserve and use the wetlands in a sustainable manner. The economic values will contribute to knowledge on environmental flows and climate change vulnerability. Wetland functions and services will be better recognised at local and national levels, and planners and decision-makers will be better informed on the importance of wetlands.

f) Community-Based Natural Resource Management Case Studies and Networking Initiative (Mr. Toby Carson, WWF)

- The CBNRM Initiative was introduced by Mr. Carson of WWF.
- The Initiative is widely subscribed to by partner organisations, including LeaRN, RECOFTC, Mekong Learning Initiative, Royal University of Agriculture - Forestry and Fisheries Faculties, Royal University of Phnom Penh - Faculty of Environmental Science, Ream National Park in Sihanoukville, FAO Siem Reap, Concern Worldwide, OCAA Stung Treng, Community Forestry Research Project, Non Timber Forest Projects, Partnership for Local Governance in Ratanakiri, MOSAIC, Mondulhiri, CGFP - GTZ, Oxfam GB, and DRIVE. The partner governmental agencies in Cambodia are the Department of Forestry and Wildlife, the Department of Fisheries, and the Department of Nature Conservation and Protection.
- CBNRM is a diversity of co-management approaches that strive to empower local communities to participate actively in the conservation and sustainable management of natural resources through community forestry, community fisheries and co-management of fisheries, participatory land use planning, and participatory protected area management.
- The two main strands of the initiative are focused on community empowerment (reduced poverty, social justice, equity, improved livelihoods, resource rights, secure land tenure, and respect for local and traditional knowledge), and ecosystem conservation (ecosystem services, species diversity, habitats and sustainability).
- The project goal is to promote community-based natural resource management (CBNRM) as an important component of the decentralisation, poverty alleviation and conservation and sustainable resource management policies and strategies of the Royal Government of Cambodia.
- The learning cycle of CBNRM encapsulates action, followed by experience, reflection, and the generation of conclusions.
- Capacity building is generated via a case study writing training course, training on facilitation skills, a community fisheries manual and training

- course, developing understanding of the legal framework for CBNRM, study tours and workshop meetings, and a synthesis and reflection workshop.
- Lesson-learning focuses on the building of multi-disciplinary, inter-institutional teams, using case study writing as a tool for networking and lessons learning, learning by doing, and by developing awareness posters and materials.
 - Policy support is provided for the community fisheries sub-decree process, for developing guidelines for community fisheries management planning, and for development of the Protected Area Law. The field results will be disseminated to policy makers and CBNRM practitioners.
 - The key questions and challenges are thus:
 - How rapid should expansion of CBNRM and CF be? How to meet the rapidly expanding demands for CBNRM approaches?
 - How to deal with issues of capacity, institutions and management?
 - How to meet the immediate needs while maintaining long-term commitment?
 - How can successes and impacts be measured? Is there a need for better monitoring through clearer principles, criteria and indicators?
 - What are the roles of the various stakeholders including communities, local government, Seila/PRDCs, commune councils, technical departments, NGOs and the private sector?
 - How can poverty be alleviated through CBNRM approaches? Is the goal of CBNRM to achieve sustainable livelihoods, or only subsistence living?

g) Economic Values of the Mekong Floods (Mr. Toby Carson, WWF)

- Mr. Carson's second presentation elucidated WWF's approach to valuating the benefits of the Mekong floods.
- The objectives are to identify and quantify major economic benefits, to better understand these benefits, and to instil these values within the planning/impact assessment process of development activities.
- The annual Mekong flood is important for ecology, geomorphology, fisheries and agriculture (mostly qualitative), while the current focus is towards the *costs* of floods (mostly quantitative). How to reconcile these disparities?
- Flood benefits include agricultural productivity (nutrients, flushing, pest control), freshwater ecosystem productivity, marine ecosystem productivity, forest productivity, hydrologic functions (flow amelioration, water quality, aquifer recharge), geomorphologic stability (riverine and coastal), navigation, reduced saltwater intrusion/washing, and biodiversity. Quantification of these benefits is difficult to ascertain with current data. Current practise is to use approximations based on magnitude, local perception, and extrapolation. These inform the debate, and provide the basis to argue for application of the precautionary principle. They also provide the potential to recommend, initiate, and promote further study.
- Flooding is widely regarded as a critical ecosystem driver. It is a critical factor in fisheries and agricultural economy. In terms of fisheries, the flood regime is important for migration, spawning and dry-season refuges, and the riparian population is heavily dependent on them. Agricultural productivity is also heavily reliant on flooding; 80% of the basin population farms rice (a heavily flood dependent crop). Consistent or stable flooding is the best scenario.

- Pilot sites have been chosen in Stung Treng (to represent the Mekong Mainstream), and in Kompong Chhnang (Tonle Sap). All are close to water, and people have a high dependency on farming and fishing. Local perceptions are of historical regularity of flooding, and recent unpredictability. “Every 3 years”.....“year of the dragon” has traditionally been a larger flooding year, so people were surprised by the flooding of 1999, 2000, and 2001. They have systems to measure and predict floods, and recognise three kinds of floods: very large (some destructive elements, some positive), moderate (the best type), and small (generally negative).
- Concluding, there needs to be more emphasis on potential risk of development initiatives on natural flood dynamics. More data should be gathered on the relationship between floods and productivity. The precautionary principle should be adopted to civil works altering the natural flood regime. EIAs must be implemented (both local and distant). Analysis of specific project impacts on flood regime should be conducted. Next steps include assessing the potential agricultural values of the floods, incorporating an economic assessment and providing possible value judgements. The effects of structural development, specifically of roads and levees, are to be considered, particularly the effects on the beneficial aspects of the floods. Local dialogue will be established, to discuss values of flood and its importance to fisheries, Improving fisheries management through local involvement, and specific suggestions based on specific experience.

h) Rural Development Through Aquatic Resources Management (Mr. Eric Meusch, AIT)

- The AIT-implemented, SIDA-funded initiative was introduced by Mr. Meusch.
- The initiative has been ongoing since 1994, and is primarily involved in small-scale aquaculture promotion, investigating rice field fisheries, promoting community management of small water bodies, and capacity building.
- The project's goal is improved livelihoods through sustainable management of aquatic resources. The purpose is improved capacity to promote local management and sustainable use of aquatic resources at the community and household levels. Targeted areas of achievement (outputs) are planning and management, farmer-driven research, training, human resource capacity (technical and professional skills), information systems, and effective communication with the rural poor.
- Implementation has been through small-scale aquaculture, decentralised fish seed production, management of common property water bodies, and improvement of development skills. The geographic focus has been Svay Rieng, Takeo and Komong Speu, although ideally there would be no geographic focus since the lessons learned are broadly applicable.
- Collaborative activities include SRS (a DFID funded research project), the WorldFish Wetlands project, PRASAC, WPF, and IPM (funded by DANIDA). Possible links with the project under discussion include AIT's background in assessing rice field aquatic environments, household surveys, species composition, standing stocks, production, a nutritional study, a household survey in Takeo, and participatory skills with a focus on poverty.

i) Fisheries Programme and Environment Programme (Mr. Hans Guttman, Mekong River Commission)

- Mr. Guttman provided insights into the work of the Mekong River Commission's Fisheries and Environment Programmes.
- The MRC fisheries programme aims to manage the productive Mekong fisheries so as to sustain their high yield and economic output well into the future. The programme conducts research into capture fisheries, trains fisheries managers, promotes aquaculture of indigenous Mekong fish species and disseminates information to policy makers and planners in the four Lower Mekong countries. The focal
- The focal point of the environment programme is the quality of life of the people who live in the basin and who depend on its resources for their livelihood. The focus is on water and aquatic ecosystems with a basinwide and transboundary perspective.
- The Fisheries Programme was revised during 2002, and comprises four active components. Funding is being sought for several proposed components. The principal components are: assessment of Mekong capture fisheries, management of river and reservoir fisheries in the Mekong Basin, aquaculture of indigenous Mekong fish species, and strengthening of fisheries information systems in the Mekong Basin (proposed).
- Assessment of Mekong capture fisheries involves providing improved information on the capture fishery, which is then taken into account in fisheries management practices, and incorporated into planning of water management projects. Assessment is used to sustain and optimise fisheries productivity and socio-economic benefits.
- Management of river and reservoir fisheries in the Mekong basin involves the development and implementation of sustainable co-management of selected fisheries by fishing communities and authorities. Experiences and results are disseminated as models for basin-wide aquatic resource management.
- Aquaculture of indigenous Mekong fish species focuses on development of economically feasible aquaculture systems, using indigenous Mekong fish species.
- The proposed objective of strengthening of fisheries information systems in the Mekong basin will clarify the role of inland fisheries in the national economies and rural people's livelihoods, and will use this information to ensure that fisheries is considered in macro-level economic planning in the Mekong Basin.
- The environment programme has five components, and is being revised during 2003. The components are monitoring and assessment, humans and ecosystems, decision support systems, ecosystem knowledge, and environment flows; capacity building, networking and research are mainstreamed in each component.
- Monitoring and assessment involves water quality monitoring, a diagnostic water quality study, sedimentation studies, ecosystem health monitoring, and monitoring of social impact of ecosystem change.
- The humans and ecosystems component comprises classification and inventory of wetlands, valuation of wetlands (based on human use), and management of transboundary wetlands.

- Environmental decision support requires a review of EIA systems in riparian countries, and development of technical guidelines for transboundary EIA. It also necessitates the development of environmental risk assessment techniques, and ecological risk analysis of selected transboundary water quality issues - in particular, pollution from Vientiane (Laos), Nong Khai (Thailand) and Phnom Penh (Cambodia).
- Ecosystem knowledge is being bolstered by development of River Awareness Kits to teach non-technical government staff about Mekong River ecology. Population studies on Mekong River dolphins are being undertaken, along with population studies on the snail *Neotricula aperta*.
- Environmental flows are being investigated in conjunction with WUP, along the lines of a three-phase flow management plan. Initially there is an Interim Flow Plan, followed by a Comprehensive Flow Plan, and finally an assessment of the interventions. People who use aquatic plants for food and other purposes will be affected by flow changes.

j) Discussion on Areas of Potential Collaboration

- A wide-ranging and informative discussion was chaired by Dr. Ahmed. Broad scope for collaboration was identified on a number of counts, and these were tabulated as follows.

Table 1.4 Potential Collaboration

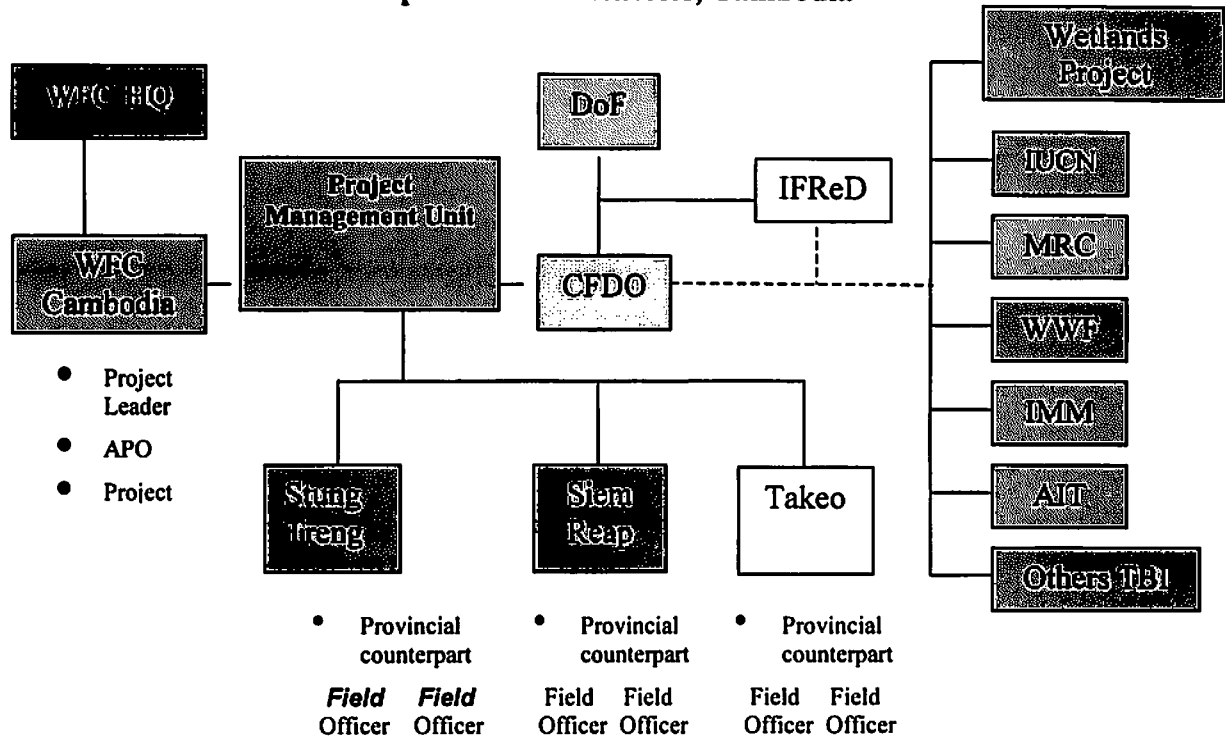
	Objective 1 – Valuation	Objective 2 – Access constraints	Objective 3 – Role of stakeholders/ policy making processes	Objective 4 – Values incorporated into policy
AIT	SRS – household survey in Takeo – results due shortly. Information on PRA and methodology. Exchange of information and/or collaboration.	Investigating ricefield fisheries; management of common property water bodies.	Small-scale aquaculture promotion.	Improved livelihoods through sustainable management of aquatic resources.
IUCN	Stung Treng – valuation at Ramsar sites. Close cooperation envisaged in ST. Identify the contribution of wetland products to local livelihoods.	Some qualitative information - principal focus in Ramsar site.	Strengthen policy for conservation of biodiversity.	Increase awareness of socio-economic importance of wetland biodiversity. Economic studies as a basis for management.
MRC	Basin development planning processes. Minimum of exchange of information on transboundary issues. Close cooperation if incorporating non-use and indirect values. Wetland inventory.	N/A	Possible - depending on scale.	Contacts with many basin-wide institutions. Links for later phases of projects.
Wetlands	Similar sites – existing working groups in the provinces. Synthesis of valuation work in the country. Designing baseline surveys – possible incorporation of Wetland survey requirements in Project?		Legal and institutional analysis conducted. Collation of results forthcoming.	Relationships with various actors: Tourism, Women's Affairs, Agriculture etc.
WWF	Benefits of floods (Living Mekong Initiative), agricultural values. Forestry valuation in Siem Reap		Capacity building and policy support. Local perceptions incorporated.	Community empowerment.
Others	IMM may provide advice on various aspects of all objectives. Oxfam active in certain provinces – fieldwork being conducted soon. OCAA working in ST (6 yrs) and Takeo (1 yr) with fishery communities and awareness raising. Good community involvement and relationships. ADB projects in Siem Reap. WUPFIN in ST. Also UNICEF and Partners for Development. CEMARE, Exeter Uni, UEA ODG or other educational establishment for MSc projects as identified. FAO active in Siem Reap for several years in participatory natural resource management.			

- The discussion considered a variety of aspects of the project. Of great early contention was the idea of valuating only extractive use benefits; experience around the table suggested this would not be as useful as a study that incorporated non-extractive benefits.
- It was decided by broad consensus that one village per province would be about all that is achievable given the timescale and budget of the project.
- There was also a good deal of thought about the policy impact, and how it would be achieved. If the study sites were too few and specific, it was felt that the results would be more difficult to feed into policy processes. Consideration was also given to whether changes in the *process* of policy formation would be more valuable than those in the content as related to the management plans at the specific sites.
- Welcome offers of support were extended by many of the individuals and agencies present.
- The other issue raised was whether some form of longitudinal survey will be conducted in this research to better understand the harvest and use patterns by poor stakeholders at different seasons, while others suggested that if resources are limited, we should attempt to look at the dynamics of resource use.
- IUCN will have a separate discussion with WorldFish on the valuation work to be conducted at Stung Treng so that the two agencies can share the resources and information gathered from the research.
- In view of the lack of real figures, some participants emphasize on getting as much information as possible on the value by asking some very concrete questions.
- In general, the group hopes the project can strike a balance between longitudinal survey, monitoring and resources available.

k) Project Management Unit

- Figure D.1 depicts the organisational chart of the Project Management Unit jointly led by WorldFish Center and the Department of Fisheries, Cambodia.
- The meeting also proposed to conduct the study in the following communes: (1) Preah Romkel or O Mreah at Stung Treng; (2) Kompong Klang, Kompong Plouk or Peam Tar Or at Siem Reap; and (3) Kork Tlok, Borey Choulsar or Kompong Krasang at Takeo.
- The participants also suggested criteria for the selection of communes should include communities that are facing policy challenges, conflicts between tourism, access and commercial interests, fishing lots allocation, dam/civil work and trans-boundary issues, and illegal fishing.

Figure 1.1 Organisational Chart of the Project Management Unit Jointly Led by WorldFish Center and the Department of Fisheries, Cambodia



G2. Stakeholder and Planning Workshop

Date: 5 – 6 June 2003

Venue: Department of Fisheries, Phnom Penh

2.1 Workshop Objectives

- a) To discuss project background, list of responsibilities and literature review.
- b) To have discussion on stakeholder analysis.
- c) To identify candidates for focus groups and key informants interview.
- d) To finalize semi-structured questionnaire.

Table 2.1 Schedule of Activities

<i>Time</i>	<i>Activities</i>
	5th June 2003
8:30am - 9:30am	Presentation of project background and literature review <i>Chong Cheow Kieok, Gareth Clubb</i>
9.30am – 9.45am	Break
9:45am – 11:45am	Discussion on logsheet <i>Chong Cheow keok, Gareth Clubb, Thay Somony</i>
11.45am – 2.00pm	Lunch
2.00pm – 5:00pm	Stakeholders analysis
	6th June 2003
8:30am – 10:00am	Discussion on selection of respondent for key informants interview and focus group <i>Provincial staff</i>
10.00am – 10.30am	Break
10.30am – 12.30pm	Semi structure questionnaire discussion <i>All participants</i>

Table 2.2 List of Participants & Observers

No.	Name	Position	Organisation
1	Chong Cheow Keok	Research Associate	WorldFish Center
2	Gareth Clubb	APO	WorldFish Center
3	Thay somony	NP Director	Department of Fisheries, Cambodia
4	Chheng Vibolrith	Coordinator	Department of Fisheries, Cambodia
5	Kim Sarith	Coordinator	DOF Provincial – Siem Reap
6	Mao Chansaman	Coordinator	DOF Provincial – Takeo
7	Thinny Sothy	Siem Reap counterpart staff	DOF Provincial – Siem Reap
8	Koth Kyleap	Siem Reap counterpart staff	DOF Provincial – Siem Reap
9	Heng Phaleap	Takeo counterpart staff	DOF Provincial – Takeo
10	Som Phea	Takeo counterpart staff	DOF Provincial – Takeo
11	Khai Sirabo	Stung Treng counterpart staff	DOF Provincial – Stung Treng
12	Kim Sokha	Stung Treng counterpart staff	DOF Provincial – Stung Treng
13	Ek Heng	D.NP Director	Department of Fisheries, Cambodia
14	Seng Mo Heth	P. Assistant	Department of Fisheries, Cambodia

2.2 Report of Stakeholder and Planning Workshop

2.2.1 5th June, 2003

Meeting began at 8:30 am, chaired by Gareth Clubb. The meeting began with self-introduction followed by presentation on project background by Chiew Kieok Chong. Thay Somony provided a brief note on list of responsibilities and example on how longitudinal survey, key informants interview selection and household survey can be conducted.

Gareth provided a briefing on activities conducted so far – literature review, and the importance of values of aquatic resources. He emphasized the importance of the project and its potential in its contribution to resource management in the country. The project will also be looking at similar work done by MRC, AIT, WWF and IUCN. The provincial counterparts were encouraged to share information at the province especially those that have been left out so far

and appreciate and assistance in getting in touch with relevant people for data collection. At this stage, it is almost certain that the project we will work very closely with IUCN at Stung Treng. Considerable debate followed about whether to list individual fish species or to aggregate species into groups for the longitudinal monitoring. For the research to be genuinely valuable, it was decided to have complete species lists. MRC has a list of fish that can be used – contact Nick van Zalinge (or maybe Kent Hortle) for that. The provincial counterparts then listed the list of fish, animals and plants that were used by the local communities in each province and discussed the may uses of aquatic resources at the study areas. A summary of the discussion is presented below.

Table 2.3 Summary of Relevant Stakeholders in Relation to Aquatic Resources Use by Province

Aquatic Resource	Takeo	Siem Reap	Stung Treng
<i>Fish</i>	Fishermen (from within and outside of village), aquaculturists, fish sellers, middlemen, traders (within & outside), tax office, military & police, economic & water police, district & commune authority & environmental dept.	Fishing gear seller, fish buyers for consumption, fishermen (full-time) and fishermen (part-time – dry season), processors, middlemen (inside and outside), forces (military, police, soldiers), local authority, fish culturist.	Consumer, fishermen, processor, fishing gear producer, middlemen, seller, fish culturist, local authority, forces (all kinds), animal feed producer, customs and tax, and Kampong Treu (checking fish quality agency),
Animal	Duck raiser, Aquacultureist, hunter, fish collector, using trap, poison, shooting, buyer (in and out), seller, consumer, water police (allow the foreign hunters to come and catch), fish hunting gear producer, restaurants, medicine (traditional), decoration producer (make out of turtle skull, and animal skins),	Crocodile culturist, duck and pig raisers, fish animal feed producer, hunter – for family consumption, for trading, restaurant/business, buyer for selling, buyer for consumption, processor (sometimes for household use, sometimes for trading e.g. snake skin for belt or drum), turtles skull and sternum, forces (police, military police, soldiers), animal gear producers.	Traditional music and medical producers, hunter/collector, military/police, farmer and soldier, ecotourism operators, middlemen, trader, transport operator, seller, consumer, illegal collectors of animals, animal raiser, animal gear producer.

Table 2.3. Continued...

Aquatic Resource	Takeo	Siem Reap	Stung Treng
Plants	Fuelwood collector and seller, buyer, land encroachment/clearance for ownership, land encroachment for sale, cadastral title, commune and district authority, land businessman, water police (will allow foreign people to cultivate rice by clearing forest), small-scale collector of water lily, lotus, morning glory and another species, consumer of these plants, pig raising, chicken, cow, buffalo, horse, fish and goats – feeding on the plants, environment department, traditional medicine producer, Travellers who depend on the forest for protection from weather, small-scale construction.	Rice farming, edible plant collectors for trading and family consumption, collector of traditional medicine, collector of plants for fishing gear use, for small-scale construction, lotus grower and morning glory grower, consumer, food for fish culture and animal raising, tourist area, fuelwood collector for family and sale.	Grower, consumer, seller, animal raiser, fish culturist, clearance for farming, rice cultivation and settlement, traditional medicine producer, producer of decorative materials for family, souvenirs, small traps, charcoal production, tourism, fishing gear producer, and construction use.

2.2.2 6th June 2003

The project team and provincial counterparts had another brainstorming session to identify relevant stakeholders and candidates for focus group workshops and key informant interviews as summarised below. The team also discussed various survey implementation processes such as population size, selection of sample size, sampling techniques and scheduling for fieldwork and longitudinal surveys.

Table 2.4 Summary of Relevant Stakeholders for Focus Group Workshops and Key Informant Interviews.

Level	Takeo	Siem Reap	Stung Treng
Focus Group – Provincial level	Provincial government, provincial agriculture and forestry, land measurement department, hydrology/water resource office, provincial department of environment, fish buyer and seller, Fish transport operator, police, military police and army	Rural development department, district governor, department of environment, tourism department, transportation and public works, police and military, army, economy department, fish sellers at the market, fish processor, crocodile culturists, fish trader, middlemen, provincial governor.	Fishermen, NGOs, district governor, fish culturists, fish seller, provincial department of forestry, wild animal buyer and collector, middlemen, military police and army, environmental department, rural development department, department of transportation and public works.
Focus Group – Local/Community level	Local authority and village/commune committee, elders in the community, fishery community committee, fishers, fishing lot owner, fish buyer and collector, fish seller, people who depend on vegetation collection and fuelwood collection, district agriculture office, agency dealing with land title, police (district and military), border police, border army, district environmental office, tax authority,	Local commune chief, elderly, fishermen, according to fishing gear use, trader, fish processor, military police/ army, neighbouring community chief and village chief, community committee, fish & crocodile culturists, people collecting or cutting fuelwood for selling purposes, aquatic plant collector, people who cultivate dry rice and mung bean, lot owner	Local authority, community committee, local police, fisher, elderly, community fishing committee, wild animal hunter

2.3 Semi-Structured Questionnaire

A brainstorming session was conducted together with the provincial counterparts to identify the type of issues that needs to be addressed in the key informants interviews and focus group discussions. The following list was collated and further refined before the actual fieldwork.

- Perception of increase/decrease of resources

- How the local communities think whether their dependence on aquatic resources for their livelihoods have increased/decreased.
- Their perception on the current management of aquatic resources of their community areas, what improvement is expected for the management in the future
- What difficulties or constraints they face in using the resources in the commune
- Do they have alternative livelihood strategy in mind if they are going to face increasing difficulties in getting livelihood from the resources?
- What do they think/ feel about part-time fisher in there area
- The different job within a family (fisher) – how many jobs are there?
- If they choose fishing, why do they choose fishing as livelihood
- How many children do they have?
- Education of their children
- If the children do not go to school, why
- If people collect fuel wood or aquatic vegetation for selling, how much do they earn per day and where do they transport these products for sale?
- Different types of fishing gear used in different season
- Alternative options for income generation
- The number of fisher families in the commune
- For the people who hunt wildlife and collect fire wood, would they change their current occupation?
- Which species are endangered
- The number of part time fisher and full time fisher
- The conflicts between the outside fisher and commune fishers
- Do the people have awareness on fishing law and regulations
- If not, do people know which type of fishing gear are prohibited
- When are the peak season for fishing
- People's feeling about the fishing lot policy

G3. Internal Workshop on Site Selection and Questionnaire Development

Date: 22 August, 2003

Venue: Department of Fisheries, Phnom Penh

3.1 Workshop Objectives

- a) To present the progress report of the project from commencement up to the present;
- b) To discuss and verify the sites selected for the survey;
- c) To discuss the draft questionnaire for the survey; and
- d) To plan for the implementation of the survey.

Table 3.1. Schedule of Activities

Time	Activities
8:00am - 8:30am	Introductory remarks <i>Danilo Israel, WorldFish Center</i>
8:30am - 9:00am	Presentation and discussion of progress report <i>Yeo Bee Hong, WorldFish Center</i>
9:00am -10:30am	Discussion and verification of selected sites <i>Ek Heng, Department of Fisheries</i>
10:30am – 10:40am	Break
10:40 am – 12:00 pm	Presentation and discussion of draft questionnaire Danilo Israel, Yeo Bee Hong, WorldFish Center <i>Ek Heng, Department of Fisheries</i>
12:00 pm – 1:30 pm	Lunch break
1:30 pm– 3:00pm	Presentation and discussion of draft questionnaire Danilo Israel, Yeo Bee Hong, WorldFish Center <i>Ek Heng, Department of Fisheries</i>
3:00 pm – 3:10 pm	Break
3:10 pm – 4:45 pm	Planning for survey implementation <i>Gareth Clubb, WorldFish Center</i>
4:45 pm – 5:00 pm	Wrap up

Table 3.2. List of Participants & Observers

No.	Name	Position	Organisation
1	Thay Somony	NP Director	Department of Fisheries, Cambodia
2	Ek Heng	D.NP Director	Department of Fisheries, Cambodia
3	Seng Mo Heth	P. Assistant	Department of Fisheries, Cambodia
4	Gareth Clubb	APO	WorldFish Center, Penang
5	Yeo Bee Hong	Research Associate	WorldFish Center, Penang

Table 3.3 List of Presentation Material

No.	Title
1	Workshop Overview

G4. Project Methodology and Framework Review Workshop

Date: 11 September, 2003

Venue: Inland Fisheries Research and Development Institute (IFReDI) Conference Room
Department of Fisheries, Phnom Penh

4.1 Workshop Objectives

- a) To discuss the project methodology, framework and progress;
- b) To present and discuss the draft survey questionnaire;
- c) To explore avenues for cooperation among related projects in aquatic resources valuation and policy processes for poverty elimination in the Mekong region.

Table 4.1. Schedule of Activities

Time	Activities
8:00am – 8:15am	Welcome speech <i>Mr. Nao Thuok, Director, DOF</i>
8:15am – 8:45am	Introduction, Project Methodology and Framework <i>Danilo Israel, WorldFish Center</i>
8:45am – 9:15am	Project Progress <i>Ek Heng, Deputy National Project Director</i>
9:15am – 9:35am	Integrating Wetland Values into River Basin Management <i>Sarah Porter, Environmental Economist, (IUCN)</i>
9:35am – 10:00am	Discussion
10:00am–10:15am	Break
10:15am-11:00am	Discussion on Draft Questionnaire <i>Yeo Bee Hong, WorldFish Center</i>
11:00am- 11:30am	Discussion and Closing <i>Gareth Clubb, WorldFish Center</i>

Table 4.2. List of Participants & Observers

No.	Name	Position	Organisation
1	Sem Viriyak	PRIAC project CFDO-IMM	CFDO, DOF
2	Un Kanika	Fisheries Officer	CFDO, DOF
3	Ung Rachana	Fisheries Officer	CFDO, DOF
4	Yo Vichnny	Fisheries Officer	CFDO, DOF
5	Ouk Vibol	Deputy Chief, FDO	DOF, Cambodia
6	Ek Heng	D.NP Director	Department of Fisheries, Cambodia
7	Seng Moheth	P. Assistant	Department of Fisheries, Cambodia
8	Kim Sokha	Officer	FDO, DOF
9	Hing Sopheavy	officer, IFReDI	IFReDI
10	Hap Navy	Chief, SE	IFReDI
11	Sarah Porter	Environmental Economist	IUCN
12	Hans Guttman	Environment Programme Manager	MRC, Phnom Penh, Cambodia
13	Rob Shore	Project Officer	WWF, Cambodia
14	Niva Gonzales	Third Country Expert for Fisheries Co-Management	
15	DF Agbayani	Team Leader	WorldFish ADBTA
16	Ing Try	Deputy Director	DOF
17	Danilo Israel	Project Leader	WorldFish Center, Cambodia
18	Gareth Clubb	APO, DFID	WorldFish Center, Cambodia
19	Yeo Bee Hong	Research Associate	WorldFish Center, HQ Penang
20	Hong Meen Chee	Research Assistant	WorldFish Center, HQ Penang

Table 4.3. List of Presentation Materials

No.	Title
1	Introduction, Framework and Methodology of the Project
2	Progress of project
3	Questionnaire Discussion

4.2 Report of Project Methodology and Framework Review Workshop

Partners from MRC, IUCN, WWF and national DOF officers such as CFDO, FDO and IFReDI were invited. The workshop was valuable where detailed comments were solicited on the draft questionnaire. Survey methodologies were also discussed (such as sampling frame and site selections). The team also received valuable comments on practical implementation issues such as translation needs. Counterparts of the socioeconomic IFReDI ADB-TA project were invited. Most were out in the field, but the chief of the socioeconomic unit, Hap Navy was present. All the comments were recorded and considered in the modification of the questionnaire.

G5. Workshop on Presentation of Preliminary Findings and Future Directions for Poverty Elimination in the Lower Mekong Basin – NATIONAL LEVEL

Date: 20 October 2004

Venue: Department of Fisheries, Phnom Penh, Cambodia

5.1 Workshop Objectives

- a) To present and obtain feedback on the preliminary findings of the project;
- b) To discuss the pathways for research findings to be applied in future aquatic resources policy development and management in Cambodia.
- c) To chart future project directions in terms of development and implementation of action plans (including partnerships)

Table 5.1. Schedule of Activities

Time	Item
8:00 – 8:15	Registration
8:15 – 8:30	Welcome address <i>H.E. Chan Sarun, Minister, Ministry of Agriculture, Forestry and Fisheries</i>
8:30 – 8:45	Keynote Address <i>Nao Thuok, Director, Department of Fisheries</i>
8:45 – 9:00	Photo Session
9:00 – 9:15	Introduction and Overview of the Workshop <i>Mahfuzuddin Ahmed, WorldFish Center</i>
9:15 – 9:30	Project Progress <i>Danilo Israel, WorldFish Center</i>
9:30 – 10:00	Preliminary findings: Economic, Social Valuation and Longitudinal Survey <i>Yeo Bee Hong and Hong Meen Chee, WorldFish Center</i>
10:00 – 10:15	Break
10:15 – 11:00	Participatory Rural Appraisal and Livelihood Analysis Report <i>Takeo – Ek Heng, Department of Fisheries</i> <i>Siem Reap – Chheng Vibolrith, Department of Fisheries, Siem Reap</i> <i>Stung Treng – Tum Nyro, Culture and Environment Preservation Association</i>
11:00 – 11:15	Undervalued and Overlooked <i>Mr. Mam Kosal, Wetlands International</i>
11:15 – 11:30	Economic Valuation - Exploring Sustainable Financing of Community Fisheries Management <i>Sarah Porter and Joanne Chong, World Conservation Union (IUCN)</i>
11:30 – 12:00	Open Forum and Discussions

Table 5.1. Continued...

Time	Item
12:00 – 2:00	Lunch
2:00 – 2.20	Plenary Discussions 1. Enhancing Relevance and Uptake of Research Information 2. Future Directions and Implementation Strategy <i>Susana Siar, WorldFish Center</i>
3:20 – 3.30	Break-out Group Sessions Group 1: Enhancing Relevance and Uptake of Research Information <i>Facilitator – Mahfuzuddin Ahmed</i> <i>Rapporteur – Yeo Bee Hong</i> <i>Translator/Facilitator – Hap Navy and Ek Heng</i> Group 2: Future Directions and Implementation Strategy <i>Facilitator – Susana Siar</i> <i>Rapporteur – Yeo Bee Hong</i> <i>Translator/Facilitator – Chheng Vibolrith and Chann Sopheap</i>
3:30 – 3.45	Break
3.45 – 4.15	Plenary presentations (15 minutes each) - Group 1 and Group 2
4:15 – 4.45	Plenary discussions <i>Mahfuzuddin Ahmed, WorldFish Center</i>
4.45 – 5.00	Closing Speech <i>Nao Thouk, Director, Department of Fisheries</i>

Table 5.2 List of Participants

Nô.	Name	Position	Organisation
1	H.E. Por Try	Secretary of State	Ministry of Agriculture, Forestry and Fisheries
2	H.E. Ek Roath	Under Secretary of State	Ministry of Agriculture, Forestry and Fisheries
3	Nao Thouk	Director	Department of Fisheries, Cambodia
4	Sam Nouv	Deputy Director	Department of Fisheries, Cambodia
5	Ly Vulty	Chief	Department of Fisheries, Cambodia
6	Khaing Kim	Vice Chief	Department of Fisheries, Cambodia

Table 5.2. Continued...

No.	Name	Position	Organisation
7	Sem Viriyak	Officer, CFDO	Department of Fisheries, Cambodia
8	Yo Vichny	Officer, CFDO	Department of Fisheries, Cambodia
9	Chhun Sony	Officer, CFDO	Department of Fisheries, Cambodia
10	Leang Sopha	Deputy Director, IFReDI	Department of Fisheries, Cambodia
11	Hap Navy	Head of Socioeconomic Office, IFReDI	Department of Fisheries, Cambodia
12	Deap Loeng	Vice Chief of Biology Office, IFReDI	Department of Fisheries, Cambodia
13	Hort Sitha	Vice Chief of Administration office, IFReDI	Department of Fisheries, Cambodia
14	Keang Seng	Officer, IFReDI	Department of Fisheries, Cambodia
15	Heung Sopheavy	Officer, IFReDI	Department of Fisheries, Cambodia
16	Seng Leang	Officer, IFReDI	Department of Fisheries, Cambodia
17	Chap Piseth	Officer, IFReDI	Department of Fisheries, Cambodia
18	Ouk Vibol	Vice Chief	Department of Fisheries, Cambodia
19	Kim Sour	Officer, FDEO	Department of Fisheries, Cambodia
20	Lyothea	Officer, FDEO	Department of Fisheries, Cambodia
21	In Hul	Officer, FDEO	Department of Fisheries, Cambodia
22	Kim Sokha	Officer, FDEO	Department of Fisheries, Cambodia
23	Noy Pork	Officer, FDEO	Department of Fisheries, Cambodia
24	Sum Kong	Officer, FDEO	Department of Fisheries, Cambodia
25	Thay Somony	Officer	Department of Fisheries, Cambodia

Table 5.2. Continued...

26	Ly Sina	Officer	Department of Fisheries, Cambodia
27	Renaud Baileux	Advisor of Bureau of Aquaculture	Department of Fisheries, Cambodia
28	Ek Heng	Vice Chief, FDEO; National Project Director	Department of Fisheries, Cambodia; WorldFish Center
29	Chu Kim	Officer, FDEO; National Project Assistant	Department of Fisheries, Cambodia; WorldFish Center
30	Chann Sopheap	Officer, FDEO; National Project Assistant	Department of Fisheries, Cambodia
31	Chheng Viborith	Head of Siem Reap Fisheries Office, Provincial Project Coordinator	Department of Fisheries, Cambodia; WorldFish Center
32	Mao Chansamon	Head of Stung Treng Fisheries Office, Provincial Project Coordinator	Department of Fisheries, Cambodia; WorldFish Center
33	Kim Sarith	Head of Takeo Fisheries Office, Provincial Project Coordinator	Department of Fisheries, Cambodia; WorldFish Center
34	Tum Nyro	Officer of Stung Treng Fisheries Office, Provincial Project Counterpart	Department of Fisheries, Cambodia
35	Sok Sopheaktra	Officer	Ministry of Environment
36	Sheak Sophat	Director	Department of Environment Science, RUPP
37	Kong Sovamsay	Lecturer	University of Agriculture, Fisheries Faculty
38	Leung Kesaro	Coordinator	UNDP
39	JocGarricor	Officer	MRC
40	Patrick Evans	Chief Technical Advisor	FAO
41	Mao Kosal	Liaison Officer	IUCN
42	Sarah Porter	Environmental Economist	IUCN
43	Joanne Chong	Programme Officer	IUCN

Table 5.1. Continued...

44	Peter Degen	Specialist	Rural Development/ Institution
45	Oliver Pye	Researcher of East Asia Regional Office	Oxfam
46	Toby Carson	CBNRM Project Advisor	WWF
47	Mahfuzuddin Ahmed	Discipline Director	Policy, Economics and Social Science, WorldFish Center
48	Danilo Israel	Project Scientist/ project Leader	WorldFish Center
49	Susana Siar	Regional Coordinator	WorldFish Center
50	Edmund Oh	Research Associate	WorldFish Center
51	Yeo Bee Hong	Research Associate	WorldFish Center
52	Hong Meen Chee	Research Assistant	WorldFish Center

Table 5.3 Presentation Materials

No.	Title
1	Introduction and Overview of Workshop
2	Project Progress
3	Preliminary Results of Longitudinal Monitoring
4	Preliminary Findings: Economics and Social Valuation Results from Household Surveys
5	Undervalued and Overlooked: Sustaining Rural Livelihoods Through Better Governance of Wetlands
6	Economic Valuation: Constraints and Opportunities for Community Fisheries Management in Stung Treng Province

5.2 Workshop Report**a) Background**

The project organized national and provincial workshops (details of workshop provided below) to present and obtain feedback on the preliminary findings of the project from relevant agencies and stakeholders.

b) Workshop outcomes

The workshops were well received and attended by key Government personnel and NGOs involved in the management of aquatic resources in Cambodia (information of the participation and dates of the workshop are detailed below). Press coverage of the workshops were broadcasted on national and provincial television channels. While the participants of the workshops provided valuable feedback and verification of the results, open sessions for discussions on the next steps of the research results were also discussed.

At the national workshop, the participants were divided into two workgroups to discuss the following two themes:

- Enhancing Relevance and Uptake of Research Information
- Future Directions and Implementation Strategy

At the provincial workshops, the unique combination of representatives from local levels (commune and village), provincial Government agencies and NGOs enabled discussions on the future directions and implementation strategy based on the research results and also how the results can be effectively presented and disseminated at the village levels.

On the whole, the participants at the national and provincial workshops provided valuable feedback and displayed intense enthusiasm by providing suggestions for the next steps in the implementation and future directions of relevant initiatives towards the sustainable management of aquatic resources while enhancing livelihood options at the relevant project sites.

The specific outputs of the workshops at national and provincial levels aimed at:

- A workshop report encompassing the process, discussions and recommendations deliberated at the national and provincial workshops and
- A strategy paper summarizing the approach for the uptake of research findings and next steps for the further development and implementation of local participatory plans for aquatic resource management.

5.3 Output of Discussion

The following points presents the summary of group discussions on the policy process and uptake of information of the project findings on economic and social valuation of aquatic resources. While guide questions were provided for discussion, the group had the flexibility to discuss adapt the discussion as deemed fit.

- Guide/suggestions for discussion
- What is the role of economic and social values in the management of aquatic resources in the Mekong Basin?
- Which of the current policies can provide entry points for the integration of social and economic values in aquatic resource management?

- How can we engage the interest of policy makers to consider social and economic values in policies on aquatic resources management?
- Which institutions/stakeholders need to be involved in developing these values (national/provincial/village levels)?
- What are the venues for dissemination and integration of these findings?
- Besides valuation research, what other relevant factors/research areas need to be understood for the sustainable management of aquatic resources?

Group 1

Question 1. Which of the current policies can provide entry points for the integration of social and economic values in aquatic resource management?

- National
- Laws
- Strategic plan–Socio-economic Development Plan – sectoral GDP should include values of natural systems/services = goods and services
 - Fisheries Plan** – master plan; 5 year strategic plan – specific sectoral plan under/within broader national SEDP
- Sub-decree
 - EIA sub-decree:**
- Baseline information to compare the changes between no development or with development
- Showing changes to the original conditions
- Changes between different states/situations with costs and benefits
- E.g., look at pollution from chemical use in agriculture; benefit/cost from an activity
- Declaration
- Decree
- Proclamation
- Commune level
 - Statutes
 - By-laws

Question 2. Which of the current policies can provide entry points for the integration of social and economic values in aquatic resource management?

- Millennium Development Goals – sustainability of resource management; food security (flooded forest or rice expansion)
- Commercial fishing fees or subsidies – large scale fishing high or low to set fees; relate to productivity of fishing; if you find out that poor people have low returns from fishing, you can remove taxes from fishing
- Aquaculture – wild small fish – more valuable as snakehead food or human food or fertilizer?
 - Food security value, financial value
- Export promotion – value of different species (financial, food security)
- Processing – market driven
 - Labor-intensive vs. non-labor intensive resource users

Question 3: How can we engage the interest of policy makers to consider social and economic values in policies on aquatic resources management? What are the venues for dissemination and integration of these findings?

- Publication and documentation: Research briefs – short; 4-5 pages summary of report
- Strategic National Planning
 - Socio-economic Development Plan – sectoral GDP should include values of natural systems/services = goods and services
- Consider which level of policy-makers
 - What are the political drivers?
 - Main points: Department director and up
- Workshop – but may not be an effective way; time-intensive/information rich
- National policy-makers – thru politicians: political debate among senior government officials – difficult to insert information into this process
- Personal communication – unofficial – not formal process
- Stakeholder participation – time-intensive; long-term, raise awareness on benefits - Formal engagement in process – potentially expensive
- Cultural context – culture based on hierarchy – Cambodia system is very top-down – apply social pressure from the local community and commune council
- Decentralization process includes NREM (natural resource environment management) – a formal process; yet in practice, much decision-making

Question 4: What other relevant factors/research areas need to be understood for the sustainable management of aquatic resources?

- Transparency – In decentralization: financial resource channeled to province
- Accountability
- Development plan for each commune - ? Capacity to use value information for decision-making about choices and trade-offs of the different possible uses of commune budgets
- Short-term time view of some policymakers
- Role of development institutions – creative incentives for attaining government goals
- Understanding political motivations and parties

Group 2

1) Clarification and questions

Need to identify existing plans available in the villages

Existing Planning Mechanism exist for planning process to develop management plans. The Community Development Committee and VDC through the SEILA decentralization programme develop management plans.

Local NGOs will support the Government in developing commune level plans.

Need to integrate any sectoral plans that is to be developed to the existing plans

2) What information is needed?

a) Valuation

Valuation of direct use and non-use values at the household level

Values of rice farming vs. other aquatic resources (Takeo)

b) Fish Catch

- by Household
- seasonal trends in catch and consumption
- fish consumption by households
- The need of aquatic resources
- Fish catch in the rice field

c) Define stakeholders and their participation, number of fishermen

d) Current management and policy

Explore and identify the existing commune and village development plan and policies so that aquatic resources management can be integrated.

Villagers do not understand about fishery law.

e) Fishing exploitation -

Illegal fishing, people's practice in aquatic resource use, ways of exploitation (techniques)

f) Livelihoods analysis diagrams – human, physical, social, natural , financial

3) Who will develop the plan? At which level? Which existing institutions are in place?

a) Local level

Village Development Committee

Commune Council (Priority - 2)

Community Fishery Committee (Priority – 1)

b) Provincial level

• Department of Agriculture

• Provincial Fisheries Office (Priority – 2: Provide technical support to the commune council)

c) National level

Department of Fisheries - Ministry of Agriculture, Forestry and Fisheries –
To provide the framework

Department of Environment – to provide advice related to protected areas

Cambodian National Mekong Committee is developing the Mekong Basin Development Plan.

Plans to be developed need to be

4) Potential sources for funding (Funding Mechanisms)

Incentive for upstream region (Stung Treng) for CF community fishery management from the Government through the National Budget (advocacy – involving Ministry of Finance for funds). Background deep pools benefit fisheries resources at the national level at the upstream of the Mekong River – but not particularly benefit the local community only but at the national level – eg. at Tonle Sap.

National Budget

Sufficient proportion of fishery income should be invested back into the fisheries section including for the planning and implementation of the management plans of aquatic resources

Should finance for the CF should be earned locally? (Comment – CF is not a business)

Identify opportunities and ways for the CF to generate fund for self-financing locally in terms of operations and management – CF Bank system?

5) Who to implement?

Community Fisheries (implementer) – Develop management plans to be integrated into the Commune Management Plans with support and advice from the Provincial Fisheries Office

6) Which specific institutions need to be consulted?

Local authority (Commune Council, District offices) should be consulted

Enforcement – Military police to Plenary

G6. Workshop on Presentation of Preliminary Findings and Future Directions for Poverty Elimination in the Lower Mekong Basin – PROVINCIAL LEVEL

G6.1 Siem Reap

Date: 22th October 2004

Venue: Department of Agriculture, Forestry and Fishery, Siem Reap, Cambodia

Table 6.1. Name list

No.	Name	Position	Organisation
1	Tain Chenda	Deputy Director	Department of Environment
2	Pa Pov	Chief of	Fisheries Community
3	Hay Yeasna	Vice Chief	Agriculture Office, Department of Agriculture
4	Ouch Seaha	Vice Head	District Administrative Forestry
5	Mr. Ek Heng	Vice Chief	FDEO
6	Mr. Chu Kim	Project Assistant	WorldFish Center
7	Hap Navy		IFReDI, DoF/WorldFish Center
8	Srey Keosopheau	Officer	Department of Fisheries, Siem Reap
9	Chan Tong	Officer	Department of Fisheries, Siem Reap
10	Phann Muny	Officer	Department of Fisheries, Siem Reap
11	Mr. Chheng Vibolrith	Head	Siem Reap Fisheries Office
12	Searv Chhunlay	First Vice Chief of Commune	
13	Srey Ly	Commune Leader	
14	Los Lay	Commune Leader	
15	Sok Blang	Commune Representative	
16	Art Yearm	Representative of Fishing	
17	Aung Tainlay	Representative of Fishing	
18	Phoumkan	Village Chief of Community	

Table 6.1. Continued...

19	Yem Song	Village Head	
20	Koung Hout	Village Head	
21	Eat Choeum	Chief of Fishing Lot	
22	Pom Kann		Fisheries Community
23	Hay Veasna		Fisheries Agronomy Office
24	Chun Vuthy	Project Officer, FACT	
25	Chhin Vuthy	FACT	
26	Mr. Paul	FAO	
27	Mr. Chan Ton	FAO	
28	Penn Sony	Transport and Public Officer	
29	Sok Plan	FO	
30	Thinny Sothy	FO	
31	Kim Ravy	Tourism Officer	
32	Dr. Mahfuzuddin Ahmed	Director, Policy, Economics and Social Science	WorldFish Center
33	Dr. Susana Siar	Regional Coordinator	WorldFish Center
34	Mr. Edmund Oh	Research Associate	WorldFish Center
35	Ms. Yeo Bee Hong	Research Associate	WorldFish Center

6.1 Workshop report for Siem Reap

a) Preliminary Household results

- What about fish stock assessment, is the project doing this?
- Would aquaculture not be included in animal raising?
- What are examples of sport and cultural activities?
- What are aquatic plants and animals?
- Did the project record collection of firewood from the flooded forest?
- What was the method used in gathering data on collection of aquatic plants and animals?
What is the percentage collected from local and outside the community?
- Was the fish catch recorded by species? What method was used in recording fish catch?

b) Longitudinal Survey preliminary results

- How to collect data from the fishermen?
- Do you weight fish?

c) PRA - Siem Reap

- Has the project developed policy or management plan for local people? If so, when is this going to be implemented and how?
- The data gathered are enough because when the project team went to his commune they asked a lot of questions.
- People in the village need financial support from NGOs for their business.

- What is the problem with the fishing gear? Is it a question of the lack of fishing gear for catching fish, or there is not enough fish to catch?
- Regarding sources of credit – Could it be that they do not know where to borrow money from to buy fishing gear?
- The people know where to borrow money but the interest rate is high.
- Will the project provide financial support to poor people? If so, when?
- In the natural resource map where a big lake is shown: this lake has water during the dry season and many people outside the village, e.g., from the uplands, fish in the lake. The lake belongs to Ou Ta Putt village and they could be empowered to manage the lake. The village itself can protect the lake as a fish sanctuary.

d) Plenary session (Group presentations)

- 1) With the existing information, what steps can be taken in the future to address aquatic resources issues?
 - Propose pursue project in order to aquatic resources conservation
 - Set up clearly management plan
 - To participation from local authorities
 - Disseminate information about law and aquatic resource to villages
 - Extension and dissemination of information and need regulation, law for people to implement to protect and conserve natural resources.
 - To develop the conservation and management plan
 - Give incentive to people who are active in natural resources management
 - Establish the extension committee at the local level (commune/village)
 - To educate or train people how to manage the natural resource in their areas.
 - To build capacity among the local authority
 - To strengthen the community fisheries regulation
 - Establish/organize more community fisheries
 - Extension programme about the closing fishing season.
 - Strengthen law enforcement
- 2) What are the existing plans at the village, commune and provincial levels?
 - At commune level integrated development plan exist – however development plan is focused on building roads, bridge, school etc.
 - At the community fisheries, there is a plan to disseminate information about natural resources management esp. illegal fishing. They also have a plan to replant the flooded forest, also within the community fisheries to manage revolving funds received from any NGOs.
 - To organize the village committee
 - To define the community fishery area and territory
 - To provide the incentive and support for people involved in implementing the programme.

- Also to establish fish sanctuary within the commune.
- Activities should include – seek donor organization to educate existing management information to control illegal fishing.

3) Do you an aquatic resource management plan would be useful at your village?

- Useful especially at the village level to help the livelihood of the poor people, environment is good, and if the natural resource management is good, is a good source for attracting tourism.
- Financial resources, equipment, document, financial for poor people to set up their business, revolving funds, establishment of Community Fisheries and also training, extension programme, human resource, community fisheries committee,
- Aquatic resources management plan should be included within the commune development plan. There is a need to law and regulation in aquatic resources management
- How to tell people how to extract natural resources in a proper way. Eg. flooded forest, how many branches can cut fire wood.

4) If you have a related action plan, do you need to strengthen the plan?

- Community fisheries management plan already exist – the plan needs to be strengthened by getting stakeholder relevant institutions involved in implementing the plan and local authorities, military, police and NGOs. Especially the people themselves need to be involved in the implementation of the plan.

5) If an action plans is needed, how can you develop it or how would you like it to be developed?

- To get people – local authority, village, commune, the officer from various Government agencies, priests – monks and elderly to be involved in the management plan, teachers also.
Should continue to implement the existing management plan.
Another way to develop the plan is to have a committee or group to have representative from different institutions/agencies

e) Question and Answer

1) Village head – Kampong Kleang –

- So far he has seen that extension programme conducted at the village. He recognizes that only a few people attend the meeting and accept information from extension programme.
- In the future, if there is an extension programme, how to get people to get involved actively in the extension programme.
- Answer: Accepts idea that few people participate in the extension programme as it takes time for people to understand what is being communicated.

f) Interview with FAO - Interviewed by Edmund Oh

1) What plans already exist?

- Most villages already have a community fisheries development plan, which is rather comprehensive. Information gained from this project should therefore build upon or feed into, rather than replace such plans.
 - A lot of community-specific local knowledge has already been incorporated into the plans, including e.g. which time of the year is the best time to collect wood, etc.
- 2) What information from this project can be fed into these plans?
- The data on the relative importance of each activity in each community can be highlighted in the development of plans to enable prioritization of resource allocation.
- 3) What other information should the plan contain?
- The plan should include strategies on strengthening regulatory processes, i.e. enforcement.
- 4) What kind of support is necessary to ensure the success of these plans?
- Financial support is critical as most of the plans cannot be implemented successfully due to a lack of financial capital.
 - Some communities have a common revolving fund which is used to provide credit to individuals to, e.g. purchase gears. Often little or no interest is charged.
 - Technical support is also needed to ensure the successful implementation of the plans. Training is especially required to build capacity in areas such as project planning and the management of small businesses.
 - The plan can also highlight unexploited livelihood opportunities which the community can pursue, e.g. ecotourism.

G6.2 Stung Treng Workshop

Date: 28th October 2004

Venue: Department of Agriculture, Forestry and Fishery, Stung Treng, Cambodia

Table 6.2. Name list

No.	Name	Position	Organisation
1	Eng Phyrong	Deputy Director	Department of Environment
2	Prum Pich	Deputy	Department of Development
3	Pich Dara	Chief	Tourism Office
4	Ly Vuthy	Chief	CFDO
5	Mr. Ek Heng	National Project Director	WorldFish
6	Mr. Chann Sopheap	National Project Assistant	WorldFish
7	Mao Chansamon	Deputy Head	Fisheries Office
8	Tum Nyro	Officer	Department of Fisheries
9	Than Seiha	Officer	Department of Fisheries
10	Kim Sokha	Officer	Department of Fisheries
11	Ten Srinan	Officer	Department of Fisheries
12	Um Sophorn	Commune Head	
13	Kham Lea	Commune Head	
14	Bay Som	Village Head	

Table 6.2. Continued...

15	Hem Koen	Village Head	
16	Mon Tem	Village Head	
17	Se Sophy	Head	Fisheries Agronomy Office
18	Pheuk Sophea Pheakkdei	Head	Transportation Office
19	Nong Khemrin	Officer	Department of Agriculture
20	Sou Sophorn		Community Fisheries
21	Tech Voeun	Head	Community Fisheries
22	Uon Nol		Community Fisheries
23	Pov Pheng Sieng	IUCN	
24	Yen Run	CEPA	
25	Sok Veasna	OCAA- OXFAM	
26	Ms. Yeo Bee Hong	Research Associate	

6.2 Workshop report for Stung Treng

Mr. Tum Vong Sin, Deputy director of the Department of Agriculture, Forestry and Fisheries, warmly welcomes participants attended the workshop. He hops the workshop will do more actively and get feat back for project. Mr. Ly Vuthy, Chief of community Fisheries Development Office representative of the Department of Fisheries, speech in opening the workshop. In occasion of opening the workshop, Mr. Ly Vuthy has introduced the important of aquatic resources; especially fish played a very important role in food security for people and national economic. Only freshwater fish have supported about 30- 40 kg in Cambodia and about 70-75 kg in the Great Lake. Totally, income of fisheries have supported in to national economic about 10-15% of GDP. After fisheries reform, fishing lots have been reduced 56% for local people to centralize through community fisheries development for reducing poverty of local people. To day workshop on results of Preliminary Findings and Future Directions of The Mekong Valuation Project is very important, especially feat back or comments by participants. So, we proclaim informal for opening workshop activates from this time. After opening ceremony, participants have introduced themselves.

a) Workshop objectives and project backgrounds

The title of the project includes the terminology – “Poverty Elimination” – is this work for the long term or short term? It should be poverty reduction rather than elimination.

A: Reduction may be more reflective as we do not directly provide resources to eliminate poverty.

Comment commune head: Reduction in poverty does not mean providing property to people but It means how to use, manage and develop natural resources in environmental sustainable way by providing ideas or methods for management and development that mean we need to provide fishing gears and methods for fishing to people, we do not need providing fish.

Comment by Village Head: The project is only recording data, but the people are still poor as there is no direct benefit to the villagers, the word reduction should be used instead of reduction.

Comment by Ly Vuthy, DoF: We do not support materials or finance but we want to provide idea or method to reduce poverty for people.

b) Household Questionnaire

Mr. Ly Vuthy presses on the presentation of social survey relevant to resource use by local people. We have never thought what is people use without paying. For example, people use plant for traditional medicine without buying. If people buy how much they need to spend and how much they can save money? At that time, he requests to participants for feedback, comments and questionnaires.

1) Why sample size few?

- Two ways of collecting samples – Select full village numbers or select sample to be representative. Selecting few can be done when there is not much difference from one villager to another, but if there are major differences, may need to select all for sample size.
- Poverty about people – should study why they are poor and should select more households that are poor, especially women who are widows and find out why they are poor. Should increase sample size in order to derive a conclusion.

b) Longitudinal Results

1) Why if the poor or medium catch more fish than the rich, why are they still poor?

- Poor catch more fish but they are still poor – demand of fish by rich is high and poor fish more often than the poor – the rich actually provides capital to the poor to go fishing or poor fisher loan money from rich fisher for buying fishing gear or completion of demand, so they have to turn back by fish or money or sell fish in any condition.
- Comment: Two types of group catching fish – those who catch for the whole season and those who catch only during certain seasons.
- Answer by village head: Income from fishing is not so important. What is more important – what is more important is rice farming and animal raising. Anyway, rich household has land 2-3 ha; medium household has land around 1 ha and poor household has land around 0.5 ha only. Rich has more occupations, fishing is their secondary occupation; medium people and poor people depend fishing is stronger than rich household, especially we can say fishing important role for poor household because their difficult to find job out of fishing while they have free time.
- Comment: Results from 9 households may not be able to reflect trend correctly.

2) Are there any recommendations for addressing illegal fishing gears?

- Results are based on PRA exercises, the results can recommend to relevant organizations and NGOs. At the moment, a PRAKAS is being put in place to abolish illegal fishing gear and fishing gears with small mesh size.

c) Participatory Rural Appraisal

1) Economic Values of Fishing – why is income from fishing so little?

- Mr. Ly Vuthy, income and outcome per day if they use their labors, they can earn over R6000.00 per day. However, if they rent labors they can get profits R2000.00 per day only.

3) Why they are poor, medium and rich?

- Fish catch can sell in different price if average price can be less than R3000.00. generally they can catch fish 4kg/day only. Rich household they catch fish for eating only; they

never worry about fishing for improve their economic standard that contradicts with poor household. Main incomes for the people are rice farm, animal culture and others.

- 4) Stakeholders request for elimination illegal fishing practices
 - Mr. Ly Vuthy: DoF enforces elimination on illegal fishing activities, electro-fishing gear, mosquito-net and etc. Community fisheries should close cooperation with local authority, especially, commune because they have polices and obligation.

G6.3 Takeo Workshop

Date: 2nd November 2004

Venue: Department of Agriculture, Forestry and Fishery, Siem Reap, Cambodia

Table 6.3. Name List

No.	Name	Position	Organisation
1	Mel Chhan Tevy	Vice Chief	Fisheries Agronomy Office
2	Nou Nam	Chief	Natural Resources Conservation
3	Keo Seng Kry	Vice Head	Forestry Administrative
4	Meas San	Chief	Admiistrative Office/ DOAFF
5	Ek Heng	National Project Director	WorldFish
6	Chu Kim	National Project Asisstant	WorldFish
7	Kim Sarith	Chief/Project coordinator	Fisheries Office
8	Ou Sopan	Vice Chief Fisheries Office	
9	San Suong	Commune Head	
10	Hem Sen	Village Head	
11	Prum Samith		OCAA
12	Yeo Bee Hong	Research Associate	WorldFish Center

6.3 Workshop report for Takeo

Overview of Project and Progress

Agronomy - Consideration of the project – firstly poverty elimination, understanding of the social economic valuation of stakeholders – clarify what stakeholders mean.

- 1) What does stakeholder mean and how to value benefits to stakeholder.
 - Everybody involved in aquatic resources is a stakeholder.
 - Evaluation of stakeholder – valuate at the household level how they depend on aquatic resource – how much income and how much they spend
 - Stakeholders divided into two – direct stakeholders – households and local people and indirect stakeholders – institutions involved in the management of aquatic resources – eg. Water, Construction of dam affect to other areas and cannot use water, sometimes pump water – water flows affected etc. Effect on management and relevant institutions.
 - What is aquatic resources, Fish is aquatic resources?- Sure

- How to elimination the poverty?- The project is the research project only, the result of the research will be presented to get feedback and then recommend to decision policy maker. Decision policy maker from Central Department Leader up to the top leader.
- The purpose of the project to eliminate the poverty how?- answer by Ms. Mel Chhan Tevy (Vice chief of Agronomy office)- the purpose of the project is not elimination the poverty, but the target/ overall view of the project is to poverty reduction.

2) Project is involved in poverty elimination, the project will end by end of 2004, what was the impact of the project and how to reduce poverty?

- This project is a research project to find out the recommendations and strategy in order to inform the policy makers – eg. Inform Director of the department – inform about problems, livelihood of the people, management plans of the people. Need to balance of what to do and inform.
- This project is not available for elimination of poverty – project to find strategy to provide information to policy makers towards poverty reduction.

3) Question – Agronomy lady – - The purpose is correct – the poverty reduction is correct – that is the target –

- Purpose is social economic valuation and the target is to poverty reduction

4) Willingness to Participate – Mainly say yes – Boat, highly positive – tendency to say yes

- Existing study on sustainable livelihoods by ADB study that collected information at
- Vuthy
 - The results in Siem Reap – no rice farming – not in Siem Reap – just project site:
 - Results in English – cannot cross-check with the writing –
 - Value of aquatic – eg. some sell fish to market – and earn income, some eat at home and calculate in terms of value even if they don't sell.

1) With existing information, what steps can be taken in the future to address aquatic resources management issues?

- Prepare law, guideline policy for management (PRIORITY 1)
- Ordered implement (PRIORITY 2)
- Management mechanism fisheries communities water utilization communities
- Broad extension, encourage participation of stakeholders, fishery community education (PRIORITY 3)
- Strengthen and implementation of the law (PRIORITY 3)
- Control implementation of law (PRIORITY 3)
- Finding funding to support the project (PRIORITY 3)
- Organize management mechanism (PRIORITY 3)
- Prepare plan for stakeholders (PRIORITY 2)
- Education and extension, how to use aquatic resources in a sustainable way (PRIORITY 1)
- Strengthen natural resources management
- Should have strict measures on offenders who are destroy aquatic resources.
- Reduce chemical using (poisonous substances)

- Clearly identify information
- Strengthen fisheries community

2) Do you think an aquatic resources management plan would be useful in your village? if yes, how?

- Use of aquatic resources in a sustainable manner
- Poverty reduction
- Understanding of the roles and responsibility
- Clearly target
- Well management
- Easy to control
- Improve livelihoods
- To ensure sustainable use in fishery sector and biodiversity system protection
- Fishermen can catch fish everyday and can improve their livelihood in term of natural environment preservation
- Define the target in the future for commune-village development
- Important for village and institutions for aquatic resources well management in sustainable
- Relationship from institution to another institutions in order to building up a implementation plan
- Aquatic resources will be increased if well management by planning

3) Do you have any previous experience in developing the plan? If yes, what was your participation in developing the plan?

- 3 year development planning of the commune (11 steps starting from the village to provincial in terms of their needs)
- Land utilization
- Natural resources management, socio-economic study, PRA, map, draw map, prepare village management committee that recognized from provincial level and action plan.
- People, local authority, fishery authority, stakeholder institutions, NGOs,
- Local community, elders and monk
- Arm forces
- Institutions involved in environment, planning, land management, agronomy, tourism, Water resources and rural development

4) If an aquatic resources management plan will be developed, what are the key issues and items that you want to prioritize in the action plan?

- Crackdown on illegal fishing gear
- Increase awareness among the people
- Educate and train the local community to participate in the implementation of the law.
- Replant flooded forest
- Set up and preventing of brood stock conservation area.
- Local communities
- Specialist institution
- People

- Government, We need:
- Human resources
- Budget
- Mean and material
- time
- encouragement

5) Do you think that the results of the study should be presented at the village level? if yes, what is the best way to disseminate?

- Prepare movie - like a story
- Usage of pictures to extension
- Through radio or TV or video
- Extension though the monk – ceremony
- Workshop and meeting,
- Encourage local authority to help in extension
- Through training, meeting, normal way
- Through documents, Pictures, focus point person (main person in charge), Workshop to share experience and idea
- Through local authorities and other ceremonies
- Through fishery community
- Should be have sufficient materials for extension
- Local meeting,
- TV and radio

6) Do you have flooded forest areas management in your village or commune? If yes, where and how? if no why?

- Bourei Cholsar commune – fishing lot no. 11
- Fishing lot number 1 – Kampong Krasang Commune
- Prepare the management plan to extension about the importance of flooded forest to people
- Define the boundaries between flooded forest area and another purpose by using board to explain that it is a flooded area.
- Use board to show that it is flooded forest, cannot cut or encroach.
- Extension and campaign to replant flooded forest
- Local authorities have to manage flooded forest and extension everyday.

Solutions: Specialist competence collaborate with the local authority to prevent the destruction of flooded forest.

Issues: Clearance of flooded forest and encroach on land from the power men

- 1) Where are the areas where there needs replanting of flooded forest Commune Kampong Krasang – Prek Lapov – 1500 ha – area is a bird conservation area – endangered species –

G6.4 Village Level – Siem Reap – Test village workshop

A village dialogue was organized in Siem Reap on the 23rd of October 2004 as a test case to assess the options and mechanisms for the dissemination of the project findings at the village level. This provided an insight into the planning of village verification workshops held in February 2005. The project team present were Dr. Mahfzuddin Ahmed, Dr. Susana Siar, Ms. Yeo Bee Hong, Mr. Ek Heng, Mr. Chheng Vibolrith and Mr. Chu Kim.

The following main questions and feedback obtained are listed below.

- a) What are your feedback or comments on the project?
- This project is good, help to increase fishes and management of fisheries
 - I agree with this project, however, my livelihood is still lacking because of deficit fish catch. As fishers we mainly need many fishing gears.
 - The project is good in conducting research on fish production, aquatic plant and animal that are easy to monitor.
 - Flooded forest protection is important for future generations
 - The project helps to increase fish production
 - Good project for the future on natural resources management
 - Good research project about natural resources
 - The project have been well implemented for all people in village and commune
 - The project is useful for Fisheries Communities
 - The project is right for people
 - The project is useful for my village
 - Helps poverty reduction
 - Progress for the people
 - Help to maintain natural resources and sustainable use
- b) How the project should dissemination obtained information or finding from the village?
- Should provide extension at the school
 - Should provide extension through village head of meeting session
 - Have to conduct extension to increase awareness among the village people on natural resources and to encourage participation in management
 - Should provide extension over long periods of time
 - Should provide extensions over TV and radio
 - Should provide extension through sign board or big pictures
 - Should provide extension through elderly, pagoda committee, and teachers
 - Develop extension documents or brochures
 - Have to extension directly to fishermen in fisheries community

G7. Village Verification Dialogues

G7.1 Proceedings of the Village Verification Workshops in Takeo Province of the Mekong Valuation Project

Date: 02 February 2005

Venue: Kampong Krasang Commune

Participant lists: Total number of participants in the workshop was 63 persons including the WorldFish Center Project Leader, 5 people are from the national DoF, 3 from the provincial fisheries office, the commune head of Kampong Krasang commune, and one member of the commune council, 3 village heads, 3 Community Fisheries heads, 3 NGO representatives, and 42 villagers from the three villages of Kdol Chrum, Bourei Choulsar, and Sangkum Mean Chey.

Table 7.1 Kdol Chrum Village

No.	Name	Organisation
1	Mr. Hem Sean	Village Head
2	Mr. Hem Hean	Community Committee
3	Mr. Nuon Ang	Community Committee
4	Ms. Un Srey Pich	Community Committee
5	Ms. Suos Phoeun	Villager
6	Mr. Leuk Run	Villager
7	Mr. Tum Being	Villager
8	Mr. Pheach Ran	Villager
9	Mr. Khun Sarin	Villager
10	Mr. Thong Ber	Villager
11	Mr. Mei Tiek	Villager
12	Mr. Mei Leuy	Villager
13	Mr. Phin Phon	Villager
14	Mr. Sao Nhon	Villager
15	Mr. Sim Chel	Villager
16	Mr. Ben Hong	Villager
17	Mr. Koet Keo	Villager
18	Mr. Saing Leung	Villager
19	Mr. Mei Chroin	Commune Council
20	Mr. Prum Samith	OCAA
21	Mr. Ly Vuthy	Chief of CFO
22	Ms. Noy Pok	DoF
23	Mr. Soam Phea	DoF Province
24	Danilo Israel	WorldFish Center

Table 7.2. Bourei Choulsar Village

No.	Name	Organisation
1	Mr. Nhem Sarin	Village Head
2	Mr. Hang Heang	Villager
3	Mr. Danh Seang	Villager
4	Mr. Sit Horn	Villager
5	Mr. Suon Phum	Villager
6	Mr. Bun Eb	Villager
7	Mr. Mov Sisophon	Villager
8	Mr. Mean Sa	Villager
9	Mr. Teap Dan	Villager
10	Mr. Phann Ream	Villager
11	Mr. Ek Ek	Villager
12	Mr. Muon Deang	Villager
13	Mr. Hong Srong	Villager
14	Mr. Nhem Somaly	Villager
15	Mr. Soa Hang	Villager
16	Mr. Phe Yoeun	Kampong Krasang community
17	Mr. Khut Khonna	OCAA
18	Mr. Ek Heng	DoF
19	Mr. Kim Sarith	DoF Province
20	Mr. San Soung	Commune Head

Table 7.3. Sangkum Mean Chey Village

No.	Name	Organisation
1	Mr. Teung Phong	Villager
2	Mr. Suon Duong	Villager
3	Mr. Ban Bunna	Village Head
4	Mr. Chann Soriya	Villager
5	Mr. Penh Kimthun	Vice Chief of Village
6	Mr. Un Bros	Villager
7	Mr. Chea Khno	Villager
8	Mr. Tuon Duok	Villager
9	Mr. Yan Soban	Villager
10	Mr. Som Salanh	Villager
11	Mr. Prum Soeu	Villager
12	Mr. Sum Yal	Villager
13	Mr. So Nhem	Villager

Table 7.3. Continued...

No.	Name	Organisation
14	Mr. Nhem Vesna	Villager
15	Mr. Va Chul	Villager
16	Mr. So Ken	Villager
17	Mr. Tim Bunthoeun	Provincial Department of Rural Dev't
18	Mr. Chu Kim	DoF
19	Mr. Heng Phaleap	DoF Province

7.1.1 Workshop proceeding

1. Opening Session

Welcome Address

Mr. San Suong, Commune Chief of Kampong Krasang commune, expressed his warm welcome to the participants who attended the village workshops. He expressed his gratitude to the Department of Fisheries and World Fish Center for choosing Kampong Krasang commune as a site of project. He wished for the workshop to be successful one.

Address of Project Leader

Dr. Danilo Israel, Project Leader, expressed his gratitude on behalf of the WorldFish Center to the Provincial DoF, commune authority and villagers who spent valuable time to participate in the workshop. He also expressed his gratitude further to the villagers who cooperated with the project in providing the information and spent time to monitor the fish catch and other data and information.

Opening Speech

Mr. Kim Sarith, chief of provincial fisheries office, provided his opening speech for the workshop.

Distinguish guests, participants, ladies and gentlemen; good morning! First of all, on behalf of Takeo provincial fisheries office, and on behalf of myself, I would like to express my warm welcome and gratitude for your participation in this workshop. May I take this opportunity to thank you the World Fish Center for providing support for research in Takeo province on the evaluation of aquatic resources at the local level. As you all know, aquatic resources play a significant role in food security and livelihood of the people. In 2001, the Cambodian Government initiated fisheries reform by reducing the fishing lots by more than 56 % of the total area throughout the country. In Takeo province, there were 20 fishing lots. Twelve fishing lots were totally abolished and the size of 3 fishing lots was reduced. This provided local people the ability to do family fishing though the establishment of community fisheries in those areas.

Fish is a vital food source for Cambodian people. Not only today is it vital; but, it has been an invaluable natural heritage since our ancestor's time. We do not need to spend scarce resources to feed them, but we must not destroy their environment or exploit them beyond their renewal capacity. Although our country is rich in natural resources, especially aquatic resources, they are threatened by human activities, including the destruction of flooded forests and the use of destructive fishing gears, which create serious ecological impacts to the aquatic environment. These serious problems require all of us to find good solutions and measures to protect and maintain our invaluable natural heritage, for not only to consume fish in our generation, but also for future generations.

Today's workshop is an important event that provides an opportunity for all participants, including CF committee representatives, village chiefs, commune councils, and villagers, to contribute ideas and suggestions that would be useful for policy making by the royal government of Cambodia on the proper use of aquatic resources, in order to alleviate poverty. Before I end, I hope the workshop goes well and will produce fruitful results. I would like to declare the opening of the workshop. Thank you very much for your attention.

2. Technical Session

Mechanics of the Workshops:

Mr. Ek Heng, national project director, presented the project background and the workshop objectives to the participants. He said that several months ago the project came in this village to ask the villagers to provide data and information. Now, the results and findings will be presented to the villagers for verification in order to get feedback and suggestion from the villager to correct and improve on them, if needed.

Mr. Ly Vuthy, Chief of Community Fisheries Development Office of the Department of Fisheries, led the technical session of the workshops. He pointed out that the workshops would be divided into three groups because participants were from 3 different villages and the presentation would be done simultaneously in these three different groups. The presentation of each group dealt on specific information only for each village. During the verification, each village group discussed the results and findings in the village. At the end of the day all groups came together and present the result of the group discussion in a plenary session.

Content of the Presentations:

The content of the presentations include general data and information about the province, district, commune and on the village based on different methodologies (household survey, PRA and longitudinal monitoring).

Specific Comments:

Most of data and information presented in the workshops were agreed by the villagers. The villagers also provided suggestion and correction on the following data which they thought did not reflect the real situation.

Kdol Chrum village:

a) Participants suggested adjusting number of households in 2004 to 238 households and number of population estimated at 1237, of which 614 were men and 623 were women.

b) The following information about the price of non-motorized and motorized boat were provided by participants:

- Small non-motorized boat (70%) cost 100 000 Riel
- Medium non-motorized boat size (30%) cost 300 000 Riel
- Small motorized boat (85%) cost 800 000 Riel
- Medium motorized boat (10%) cost 1 500 000 Riel
- Large motorized boat (5%) cost 2 500 000 Riel

Borei Choulsar village

- Number of household in the village is suggested to be 96 and not 80 households.
- Percentage of house types in the village is suggested adjusting to 60 % in the village have roofs made of pall leaves and walls made of leaves or wood, 40 % have roofs made of zinc or tile.
- Participant suggested adding more fishing lot in the village: fishing lot no. 1, 2, 3, 5 and 12. Lot no.
- Some adjustment were suggested for table 5.70 on the Average Costs and Returns of Irrigated Rice Farming g Per Hectare: The price of pesticides was suggested adjusting to 20 000 Riel per liter.

Sangkum Mean Chey village:

- The boundary of the village was corrected, which are Chey Chouk village in the South and Thmor Bey Dom village in the East.
- Interest rate is suggested adjusting to 10 to 15 percent per month.
- Some adjustment were suggested for table 5.58, which is the price of labor is 5000 Riel per man-day and table 5.68 is also suggested to adjust on the price of aquatic wood at 15 000 Riel /Q.

3. Group Discussions**Kdol Chum village**

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- The finding is acceptable because the information were collected from the village with the participation of local people representing for the village as a whole.
- Provide understanding on the village situation
- So far no one inform the villagers about this information and people do not know clearly about them.
- Such information should be made available so that it helps local people to understand about what they have and what they will do to sustain their livelihood.

Q2: What information made you impressed?

Answers:

- Population and land area
- Fish catch by family and by month
- The use of aquatic resource for livelihood
- Rice farming
- Duck raising
- The decline of aquatic resource in the village
- Lacking of information on fish culture

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- It provide understanding about the resource in the village so that people
- Based on the finding, CF should make by law to use the resource whit the best way
- The finding provide information that people should not continue to cut the flood forest
- The fining encourage people to participate in the resource conservation and protection

Q4: How should these finding be disseminated to others village?

Answers:

- Should disseminate through³
 - o local authority
 - o Community Fisheries Committee
- In the dissemination should include also the Fisheries Law
- Provincial Fisheries Officer should help to coordinate the dissemination of the finding
- NGOs also should cooperate in the dissemination.

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

- The project should continue the activity that relevant to the livelihood improvement of the local people such as create alternative livelihood.
- The project should provide training on fish aquaculture technique
- Provide strong support to CF
- DoF should stop the illegal fishing activity in the village
- SoF should spot the flow of Vietnamese people come to fish inside Cambodia.

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Make sign board for fish conservation area
- PDoF cooperate with CF committee will coordinate the implementation work using the money.

- Beginning of March, 2005

Group 2: Sangkum Mean Chey Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- Information presented is true and reflect the real situation in the village
- It relevant to the people livelihood in the village

Q2: What information made you impressed?

Answers:

- The decline of fish catch
- Using fishing illegal fishing activities
- Increase of population
- Vietnamese get inside the country and do fishing

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- Support to protect the inundated forest
- Help to protect and stop illegal fishing activities
- The decline of aquatic resource affect to livelihood
- Convince people to participate in the management of aquatic resources
- Aquatic resource is vital for local people

Q4: How should these finding be disseminated to others village?

Answers:

- Through local authority (village head, commune head)
- Tradition Ceremony
- Post at the commune office
- Through the family, group leader, School
- Meeting and training

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

For the project

- Help law enforcement
- Provide training to strengthen the understanding and capacity of CF
- Clear the canal
- Provide fund to develop infrastructure at the local level

- Provide credit with low interest
- Provide training on aquaculture technology
- Provide water sanitation

For the DoF

- Help to stop using illegal fishing gear
- Support the protection and management of aquatic resource
- Help to mobilize the support the CF
- Encourage people to participate in the aquatic management
- Help to ban on the illegal fishing activities of Vietnamese people in CF fishing area
- Help to stop the collection of fingerling
- Help to protect the fish habitat
- Help to replant the flooded forest
- Help to spot the destruction of flooded forest

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Clearing canal
- Training on aquaculture technique
- VDC, CC and CF should facilitate the implementation
- Start on beginning of March 2005

Group 3: In Borei Choulsar village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- Good result
- Provide good information to them
- Reflect the real situation at the field
- Reflect the real practice
- Provide good knowledge to them

Q2: What information made you impressed?

Answers:

- Dry season rice farming
- Human resource in the village (Low skill on dry season rice farming)
- Fish is declined and population is increased
- Rice farming business is low profit
- Various occupations in the village
- The important of aquatic resource is important for livelihood of people
- (The group recommend to adjust the figure of fish consumption by rich family from 6 Kg. to 10-15 Kg.?)

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- The information is very useful, because it help to people to understand what is the potential in the village
- It provides information to help to manage the aquatic resources in the village

Q4: How should these finding be disseminated to others village?

Answers:

- They suggest the project to provide training on how to disseminate information
- Conduct the village workshop, meeting
- Radio and TV
- DoF should help to disseminate the information to other village by sending staff to conduct the training/workshop at the village level
- The project should continue the dissemination activities.

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answer Q5:

For the project

- Should provide School building
- Road and bridge
- Caw, buffalo bank
- Electricity
- Credit to buy the tractor
- Support to establish the fish conservation
- Help to replant the flooded forest

For DoF

- Cooperate with local authority and CF to stop illegal fishing activities
- Provide the mean to control illegal fishing activities
- Support to build the post/office for fish conservation
- Help to stop the fishing activity of Vietnamese people

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Build the sign board and pole for fish conservation of CF (6 poles with sign board)
- Tree planting
- Build the embankment around the village.

Plenary Discussions

Regarding the plan to use 200 US Dollars, 2 villages have the same idea which is to make to sign board for fish conservation. The third village has different idea. They come up with the plan to clear canal and train the villagers on fish aquaculture technique.

G7.2 Proceedings of the Village Verification Workshops in Stung Treng Province of the Mekong Valuation Project

Date : 09 February 2005

Venue: Siem Bouk Commune

Workshop participants: There were a total number of participants of 56 people which included the WorldFish Center Project Leader, 4 from national DoF, 3 provincial DoF, commune head, one commune council, 3 village heads, 3 CF head, 3 NGOs, One VSO, and 36 villagers from the 3 village sites of Tboung Khla, Koh Chruem, and Ou Chralang. The list of participants are shown in the Appendix .

Table 7.4. Tbong Kla Village

No.	Name	Organisation
1	Mr. Kung Vung	Villager
2	Mr. Tum Bunthon	Villager
3	Mr. Chhum San	Commune Council
4	Mr. So Sophon	Chief of Fisheries Community
5	Mr. By Noeu	Villager
6	Ms. Thon Chanthy	Villager
7	Ms. Uth Saun	Villager
8	Mr. Kroeun Khom	Villager
9	Mr. Soeung Khun	Villager
10	Mr. Chuon Roeun	Villager
11	Mr. Seng Sarun	Villager
12	Mr. Nat Thay	Villager
13	Mr. Sin Roeun	Villager
14	Mr. Pen Makra	SEPA
15	Mr. Peak Saven	SEPA
16	Mr. Um Sophal	Commune Head
17	Mr. Tum nyro	DoF Province
18	Mr. Ly Vuthy	Chief of CFO

Table 7.5. Koh Chrum Village

No	Name	Organisation
1	Mr. Hem Toay	Village Head
2	Mr. By Chhai	Vice Chief of Community Fisheries
3	Mr. Sam Bun	Villager
4	Ms. El Yan	Villager
5	Mr. Proh Loeun	Villager
6	Mr. Chan Mao	Villager
7	Mr. Chhum Theap	Villager
8	Mr. Phum Vy	Villager
9	Mr. Set Ea	Villager
10	Mr. Koang Khet	Vice Chief of VCD
11	Mr. Loa Von	Villager
12	Mr. Koay Mesa	Villager
13	Mr. Sot Chory	Villager
14	Mr. Dam Sreng	Villager
15	Mr. Hang Sary	Villager
16	Mr. Mao Channsam	
17	Mr. Ek Heng	Dof
18	Mr. Prum Nga	IUCN
19	Mr. Macos	IUCN

Table 7.6. O'Chralang Village

No	Name	Organisation
1	Mr. Hin Phea	Villager
2	Mr. Hin Va	Villager
3	Mr. La Mao	Community Head
4	Mr. Nuon Ton	Village Head
5	Mr. Man Thuon	Villager
6	Mr. Bun Man	Villager
7	Mr. Vouch Lan	Villager
8	Mr. Kan Phea	Villager
9	Mr. Seam Thon	Villager
10	Mr. Sok Seng Long	
11	Mr. Mann Thann	Villager
12	Mr. Ti Vooun	Fisheries Community Head
13	Mr. Pat Yuth	Villager

Table 7.6. Continued...

14	Mr. Khuon Samuen	Villager
15	Mr. Mom Chanhhoeun	Villager
16	Mr. Kim Sokha	DoF Province
17	Mr. Von Savuth	OCAA
18	Mr. Chu Kim	DoF
19	Dr. Dr.Danilo C.Israel	

7.2.1 Workshop proceeding

1. Opening Session

Welcome Address

Mr. Um Sok Phon, Chief of Siem Bouk commune, expressed his warm welcome to the participants who attended the village workshops He expressed his gratitude for the Department of Fisheries and World Fish Center.

Address of Project Leader

Dr. Danilo Israel gave a short note and expressed his gratitude to the Provincial DoF, commune authority and community who spent their valuable time to participate in the workshop. He also expressed his gratitude for villagers who cooperated with the project in providing the information and spend time to monitor the fish catch and other data and information.

Opening Speech

Mr. Mao Chan Saman, chief of provincial fisheries office provides opening speech for the workshop.

2. Technical Session

Mechanics of the Workshops:

Mr. Ek Heng, national project director, presented the project background and the workshop objectives to the villagers. He said that several months ago we came in this village to ask the villagers to provide information. Today, we bring the result and finding to show and discuss with you in order to get the feedback and suggestion from the villager to correct and improve the result.

Mr. Ly Vuthy, Chief of Community Fisheries Development Office of the Department of Fisheries, continue to lead the workshop. He suggested the workshop to divide into three groups because participants are from 3 different villages and the presentation will be done simultaneously in these three different groups. The presentation of each group has specific

information for each village. After presentation each group will go straight to the discussion and before the end of the day all groups will come together and present the result of the group discussion for plenary session.

Content of the Presentations:

The content of the presentations include general data and information about the province, district, commune and on the village based on different methodologies (household survey, PRA and longitudinal monitoring).

Specific Comments:

Most of data and information presented in the workshops were agreed by the villagers. The villagers also provided suggestion and correction on the following data which they thought did not reflect the real situation.

Tboung Khla Village

- **Human Capital:**
 - o The village population is suggested adjusting to 691
 - o 5 % can not read and write at all
 - o The total land area of about 3900 ha.
 - o 10 % has high income, 30 % middle income and 60 % low income
- **Physical Capital:**
 - o Motorized boat is suggested adjusting to 80 which is cost 500 \$ per boat
 - o Cost of small size of non-motorized boat is 150 000 Riel
 - o 12 units of rice mills
- **Financial Capital:**
 - o 5 families money lenders
 - o OCAA provide rice bank with the interest rate 20 % per year
 - o Cow bank also provided by OCAA
- **Shocks:**
 - o 2004 a serious drought also happened.

Koh Chruem Village

- **Physical Capital:**
 - o 40 motorized boat capacity ranging from 3.5 hp. to 15 hp.
 - o In 2005 there is one charge battery shop.
- **Financial Capital:**
 - o In 2005, two household received money from children
 - o Interest rate in 2005 is 10 to 15 % per month

- 100 % rate of interest per year if borrow rice (year 2005)
- Now (2005) collateral is required, when villagers borrowed money from the neighbors.

3. Group Discussions

Group 1: Tboung Khla Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- The result of the finding is acceptable
- The information is useful
- This is the first time that the Organization bring back the result to discuss with the villagers
- The finding makes the villager surprise because the information reflect the village situation
- Allow them to understand the change

Q2: What information of finding are you interested in?

Answers:

- Fish catch
- The decline of fish catch
- Fish catch by family by month
- Rice farming and fishing
- Cost benefit analysis (Rice farming)
- Lack of understanding

Q3. Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- The finding is useful for community because it provides understand to community on the resources in the their place
- Inform to villagers about themselves
- Is useful also for young generation
- Provide information for aquatic management and conservation
- The information is useful because it was collected directly from the local people
- It provides understanding for local people and encourage them to participate in the resource management and conservation

Q4: How should these finding be disseminated to others village?

Answers:

- Should disseminate the finding to other people in the village
- Should disseminate the finding to people who has access to the aquatic resource in the village
- Should disseminate the finding to other villages through village head
- Should disseminate the finding to other commune through district workshop
- Should disseminate the finding trough publications.
- Provide training to CF on dissemination so that they can conduct the dissemination to other people in their community.

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

- Should provide them the training to build up the capacity of community fisheries
- Should strictly implement the law enforcement for the illegal fishing activity.
- Should provide the support for study tour in the country
- Should provide the mean for patrol the illegal fishing activity
- Should help the CF to stop the illegal fishing activity
- Should help to intervene for the approval of sub-decree on community fisheries
- The project should continue resource activity in other village
- DoF should help to find the NGOs to support the CF
- DoF should clearly define the 3 types of fishing gear.
- DoF should provide close cooperation with CF, especial for the illegal fishing control.
- Should continue to organize the workshop at the village level so that people will be able to understand

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Make sign board for conservation area
- Beginning of March, 2005
- Provincial Fishery Office

Group 2: In Koh Chruem Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- The finding is reflect the reality
 - o Income
 - o Livelihood

- fish catch by months

Q2: What information of finding are you interested in?

Answers:

- The socio-economic condition (livelihood of people are poor). Suggestion for the project help to find the way who to alleviate the poverty
- Illegal fishing activities in the deep pool
- Agree with the methodology to collect information

Q3. Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- It is useful because it provides understanding on the resource in the village
- Provide basic for people to conserve the aquatic resource for the common benefit.
- It is useful for people and country

Q4: How should these finding be disseminated to others village?

Answers:

- Should conduct district workshop to disseminate the finding and information to other communes
- Put the sign board to place at the conservation pool
- Conduct the village meeting to disseminate to local people
- Through VDO

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

- Help to protect the deep pool conservation and spot the dynamite bomb
- Help to convince the sub-decree on CF for the approval
- Continue to do research on fish stock and species in the village
- Help to prepare the management plan for the CF

Q6: What are the problems in the village? what CF have done so far to solve the problems?

Answers:

- People using electrocute fishing
 - Suggestion to the project to disseminate to other communes
- To many people from outside come to fish in the CF area
 - Suggestion: inform other communes to know about the deep pool conservation area
 - Convince other commune to comply with the law
- The capacity of CF is still limited in management and protection of aquatic resource

- Suggestion: Conduct training for CF on management and protection of conservation area
- Most people in the village are poor
 - Suggestion: Should provide alternative occupation
- People awareness are limited
 - Help to disseminate and educate local people on the conservation.

Q7: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Make sign board for conservation area and place at the village
- Provincial Fisheries, CAA and IUCN
- Start on the beginning of March, 2005

Group 3: Ou Chralang Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- The finding is reasonable
- It reflect to real situation in the village
- It inform the villager on the aquatic resource
- It help to manage the aquatic resource better

Q2: What information of finding are you interested in?

Answers:

- Interested on the aquatic management
- Decline of fish catch from one to another
- Rice farming provide not good yield because of draught
- Illegal fishing is increased
- Increase number of fisherman

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- It provides information to help to manage the aquatic resources in the village
- It is useful for local development
- If the aquatic resources are well manage, the village livelihood is improved
- If we have good management of the aquatic resource providing good environment

Q4: How should these finding be disseminated to others village?

Answers:

- The finding should disseminate to other villages though the village/commune head
- Through tradition ceremony

- Through school education
- Through radio, TV, VDO
- Through technical agencies
- Through community fisheries

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

- Help to support the aquatic management
- Support the infrastructure in the village
- Provide the fund to buy input for fishing and rice farming
- Provide training and capacity building

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers

- Improve conservation area (6 poles with sign board)
- Through provincial fisheries office, village/commune head
- Start on the beginning of March, 2005

G7.3 Proceedings of the Village Verification Workshops in Siem Reap Province of the Mekong Valuation Project

Date: 07 March 2005

Venue: Kampong Khleang Commune

Workshop participants: Total of participants in the workshop are 62, of which 5 people are from central DoF, 3 provincial fisheries office, commune head and one commune council, 3 village heads, 3 CF heads, 3 NGOs, 43 villagers are from three study villages in the area.

Table 7.7. Ou Ta Put

No	Name	Organisation
1	Ms. Pen Sony	Villager
2	Ms. Thy Loeut	Villager
3	Ms. Han Sophea	Villager
4	Mr. Pa Po	Fisheries Commune Head
5	Ms. Y Voeun	Villager
6	Mr. Nhem Song	Village Head
7	Mr. Brob Penh	Villager
8	Ms. Muon Boeun	Villager

Table 7.7. Continued...

9	Mr. Brak Vooun	Villager
10	Mr. Sot Boeun	Villager
11	Mr. Seng Suor	Villager
12	Mr. Suot Khan	Villager
13	Mr. Yung Kea	Villager
14	Mr. Nin Sin	Villager
15	Mr. Hang Heam	Villager
16	Mr. Linh Khann	Villager
17	Mr. Ros Sothy	ADB Tonle Sap Envi. Mgt. Project
18	Mr. Prin Savin	DoF Province
19	Ms. Noy Pok	DoF
20	Mr. Ly Vuthy	DoF

Table 7.8. Chamka Youn

No	Name	Organisation
1	Mr. Chea Khchang	Villager
2	Mr. Chhung Choeu	Villager
3	Mr. El Ol	Villager
4	Mr. Luon Mai	Village Head
5	Mr. Nhon Rod	Villager
6	Ms. Chhem Sam	Villager
7	Ms. Pa Chea	Villager
8	Ms. Prum Loan	Villager
9	Ms. Ros Sour	Villager
10	Mr. Real Rann	Vice chief of Village
11	Mr. Ros Rith	Villager
12	Mr. Roeung Deab	Villager
13	Mr. Pea Sea	Villager
14	Ms. Heang Lam	Villager
15	Ms. Heang Mai	Villager
16	Mr. Thun Theng	Villager
17	Mr. Chhom Saing	Commune Council
18	Mr. Kuth Ky Leap	DoF Province
19	Mr. Lang Lau	ADB Tonle Sap Envi. Mgt. Project
20	Mr. Ek Heng	DoF
21	Dr. Danilo C. Israel	Project Leader

Table 7.9. Prek Sromouach

No	Name	Organisation
1	Mr. Kong Hoat	Village Head
2	Mr. Phem Leap	Vice chief of Fisheries Community
3	Mr. Oam Try	Villager
4	Mr. Son Chheung	Villager
5	Mr. Tab Saroeun	Villager
6	Mr. Than Choeun	Villager
7	Mr. Teung Chheng Ky	Villager
8	Mr. Tob Krui	Villager
9	Mr. Phan Sot	Villager
10	Mr. Be By	Villager
11	Ms. Dit Bo	Villager
12	Ms. Tab Lean	Villager
13	Ms. Yun Chhun	Villager
14	Ms. Muth Chheng	Villager
15	Ms. Hak Hon	Villager
16	Ms. Vat Ich	Villager
17	Ms. Lach Hai	Villager
18	Mr. Thinny Sothy	DoF Province
19	Mr. Chu Kim	DoF
20	Mr. Tann Thay An	FAO
21	Mr. Luy Lay	Commune Head

7.3.1 Workshop proceeding

1. Opening Session

Welcome Address

Mr. Loy Lay, Commune Chief of Kampong Kleang commune expressed his warm welcome TO participants WHO attended the village workshops. He expressed his gratitude to the Department of Fisheries and World Fish Center for choosing Kampong Khleang commune as the study area of the project. He wished the workshops success.

Address of Project Leader

Dr. Danilo Israel, project leader, gave a short note by expressing his gratitude to the Provincial DoF, commune authority and community who spent valuable time to participate in the workshops. He also expressed his gratitude to the villagers who provided fruitful cooperation in providing the data and information. Dr. Danilo Israel was glad in particular to see many women

participating in the workshop. He hoped the workshop will be successful in bringing out additional ideas and suggestions to improve the results and findings.

Opening Speech

Mr. Prin Savin, chief of provincial fisheries office provided the opening speech for the workshop. He expressed his gratitude for the local authority and villagers for their valuation contribution and cooperation with the project as well as with the provincial fisheries office in bringing fruitful results. He explained that the aquatic resource including aquatic animal, plant and vegetable play vital role for Cambodian people, especially those who stay in the flood plain area. He said that maintaining the aquatic resources would help the livelihood of the rural people, especially the poor. He added that without the participation from the local people it is impossible to conserve valuable natural resources. He said he was proud that this year fish is abundant almost every where which is a reflection of the participation of the local people and community fisheries in the resource protection, conservation and management. He said that even when the project is ending, the information and finding is very useful to help proper planning for resources management and utilization. He hoped that the workshop would bring more ideas, suggestions and feedback on the finding. He finally declared the workshop open.

2. Technical Session

Mechanics of the Workshops:

Mr. Ek Heng, project director presented the project background and the workshop objective to the villagers. He said that several months ago we came in this village to ask the villagers to provide information. Today, the project brings the result and finding to present and discuss in order to get the feedback and suggestions from the villager to correct and improve the result.

Mr. Ly Vuthy, Chief of Community Fisheries Development Office of the Department of Fisheries, continue to lead the workshop. He suggested the workshop to divide into three groups because participants are from 3 different villages and the presentation will be done simultaneously in these three different groups. The presentation of each group has specific information for each village. After presentation each group will go straight to the discussion and before the end of the day all group will come together and present the result of the group discussion for plenary session. Then, he called each group members to rise up their hand and assigned 2 facilitators for each group to do presentation and lead the discussion.

Contents of Presentation:

The content of the presentations include general data and information about the province, district, commune and on the village based on different methodologies (household survey, PRA and longitudinal monitoring).

Specific Comments:

Most of data presented were agreed to by the villagers. The villagers were also asked to provide the additional information, suggestion and correction on the data which were presented to them. Whether those did not reflect the real situation or if they would like to add more important information.

Ou Ta Put Village:

- **Financial capital:**
 - The interest rate set by ACLEDA Bank is 5 % per month
 - The interest rate set by the local money lender 2 % per day
 - The collateral is usually required when borrowing money either borrowing money from local money lender or from ACLEDA Bank

- **Shocks**
 - Droughts and Flood are much attention to the villagers since the village does not grow rice.
 - Typhoon has also happened in some year. During 2004, three houses were destroyed by the strong wind
 - Lightning sometime kill people in the village also.

- **Seasonal**
 - Fish catch is high in the month January , February and start to reduce from March.

- **Livelihoods**
 - No rice farming and crop planting in the village
 - There is no fermented wine making in the village, but there is one shop shelling local wine.
 - 40 families do fish aquaculture.

- **Cost return Analysis**
 - The collection of aquatic animal: The result in the report is not clear what type of aquatic animal. Because their prices are different. The price of shrimp is 1500 Riel per Kg., but the price of mollusks is only 200 Riel per Kg. But if the analysis based on the shrimp product, the quantity of shrimp collection in rainy season needs to be readjusted. The participants provide estimation on the average catch of shrimp per day is 40 Kg. with in three months; the consumption of gasoline is 13 liters per trip; the use of bait is 15 Kg. per day with a price of 700 Riel per Kg.; and the use of labor is 3 people.
 - The collection of Aquatic Wood: The collection of aquatic wood is 2 m³ per day per person. If the 14 man-day the collection aquatic wood will be 28 m³ (in the report only 6 m³ in total)
 - Water Transport: The fee per person suggested adjusting in wet season and in dry season. In wet season the fee per person is 2,000 Riel, whereas in the dry season

the average fee per person is 500 Riel. It is suggested also that in dry season, the owner does not need gasoline because they use non-motorized boat only.

Chamka Youn village

There is no additional information and suggestions from the participant regarding the presentation of the finding.

Prek Sramoach Village

There is no additional information and suggestions from the participant regarding the presentation of the finding.

3. Group Discussion

Group 1: Ou Taput Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- The finding is correct because they were collected from the villagers
- The information were carefully monitor for the whole year round
- The information reflect the real situation in the village
- Provide understanding on the village situation
- So far no one inform the villagers about this information and people do not know clearly about them..

Q2: What information were you interested in?

Answers:

- Level of education of the village, because only few people (4%) can write and read Khmer Language. There is no school in the village.
- Livelihood of the villagers depend mainly on the aquatic resource
- Using the natural resource intensively
- The destruction of the natural resource
- Illegal fishing activities, especially electrocute fishing practice happen inside the village or fishing area of community fisheries
- Using long seine net nearby the fishing area of the community fisheries
- Lack of finance
- Interest rate set by private sector is very high (2%) per day
- The village lack of water sanitation, therefore the sickness occurred every year.

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- It useful for local people because it provides understanding about the resource in the village

- The resource is important for people livelihood, therefore the understanding on the resource is critical for people to contribute to the conservation and protection of the resource in the village.
- The finding encourage local people to contribute to the stop illegal fishing activities
- The fining is useful to document for the next generation for a referent
- The information is useful to make the management plan and suitable of the resources

Q4: How should these finding be disseminated to others village?

Answers:

- Should disseminate through village meeting
- Should disseminate through different medias such as TV, radio, magazine and brochure
- Should disseminate through village ceremonies
- The dissemination should be done regularly
- In the dissemination should include also the Fisheries Law
- The dissemination should be encouraged other village to participate in the resource protection and management.
- Provincial Fisheries Officer should help to coordinate the dissemination of the finding
- NGOs also should cooperate in the dissemination.

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answers:

- DoF should alleviate the illegal fishing activities inside the community
- DoF should consider the use of long seine net using machine which destruct the fisheries resource in the Great Lake
- DoF should limit the seine net inters of date, length, and mesh side
- DoF should strictly protect fish s sanctuary
- DoF should provide good cooperation whenever CF needs
- The project should provide the technical training on fish culture
- The project should continue the activity that relevant to the livelihood improvement of the local people such as create alternative livelihood.
- The project should provide training on fish aquaculture technique
- Provide fish fingerling to villagers for fish aquaculture

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Dig bond for water sanitation for the village
- Village head, commune council, with CF committee will and provincial fisheries office.
- March, 2005

Group 2: Chamka Youn village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- Information presented is true and reflect the real situation in the village
- The information is useful for village and young generation
- The information make local people alert on the real resource in village
- The finding provide comprehensive on the village resource and village profile

Q2: What information were you interested in?

Answers:

- All findings because it reflect the real situation in the village
- The findings provides good knowledge on many areas

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- The finding is very useful for villager because it provide knowledge on the actual local resources
- Provide strong evident that the resource is important for local livelihood
- The value of the resources
- Useful for young generation

Q4: How should these finding be disseminated to others village?

Answers:

- The dissemination of the finding should be done to other villages and commune so that they will be encouraged to participate in the resource protection and management.
- Through local authority (village head, commune head)
- Tradition Ceremony
- Through TV, radio, and other means

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the management of the aquatic resource in the village?

Answer Q5:

- Should support to clearing the stream
- DoF should alleviate illegal fishing activities in the village and outside the village such as electro fishing, using long seine net with big motorized boat
- Should be strictly protect the natural resource
- Should support and provide alternative livelihood to the poor family in the village
- Should help to find the market

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Micro credit
- Provincial fisheries office
- Start on beginning of April 2005

Group 3: Prek Sramoach Village

Q1: How do you think of the result and finding has been presented to you? Do results and findings reflect the real situation in the village?

Answers:

- Good result
- Provide good information
- Reflect the real situation at the field (catch, consumption, selling)
- The finding show that the villager use intensive fishing gear and change according to the season.

Q2: What information were you interested in?

Answers:

- The decline of fish catch
- The increase of population and movement of outsider in the village
- The increase of illegal fishing activities
- The poor has lesser opportunity to catch fish because they lack of capital to invest into the fishing activities

Q3: Do you think that these findings are useful to support the aquatic resource management in your village? why?

Answers:

- The finding is very useful because they provide the basic for:
 - o Resource protection and management
 - o Alleviate the illegal fishing activities
- It show the reality in the village
- It guide people to understand the important of the aquatic resource which local people is dependence heavily on.

Q4: How should these finding be disseminated to others village?

Answers

- The finding should be publicly disseminated
- Disseminate through the meeting at the village and commune
- Disseminate through tradition ceremony
- Disseminate through the school
- Disseminate through TV, radio, newspaper
- Disseminate through performance show
- Disseminate through putting sign board

Q5: What is your recommendation for the project to continue the activities in the village in the future? and what is your recommendation for the DoF to support the

management of the aquatic resource in the village?

Answers:

DoF should help to stop illegal fishing activities

- DoF should help to stop using big scale illegal fishing activities
- DoF should help to stop using modern and destructive fishing gear
- The project should continue on resource management in the village
- The project should help to develop alternative livelihood.
- Should provide the sign board for dissemination
- Should provide micro credit with low interest rate.

Q6: With a project grant 200 US Dollars, what do you plan to use this money and ensure the benefit for the village as whole? How to do you and when?

Answers:

- Forest conservation and protection
- Conservation for brood stock (sign board and pole)
- December, or January
- Community fisheries committee

Plenary Discussion

All participants presented the result of their group discussion. Regarding the plan to use 200 US Dollars, 3 villages have different ideas. Ou Ta Put village plans to dig bond to keep water for daily use in the family. Chamka Youn village plans do micro credit and Prek Sramoach village plans to develop conservation area.

Appendix H. Summary of Training Organized by Project

No.	Training	Date and Venue	Participated Organizations and Observers	Objectives
1	Enumerator Training on Questionnaire and Discussion	<p>Stung Treng 15-16 September 2003 Department of Agriculture</p> <p>Takeo 30 September-1 October 2003</p> <p>Siem Reap DoF Provincial Office 7-8 October 2003 DoF Provincial Office</p>	<p>DoF Provincial, IUCN, OCAA and CEPA</p> <p>DoF National and Provincial, CCK, OCAA and PRASAC</p> <p>DoF National and Provincial, FAO and FACT</p>	<ul style="list-style-type: none"> • To discuss and interact on the questionnaire; • Training of the sampling frame process; • To plan for the field survey.
2	Data Encoding Training	<p>27 October to 7 November (intermittent) DoF Provincial Office, Strung Treng, Takeo and Siem Reap</p>	DoF National and Provincial	<ul style="list-style-type: none"> • To give training to DOF provincial staff on the data entry process.
3	Participatory Rural Appraisal and Sustainable Livelihood Training	<p>Stung Treng 16-17 February 2004</p> <p>Takeo 23-24 February 2004</p> <p>Siem Reap 1-2 March 2004</p>	DoF Provincial Office	<ul style="list-style-type: none"> • To discuss and interact on the PRA questionnaires; • To give training to facilitators on the methods of conducting PRA, sustainable livelihood analysis and key informants interview;

Appendix I. Policy Process Interviews

- I1. Interview with Mr. Touch Seang Tana, Secretary of State, Office of the Council of Ministers**
- I2. Interview with Mr. Ly Vuthy, Chief of the Community Fisheries Development Office , DOF**
- I3. Interview with Mr. Pheur Phean, Chief of Fisheries Domains and Extension Office (FDEO)**
- I4. Interview with Mr. Suos Sivutha, Culture and Environment Preservation Association (CEPA)**
- I5. Interview with Mr. Nau Nam, Chief of Natural Resources Conservation of Takeo**
- I6. Interview with Ms. Daren – Chamroen Cheat Khmer (CCK), Takeo**
- I7. Interview with Mr. Tim Bunthoeun, Deputy Chief Rural Development Office, Takeo**
- I8. Interview with Mr. Eng Phyrong, Deputy Director of Environment Department Stung Treng**
- I9. Comments by Mr. Paul Namisi (FAO), Siem Reap**

II. Interview with Mr. Touch Seang Tana, Secretary of State
Member, Economic, Social and Cultural Observation Unit (OBSES)
Secretary of State
Office of the Council of Ministers, Kingdom of Cambodia
26 October 2004, 11:00 am – 1:30 pm
IFReDI, Department of Fisheries
Royal Government of Cambodia

Guide questions for the interview with;

1. In your opinion, what circumstances/events prompted the Prime Minister to release fishing lots for community fisheries?
2. The draft of the sub-decree for CF is now with the Council of Ministers. How much time do you think it will take for it to be signed by the Prime Minister?
3. At the local level, what is the mechanism for the fisheries management plan prepared by the CF committee to feed into the commune development plan? What is the process of approval up the hierarchy? How can the plan become legitimate?
4. What is the envisioned role of the CF committee in the enforcement of rules and regulations?
5. If we want to influence policy makers regarding the consideration of valuation of resources into policy making, what would be the venues to do this at the national, provincial, and local level?

Interview with Touch Seang Tana, Secretary of State

Drivers for the release of fishing lots to community fisheries:

1. population growth
2. fishing lot established since 1927; the boundaries have changed a little bit but the regulations are still the same

56% of fishing lots have been abolished but the regulations are still the same – released to the community.

In the new draft law, many things are being changed, e.g., Articles 18 & 19 talk about zoning.

Fishery reform:

1. redistribution of benefit
2. resource re-designation – e.g., identifying areas for dolphin conservation

56% that has been released – not yet redistributed and not yet re-designated

Sub-decree on CF: already with the Council of Ministers

- There are complaints and reactions from the NGOs and civil society regarding the sub-decree, so it was sent back to MAFF.

- A workshop was organized to discuss these complaints but the minutes of the meeting prepared by the CFDO did not reflect the ideas and perspectives from those who participated in the workshop.
- One of the issues raised by the NGOs pertains to the control of illegal fishing: the NGOs argue that the people have the right to arrest violators.
- The DoF does not agree with this idea, and says that this is not guaranteed by the Constitution. The DoF argues that the people cannot arrest violators by themselves, nor confiscate the gear of violators. They can only do so with the presence of the police and the commune head.

An article of the RGC constitution says that the people have the right to organize. So, there is no need for the sub-decree on CF because people can organize.

Brush park fishery: started before the 1930s; branches of trees serve as fish aggregation device.

- There are owners of these brush parks and big money can be generated from these.
- The brush park fishery was suspended and converted into a fishery reserve, but still the fish stock continue to decline because people still fish in the brush park.
- Tana's suggestion: open the brush parks and establish new fish sanctuaries.

How to influence policy makers?

1. Sign an MOU with the Ministry of Foreign Affairs – can work with different ministries
2. Sign an MOU with MAFF and DoF
3. Sign an MOU with Council Minister
 - a. Send a delegation first and talk with Deputy Prime Minister
 - b. Thru this, can get involved in the fishery reform
 - c. Project may have the following title to be attractive: Poverty alleviation and food safety in the context of fishery reform

How to influence policy makers: Work with the right person and establish good demonstration sites, e.g., 10 communities.

Sub-decree for the protection of the freshwater dolphin – may be passed ahead of the sub-decree on CF

- Dolphin is the second product of the country after Angkor Wat
- MAFF wants to take all the authority

NGOs can be extremist.

Tana endorses the debate-style of raising awareness among the community and organizing.

- Organize an expedition to the village.
- Invite students to the community to do research.
- Bring students to the rural areas and then expose people to urban areas.
- Students should learn from and live with the people, so the people can learn from the students also.

2. Interview with Mr. Ly Vuthy, Chief of the Community Fisheries Development Office

Department of Fisheries, Royal Government of Cambodia
25 October 2004, IFRéDI, Phnom Penh, Cambodia

The creation of the CFDO is a major organizational change in the Fisheries Reform. Most of the staff of the CFDO has biological science backgrounds. The CFDO is under the Department of Fisheries. There are Community Fisheries Development Units in each province, with 2-3 staff members per province.

Roles of the CFDO: (a) establishment and development of CF and (b) facilitating local participation in fisheries management.

Definition of CF: group of Khmer people who voluntarily join together in order to manage the fishing grounds for sustainability, efficiency, and equity, based on the legal framework of the Royal Government of Cambodia.

The CFDO at the provincial level has the role of facilitating the establishment of community fisheries committee at the local level. The CFDO assists in mobilizing and organizing the CF committees. There are 350 CF committees established throughout the country. Majority of the CF committees have been established with support from the NGOs.

The criteria for selection of areas to establish CFs are: (a) fishing lots abolished or divided; (b) conflict involving fishing lots.

Role of NGOs in CF: if there are NGOs, they facilitate the establishment of CFs; it is difficult to establish CFs if there are no NGOs to support.

Process of organizing the CF: (a) formation of core group; membership in the core group maybe anyone who is respected in the village and can speak for and represent the people; (b) election of the CF committee; (c) creation of by-laws of the CF; and (d) preparation of a work plan.

About 50% of the CFs has by-laws, and some CFs have a management plan.

The CFDO has developed a manual for the establishment of CFs. The office has also prepared samples of the following: (a) Agreement between CF and government authorities, e.g., DoF, MAFF; (b) By-laws; (c) management plan.

The sub-decree on CF is the main policy document.

The local people would like to arrest violators of fishery regulations, but the sub-decree does not allow this. Only the commune head and the police have the authority to do this. There has already been an incident where the community confiscated the gear of one violator. The violator went to court and the court asked the community to compensate the violator for the gear.

Local people cannot make arrests. There is a police post in each commune. The commune council has the authority to order the police justice to arrest a violator.

There is no clear role on decentralization and deconcentration of administration and financial responsibilities.

The decentralization allows the local people to prepare a commune development plan. The members of the commune council are elected, and they have to prepare a yearly commune development plan. The first mandate of the commune council was the preparation of the Five-year development plan. This plan is multi-sectoral and can be rolled over to the next year if funds are not available. The commune council has monthly meetings, and they can invite a member of the CF committee to sit in the meeting to share and give ideas, but the representative cannot participate in decision-making. Every year, the District/Khan organizes a District Integration Workshop (usually in September or October) where the commune plans are presented to the different government agencies and NGOs who may agree to support specific items in the plans. The four tiers of government structure in Cambodia are: (a) National; (b) Provincial/municipality; (c) District/Khan; and (d) Commune/Sangkal. The communes are governed by the Commune Administration Law. There are 1,621 communes in the country; a district is comprised of 6-10 communes. There are a total of 24 provinces or municipalities.

A commune development plan is usually prepared in May or June each year and is comprised of the following aspects: (a) education (b) gender (c) economics (d) health (e) infrastructure (f) environment. Fisheries may be under the Environment sector.

The activities of the CF can be included in the commune development plan. The CF committees can decide on the following: (a) type of fishing gears to use or allow (b) establishment of fish sanctuary. Anyone can fish anywhere as long as the right gear is used. There are already 70 fish sanctuaries established by CFs. The CF committees may also be used for information dissemination.

In the case of illegal fishing activities, the arrest of violators can be made by the DoF, who may cooperate with the police, local authority, and the CF committee.

At the CF level, the management plan can be submitted to the local authority (commune council) for approval, after which it will be submitted to the provincial DoF, then to the national DoF or the MAFF for approval.

The sub-decree on CF took three years to finalize, and has undergone 72 meetings/consultations. It has been passed by at the Inter-Ministerial level. It is now with the Council Minister who will arrange for a full Ministerial meeting for the signature of the Prime Minister.

Some people backed by NGOs have sent a letter to the Minister of the Council Minister regarding complaints about the sub-decree. A big one-day workshop was held to talk about these complaints attended by lawyers, Sec-Gen of RGC, Secretary of State, MAFF. During the workshop, the government allowed one change: for the CFs to form a federation or alliance. The government recognizes NGOs as development partners, but cannot allow them officially to be part of the CF implementation because they are not under the governmental structure.

The CFDO trains the CFDOs who in turn trains the CF committee members on coordination, communication, and conflict resolution.

Capacity 21 is a two-year UNDP-GEF project on capability building of CFDO and CFDO. It started in 2003 and has produced a CD on community fisheries.

I3. Interview with Mr. Pheur Phean, Chief of Fisheries Domains and Extension Office (FDEO)

Department of Fisheries, RGC

26 October 2004, 4:00 – 4:50 pm.

Functions of the office:

- Fishery resource management and conservation
- Fishery domains – similar to exploitation
- Fishing community

FDEO: involved in the resolution of conflicts among the people regarding fishing grounds

Process for conflict resolution:

Contact the local authority – decide whether to resolve at that level or bring it up to the higher level

Example of conflict resolution process regarding the use of electro-fishing gear:

- Before the fishery law: Dissemination of information regarding the destruction of resource with the use of the fishing gear
- With the fishery law: after three offenses, the violator is brought to court

Information dissemination: main task of the office thru

- Video
- Posters and leaflets
- Go to the people

Process for production of videos for information campaign

- Collect information from relevant offices
- Meetings, consultations, discussions regarding the content
- Go to the field to take pictures and contact the people

Sub-decree on the conservation and protection of freshwater dolphins – prepared by the FDEO and is now with the Council of Ministers.

FDEO is now preparing the drafts of a Royal Decree for seagrass and coral reef and a proclamation for MAFF on endangered species.

FDEO also conducts research on fishing grounds (freshwater) – 1999-2003 – fish stock assessment and the protection of the inundated forest.

Process for preparation and approval of a Royal Decree:

1. Draft prepared by FDEO
2. Workshop with relevant institutions and agencies – includes government agencies and NGOs
3. Modification of draft based on workshop
4. Submission to MAFF and meeting
5. Submission to Council of Ministers
6. Council Minister calls all relevant authority for a meeting
7. Submission to Prime Minister
8. Submission to the King

Under the Fishery Reform, 56% of fishing lots were abolished due to conflict between fishing lot owner and small-scale fishers.

Role of the FDEO in fishery reform: FDEO decides on which fishing lots to abolish.

Goal of the fishery reform: reduce fishing lots to 30%. All fishing lots with less than 30 million riel of bidding value have been abolished.

Dissemination of information regarding abolition of fishing lots:

1. Meeting with the people
2. Establishment of boundaries
3. Issuance of proclamation, which includes maps

FDEO used to have 100 staff when Aquaculture was still part of the office. With the separation of Aquaculture, there are about 50 staff members.

The available fishing lots (those not abolished) are still managed by FDEO.

For those that were released for CF, the FDEO is in charge of disseminating information and establishing the boundaries.

The fishing lots released for CF are under an open access regime – for the use of the small-scale and traditional fishers in the community.

FDEO is mainly concerned with technical aspects. In replanting the inundated forest CFDO has to coordinate with FDEO.

I4. Interview with Mr. Sous Sivutha, Culture and Environment Preservation Association

#40, St. 352

Boeung Keng Kong I

Khan Chamkar Morn

Phnom Penh, Cambodia

Suos Sivutha, Project Coordinator (based in Stung Treng)

Tek Vannara, Environment Researcher & Publication Coordinator

26 October 2004, 5:00 – 7:00 pm., CEPA Office
Phnom Penh, Cambodia

- CEPA project on CF started in Stung Treng in 2000, in cooperation with OXFAM.
- CEPA has an office in Phnom Penh and an office in Stung Treng.
- CEPA collaborates and establishes linkages with other NGOs such as AS, FACT, OCCA, VAT, CCK, CFDF, AFSC as well as with government agencies such as CFDO.
- CEPA establishes linkages with NGOs, and also link local communities with each.
- CEPA is pursuing the empowerment of local communities against illegal fishing.

OCCA was the first organization to work on CF in 1997.

In their work on CF, CEPA discussed with the Fishery Office in Stung Treng if they can work with CEPA in the establishment of a pilot project on CF. *The response from the Fishery Office was not encouraging* (Susana is not sure about this), so CEPA worked by itself in the pilot project.

- Regulations were discussed by the local people and submitted to the Provincial Fishery official – the people will implement the rules and regulations.
- These regulations were used as a pattern by other villages to set up their own regulations. The local people discuss the regulations, with facilitation from CEPA, who also assists them to write the regulations. Altogether, CEPA assisted 17 villages and CFs to formulate the regulations. The regulations are specific to the situation of the local communities.
- The regulations were formulated within a period from three to four months, usually after a series of three to four meetings with the local people.
- The whole village was involved in the formulation of the regulations, including the village chief, VDC, old people, commune council, police, and the fishery officer of Stung Treng.
- After the people have agreed on the regulation at the village level, a meeting was arranged at the provincial level with the governor, representatives from MAFF, MoE, and representatives from the community.
- After the provincial level meeting, the regulation is returned to the local community for revision.
- The regulations are then submitted to the Fishery Office for approval by the Fishery Officer of Stung Treng.

Process of information dissemination at CEPA

- Information campaign among government, donors, stakeholders, and local communities
- In cases of conflict, e.g., between stakeholders and local communities, CEPA arranges a public forum to discuss the issues. Stakeholders include the fishery office, environment office, and the police.

CEPA's process of working with communities

1. Research
2. PNRA (Participatory Natural Resource Assessment)

3. Environment Campaign (poster, picture, photos, book, video about conservation from another country)
4. Community organizing
5. Capability building
6. Evaluation

1. Research

Situation of natural resources

- Before
- Today
- Why
- Solution?
- Area
 - Choose area with big problem on natural resources
 - Poorest
 - Ramsar site - if the people want to find a solution

2. PNRA

- Baseline information
- Map of the village
- Village transect
- History of the village
- Fishery resources
- Forestry development
- Seasonal calendar for fishing activities
- Kinds of fish by season
- Kinds of trees in the river
- Kinds of birds
- Interviews on natural resources
- Prioritization of problem
- Activity plan for the community

3. Video showing

After viewing the video, people get concerned about natural resources

4. Community organizing process

Objective of organizing for the community – why people organize

- Select the committee – thru election
 - Criteria for selection: age; physically fit; can read and write in Khmer; ability to work; non-party member; willing to work for the community; good moral character; love to work in community fisheries; honest; good communication in community; good background; volunteer

People find the importance of having women in the committee.

In the video, there's participation of men and women in the use of natural resources.

5. Training for the committee

- Regulation – how to prepare the regulations
- Internal regulations
- How to register/become a member of CF
- Demarcation area in village – CF
- Plan

Internal regulations

CEPA facilitates the writing of regulations discussed by the local people

Regulations from the village – discuss with the Fisheries Office

Implementation of the regulation

Obstacles to implementation

1. CEPA does not have clear experience in organizing CF.
2. District government does not give support to community process to motivate the community
3. Ramsar area – sometimes covered by MoE, sometimes by MAFF
4. Government does not disseminate information regarding fisheries and environmental law adequately
5. Lack of time to participate among community members because they are poor – overall 25-35% participation; in meetings and workshops, there's more than 50% participation; women participate more in meetings
6. Lack of fishery sub-decree
7. Speedboat – very noisy and can be heard within a radius of 40 km; negative impact on wildlife and fish

Lessons learned:

1. Environment campaign
2. Stakeholders participants
3. Network meeting
4. Fisherfolk meeting
5. Training
6. Workshop
7. Study tour/exchange
8. Newsletter "Nature and Life" for the local people

Process of implementation of regulation at the local level:

- People participate to arrest illegal fishers
- Education campaign and explanation of regulations given to arrested fishers
- If illegal fishers continue violating and do not respect regulations, a representative of the CF sends the illegal fisher to the commune. The illegal fisher pays a fine based on his weight; this is a traditional way of dealing with violators.
- The illegal fisher maybe sent to the court in Stung Treng.

The Fishery Department in Phnom Penh does not agree with the following three points although these are being practiced by the people.

- If the commune council and the police are not present – they invite the head of the village.
- Confiscation of illegal fishing gear - done with the police and commune council.
- The commune council finds a solution and contacts the illegal fisher.

CEPA always facilitates the formulation of regulations with the villagers.

- Two fishery officers from Phnom Penh helped CEPA prepare the draft of regulations with the people. However, the Fishery Officer in Stung Treng does not want to sign because there is no sub-decree. CFDO will review the regulations, after which it will be signed by the Provincial DoF.
- IUCN will organize a workshop in November to discuss the regulations. Of 54 CFs in Stung Treng, 17 are covered by CEPA.

Due to pressure from the local people and CEPA, DoF Phnom Penh asked the DoF in Stung Treng to close down a fishing company.

Future plans CEPA:

1. November workshop
2. Push CFDO to ask DoF Stung Treng to sign regulations
3. MoE to prepare a policy about the Ramsar site

15. Interview with Mr. Nau Nam, Chief of Natural Resources Conservation of Takeo

Number of years in office – 1994 – present

Total officers: 28 persons and 1 female

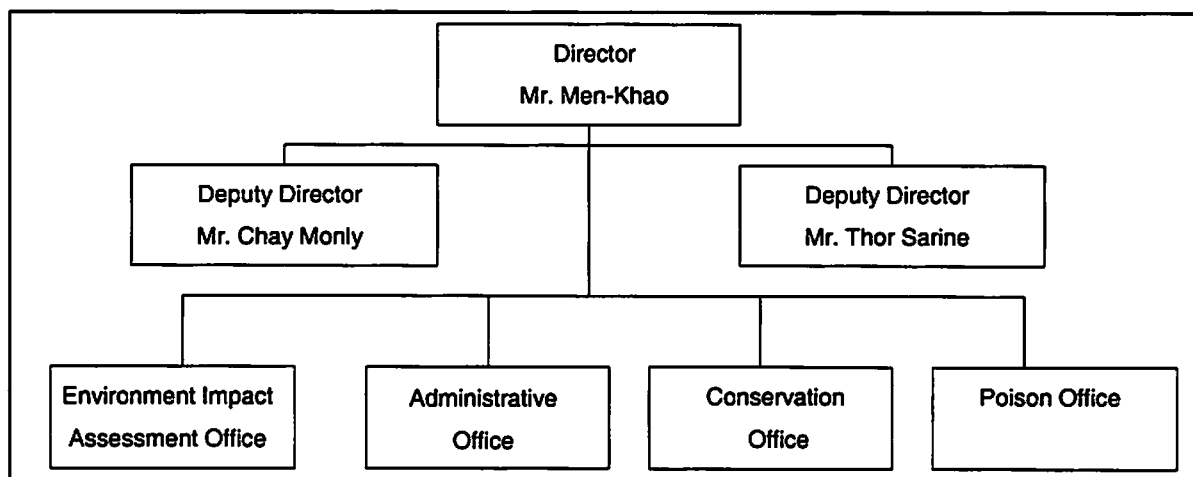
Main objective of DOE

- Natural resources in Cambodia have been destroyed – aim of DOE to restore natural resources such as flooded forests in order to increase production.
- Look at poison from agriculture like rice farming and impacts to the environment

Some activities by the department

- Extension, train people about the environment, protection of environment from the village to provincial levels of why the environment is important.
- Department of Environment have 2 sub-decree
 - 1) Sub-decree No. 36 – Solid waste
 - 2) Sub-decree No. 27 – Liquid waste
 - Circular No. 01 from the Government to monitor and conserve illegal activities for forestry (illegal logging) and fisheries (use of illegal fishing gear and mosquito net).
- Involvement in developing any management plans?

- 1) Main objective of DOE
 - a) Natural resources in Cambodia have been destroyed, aim of the Department is to restore flooded forest and increase its production
 - b) Look at poison from agriculture like rice farming and its impacts to the environment
- 2) Some activities by the department
 - a) Extension – train people about the environment, protection of the environment – province up to the village and explain why environment is important
 - b) Just environment – sub-decree on environment
 - i. No. 36 – solid waste – dealing with markets and waste that affect human health
 - ii. No. 27 – Liquid waste – monitor for waste to be treated before being released to the natural system.
 - iii. No. 01 – Circular from the Government to monitor and conserve illegal activity for forestry (monitor illegal logging) and fishery (monitor illegal fishing gear- mosquito net)
- 3) Involved in all activities from DOA, tourism, industry to develop management plans by providing feedback and comments when management plans are being developed.
- 4) Assist in extension of management plans.
- 5) Organization chart of Takeo Department of Environment



I6. Interview with Ms. Daren – Chamroen Cheat Khmer (CCK)

- Objective of CCK – Direct assistance to poor people at the village level – providing capital such as housing, fishing gears, capacity building in disaster management.
- Funded by OXFAM UK
- Started since 1996, 5 staff – 3 women
- Assist in the development of two types of management plans together with the Village Development Committee (VDC) –
 - a) Development management plans (rice bank, provision of machinery etc.)

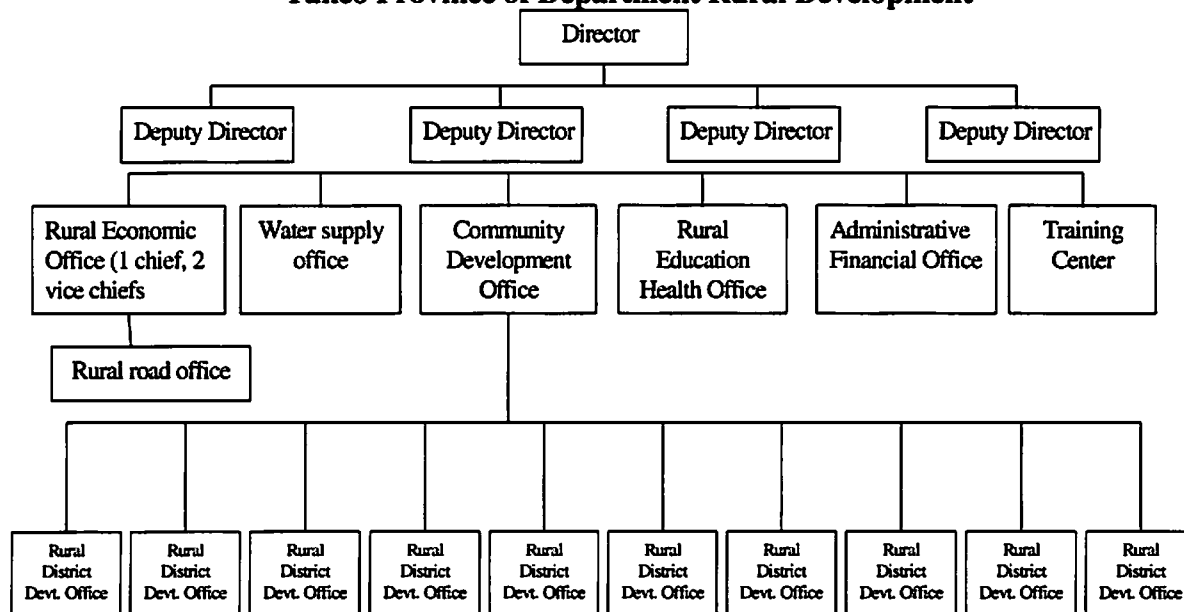
b) Disaster management plans (eg. flooding, drought)

- Management plans are endorsed by the VDC and District Governor – ownership with the community.
- Village community is trained to develop own proposal for funding. The proposals are channeled through CCK to seek for funding. Apart from outside funding sources, there are also examples of the community contributing funds to collectively develop a rice storehouse.

17. Interview with Mr. Tim Bunthoeun Deputy Chief Department of Rural Development

- 1) Establish the VDC and develop partnerships with NGOs.
- 2) Focus on food security and education, strengthening decentralization of commune council, CBOs and VD Committee
- 3) Maintain achievements with NGOs
- 4) Provide toilet infrastructure to people in the rural areas.
- 5) Credit – facilitate rice bank, corn bank, etc.
- 6) Facilitate planning and management of development
- 7) 4 deputy directors
- 8) GTZ organized project on Land Use Participatory Planning (GTZ & PRASAC)
- 9) Areas project conducted – Ratnakiri, Kampong Thom, Kapot, Takeo – 3 months – 1 commune – 10 villages to develop resource management plans that include land use. Mainly 10 year plan which looks into land use, natural resources such as flooded forest etc. Also looks at laws

Takeo Province of Department Rural Development



- 1-Establish mechanism Rural Development
- 2-Food Safety
- 3-Build up Village Development
- 4-Rural Capacity Building
- 5-Reconstruction – Repairing, maintenance (Rural road, Cleaned water well)
- 6-Construct inside the public toilet / rest room
- 7-Credit, fertilizer, seed, pesticide, cow, Rice Bank
- 8-Build up Child School
- 9-Professional trading Commune
- 10-Facility, Planning, Building and rural development management
- 11-International cooperation with IOs and Donators
- 12-Participate in natural resources management planning / Environment

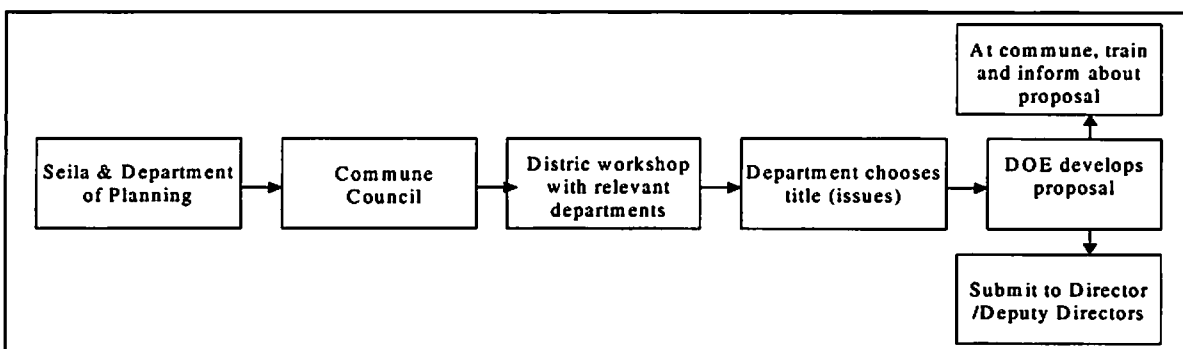
18. Interview with Mr. Eng Phyrong, Deputy Director of Environment Department Stung Treng

Activities:

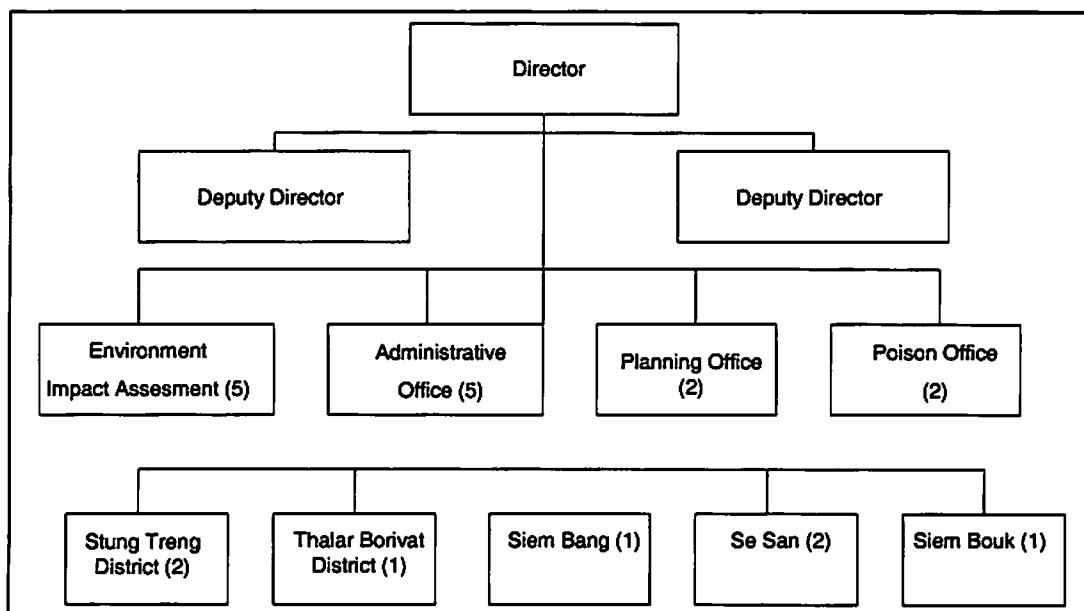
- 1) DOE sends officials to district to enforce on animal hunting and usage of illegal fishing gears – if they find the use of illegal fishing gears, officers are sent to Stung Treng to advice them. After meeting illegal fisher, DOE officers will train and explain to offender. A contract is made and if they are caught using illegal fishing gear again, the DOE will fine the fisher.
- 2) Environment law – small, medium and large scale - according to fishing gear
- 3) Enforcement officers – 2 or 3 per district only at the RAMSAR sites.
 - 4) Outside RAMSAR site, if they see illegal fishing and catch offenders, they will contact the fisheries office, community fisheries to work together.
- 1) If offend happens in the commune, commune head, village head, Community Fisheries and Fisheries Office collectively address issue especially only for large scale fishing. For small scale fishing – contract will be made to ensure that the offender does not repeat.
- 2) What is usually in the contract –
 - a. First offense – fill in a form provided by DOE
 - b. Second – another contract drawn up
 - c. Third – brought to court for the use of illegal fishing gear, fined and asked fisher to stamp or sign.
- 3) Who are usually caught undertaking illegal fishing? Mostly from outside villagers
- 4) DOE's role to develop management plan every year with other institutions and work together with MAFF
- 5) Just conducted workshop and invited commune head, village head, forestry committee to raise awareness on the sustainable management of natural resources.
- 6) 6 workshops have been conducted. Mostly Department of Planning sends officers to Commune Head to develop management plan.
- 7) Places conducted – Siem Pang, Siem Bouk, Stung Treng – (for one or two days at each site) – Conducted workshop on decentralization by Seila programme.
- 8) Seila supports the planning department to undertake workshop at the District. They provide proposals for relevant management plans to relevant department –

- 9) I related to natural resources management plan, DOE provides training following the process below.
- 10) In 2003 and 2004, DOE conducted training to raise awareness among communities – eg., on natural resources management, illegal fishing, legislation.

Figure 1: Proposal Process.



- 11) Provide brochures, books, small pictures, sign boards on trees etc. – however the efforts are hampered as they do not have any money to implement.
- 12) Activities supported by own department funds and not by Seila
- 13) Submitted 3 proposals to SEILA for USD10,000 but only 1 proposal accepted.
- 14) DOE also looks at solid waste disposal in towns – eg. signboards to keep rubbish away etc.
- 15) Group discussions held today at the Stung Treng workshop most important if project can help facilitate management plans would be useful for the protection of ecosystem and help the ministry of Environment.
- 16) 10 officers in RAMSAR site.
- 17) Organization Chart of the Department of Environment



19. Comments by Paul Namisi (FAO) on Economic Valuation of Aquatic Resources Workshop

Siem Reap, 22 October 2004

Interviewed by Edmund Oh

1) What plans already exist?

- a. Most villages already have a community fisheries development plan, which is rather comprehensive. Information gained from this project should therefore build upon or feed into, rather than replace such plans.
- b. A lot of community-specific local knowledge has already been incorporated into the plans, including e.g. which time of the year is the best time to collect wood, etc.

2) What information from this project can be fed into these plans?

- a. The data on the relative importance of each activity in each community can be highlighted in the development of plans to enable prioritization of resource allocation.

3) What other information should the plan contain?

- a. The plan should include strategies on strengthening regulatory processes, i.e. enforcement.

4) What kind of support is necessary to ensure the success of these plans?

- b. Financial support is critical as most of the plans cannot be implemented successfully due to a lack of financial capital.
- c. Some communities have a common revolving fund which is used to provide credit to individuals to, e.g. purchase gears. Often little or no interest is charged.
- d. Technical support is also needed to ensure the successful implementation of the plans. Training is especially required to build capacity in areas such as project planning and the management of small businesses.
- e. The plan can also highlight unexploited livelihood opportunities which the community can pursue, e.g. ecotourism.

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