

GCP/CMB/002/BEL

**PARTICIPATORY NATURAL RESOURCES MANAGEMENT IN THE TONLE SAP
REGION (PHASE II)**

Report of the Evaluation Mission

Phnom Penh
October 2000

The mission wishes to acknowledge with thanks the outstanding cooperation of all those concerned with the project who greatly facilitated our task, both in Siem Reap and Phnom Penh. Special thanks go to the National Project Director, Mr. Vann Sophanna and the Cambodian project staff based in Siem Reap who accompanied us on our field visits; to the FAO Representative, Mr. J-C. Levasseur for logistical assistance in preparation of this report and to all the international staff for their assistance. The mission thanks most gratefully Mr. Patrick Evans for his unfailing kindness, hospitality and valuable assistance throughout our stay.

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I. EXECUTIVE SUMMARY

The project “Participatory Natural Resource Management in the Tonle Sap Region”, GCP/CMB/002/BEL, funded by Belgium and implemented by FAO, started in 1994 and is currently in its second phase of implementation. The stated overall objective of the second phase (1998-2001) is the sustainable management of natural resources within the Tonle Sap basin through local community participation for the benefit of rural people and local communities. The total budget for the second phase is US\$ 1,386,601.

The project is being implemented in four target districts of Siem Reap Province. The counterpart agencies for project implementation are the Ministry of Agriculture, Forestry, and Fisheries, the Ministry of Environment, and the Ministry of Rural Development. The project has been staffed with an NPD, 21 national counterparts, one international CTA, and 3 APOs.

A tripartite review meeting for the project held in March 2000 recommended that, as per the project document, an external evaluation of the project should be fielded in order to assess the achievements of the project to date and to design a framework for a potential third phase of the project.

The external evaluation has taken place from October 2 to October 18. The evaluation team was composed of 4 persons, a team leader, evaluation specialist from FAO, a community forestry consultant, a rural development consultant, and a fisheries consultant, none of whom had been associated with the design and implementation of the project. The evaluation team spent 9 days in the field reviewing various project activities and met with representatives of the communities involved, held separate discussions with international and counterpart staff and visited other projects having activities in the project zone. In Phnom Penh, the team met with representatives of the main line agencies, the Forestry and Fisheries Departments, with representatives of MAFF, and with the FAO representative.

The mission feels that the overall project design for Phase II is deficient and lacking internal coherence. It is below FAO normal standards. The end-of-project situation that has been defined could not possibly be achieved in the time and resources available to the project. Poor project design has however not hampered the overall quality of the individual activities carried out by the project in Phase II.

The impact of the tenure system and the aquatic regime on the Tonle Sap Lake on project activities has been underestimated in the project document. These factors constrained the activities that the project was able to do to address important issues in the sustainable management of the aquatic resources.

The primary focus of the project has therefore been on the facilitation of community management of natural resources in the inundated forest zone surrounding the Tonle Sap lake and the interconnected agro-ecological zones, the rainfed agricultural zone and the upland shifting cultivation zone. The strategy of the project has been to develop community forestry sites as a process to reduce natural degradation and loss by placing resources management and control under the responsibility of the traditional users. All other project activities have been implemented to support the community forestry process.

The Mission feels that the project activities have been successfully implemented given the limited time frame and the regulatory and security framework it was evolving in. However,

the underlying principle linking these activities to the strengthening of the community process does not always appear to be coherent with the longer-term ultimate objective of natural resources management. The project tasks remains unfinished and there is an additional need to consider ways of refining and giving direction to the efforts in the future in order to generate well tested strategic models for achieving natural resources management and sustainable livelihoods for the Tonle Sap region.

The Mission concludes that a third phase of the project should be undertaken, given the serious nature of the issues to be addressed, the outputs achieved so far, and the keen interest of the MAFF in developing strategic models for natural resources management.

The mission feels that a well-designed and implemented third phase project will result in: natural resource management and sustainable livelihoods strategies and guidelines developed and tested for representative critical areas in the Tonle Sap Region, capacity of government staff and communities is built up to undertake such efforts, a regional centre is established as a clearing house for information and capacity building for the Tonle Sap Region for long-term sustainability of such efforts.

In order to achieve the expected end of project situation, the Mission recommends that the third phase should: be strategic in its selection of interventions, evolve strategies and guidelines in pilot areas, be biased towards the poor by developing sustainable livelihood options promoting the conservation of natural ecosystems, be participatory in nature and involve all stakeholders, facilitate the necessary transformation of policies, institutions, and legislation, strengthen the capacity of district government staff, and cooperate closely with other projects and programmes active in the project area.

The Mission recommends that, in case a third phase is accepted, project formulation is undertaken within the project, involving all stakeholders, with outside technical facilitation to support a strategic and participatory approach.

II. INTRODUCTION

A tripartite review meeting (TPR) for the project was held in Siem Reap from 21-23 March 2000. The meeting, attended by representatives of all concerned Government departments, a representative of the Belgium Development Cooperation and FAO staff from Phnom Penh, Bangkok and Rome, reviewed the project experience to date and made several recommendations concerning future implementation. One such decision was to hold, as envisaged in the project document, an external evaluation of the second phase of the project. As part of the evaluation, a design framework for a possible third phase of the project was to be produced.

The present evaluation mission was mounted in response to the TPR decision. Terms of reference for the evaluation were prepared by FAO according to guidelines for such missions and approved by the Governments of Belgium and Cambodia. The terms of reference are attached as Annex I. As agreed by the three parties, the mission consisted of four persons, none of whom had been associated with the design and implementation of the project. The team consisted of an Evaluation Specialist and Team Leader, Mr. Robert Moore of the FAO Evaluation Service; a Community Forestry consultant, Ms. Bérénice Muraille, selected by the Government of Belgium; a rural development consultant, Mr. Ngin Chhay, selected by the Government of Cambodia and a fisheries consultant, Mr. Rathindra Nath Roy, selected by FAO. The mission began with a briefing at RAP, Bangkok on 2 October 2000 and then proceeded to Siem Reap on the same day for fieldwork until 11 October. It held meetings in Phnom Penh and prepared the mission report until 17 October, then proceeded to Bangkok for a final debriefing on 18 October. The full mission itinerary is found in Annex III.

III. BACKGROUND AND CONTEXT

The Tonle Sap is the Great Lake of Cambodia, which has been considered the heart and soul of the Cambodian people as well as a World Heritage Site. It has a special water regime. During the wet season the water flows up from the Mekong River to fill the lake which inundates the forest and increases the lake to some 540,000 ha. During the dry season, water flows out from the lake to the Mekong, decreasing the lake area to some 250,000 ha.

Some of the flooded area is covered by inundated forest that provides fish habitats, nutrition for fish, fuelwood and a variety of forest products to the local people. Moreover, the lake and forest provide one of the most productive fisheries in the world with the production of about 200,000 tons per year, contributing 60% of the fish production of Cambodia. The resources from Tonle Sap Lake support the livelihood of more than 3 million people who live in six provinces surrounding the lake.

The basic underlying principle of the project was to assist in the conservation and sustainable management of the aquatic resources of the lake through managing the basin as a whole. Overfishing of the lake was a key problem that the project was to help to resolve. The fishery domain, which consists of not only the lake but also the areas inundated by the lake periodically, comes under the exclusive jurisdiction of the Department of Fisheries. The fisheries are broadly administered under three types of regimes: fishing lots that are auctioned for periods of time for exploitation, a middle-scale fishery that fishes in open waters (other than the fishing lots) using licensed gears and a small-scale fishery which fishes the open waters freely all year around. The fishing lots and middle-scale fisheries are expected by law to respect a closed season during the rains when the fish breed and spawn.

Loss of forest cover and continued deforestation also threaten the long-term sustainability of the Tonle Sap resource. Large areas of inundated forest were cleared for irrigation schemes during the Pol Pot regime and subsequently the inundated forest have been intensively used for fuelwood to supply the business sector and to meet the increased demands of local populations. Increases in demands for agricultural land and forest products have further degraded the inundated forest ecosystem. Consequently, fuelwood and other forest products have become scarcer and there has also been a decline in fish stock and some species that depend on the inundated forest.

In order to address these problems, the project "Participatory Natural Resource Management in the Tonle Sap Region (GCP/CMB/002/BEL)" was formulated. The project was funded by the Belgian Government with a budget of US\$ 2,882,025 and implemented by FAO. This project was signed by the Government of Cambodia and FAO in December 1994 and ended in August 1998. The counterpart agencies responsible for the project implementation were the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Environment (MOE) and the Ministry of Rural Development (MRD). The project was aimed at conservation, management and integrated sustainable use of the inundated forest and fisheries resources of the Tonle Sap region. The project focused on information gathering about the resources of the lake and surrounding areas and began a number of community-based development initiatives in one district (Sotr Nikum) of Siem Reap Province.

An independent project evaluation was carried out in April-May 1997. The mission found that the project design was too ambitious and contained weaknesses in providing direction.

Nonetheless, the project had carried out many useful tasks and gathered much information. The mission recommended a second phase of up to five years' duration with emphasis on community based natural resources management planning and implementation, community forestry and inland fisheries development.

By the end of the project, the Government of Cambodia had identified a need to continue the project into a second phase to effectively implement and expand community based natural resource management to sustain livelihoods of local people and to protect the environment of the Tonle Sap. The justification for phase II was that the initial groundwork had been done, a foundation has been established and a body of technical information has been built during the phase I.

The Phase II project was approved to follow on directly from the Phase I, with a budget of US\$ 1,386,601. Its original end (NTE) date was December 2000, but it has recently been revised and is now scheduled to end in August 2001.

The project activities are under the direct supervision of MAFF, but it also works in collaboration with MOE and MRD. The project is works with other on-going projects such as the DANIDA-funded Project for Management of Freshwater Captive Fisheries, IFAD and SEILA (Khmer acronym for local governance project).

Community forestry had no previous tradition in Cambodia and community management of forests was not possible under Cambodian law. A revision to the Forestry Law was prepared in 1993. Subsequently, a sub-decree was prepared legitimizing community forestry as a management regime. However, implementation of the sub-decree depends on legislative approval of the amendment to the Forestry Law, which has not yet taken place. A revision of the fishery law has been discussed, but no real progress is evident on legal issues such as community management of inundated forest and co-management of fishing lots with local communities.

IV. ASSESSMENT OF PROJECT OBJECTIVES AND DESIGN

A. Justification

The development problem posed in the first phase project was the declining productivity of the fishery resource in the Tonle Sap great lake due to destruction of the inundated forest habitat necessary to support the fishery resource. The first phase project aimed to determine the causes of the problem and propose solutions, involving communities in the protection and management of the natural resources.

The second phase project was intended to build on some of the results of the first phase, with an increased emphasis on “action research” through natural resource management at village/community level. It was to extend the methodology developed in the first phase from one to four districts, with a view to developing natural resource management action plans. Besides the four district plans, there would be a number of community-level natural resource plans (including some in two additional districts) with supporting services (extension) at district level and coordinating structures at provincial and district levels “to ensure continued development and implementation of community-based natural resource management plans”.

Given the importance of the natural resources of the Tonle Sap and the need to gain more experience in natural resource management involving community participation, it was certainly justified to approve a project centred on some additional districts in Siem Reap Province, beyond those addressed in Phase I. The justification for the project continued to emphasize, as did Phase I, the inundated forestland, but project interventions were foreseen in all the various agro-ecological zones of the basin.

B. Objectives

The stated development objective of the project is “sustainable management of natural resources within the Tonle Sap basin through local community participation for the benefit of rural people and communities”. The objective is not well formulated because it mixes an end (sustainable management of natural resources) with a means (local community participation). While the two may be linked, sustainable management of natural resources requires more than community participation, and community participation can be undertaken for goals other than natural resource management. It is also extremely broad, since the Tonle Sap basin covers about one-third of Cambodia’s land area. Such a development objective is not useful for analytical purposes because virtually any project in the area involving sustainable natural resource management and/or community participation can be said to contribute to that objective. A more useful development objective would have provided guidance to the selection of immediate objectives and subsequently, outputs and activities.

The project contains four stated immediate objectives, i.e.

1. to facilitate integrated natural resource management by local communities;
2. to promote private and community-based development activities in support of natural resources management;
3. to implement the strategy and activities for the maintenance of productive fisheries within the Tonle Sap basin; and
4. to strengthen local institutional and human capabilities for participatory natural resources management.

Objectives two and three are intimately linked in logic to the first objective. Satisfaction of economic needs is a necessary part of sustainable development; thus there is a logical linkage between the first two objectives. Objectives one and three are linked since fisheries are a natural resource. In fact, there is little apparent distinction between immediate objective one and the overall development objective. Had these three objectives been put together in a single one, there may have been greater cohesion in the project, since the community activities would have probably been linked closely to the development of a planning methodology. As it is, the rationale for promotion of development activities, for example, is not clear. The lack of cohesion in the choice of objectives is surprising, given the attention that strategy development received in the evaluation of Phase I of the project.

C. Project Design

Overall, project design was deficient and lacking in internal coherence. There is a constant confusion about what constitutes an output. Most organizations, including FAO, define an output as the product of the project (e.g. methodologies, guidelines, trained staff). However, many stated outputs in the project document, particularly under objectives 2 and 3, are in fact objectives (e.g. “increased forest resources contribution to on-farm productivity”, “wood energy conservation”, “increased access to fish resources for the people”). As a result, it is not possible to identify what the project was supposed to produce from carrying out various activities. The relative paucity of documentation of project experience thus far can be partially attributed to the fact that production of outputs (technical documents) is not required under certain objectives by the project document.

The project design included a logical framework matrix, as suggested by the first phase evaluation mission but it is inadequate. It appears to have been prepared as an administrative requirement, rather than having been used as a planning tool. Normally, a logframe would clarify the linkages between objectives, outputs, activities and inputs, provide targets and suggest the elements for a system of monitoring and evaluation. The project’s logframe did not do this.

As in the first phase, the target beneficiaries are not clear. The overall project intervention area is clearly defined and limited to the four districts of Siem Reap that contain 80% of the flooded plain of the Province. However, the primary beneficiaries are not defined beyond “the rural population who are most dependent on natural resources”. It is left to the imagination who these are, or how they are to be identified. Even if the beneficiaries were identified in terms of food insecurity or poverty, it would be difficult for them to plan the totality of natural resource management in a given area if there are conflicting claims on the resources from other interests.

The overall project logic, since it is not clearly presented, needs to be construed from the document. It would appear that there was an assumption that the first phase had “shown the way” in terms of how to do community resource planning and that the second phase needed to expand into a few more representative districts in order to “firm up” the methodology. It went on to assume that district plans could be made in some way (whether these would be aggregations or a separate exercise is not stated) and these plans would be used (as stated in the prodoc) “to guide the allocation of limited personnel and resources to areas of greatest need within the district and define the long-term development strategy”.

This idea was highly unrealistic, both in terms of where the project was at the end of Phase I and what remained to be done to reach the stated end-of-project situation quoted above. All experience with community resource management teaches that the process is long and involved. While planning can never be carried out in a situation of perfect knowledge, there were still too many basic questions to be answered before developing district plans based on the experience that could be expected at the end of Phase II. For example, the project strategy focused on actions by village people and did not bring into account the interests of other stakeholders that may have to be considered in eventual natural resource management plans. When the project document mentions “community natural resource plans” it does not clarify what this means – all the area and natural resources used by the community or only some of them that they chose to protect under the project (i.e. a community forest)? A district level natural resource management plan presumably would have to encompass the entire district and all stakeholders.

Furthermore, the project document mentioned a whole series of coordinating committees, ranging from village to district to provincial to national, none of which were clearly identified as being part of any existing institutional arrangement. Had there been a real attempt to use the project to develop mechanisms for planning by the end of Phase II, the institutional issue would have required a more intensive effort, including at central level. The actual situation was that the project could not have been expected to achieve this.

The mission feels that the project design was below normal FAO standards. An end-of-project situation was defined that could not possibly have been achieved with the time and resources available to the project. While poor design did not compromise the quality of the individual activities carried out by the project in Phase II, it makes evaluation of achievement a more subjective exercise. FAO must ensure the preparation of a much better document for a Phase III if the project is to continue.

V. ASSESSMENT OF PROJECT IMPLEMENTATION, EFFICIENCY AND MANAGEMENT

A. Project Budget and Expenditure

The original project budget was \$1,386,601 and the duration of the project was 30 months, from 1 September 1998 – 28 February 2001. At the March 2000 TPR meeting, a decision was taken to extend the project duration by 8 months to August 2001 within the existing budgetary allocation. Subsequently, the Belgian Government agreed to add \$24,860 to the budget to cover the additional cost of the evaluation mission beyond what was provided in the project document. This brought the total project budget to \$1,411,461, or approximately half the cost of the first phase project that had a similar duration.

The major change in the budget as compared to the original plan was a drastic reduction in the amount for international and national consultants. This was justified on the grounds that sufficient capacity existed within the project and that heavy use of funds for international consultants in the first phase of the project had caused resentment among national staff as they did not see the value of many of these consultancies. The project revision was approved just before the start of the evaluation mission. The savings from the international and national consultancies were used to cover the additional 8 months of the CTA's services and increases for duty travel, general operating expenses, training and administrative personnel.

The mission concurs that most of the consultancies specified in the project document may not have been useful in the current phase of the project as it has been implemented, with a heavy emphasis on community forestry activities. However, there may still be a need for some additional resources in the remaining project period, should the recommendation be accepted for a facilitator to assist with the detailed design of a third phase project document.

B. Activities and Outputs

The primary focus of project activities has been the facilitation of community management of natural resources with an emphasis on the inundated forest zone surrounding the Tonle Sap Lake. Due to the interconnectedness of natural resources use among people living in different zones, i.e., inundated zone, rainfed agricultural zone, upland shifting cultivation zone, the project is facilitating community management of natural resources throughout the four target districts (Sotr Nikum, Prasat Bakong, Siem Reap, Puok).

The facilitation of community management of natural resources is based on the development of community forestry sites and all other project activities (agroforestry, credit, micro-irrigation, improved cook stoves, etc.) are designed to support these sites. The underlying assumption is that community forestry is a process that will help to reduce natural resources degradation and loss by placing resource control, responsibility, and management under local communities who have traditionally utilised the resources.

The project has followed a process-oriented approach for the establishment of community forestry sites in the inundated forest areas and in the upland areas. In the inundated zone, the project is working towards community empowerment to protect and manage local forest resources and to protect habitats for fish production, while meeting the community needs for fuelwood and other forest products. In the upland areas, the project promotes community

empowerment to protect and manage the remaining forests and to rehabilitate degraded slash and burn lands. In the agriculture zone, as little land is available for community forest management, the project has been promoting other approaches through agroforestry.

i. Community Forestry Activities

The project has to date facilitated the establishment of 13 community forestry sites with three new sites under development. It is also providing technical advice to four sites supported by UNV in Angkor Park and 10 new sites being developed with IFAD support. The CF sites, covering over 12,000 ha and containing 50,000 people, are distributed among the inundated forest and upland forest spreading within the four target districts of the project, with two sites in a fifth district within a national park area (Phnom Kulen).

The methodology for the establishment of community forestry sites has been developed in general accord with the basic approach to community forestry development followed by FAO and others: site selection, case study (RRA/PRA), discussion, workshop, mapping, regulations, management plan. The project's approach to community forestry understands the definition of "community" in a broad and flexible sense. People are considered as a community because they have a common interest to protect a forest area that falls within traditional village boundaries. One or several villages might form the "community".

The project has reached considerable numbers of people in a short time and played a successful pioneering role in the field testing of community forestry in Cambodia. The Department of Forestry is attentive both at provincial and national level to the developments taking place at the various CF sites and the lessons that might be learned from implementing CF in the field. Communities themselves have heightened awareness in terms of community rights recognition and needs for enforcement against various outsiders (military, private encroachers for land and/or fuelwood).

A CF committee (about 10 to 15 people) is established in order to manage CF issues in the name of the community members. In case a "community" is composed of several villages, sub-committees are formed at village level (usually three persons) and form a central CF committee. In several committees, women are not represented. The people attending a project-sponsored CF workshop select the committee. Attendance at the workshop is voluntary and therefore it might not include all user groups when agreement is reached on management options (block designations and uses) and regulations applying to the CF site. The CF committee with facilitation of project field staff prepares regulations. The project supports the committee by having those rules and regulations signed at village, district and province level. The regulations focus on forest uses, management activities, role of the forest committee and benefit sharing.

While the work carried out thus far in CF has been good, there are some areas where improvements could be made.

The project's community forestry approach concentrates mainly on the resources to be protected within the CF area. Problems and issues when discussed are mostly related to the CF area only. Little attention has been given to the management of natural resources falling within the community area but outside the CF.

Little is known on specific uses of the CF and how different groups and/or villages use the forest. It is assumed that everyone within the community uses the forest resources in the same way and that there is little or no difference on demands among the various forestry users. This assumption is dubious. The interconnectedness between forest resources utilisation, food security, and poverty has been described in many places. Because it is not taken into consideration at the early stages of the CF establishment (no wealth ranking exercise, no gender specific tools, and no knowledge of how the different groups identified utilise forest resources), it has been assumed that any support activities undertaken to facilitate community development would benefit any community member equally. Support activities have therefore not been specifically guided by a poverty focus that would make sense since often the poorest in the community are those relying most heavily on forest resources.

All community forest management plans developed to date still need to be approved by the Department of Forestry. The forest management plans are for five years and would benefit from a break down into annual work plans that can be developed and implemented by the CF committee itself. The plans are based on rapid forest assessment conducted jointly by the staff and the villagers within the various blocks of the forest. It is assumed that traditional knowledge is sufficient for the management purposes. However because some forest management plans provide for commercial production (initially poles, and timber in the future), traditional knowledge should be supplemented by participatory inventory techniques (such as those used in Nepal, India, Thailand, Laos). The Forestry Department may not accept management plans for production that are not based on proven techniques and tools.

This year, expectations have been raised in communities for the production and sale of poles. The number of poles to be extracted is based on traditional knowledge (see above). Discussions are being held with the Forestry Department regarding royalty exemption. Special attention needs to be given to this aspect to find mechanisms and solutions that are acceptable to all stakeholders and would allow general implementation of productive management in CF throughout the country. Indeed, these considerations are likely to determine eventual Departmental decisions for widespread application.

Financial management mechanisms by the CF committee have not been yet developed. This will need careful training and monitoring.

ii. Fisheries and Aquaculture

The project undertook two types of fisheries related activities. The first were those undertaken with the communities living on the edge of Tonle Sap great lake, in the inundated forest zone and attempted to address their natural resource management concerns. The second type promoted the culture of fish either in family ponds or in rice paddies mostly in the agricultural zone and in a few cases in the uplands, which focused on food security and increasing productivity through integrated farming.

Fisheries related activities in fishing communities of the Tonle Sap great lake: The project's primary target in the lake shore/inundated forest zones were the small-scale fishing communities, basically villages that migrated with the annual flooding to traditional fishing grounds, and fished all year round using a variety of gears including gill nets and a variety of traps. Scientists believe the extraordinary productivity of the lake fisheries is closely related to and dependent on the fish habitats and nutrients provided by the inundated forests along the shore of the lake. The project, based on advice and subsequent studies decided to concentrate

on enabling the protection and natural regeneration (and where necessary the replanting) of the inundated forests as they saw very few opportunities of addressing the larger issue of fisheries management in the lake/inundated zone, given the managerial approach of the Department of Fisheries and the powerful vested interests involved in the fishing lots and middle scale fisheries.

The project worked with 27 villages in seven clusters in the four target districts, consisting of approximately 3506 families, an impressive quantitative target under the circumstances. The approach was to build awareness about the need for, the benefits of and methods of protecting inundated forests to enable natural regeneration and occasionally replanting degraded areas as necessary to ensure habitats and nutrients for the fish population and therefore increased fish productivity and also to meet the basic forest based needs of the community such as fuel, some timber and non-timber forest products. The process used to mobilize and enable communities to create community forests was similar to that used by the project in other zones. A total of 6891 hectares of inundated forests has been demarcated as community forests in seven clusters and is being managed by the Community Forest Committees that have been established. Based on the advocacy of the project the community forests have a sort of temporary recognition and legitimacy provided by the Department of Fisheries, until such time as the Fishery Law of the nation is revised to accommodate and facilitate such efforts.

Two planned activities, observation of spatial and seasonal distribution of fish species and RRAs to document traditional knowledge of fishers relating to fish species, their habitat relationships and trends in fisheries, were dropped because the Mekong River Commission and a DANIDA-supported project of the Department of Fisheries are undertaking them, are better equipped to do so and the information is available to the project.

In addition to the community forestry work the project has involved itself in several other issues and efforts as opportunities and needs arose. The practice, economics and impacts of fishing lots have been studied using local consultants to facilitate the project advocacy efforts with governments. A GIS study, which clearly showed huge encroachments of fishing areas by fishing lots, was another such effort. The project is looking into the practice of growing mung beans (a very profitable seasonal crop) on large alluvial dunes generated by the lake hydrology, since such practices are prohibited in the fishery domain. The project in studying the activity hopes to persuade the Department to allow such activities in a regulated manner to enhance the livelihoods of the fisher communities. The project has also conducted a survey of hunting and collection of wildlife from the inundated zone and hopes to undertake a traditional knowledge survey during the remaining period of the phase.

As a result of the better understanding gained by the project and the need felt to build awareness about the unique and important eco-system, the project established a floating environmental centre (GECKO-Greater Environment Chong Khneas Office) which is moored at Chong Khneas and moves around as necessary. The centre is used to provide environmental education and mobilization inputs to coastal communities, to provide environmental education to school children, to build the capacity of schoolteachers in environmental education, to make tourists aware of the environment and enable more eco-friendly behaviour and to generate educational and publicity materials for free and priced dissemination. GECKO, staffed by two counterparts and an Australian Volunteer also provides training to staff of provincial departments, particularly the Department of Environment, and hopes to assist the Department of Environment in conducting environmental surveys.

Fish Culture in Agricultural Zone: The project developed a rural aquaculture development programme to promote fish culture in family ponds and in rice paddies. The intention was to enable food security through provision of animal protein and it was hoped that increased culture production would in the long run reduce the demand for fish captured from the lake and therefore reduce over-fishing. Another intention was to increase the productivity and income of on-farm activities, which would enable farmers, several of whom used forest areas for slash and burn agriculture and extraction of NTFP to work towards conserving and protecting community forests and meet their basic need from the farm lands.

The project selected farmers who had shown interest in culture after the provincial authorities had spread the word amongst commune and village chiefs about the activity. The selection was based on ownership of ponds, economic status that would ensure repayments of loans and also enable some investment into culture. This basically eliminated the really poor and also brought focus on agricultural areas rather than on the uplands where the community forestry programme could have benefited. Farmers were provided training, fish seed on credit (without interest) and provided follow-up technical assistance. Fifteen farmers were trained as trainers to facilitate the extension process and provide demonstration. The training programme has covered over 500 families and the extension of culture seems to be taking place on its own steam. Farmers are happy with their production and while most consume the fish grown a few have sold fish and fingerlings. Silver Barb, Common Carp and Tilapia are the species used in polyculture as the three feed off different water column locations and do not compete. The feed is basically duckweed and rice bran fed on demand. To facilitate availability of fingerlings the project has promoted one farmer to set up a backyard hatchery, providing credit, a grant for basic equipment and supplies and food-for-work support from WFP for the pond excavation. Another backyard hatchery is being developed and will soon go into production.

Culture of Silver Barb, Common Carp and Tilapia has also been promoted in rice paddies, both in paddies with adequate water depths in drainage areas and by connecting ponds to paddies. Twenty-one farmers have taken up the practice and are doing well. An experiment to culture a local species, *Trichogaster pectodralis* is being attempted both in ponds and in rice paddies to study growth and viability. The biology and breeding knowledge of this species is as yet not well understood and wild caught juveniles are used. The project and the Department of Fisheries hope in future to focus more on local species, which are preferred.

The culture activities are well managed and are primarily run by the counterpart staff who have the technical skills. Technical assistance particularly for hatchery management and in increasing the production of culture will benefit the efforts. The programme is taking off and can sustain itself with some help from the Department. It is not clear as to what the role of credit is in the effort as the farmers are capable of investing. The only question is how the culture efforts fit into the broader strategy of the project, as it does not seem to address either food security or facilitate community forestry. The project is hoping to look into the issue of making culture more accessible to poor farmers and particularly women-headed households so the food-security/livelihood security aspects are addressed.

iii. Rural credit

Rural credit is undertaken on the assumption that increasing incomes will lessen reliance by the poor on unsustainable use of natural resources for their livelihoods. The credit

programme also increases the legitimacy of community forestry management committees that are responsible for their administration. The credit programme, although small, is extremely popular because interest rates are low (2% per month) compared to those of traditional moneylenders (8-10% per month).

Over US\$ 20,000 have been loaned to various groups within 15 communities. The repayment rate is of 99% and among the 622 beneficiaries, 65% are women. CF committee members who receive on the job training manage the funds by project staff. The duration of loans is limited to 6 to 8 months. Loan recipients are said to be rotated so as to reach a larger number of persons. Credit repayment is guaranteed on a group basis. Savings groups have been organized, to which members contribute 500 riels (US\$0.125) per month. Savings groups are only created after a decision to grant credit has been made. They have not been used for resource mobilization.

The CF committee chief, the village chief, and the credit officer select the beneficiaries. The poorest households are said to be rarely selected since it is assumed that they are less able to reimburse. It is contradictory to the rationale of the credit programme that those who are the most dependent on forest resources and most in need of additional income sources are not specifically targeted for income generating activities. This does not negate the importance of rural credit *per se*, although it does raise concern about its relevance to this project.

Additionally, the credit programme has placed a considerable administrative burden on the project since there are no local credit institutions through which it can work. Credit programmes that do not create or work through existing institutions are inherently unsustainable.

iv. Agroforestry activities

Agroforestry is one of the approaches used by the project to diversify production, especially in the agricultural zone where there is not much land left for the establishment of community forests. The activities aim at encouraging the production of trees with crops and/or livestock to increase overall on-farm production.

Agroforestry activities undertaken cover seedling production, tree planting, shifting cultivation trials and improved fruit tree propagation. The activities have been supported by the APO agroforestry and a 3 months consultancy by the same person upon completion of his APO assignment.

The project currently supports 3 Provincial Forestry Department (PFD) nurseries and provides technical and limited financial support to the overall seedling and tree-planting programme of the PFD. The WFP provides food for work for casual labour employed in the nurseries. As mentioned in the project document, the tree planting activities aim at raising environmental awareness and address local needs. Seedling requests from villages, pagodas, schools, communes and NGOs are assessed by the PFD before the planting season. Distribution of seedlings is site specific, accompanied by technical training on seedling handling and tree planting. People are encouraged to pick-up seedlings from nurseries to limit transportation costs. In 2000, the PFD, on the advice of the project, started selling seedlings (first 20 seedlings are free of charge) in order to improve tree-planting results and recover some of the production costs. Seedlings produced are also contributing to a roadside tree-planting programme initiated by the Department for Rural Development in collaboration with WFP.

In 1999, 80,256 seedlings were planted 83% on-farm and 17% on public land. An evaluation of the tree planting operation showed a 73% survival rate for on-farm planting and a 36 % survival rate for public-land plantation. However, in 2000, only 13 % of the seedlings planted were on farmland and 87% were planted on public land, even though survival rates were shown to be much higher on farm land than on public land.

Non-permanent community nurseries are also supported by the project, to address seedling supply for communities involved in CF activities. This activity is adapted to the needs of CF forest management plans.

PFD staff have been trained by the project on seed selection and technology. The project is now collecting seeds from indigenous species for its own use but also supplies seeds to other government agencies.

The project has also been promoting the establishment of private improved fruit tree nurseries to promote fruit trees in to the farming systems and in the home gardens. In 1999, the project has promoted 18 of these sites. The project has provided training to the nursery operators who then receive fruit trees for orchards establishments, vegetable seed for initial inter-cropping, and the needed nursery equipment. From visits in the field and data available, this activity seems quite successful

v. Slash and burn agriculture

The establishment of community forestry sites in the upland areas has identified slash and burn patterns as a threat to forest resources practiced by the poorest among the community. The lack of permanent land for paddy cultivation due to population pressure is often the cause of the practice. The project has rightly identified slash and burn as an area for involvement and has started looking at possible alternatives in order to ensure food security while ensuring forest protection. Initial trials in 1999 have covered crop diversification and soil fertility management. Efforts were pursued and monitored in 2000.

Farming systems in slash and burn areas have been developed in several countries in the region, including Thailand, Laos and Vietnam. It would be useful for the project to learn from the experience that has been built up in those neighbouring countries.

vi. GIS/Cartography unit

The project has established a functional GIS/Cartography unit. The unit is equipped with two desktop computers, relevant software, five non-differential GPS navigation units and software, topographic maps, and aerial photos. The unit is staffed with an APO and a counterpart from the Forestry Department. The counterpart staff was specifically trained during Phase I of the project. During the second phase, his training was reinforced through two weeks of in-country and on-the-job training. In 1999, the unit was supported by a two-week consultancy and another two-week consultancy is planned for December 2000.

The project is using GIS as a tool to support project activities. It has concentrated on developing applications of GIS/mapping techniques to support the community forestry process. A well-documented and innovative approach has been taken, using GIS as a tool to support participatory mapping and boundary demarcation. It does not preclude the

participatory CF mapping and demarcation as facilitated by the CF extension staff with key informants from each village. The GIS output is considered a plus to the process not an alternative for its implementation. The GIS unit is able to produce the maps locating the CF sites in their broader spatial context as well as the community forest management maps. These maps are used as a basis for registered authorization of the CF, discussion with users groups, and land allocation. To date all community forestry sites have maps developed by the GIS unit. This approach might prove a useful tool for the Forestry Department for institutionalising CF within the broader framework of national forest management. The procedures and methods applied for this GIS support to the community forestry process should now be documented into a field manual.

The GIS unit has set up thematic databases covering the following for Siem Reap Province: the administrative boundaries, land cover/land use, river and roads, elevation, soils, fishing lots boundaries and encroachment areas, community forestry sites and management blocks, dike locations, and forest range units. It has produced countless specific maps at the request of the project and the Provincial Departments of Agriculture, Forestry and Fisheries.

Another achievement of the GIS unit is the establishment of a database featuring geographical information on some key aspects of the Tonle Sap lake: fishing lots, fish sanctuaries and public fishing grounds boundaries, fisheries department protected area limits, annual inundated levels and inundated forest areas.

vii. Appropriate technologies

The project has been involved in increasing awareness about and dissemination of fuel saving stoves. To date 193 improved cook stoves have been installed. Within the four project districts, 88 women have been trained to build these stoves so that they can sell it to others in their communities. So far only 30 stoves have been built at people's own initiative. Improved bucket stoves seem to be more successful, they are cheaper, use less fuelwood and can be moved easily. The project has supported the training of a staff and of a local stove builder. Sixteen stoves have been given in 16 villages in August 2000. To date 45 additional stoves have already been sold and the local builder is actively engaged in producing more stoves, as they are proving popular.

Some 144 improved sugar palm stoves, locally produced in the agricultural zone, have been distributed. The stoves have been disseminated through various arrangements: full grants for demonstration purposes and others on 50% credit arrangements. Linked to the dissemination of improved sugar palm stoves, the project has worked on the issue of marketing sugar palm in Siem Reap for the tourist market. A consultant was recruited to support the sugar palm marketing activity. The mission feels this could be a successful niche market and a well packaged and promoted product will earn the seller much higher revenues than those obtained on the usual market for palm sugar.

The project has supported the establishment of treadle pumps to increase the water supply during the dry season in the agriculture zone. From 1997 to 1999, the project has established 52 treadle pumps in on-farm demonstration sites. In 2000, 50 additional pumps have been provided to farmers using 50 % credit arrangements. The demonstration farmers have been involved vegetable growing, forage production, fruit tree planting, and soil improvement.

The project has facilitated the rehabilitation of a 2.5-km dike in the inundated forest area to support water supply for the dry season rice cultivation. Currently, the project is working on the rehabilitation of a medium scale irrigation dam benefiting villages already involved in CF management activities.

Appropriate technologies activities have been conducted in co-ordination with other departments (i.e., Water Resources and Meteorology, Agronomy, Extension), other IO's (i.e., UNDP CAREERE, WFP), and NGO's.

viii. Data Collection/ RRA-PRA

As mentioned in the project document, Resource Assessment Surveys were to be undertaken in order to establish detailed resource databases for the three new districts under Phase II. Using RRA/PRA techniques, the project has undertaken studies in 30 communes in three districts (Prasat Bakong, Siem Reap, Puok). This intensive effort was conducted over six months in 1998 and 1999. Reports are available.

It appears that this major effort of data collection has been conducted as a collateral activity as there is little indication of what data were needed, the potential use of the collected data, and how the data could support on a systematic basis, the project activities for natural resources management.

ix. Training

Building capacity of the community to undertake participatory natural resources management and of the project staff and others to facilitate the kinds of tasks undertaken by the project was an important objective of the project. The project undertook to build capacity through training programmes, holding workshops and seminars to orient participants and share knowledge with them, study tours, enabling people to participate in workshops, consultations with communities. Given the wide range of activities that the project undertook training and capacity building took up a considerable portion of its time and energy.

The project managed to train over 1880 persons of various categories, provided opportunities to over 3370 persons to participate in workshops, meetings and community consultations and organized field trips for over 355 persons. To better understand these large numbers it is useful to consider the number of contact-days spent by various categories of people during the project period in training, workshops, meetings, consultations and community consultations. Community members in the projects target areas had 11,830 contact-days, project staff had 747 contact-days in country and 110 contact days in neighbouring countries, staff of other government agencies, IOs and NGOs had 1772 contact-days and community members from outside of the project's target area accounted for 594 contact-days. In addition the project organized regular classes for batches of their counterpart staff to learn the English language. Most of the training and capacity building efforts were in-country using local resources and as such were very cost-effective.

The Mission, in assessing the work of the project, was of the opinion that perhaps more efforts were needed in building up the capacity of counterpart staff in the project and elsewhere particularly in the areas of participatory diagnostics, analysis and management, communication, savings and credit management, gender mainstreaming, and a variety of technical areas relating to management of natural resources. They are central to the tasks the

project set out to do but do not form part of the education/experience process most government and NGO staff go through. There are concerns about the capacity of community members who as members of management committees will have the difficult tasks of planning, facilitating, mobilizing, problem solving, and credit management, to mention just a few. The Mission also felt that the project needed to document its training efforts and develop training manuals on a priority basis to facilitate the sustainability of its efforts after the termination of the project.

C. Government Support

Government support to the project has been excellent, especially considering the very real budgetary constraints it is facing. The Government has provided ample space for the project at MAFF Provincial Headquarters in Siem Reap and in the Departments of Forestry and Fisheries, all of which are within easy walking distance of one another.

Government support has also been strong at the policy level, as the project enjoys a high degree of visibility both at provincial and national levels. The project has close links at the highest political levels in Siem Reap Province and also among senior MAFF staff in Phnom Penh. There is obvious enthusiasm for involving local communities in natural resource management, although rather cautious at this time as necessary legal and regulatory instruments are not yet in place for larger scale expansion.

Additional evidence of strong Government support is the number and quality of national staff assigned to the project, many of them full-time. The NPD is a respected senior provincial official. Strong Government support with project staff will permit a nucleus of trained nationals to be built up that have valuable experience in the methodologies promoted by the project.

D. Project Management

Project management has been diligent about preparing monthly activity reports and six-monthly progress reports that are circulated widely. These reports are informative and well prepared; the semi-annual reports are made against activities and outputs as specified in the project document.

National staff fully manage the most important field components of the project, including those related to forestry and fisheries (aquaculture). Although the mission feels that these activities need to be rationalized into a more coherent experimentation package, the development activities themselves are well managed.

The pattern of project staffing (only one international staff member in social forestry) has meant that some of the APOs assigned to the project have not received the degree of technical support that they would in most circumstances. The problem is exacerbated by the fact that some of the APOs are carrying out tasks for which they are not specifically trained.

The project document called for the establishment of a steering committee comprised of (unspecified) "senior officials". No terms of reference were drafted except that the committee was "to advise and guide project activities". Given the absence of a defined function and the fact that the project is physically located far from most "senior officials" in the country, it is not surprising that the committee has been inactive.

E. Technical and Operational Backstopping

The project has received backstopping visits from community forestry and fisheries officers from FAO Headquarters (the latter not at project expense) and from forestry, women in development and fishery (APO) officers from RAP. The visits were for general backstopping and were not addressed to resolution of particular implementation problems. Officers from FAO HQ (community forestry) and RAP (forestry) attended the TPR meeting in March 2000. The project has also received an operational backstopping visit by the CPO for Cambodia.

The quality of technical backstopping has been fair. Project management states that project reports are circulated extensively within Government and FAO and that few comments are received, except from the forestry officer in RAP. As the project brings together several disciplines, it is believed worthwhile to constitute a task force in RAP to provide technical guidance to the project and because a well-designed third phase may be expected to produce interesting normative work.

VI. ASSESSMENT OF RESULTS AND EFFECTIVENESS

A. Effects and Impact

For the communities involved in the CF activities, the project has had a positive effect. It has allowed communities to achieve something they wanted but were previously unable to do in view of uncertainty of the legal framework regarding land tenure and accessibility, powerful stakeholders (military, fishing lots) and lack of facilitation skills to organise the community towards a desired goal.

The project has had an impact on the community management of natural resources in the areas where it has been actively involved. In the upland areas, communities have been able to reclaim land threatened by outsiders. However, impact on overall forest resources is compromised in some areas, since community members who were undertaking shifting cultivation within the community forest, stopped only to undertake the same activities in areas that are not protected by CF agreements. In the inundated forest zone, the communities have organised themselves to protect the forest so that fish spawning areas are protected, the fuelwood stock can be rebuilt and the area can be protected against agricultural encroachment. Members of these communities realizing the need to begin managing their fisheries have agreed to stop using various kinds of illegal fishing gears and to use appropriate nets. The collective strength of organized small-scale fishing communities, their traditional knowledge and the project's advocacy has to a certain extent highlighted the problems of fisheries management in a regime dominated by large scale fishlots and medium scale licensed fisheries and has given the poor fishers a voice, however feeble, in national fora that will decide the fate of Tonle Sap's fisheries in the future.

At such time that benefits are generated from the management of CF, additional impact will likely be generated in terms of local development, but there may be a strain on the consensus agreement that the community holds for protecting a resource that has as yet no financial value. Attitudes of the various stakeholders might change when financial benefits can result from the CF area.

It is not possible to assess yet the effects of the CF committee establishment, how effectively it is representing all stakeholders of the community, and how it will fit within the Cambodian administrative framework at village, commune, and district level. At present, there are no major conflicts but in future, if the committee is handling large amounts of money generated by CFs and if relationships to the normal governmental structure are not clarified, there will likely be conflicts. These aspects should be closely monitored and work should ensure that the committee's functioning is equitable, democratic, and transparent.

All project activities seem to be genuinely popular and beneficial. For example, aquaculture and rice fish cultures provide fish for consumption and some income to the growers. The activity is well managed and strategic but does not target the poor nor can it be shown that it enables farmers to stay away from their traditional ways of exploiting forests, as the growers of fish and the upland farmers who are involved in community forestry are not the same people. It is however not clear the relative degree to which some of these activities are contributing to the goal of improved resource management although they involve members of the community using the resource. Perhaps activities tailored to the identified needs and

targeted towards the most forest resources dependent within the community would have contributed more decisively to the objective of integrated natural resources management.

The project has good impact on awareness raising for CF at national, provincial, district, and village level. It has established links with other actors in this field and is thus participating in the advocacy effort for the passing of the sub-decree on CF. A recent field visit by the Director-General of the Forestry Department to various CF sites confirms the interest of the Government to see the concept being tested at field level and to assess the various effects and impacts before it can be institutionalised.

The project has shown that community forests in the inundated zones are technically feasible. Their social and economic feasibility and the legitimacy of the activity in the long run needs to be demonstrated. Working as it does with small-scale fishing communities, the project has a comparative advantage in building awareness, mobilizing and enabling them to organize themselves to better manage their resources and to give them a voice in fisheries management fora so that their rights and equitable access can be assured.

The aquaculture activities are well managed and are primarily run by the counterpart staff who already had the technical skills. Technical assistance particularly for hatchery management and in increasing the production of culture will benefit the efforts. The programme is taking off and can sustain itself with some help from the Department. The role of credit in the effort is not clear, as the farmers are capable of investing. The only question is how the aquaculture efforts fit into the broader strategy of the project as it does not seem to address either food security or facilitate community forestry. The project is hoping to look into the issue of making culture more accessible to poor farmers and particularly women-headed households so the food-security/livelihood security aspects are addressed.

In the training and capacity building area the project had a large input. The project should have undertaken detailed training needs analyses of its various constituencies. It was difficult to assess the quality of the training as materials used were not documented nor was there any evidence of post-training assessments. However, programmes seem successful based on relatively high levels of staff performance, though the counterpart staff seem to have had a fair level of competence in their technical areas already. The project staff also felt the need for technical knowledge in some cases that should have been addressed through technical assistance inputs.

The Mission felt that more efforts were needed in building up the capacity of counterpart staff in the project and elsewhere particularly at district level and in the new areas relating to management of resources and mobilizing and enabling community. The Mission also felt that the project needed to document its training efforts and develop training manuals on a priority basis to facilitate the sustainability of its efforts after the termination of the project.

B. Sustainability and Environmental Impact of Results

The project has built up strong staff capacity within the departments of forestry and fisheries and to a lesser extent within the Department of Environment for implementation of most project activities. Some activities, i.e. GIS unit, depend too much on one person and the human resources base should be expanded.

Capacity at district level is very weak and there has not been an active strengthening of community forestry support at district level. District level based community forestry support does make more sense as it not only fits with the government policy of decentralisation (SEILA programme) but is also more cost effective for following field based activities than a provincial based unit.

Community forestry activities and community strengthening are long-term processes and sustainability cannot be achieved within a three years time frame. The CF areas already established would most probably continue to be developed if the legal framework (CF sub-decree and regulations) is established. In this case, the government as well as the communities would be interested in developing new sites.

The CF committees still rely very much on the facilitation support from the project. Support is still needed for strengthening the committee skills, pursuing technical development work for forest management, and develop mechanisms for monitoring the committee's achievements and financial management.

Other project activities are anyway on the agenda of the departments like aquaculture (fisheries department) and tree planting (forestry department); these would therefore be continued beyond the project.

C. Gender Equity in Project Implementation and Results

In Cambodia, while a number of tasks are primarily a woman's or a man's job, there is some flexibility and roles will change according to family circumstances as regard the management of natural resources and agricultural work. It is said that the division of labour has become even more flexible especially in the sense that women do more of all sort of tasks while male labour tends to be concentrated in the areas that he traditionally performed. It is generally agreed upon that decisions are made at the family unit level.

The project has an APO in charge of gender and rural development. Among the 21 counterpart staff of the project, only two of them are women. Attempts have been made to recruit more women, but these have been unsuccessful so far. Project staff do participate in provincial meetings on gender organized by various government and non-governmental bodies.

The project has tried to address women's specific needs by channelling special credits for women headed households, organizing a rattan basket programme and supporting appropriate technologies to relieve the work burden. Recently, gender training has been organised for project staff (attended also by other provincial MAFF staff) in order to mainstream gender concern in project activities. It has still to be put into practice.

It is however surprising that in the CF establishment process, no gender specific data are collected, especially as regard the collection pattern and uses of timber and non-timber forest products in the community area. Although, as mentioned above, there is flexibility in gender roles, it is good to make sure for each community how these roles are shared. Basic tools for ranking and classifying forest products uses by different groups (men, women, children) do exist and can be easily applied at the early stages of the CF process. Gender approaches can also be used to identify the specific constraints in the daily life of men and women and how each group ranks these constraints. On several CF forestry committees, women are not

represented as if they are not a user group. It might lead to decision for managing the CF detrimental to them. For example, the restriction on fuelwood collection in some CFs, may force women to go much further to collect the wood. In the case of women headed households with low labour availability, the burden on women increases even more.

D. Cost-effectiveness

The mission believes that the project has been very cost-effective, especially when benchmarked against the first phase of the same project. The key factor has been an increased reliance on national staff to carry out the bulk of the project work. Aside from building managerial capacity and promoting ownership of results, it is very much less expensive.

Most of the training in the second phase has been within the country and this also has been cost-effective. The project has built up good relationships with other on-going development activities, actively seeking synergies in training activities that can be offered to staff at low cost.

The project has also been successful in obtaining assistance at no cost from the APO Programme and Australian volunteers. The staff serving on the project are enthusiastic and hard working. They have been an important factor in the success of the project thus far.

Further improvements in cost-effectiveness are possible, by screening out activities that contribute less to overall project goals and emphasizing those with the greatest impact on sustainable natural resource management. This plays to the comparative advantage of FAO in developing novel methodologies and guidelines. Activities requiring financial assistance only are better channelled through NGOs because of their lower overheads.

E. Major Factors Affecting Project Results

Positive factors that contributed to performance and quality of the project included excellent support of the government at national and provincial levels from its inception. Senior administrators and policy makers were interested and several visited the project. Project staff, in particular the CTA and the NPD, were invited to participate in dialogues and discussions at the national and provincial levels where they had opportunities to meet with policy makers and donor representatives and influence them on the basis of project experience and learning. The project's efforts were amplified and extended through cooperative and collaborative efforts with other agencies and projects, which included sharing knowledge and experience, providing and receiving training, and in some cases receiving assistance in spreading the impact of the project to areas beyond its target zones.

The government provided a full complement of staff from the cooperating departments at the provincial level to work with the project on a full-time basis and several of these contributed substantially to the successes of the project. The project benefited from the technical expertise of the cooperating departments particularly in the agriculture, animal husbandry and fisheries sectors. By being housed within the offices of their cooperating departments the project enjoyed close and continuous contact with government staff at all levels and it facilitated dialogue and discussion. The NPD not only provided good leadership but also with his familiarity with the government framework and closing working relationships with the senior leadership of the province was able to navigate and guide the project over and around many a hurdle.

Some of the factors that affected the project's results and performance were beyond the immediate control of the project. The project began in September 1998, just as the security situation began to ease after several years of political turmoil and violence in the countryside. While it became possible to travel around without fear and reach the target areas in the province the aftermath of the turmoil still took its toll in that people were reluctant and were focused on rebuilding their shattered lives. The project had to move slowly and its effective time of operation was reduced. Initial efforts at meeting communities, building relationships of trust with them and working with them were naturally made more difficult. The results and the performance of the project need to be considered with these factors in mind and put in perspective.

The organizing principle behind the need for and the development of the first phase of the project and this, the second phase, was the Tonle Sap Lake. The arrangement of fisheries made it very difficult for the project to address the management of fisheries resources and concerns of the small-scale fishers who were their primary target group. Small-scale fishers had problems of access to fisheries with the "privatisation" of the open resources through allocation of fishing lots and licensed fisheries. The project therefore could do little to address the sustainable management of the aquatic resources without the cooperation of the Department of Fisheries. The project chose the option of focusing its energies on the small-scale fishing communities on the lake and helping them to enable the regeneration of the inundated forests and their protection, since the inundated forests are the critical habitats for fish and a major source of fish nutrition. However, the situation in the aquatic regime curbed the project activities and made it difficult for the project to work towards some of its objectives.

On land, the project had to demonstrate that the communities could meet their immediate needs, particularly of food, without having to convert forestland to agriculture, which in turn would provide the incentive to the communities to protect their community forests (in the hope of benefiting from selective and managed exploitation into the future). Depending on the future and forgoing present gratification for future returns requires the community to have tenure or at least credible user-rights over their community forestlands. The land tenure situation in the country is very fluid at present and the policies and legislation to pin down land ownership and user-rights are in the pipeline and may take a while. And while the project has been advocating the inclusion of community forestry as a land use regime with the community being able to access its usufructs without having to pay royalties (as the forest concessions do at present) the government will have to weigh the pros and cons of "privatising" a public resource for community benefits and consider the ecological and social benefits of such actions and how they compensate for the lost revenue. The project and its target communities are, therefore, faced by this uncertainty that could affect the quality of its performance and results negatively particularly after the project ends and it is not around to advocate on behalf of the people.

The project was burdened by a design that has been addressed in an earlier section of the evaluation report. A clear framework and criteria to enable the project to take strategic decisions and choose tactics did not emerge from the design.

Enabling management and conservation of natural resources, which are complex and interconnected, calls for strategic thinking and action, always checking particular tactics and actions with the longer-term ultimate objectives. The project while it often excelled in

implementing its various individual activities suffered from less than required strategic planning. The result was that well performing activities sometimes did not combine and crystallize into coherent results and outputs.

The attempts at strategic planning were further weakened by insufficient attention to rigorous and holistic diagnostics and problem analysis to guide the activities that emerged as solution options. In particular, the "community" focus of the project and the very difficult and complex socio-political scenario the project worked within often resulted in key stakeholders such as the armed forces or powerful private interests being left out of the calculations and the strategy. Communities by definition are only one of the stakeholders and cannot be expected to manage resources that go beyond their ambit.

The project while it worked well together as team including both expatriate and counterpart staff, would have benefited from the particular expertise and experience that was necessary to do justice to the complex multi-disciplinary task at hand. A combination of all the expatriate staff except the CTA being either Associate Professional Officers (in a way trainees themselves) and Volunteers and the counterpart staff still requiring skills development resulted in them not being able to bring to bear all the necessary expertise and experience to the task. The result in some cases was to evolve approaches, techniques and methods from scratch when similar options had been tested in the region or elsewhere. Backstopping inputs from FAO headquarters and the regional office in Bangkok existed but the system of occasional short visits and provision of literature cannot sufficiently fill all gaps in specialized areas. Fisheries, gender mainstreaming, agriculture, appropriate technology, forest assessment, stakeholder participatory management, diagnostics were some of the areas where additional expertise would have benefited the project.

The project primarily used the provincial counterpart staff deputed to them to implement and extend their activities, though on occasion district level staff were involved and trained. In a large province with logistics being a severe handicap not building the district level government staff into the strategy of the project may have implications on the sustainability of its efforts beyond the project end and more importantly may make the models evolved by the project difficult to replicate.

In trying to identify and understand the factors that affected the results of the project both positively and negatively the Evaluation Mission felt that the obstacles the project faced are already beginning to be addressed by the project and the government and future efforts, with adequate learning, would be able to overcome these obstacles and problems.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

The project "Participatory Natural Resource Management in the Tonle Sap Region" in its first and second phases set out to address the natural resource management problems of the Tonle Sap region, which includes the great lake and its surroundings. The first phase attempted to better understand the problems, in a technical sense, and tested their learning with activities at the village level in one district of Siem Reap province. The assumption at the end of the first phase was that an understanding had been reached of the problems and a basic strategy identified and partially tested in one district. The first phase was hampered from field implementation due to the political turmoil in the country and the security situation that prevailed. The second phase seemed to have moved forward with the assumption that the answers were known and with peace at hand all that was needed was to extend and test the model and refine and elaborate it to incorporate the district and provincial levels.

The task turned out to be large, complex and difficult. The project, on the other hand, was small in terms of resources, has had barely two years of peace to work in and as explained elsewhere faced several problems and obstacles. The success of natural resources management efforts is often intimately tied to ensuring sustainable livelihoods for people who exploit and depend on the resources and on policy, legislation and the means of enforcing conservation and management regimes that take into consideration the various stakeholders who depend and impact on and influence resources. The Government of Cambodia is acutely aware of the importance of the Tonle Sap region in providing the basis for livelihoods for a large portion of their population. The government is committed to equitable, sustainable and participatory solutions to the problems faced and are in the process of evolving and initiating actions, including policies and legislation, with the support of development banks and donors.

The Evaluation Mission gathered from their discussions that government officials consider the task of evolving a range of strategic models to enable people to conserve and manage their natural resources and to develop sustainable livelihoods a central challenge. Government officials believe that the project and similar efforts in the future can help in this task. The need to evolve strategic models necessary to address a variety of agro-aquatic-ecologic zones, various social configurations and management regimes can best be tackled by several regional efforts in the country with simultaneous efforts at building the capacities of governments and people's organizations at various levels to carry forward the efforts. The government is convinced that the project has shown results and the promise of future results and is interested in seeing the effort continues in order to provide strategic models for the Tonle Sap region.

The Evaluation Mission concludes that the project has had several successful activities but that its task remains unfinished. Further, there is a need to consider ways of refining and giving direction to the efforts in the future, which will integrate the individual past and future actions and give them a strategic coherence in order to be able to generate well-tested strategic models for achieving natural resources management and sustainable livelihoods for the Tonle Sap region. It is the opinion of the Mission that while the project has faced several obstacles that have affected its performance and results, the problems can be overcome. The project has generated considerable awareness at various levels of society and government of the need for, the benefits of and the methods of sustainable resource management and has developed linkages with a variety of GOs, IOs and NGOs to spread its learning and skills and

to provide assistance to others in their tasks. The Tonle Sap great lake and its surrounding region, its problems and the possibility of addressing them in a participatory and equitable manner has been firmly put on the agendas of governments and the project can claim significant responsibility for this achievement through its awareness building and advocacy roles. More importantly, the Mission found that the government was aware of the problems and were in the process of initiating efforts to address them in the future, with the help of cooperating donors and technical assistance agencies.

The Mission concludes that a third phase of the project should be undertaken given the nature of the problems that need to be addressed, the clear indications that with appropriate refinements and strategic guidance a future project could significantly contribute to the solution and the obvious comparative advantage FAO has in making available a variety of technical and developmental inputs based on its expertise and experience.

B. Recommendations

The recommendations of the Mission are presented in two sections: the first recommends and gives broad direction to a third phase of effort to follow the present phase; the second recommends options in the present project until its NTE date, depending on whether there will be a third phase or not.

1. The Evaluation Mission strongly recommends to the Royal Government of Cambodia, the Food and Agriculture Organization of the United Nations, the Government of Belgium and other interested donors that a third phase of the project "Participatory Natural Resource Management in the Tonle Sap Region" be developed. There seems to be a clear consensus amongst the project staff, the cooperating counterpart agencies and the Royal Government of Cambodia that the end-of-project expectations of the proposed third phase should be:

- Strategies and guidelines developed and tested for enabling participatory natural resources management and sustainable livelihoods for representative critical areas (described by a combination of ecological & social configurations and management regimes) in the Tonle Sap Region.
- Capacity of government staff (at province, district, commune and village levels) and of community members is built up to enable them to strategize, plan, develop, manage and monitor such efforts.
- A regional centre developed to act as a clearinghouse for information and capacity building for the Tonle Sap region to sustain such activities into the future.

The Evaluation Mission, to give direction to the strategy, design and formulation of the proposed project, recommends that the following issues and concerns be taken into consideration in the process:

- The proposed project should *evolve strategies and guidelines by developing and testing them in pilot areas* selected on the basis of secondary information, consultations and participatory diagnostics representing the critical agro-ecological/social/managerial regime configurations in the Tonle Sap Region. This may require continuing efforts in some of the areas where the second phase of the project already functions and selection of some new areas.

- The project effort and the strategies/guidelines that emerge should be *preferentially biased towards the poor with a view to enabling sustainable livelihoods, to conserving natural ecosystems, and to gender mainstreaming.*
- The proposed project should enable and *facilitate communities to reduce their utilization of wild resources by demonstrating the possibilities of food and livelihood security in available land and water bodies.*
- The proposed project in its efforts and in the strategies and guidelines evolved should be *participatory in nature and involve all stakeholders* to ensure the socio-political feasibility of the effort and strategy.
- The proposed project should increase efforts to *facilitate the necessary transformation of policies, legislation and institutions*, using advocacy (where necessary undertaking research/studies to build their case) and working closely with government and other donors and development agencies to gain from their collective leverage in such issues.
- The proposed project should be designed to benefit from the comparative advantage FAO has in the fields of sustainable agriculture, fisheries, forestry and rural development. *Adequate technical assistance should be ensured for the project through provision of necessary expertise and through backstopping from the regional office of FAO in Bangkok, facilitated and monitored by a multi-disciplinary task force established for the purpose. Appropriate linkages should be built up with the Special Programme on Food Security.*
- The proposed project should be *designed keeping in mind the capacities of staff and availability of resources in the post-project period to ensure its sustainability.*
- In this connection, the proposed project should work closely and in cooperation with local government bodies, agencies and departments from the village to provincial levels, in order to build the capacity of and *utilize in particular district level government staff and other front line functionaries to ensure regular contact, cost-effective logistics and follow-up.*
- The proposed project should *cooperate with and work closely with other programmes and efforts, particularly SEILA* and benefit from their planning, decision-making and governance strategies and organizational set ups at the provincial/district/commune/village levels.
- Given that the Mekong River Commission, the DANIDA-supported fisheries management project of the Department of Fisheries, the proposed projects of UNDP-GEF and the ADB all address the management of critical aquatic habitats and management of aquatic resources in the Mekong River System (of which the Tonle Sap great lake and river are integral parts) the proposed project *in addressing the concerns of the lake side fisher communities and those in the inundated forest zone should preferentially focus on regenerating the inundated forests, building awareness, documenting traditional knowledge, enabling sustainable livelihoods, mobilizing and strengthening the communities to ensure that their voices are heard, and their concerns and equity taken into consideration in aquatic resources management and other developmental efforts of the government and the above mentioned agencies.*
- The proposed project should actively *network, communicate and share its learning with all stakeholders* in order to encourage replication of its efforts and to influence the direction of developmental efforts.
- The proposed project should be *designed for a period of time (perhaps five years), which enables it to facilitate and enable communities and other*

stakeholders to evolve and stabilize managerial mechanisms to manage their resources and livelihoods in a sustainable manner.

2. Should the recommendation of the Evaluation Mission be accepted in terms of developing a third phase of the project "Participatory Natural Resources Management in the Tonle Sap Region", the Evaluation Mission recommends that the project focus on the following activities until the termination of the second phase in August 2001:

- Documentation by project staff of activities and the project as a whole in the form of field documents, elaborating the strategies and methods used, the lessons learned and the gaps in knowledge.
- Design and formulation of project proposal for third phase of project, by project staff with external facilitation and technical advice, including consultation with all stakeholders, using participatory diagnostics and in deciding on project interventions, being guided by the development of sustainable livelihoods.
- Decision on current project activities that will be terminated at the end of phase two, winding down of such activities and handover of technical assistance and support responsibilities to other donors/agencies where possible.
- No new, long term commitments to be entered into, in terms of activities and relationships with other agencies until the third phase project begins, to avoid compromising the future project with prior commitments.

3. Should the recommendation of the Evaluation Mission **not be accepted** in terms of developing a third phase of the project "Participatory Natural Resources Management in the Tonle Sap Region", the Evaluation Mission recommends that the project focus on the following activities until the termination of the second phase in August 2001:

- Documentation by project staff of activities and the project as a whole in the form of field documents, elaborating the strategies and methods used, the lessons learned and the gaps in knowledge.
- Make arrangements for handover of technical assistance and support responsibilities to other donors/agencies to the extent possible.
- Emphasize capacity building efforts for provincial, district and other cooperating agencies staff to enable them to carry forward similar efforts including development and dissemination of guidelines and training manuals, as necessary.
- Advocacy efforts with government and other stakeholders to facilitate and enable a stable policy/legislative framework to enable communities to continue protecting and utilizing "community lands" allocated under the auspices of the project.

VIII. LESSONS LEARNED

Community resources management and sustainable livelihoods at family level are interconnected goals. Targeting sustainable livelihoods in order to ensure the sustainable management of community natural resources represent a potentially successful approach. By adopting an holistic approach, a project is better able to identify people's needs, constraints and priorities and consequently identify activities that might impact both individual livelihoods and the community natural resources management. Such approaches need to be supported by an integrated action of various government agencies and institutional support as close to the community as possible using participatory processes.

In order to be sustained, the community forestry process needs to be supported through a general regulatory framework of policies, laws, regulations, and institutional arrangements for forestry and land-use planning. Field projects developing community forestry options with communities and local administrations play an important role in supporting the development of such a framework. A field project should not only allow the voice of the communities to be heard and assist them to identify their natural resources management options, it should also allow policy and decision makers to assess from the results of the various options developed, those most adapted to the local socio-economic conditions.

Although often stated before, it bears repeating that project document should guide and support the project team for its strategic planning. The task of a project in selecting and implementing activities for achieving its objectives will greatly facilitated by a realistic and well designed project document. The project formulation stage should therefore not be hurried or overlooked.

ANNEX 1 – MISSION TERMS OF REFERENCE

ANNEX II – LIST OF PERSONS MET

List of people met:

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|--------------------------|--|
| 1. Chap Nhalyvoud | Governor, Siem Reap Province |
| 2. Chhun Sareth | Under-Secretary of State, MAFF |
| 3. Ty Sokhun | Director General, Department of Forestry & Wildlife |
| 4. Tat Bun Chhoeun | Director, Department of Agronomy, Forestry & Fisheries in Siem Reap Province |
| 5. Sam Nuov | Deputy Director, Department of Fisheries |
| 6. Hang Sun Tra | Coordinator, Secretariat of National Forest Policy |
| 7. Duong Vanna | Provincial Program Manager, CAREERE Siem Reap |
| 8. Chea Vibol | Deputy Provincial Program Manager, CAREERE Siem Reap |
| 9. Jean Claude Levasseur | FAO Representative in Cambodia |
| 10. Jacques Luyssaert | Head of Belgian International Cooperation Division, Embassy of Belgium |
| 11. Jorgen G. Jensen | Manager, Fisheries Programme, Mekong River Commission |
| 12. Don Bishop | UNDP/IFAD Adviser |

Project Staff in Siem Reap

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|----------------------|---|
| 13. Patrick T. Evans | Team Leader |
| 14. Bruno Cammaert | Agroforestry Consultant |
| 15. Renaud Bailleux | APO PRD/Gender Analysis |
| 16. Etienne Delattre | APO GIS/Cartography |
| 17. Penny Everingham | Australian Volunteer-Provincial Forestry Department, Siem Reap |
| 18. Ruth O'Connor | Australian Volunteer-Provincial Fisheries Department, Siem Reap |
| 19. Van Sophanna | National Project Director, Department of Forestry |
| 20. Sour Hay | Forestry Supervisor, Department of Forestry |
| 21. Prak Marina | Community Forestry Supervisor, Department of Forestry |
| 22. Kong Voravuth | Community Forestry Facilitator, Department of Forestry |
| 23. Ung Vuthera | Community Forestry Facilitator, Department of Forestry |
| 24. Lang Lo | Community Forestry Facilitator, Department of Fisheries |
| 25. Chong Tong | Community Forestry Facilitator, Department of Fisheries |
| 26. Sok Esaravetd | Community Forestry Facilitator, Department of Fisheries |
| 27. Lun Puthy | Community Forestry Facilitator, Department of Environment |
| 28. Sokun Viseth | Community Forestry Facilitator, Department of Environment |

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| 29. Has Phirum | Manager of the GECKO, Department of Environment |
| 30. Chrouk Kim Veng | GIS/mapping, Department of Forestry |
| 31. Lay Sophal | Agroforestry Extension, Department of Forestry |
| 32. Prom Din | Fisheries Supervisor, Department of Fisheries |
| 33. Tiep Bun Chhun | Fisheries Extension, Department of Fisheries |
| 34. Nong Sopha | Fisheries Extension, Department of Fisheries |
| 35. Keo Pollek | Fisheries Extension, Department of Fisheries |
| 36. Poa Cheang | Treadle pumps/vegetables extension, Department of
Agronomy |
| 37. Ms. Sam Lap | Wood energy/gender/extension, Department of Rural
Development |
| 38. Mam Arun | Rural Credit, DAFF Administration |
| 39. Ms. Ly Boravil | TDC Supervisor, DAFF Administration |

ANNEX III – MISSION ITINERARY

- 1 October – arrival of mission members in Bangkok
- 2 October – briefing of mission in RAP; afternoon travel to Siem Reap
- 3 October – initial briefing at project office and meet all project staff and counterparts; afternoon visit to Phnom Krom/GECKO environment centre
- 4 October – visit to Kampong Phluk (community forestry in inundated forest zone)
- 5 October – visit to Khna Po and Bos Thom (community forestry in upland area), horticulture and micro-irrigation
- 6 October – visit family fish ponds, integrated rice-fish culture, private hatchery near Siem Reap
- 7 October – agroforestry in upland area, tree planting activities, seedling production areas
- 8 October – free day
- 9 October – wood energy and income-generating activities near Siem Reap; afternoon visit to GIS Unit and meeting with Provincial Department of Fisheries
- 10 October – meet with Provincial Director, MAFF; discussions on possible Phase III with project staff
- 11 October – meet with CAREERE, discussions with project staff; afternoon travel to Phnom Penh
- 12 October – meetings with FAOR; Belgian Development Cooperation; Undersecretary of State, MAFF; DG, Department of Forestry and Wildlife, MAFF; Deputy Director, Department of Fisheries, MAFF
- 13 October – meeting with Mekong Secretariat/Danida Fisheries project; report writing
- 14-15 October – report writing
- 16 October - report writing; debriefing meeting at FAO, Phnom Penh
- 17 October – finalize draft report; afternoon travel to Bangkok
- 18 October – debriefing meeting in Bangkok
- 19 October – end of mission