

PRA Report

Local Area Coastal Resources Management (LACRM)

Koh Kong province

2003

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Abbreviations and Acronyms

ACLEDA	Association of Cambodian Local Economic Development	Bank with various services, including credit facilities. It requires collaterals and takes fairly high interests
AIDS	Acquired Immune-Deficiency Syndrome	
AT	Action Team	Teams of technical staff from provincial departments assisting the TF.
CBNRM	Community Based Natural Resources Management	
CCU	Coastal Coordination Unit	Office in MoE and secretariat to the NCSC amongst others has key coordinating roles within and between management levels.
CRC	Coastal Resources Centre	Small centres in Kep, Kampot and Koh Kong and a somewhat bigger centre in Sihanoukville established to provide a up-to-date office environment for stakeholders involved in coastal zone management. The centres also offer facilities for smaller exhibitions, meetings and workshops and host a socio-economic and environment information system.
CRCS	Cambodia Red Cross Society	Cambodian NGO primarily involved in Health, and Disaster programmes
CZM	Coastal Zone Management	
Danida	Danish International Development Assistance	The Danish organisation within the Danish Foreign Office, which administers Danish development assistance. In Cambodia Danida provides support through a Natural Resources and Environment Programme within which support is given to the Environmental Management in the Coastal Zone, Cambodia Project.
EEZ	Economic Exclusive Zone	A sea area adjacent to a country over which the country in accordance with international agreements has particular rights and responsibilities.
EMCZ	Environmental Management in the Coastal Zone	Danida supported project implemented through the Ministry of Environment 1997 - 2007
EMT	Ennastien Moulethan Tchonnebat	Credit programme, offering short term loans with low interest, and which the poor find beneficial
FP	Focal Points	Line ministries
GTZ	Gesellschaft für Technische Zusammenarbeit	German organisation for bilateral development support
HKW	Helen Keller Worldwide	International NGO
IDRC	International Development Research Centre	Canadian based development research institution with activities worldwide.
LACRM	Local Area Coastal Resources Management	The focus of phase III
MoE	Ministry of Environment	

Koh Kong Province

NCSC	National Coastal Steering Committee	Inter-ministerial Committee chaired by the Minister of Environment performing a coordinating role related to projects and activities in the coastal zone of Cambodia
NGO	Non Governmental Organisation	
PMMR	Participatory Mangrove Management Research	
PRA	Participatory Rural Appraisal	
PWG	Provincial Working Groups	Interdepartmental Committees in the coastal administration, chaired by the governor, performing a coordinating role related to activities in their jurisdiction. Referring to the NCSC.
SEILA	Khmer word: Rock	
TF	Task Force	A subgroup of the PWG with special responsibilities related to activities under the EMCZ Project. Referring to the PWG.
UCC	United Cambodian Communities	American based NGO located in Kampot providing different types of training to vulnerable groups as well as aquaculture training and extension.
UNICEF	United Nations Children's Fund	

1. Introduction

1.1. EMCZ Context

1.1.1 Environmental Management in the Coastal Zone (EMCZ), Phase 1 and 2¹

Danida has provided support to the Project Environmental Management in the Coastal Zone, Cambodia since 1997. The project, which is implemented through the Ministry of Environment, targets NRE management capacity building at all levels. While targeting sustainable management of natural resources and environment the project in line with the policy of the Government of Cambodia considers sustainable use of these resources as essential for improving the socio-economic situation in the coastal zone.

The landward part of the coastal zone consists of Koh Kong Province bordering Thailand to the west, Sihanoukville Municipality which contains the key harbour for goods to be brought into the country by sea, Kampot province, bordering Vietnam to the East and Kep Municipality. The seaward part of the coastal zone is the claimed Economic Exclusive Zone (EEZ) of Cambodia.

The project in its first phase between 1997 and 2000 focused on establishing platforms for coordination at national and provincial levels, which was achieved through the establishment of the National Coastal Steering Committee (NCSC) chaired by the Minister of Environment and having members from the key ministries, and the establishment of an interdepartmental Provincial Working Group (PWG) in each of the coastal administrations. In this phase rapid assessments were undertaken of the socio-economic and natural resources issues in the area and consolidated through a series of more in-depth socio-economic studies in selected villages along the coast and through a series of case studies examining key issues in more detail.

In its second phase between 2000 and 2002 the project moved from studies and awareness raising towards more concrete planning and demonstration. *State of the Coastal Environment Reports* were prepared by each of PWGs based on readily available information and local knowledge and spatial planning documents were produced in the form of *Physical Framework Plans* for each of the local administrations, providing a five year perspective as seen by the PWGs. In this phase the project also engaged in Community Based Natural Resources Management (CBNRM) by implementing a series of pilot projects in villages along the coast, examining aspects of local participation in natural resources management as well as improved or alternative livelihoods to ease the pressure on these resources. Experiences were outlined in the *Management Guidelines for Community Pilot Projects*. In the legal and institutional domain important achievements were the production of a *Source Book on Laws and Regulations in the Coastal Zone* with a companion *Users' Manual* and the empowerment and integration of the NCSC and the PWGs into the Cambodian institutional framework.

¹ Substantial Documentation is describing these Phases of the Project. For further details please contact CCU in MoE (coastal@czmcam.com)

1.1.2 Phase 3 – the Current Phase²

Phase 3, with a duration of 5 years, started in August 2002, with “Sustainable development of the coastal zone of Cambodia including environmental protection and management of coastal resources for improved local livelihoods and national welfare”, as its development objective. Immediate objectives are 1) The NCSC functional and the CCU of the MoE operational according to its mandate, including Cambodia's national policies and commitment to international agreements, 2) The provincial authorities monitor and assess coastal resources and support environmental protection and community based coastal resource management, and 3) Coastal communities implementing participatory Local Area Coastal Resource Management (LACRM) taking into account building of social capital, enforcement of local user rights, involvement of women, and generation of improved livelihood to reduce poverty.

Provisions have been made in the Phase 3 budget to implement up to 6 community projects, using a LACRM concept approach (see below) with the PWGs and Ex.Coms. as key facilitators³ in the process, and with activities, listed in the Commune Council plans.

1.1.3 Local Area Coastal Resources Management (LACRM)

LACRM adopts an ecosystem-based management approach, which seeks to support locally organised human use of the coastal ecosystem in order to balance the exploitation of the natural resources with their sustainable production. As far as possible, Local Area Coastal Resources Management is defined within natural borders (e.g. an estuary, lagoon, or group of islands) with an overlay of socio-economic and administrative borders allowing management at the lowest appropriate level.

There are particular socio-economic and cultural features common to many poor coastal fishing communities that must be considered (and which make such communities rather different to the majority of agriculturally based communities). The following considerations should be included in the selection and design for each LACRM area, representing three levels of entry into the community:

1. **Fishermen level:** Fishing is the main livelihood of poor fishing communities and this is almost wholly carried out by men (they have a close dependency on and knowledge of the natural environment). Hence, it is principally the male perception of the coastal environment that determines community attitudes towards resource protection/destruction. Thus, awareness building should be mostly targeted at fishermen, and the area selected should include the principal fishing areas and habitats used by artisan fishermen. Similarly, livelihood opportunities closely linked to fisheries (e.g., managed fisheries, aquaculture) are typically those most favoured by fishermen and most likely to be successful.
2. **Household level:** Although fishing is a male dominated activity, women and children are closely involved in fish processing (e.g. boiling and peeling crabs, drying fish and shrimp) and selling. They are also mainly responsible for any livestock, gardening or horticulture around the family home. Thus, livelihood opportunities covering fish/shellfish processing or marketing organisation or household level agriculture are

² Four Coastal Resources Centres (CRC) will be established along the coast one in each province and municipality. These centres will provide the PWGs with working, meeting and exhibition space, while performing as information centres for the public at large. The project office will be split between the Coastal Coordination Unit in Ministry of Environment and the CRC in Sihanoukville.

³ The Provincial Departments further have responsibilities to provide technical support to the coastal villages.

potentially valuable supplements to household incomes and an entry point for awareness building among women and the home-based young or elderly. Spatially, the LACRM should include any important marketing or trading locations utilised by the targeted communities.

3. Community level: Fishing communities typically live in very concentrated family groups because of the shortage of suitable land for their houses. They are often situated on marginal coastal land far from good educational and health facilities. Thus local community-level support can be highly visible and effective. Project assistance to develop community school facilities is a valuable entry point that is well received by the whole community. Educational support to local schools should focus on the coastal environment with the lesson that everyone in the community is responsible for environmental protection.

LACRM themes can be subdivided into three closely linked components:

- Conservation of natural resources.
- Local community support activities.
- Improved livelihood opportunities linked to coastal resources management.

1.2 The Community Projects

The present framework for the community projects is the result of a mobilisation process including:

- In May/June 2001 extensive discussions were carried out in the EMCZ structure on the scope of work and strategy for Phase 3 of the project, including support to local communities in the coastal zone.
- In September 2001 a technical mission from Danida appraised the proposal for Phase 3, incorporating LACRM in the resulting Project Document. The appraisal included consultations with PWGs and the communities involved in the Phase 2 pilot projects.
- In October 2002 a series of meetings were held with the PWGs discussing the concept of LACRM and mobilisation of Community Projects along the coast.
- In October and November 2002 the PWGs together with the communities involved in the Phase 2 pilot projects systematically reviewed the experience gained and lessons learned with special focus on applicability related to the Phase 3 community projects.
- The experiences and lessons were presented and extensively discussed in the 3rd Annual CZM Seminar Arrangements held at provincial and national levels in December 2002.
- In December 2002 and January 2003 a series of meeting were held with Task Forces and Action Teams along the coast, discussing criteria to be used by the PWGs to develop proposals for community projects. These criteria incorporated the LACRM concept.
- The PWGs in January 2003 each submitted a proposal for a community project to the CCU by the end of January 2003.
- These proposals were presented by CCU and discussed among national focal points and departments in MoE at a meeting in February 2003.
- Task Forces discussed the proposals for community projects with village chiefs and commune councillors in the areas identified in the proposals. At these meetings

interest to continue with the projects was expressed and the village and commune representatives agreed to discuss the proposals widely in the villages in preparation for a more structured PRA dialogue.

Between 24 March and 31 May PRA Dialogues⁴ were carried out in the areas proposed by the PWGs.

This framework for community projects is a result of this process. Whereas factual information on the area has been collected from various sources, the various issues have been identified in the PRA dialogues with the communities and the framework for the community project has been developed in a participatory process.

This process will be followed by a LACRM semi-annual planning with stakeholder groups in each province and with presentation of the plans to Commune Councils and the Governor.

1.3 The Community Project Document

The community project document, while providing the framework for support to the communities, is required to reflect the actual needs in the target groups and will therefore be updated along with the expansion of the LACRM activities.

The structure of the community project document reflects the LFA approach with the following main chapters:

Chapter 1:

The Chapter contains an outline of the EMCZ Project since its start in 1997 and a presentation of the activities targeted for the period between 2002 and 2007. The LACRM approach to CBNRM used by the EMCZ Project is briefly described. The steps in mobilising the Community Projects are discussed and comments are given to the Community Project Document.

Chapter 2 to 5: Situational Analyses provide detailed descriptions of the situation in the targeted community project areas, based upon secondary data as well as information acquired through the PRA dialogues. While describing the current situation, discussions of trends have also been included. The description of the current situation in each of the four areas has been structured into the following six sections:

- 2.1 Physical Description of the area, which provides a brief on macro geography, infrastructure and climate. Natural resources and roads still to be included.
- 2.2 Demography, which gives very course data on the population based on the 1998 Census, Commune Profiles from 2002 and acquired information in the PRA dialogue, including data from the recently prepared Commune Development Plans.
- 2.3 Infrastructure, which describes the situation at the local level, i.e. the communes in question. Power supply and communication still to be included.
- 2.4 Natural resources, which goes through the various resource and habitat types identified in the preparation for and during the PRA dialogue.
- 2.5 Socio-economy, which uses secondary information as well as information acquired in the PRA dialogue.

2.6 Internal and External relation. A brief overview, while a more detailed overview of the various institutional and organisational structures available to the communities has been developed in July 2004 in a data base “External and Internal Profiles”.

Chapter 6: Justification for Support, which for each of the areas lists all identified issues and organises them in a cause effect relationship thus producing so-called problem trees. So-called opportunity trees are established by reversing the problem tree thus producing structured overviews of the support requirements expressed by the communities. The opportunity trees broadly identify key support areas towards which external and internal relations need to contribute. Important constraints to support are also discussed.

Chapter 7: The Community Project description, which will be structured according to the logical framework approach adopted in the community project formulation process.

The project document will be developed in a participatory process involving the Provincial Working Groups, District Authorities, Commune Councils, and Village representatives. The PRA Dialogue Team has carried out the compilation of information into the project framework and will take part in the further process of planning and project description.

Table 1: PRA Dialogue Team and editors of project document.

Name	Position	Contact
Ouk Lykhim	EMCZ National Socio-economist and PRA Dialogue Team Leader	khim@czmcam.com
Ith Revath	CCU Staff (NGO relations and coordination)	revath@czmcam.com
Ritthy	CCU Staff (socio-economy)	rithy@czmcam.com
Hak Song	CCU Staff (natural resources)	song@czmcam.com
Sony	Counterpart from CBFM Office at DOF	
Bansok	Local Consultant (natural resources)	bansok@czmcam.com
Kimsan	Local Consultant (translation and interpretation)	kimsan@czmcam.com
Soy Thea	Local Consultant (socio-economy and CBNRM)	thea@czmcam.com
BK	United Cambodian Communities (Kampot NGO)	

Village reports, which analyse the situation for each of the villages within the LACRM are attached to each of the four report.

Koh Kong Province

Koh Kang	0	3	0	2
Chroy Pras + Thmei	2	1	2	

Source: PRA Dialogue 2003 (EMCZ Phase 3)

Only 1 health centre is found in the 9 selected villages of 5 communes located in Koh Kapik village under Koh Kapik commune, but it is not functioning. Although there is no health centre, these villages have a few medical professionals, nurses and traditional nurses living there, and have medicine selling places. With this condition the people can be helped, when they have common diseases. Therefore, the people can go to consult with these nurses and buy medicine, but sometimes they just buy medicine according to their symptoms, known from previous illness without consultation. The common diseases and symptoms found in these villages are such as fever, cold and diarrhoea. Furthermore, there are some serious diseases like malaria, tuberculosis, typhoid and dengue fever. Malaria occurred in people who went into the jungle to cut forest in the 1990s. However, at present this disease has absolutely decreased. Typhoid still remains and is found in Chroy Pras, Koh Kabik and Koh Sralaov villages. It is found with the people who drink water without boiling or who are using non-safe-water from wells with poor cooking sanitation. Dengue fever occurs in Koh Sralaov and Chroy Pras villages and with children aged below 10 years old who are bit by tiger mosquitoes living in dirty water or waste. As mentioned above, the medical professionals, nurses and kru khmer can treat only common diseases, snake bites or small accidents, but with a serious disease the patients have to go to hospital in the provincial town far from villages like Chroy Pras, Koh Kipik and Koh Sralaov. It's not really expensive if they take a boat with many people for normal travelling (about 100 Bath), but in case of emergency, they have to rent the boat costing up to 1500 Bath, and some times the boat can't go because of strong wind. Another issue is that some people are so poor that they don't have money for taking the patient to hospital and the patient is left until he/she dies (e.g. a family in Chroy Pras).

According to the interviews, within 9 villages most women give birth at home except most women in Bueong Kachhang village who go to private clinics or hospital, likely because this village is located close to Dong Tung town, where the clinic places and hospital are. Even though the other villages don't have clinics or a hospital, the pregnant women who give birth have access to nurses and/or traditional nurses who live in the villages. These nurses/traditional nurses have got training in delivering under safe and clean conditions.

Apart from treatment, people in each village, mostly children and women, have monthly access to vaccination and they are also aware of health care and sanitation. People in Chroy Pros village have been provided mosquito net.

Education Centres

Table 5: Schools in the Koh Kong Community Project Area

Name	Village	Rooms	Classes	Teachers		Pupils		Grades
				Total	Female	Total	Female	
Chroy Pras Primary	Chroy Pras	3	7	3	0	317	115	1 to 5

Koh Kong Province

School								
Prek Svay Primary School	Prek Svay		4	2	0	76	26	1 to 4
Koh Kang Primary School	Koh Kang	2	5	3	1	112	49	1 to 5
Bueong Kachhang Primary School	Bueong Kachhang	2	3	2	0	141	60	1 to 3
Koh Sralaov Primary School	Koh Sralaov	3	8	4	1	314	151	1 to 6
Koh Kabik	Koh Kabik		6	4	0	173	79	1 to 6

Source: PRA Dialogue 2003 (EMCZ Phase 3)

Although the schools are only primary schools in all 9 selected villages and consist of a few rooms, most children have access to school. Moreover, more school building are being constructed in some villages such as a school for lower secondary school in Koh Sralaov village, consisting of 5 rooms, and an additional school building in Chroy Pras village, consisting of 3 rooms, is being constructed for primary education. School equipments, school processing and teachers' salaries are mostly supported by government through Ministry of Education, Youth and Sport (MOEYS) and PAP that is the programme, providing budgets for school processing and which is calculated by the number of pupils (one pupil get 6.000 Riel per year). Although each school has support, there are still some issues like some schools are almost broken down (in Koh Kapik village), most schools do not have enough rooms, the pupils are separated in 3 groups and learn in 3 shifts. There are not enough teachers for these schools. The department of education used to send some teachers from other places (districts) to these schools, but the teachers always go back to their home village as they cannot make their living with the low salary (they don't have house, extra income generation activities at the village they are sent to). Another issue is that in some villagers immigrants always move to settle somewhere else, where they can make a living. In this case, the pupils drop out of school to move with their parent. Also, where parents are very poor, their children also drop out to help generate income.

Related to the school level, there is only primary schools in these villages. When the pupils finish these schools they have to move to secondary level in another place (only Dong Tung town have secondary and high school); but according to the interview very few pupils have finished grade 6 (primary school). Very few children have continued in upper grades (secondary or high school). 4 of the 5 communes (Chroy Pras, Koh Kopic, Peam Krasoap and Bak Klong) are not accessible by road and it is costly and takes a lot of time to come by boats to Dong Tung. Moreover, many households do not earn enough and cannot afford to send their children to such schools.

Religious Centres

Table 6: Religious Centres in the Koh Kong Community Project Area

Name	Village	Type	Social Services	NRE Services
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Koh Kong Province

Tuot Thaialam	Chroy Pras	Pagoda	Respect to the Buddha, pray for people when they have celebration and educate in doing the right	To protect natural property inside the pagoda.
Stueng Veng	Stueng Veng	Mosque	Nobody responsible for this place	
Ampon Tiaram	Prek Svay	Pagoda	Respect to the Buddha, pray for people when they have celebration and educate in doing the right	Educate people to protect natural resources, to plant trees in pagoda and public places and plant vegetable at home.
Koh Sralaov	Koh Sralaov	Mosque	Respect the religious people	Join with fisheries community and use to guard the mangrove forest, plant mangrove and protect illegal activities.
Kiri Vongkot	Koh Sralaov	Pagoda	Respect to the Buddha, pray for people when they have celebration and educate in doing the right	Educate people and protect natural resources including wildlife inside pagoda and plant trees in pagoda property.
Sovann Borpaot	Koh Kapik	Pagoda	Respect to the Buddha, pray for people when they have celebration and educate in doing the right	Educate people and protect natural resources including wildlife inside pagoda and plant trees in pagoda property.

Source: PRA Dialogue 2003 (EMCZ Phase 3)

The 2 mosques found in the area are located in Koh Sralaov and Stueng Veang village. Cham population is only composed of 26 families in Koh Sralaov village and 7 families in Chroy Pras village. The Cham population in Stueng village was not recorded, because the PRA team did not manage to interview the chief of village and the mosque master. The purpose of setting up a mosque is to respect Islam. Most of the Cham families also join with community fisheries to protect natural resources, especially mangrove forest.

The Cham people never have any problems with other religious or ethnicity.

Apart from the mosques, there are 4 pagodas. Pagoda represents the Buddhist religious centre, which 90% of the Cambodian population respect. Most old people, above 50, always go to the pagoda once per week to pray or respect Buddha. However, all people go to pagoda every celebration day. The Pagoda is a place of respect place that any religious people can go to.

The Pagoda is a natural resources sanctuary. It is used to be the place protected from degrading activities. Additionally, the forest in the Pagoda is the host to wild animals and a diversity of plants.

The monks are participating in natural resources conservation, being used to plant trees and to protect natural resources inside the pagodas. As well, the monks always educate people to live without destroying or killing any life, forest or natural resources.

Harbours/Ports

All the boat-landing places are public and people can moor boats close to or next to their floating houses. There is no organization responsible for these places. These

Koh Kong Province

places can be dirty. People can throw oil or other waste matters into the water, but nobody is going to clean the areas.

Sanitation

Table 7: Wells and Ponds in the Koh Kong Community Project Area

Village	Number	Type	Condition	Water Quality	Water Quantity
Chroy Pras	3	Concrete well	Medium	Use for washing	Medium
	5	Digging well	Old well	Use for washing	Medium
Thmei	2	Concrete well	Medium	Use for washing	Medium
	1	Digging well	Old well	Use for washing	Medium
	1	Pond	Water for selling	Use for cooking	Good
Prek Svay	11	Concrete well	Good	Can use for the whole year	Good
Koh Sralaov	14	Digging well	Use for household	Good	Medium
	3	Pond	water for selling	Good	Good
Koh Kapik	4	Concrete well	Supported by CARE	Good	Not enough in dry season
Bueong Kachhang	1	Concrete well	Supported by DANIDA	Use for washing	Medium

Source: PRA Dialogue 2003 (EMCZ Phase 3)

Water resource is the main issue for these 9 selected villages. The topography of this area is almost flat land, and the elevation is just only 1 to 5 meters from sea level, except Koh Sralaov, Chroy Pras and Thmei which are a little higher. It's really difficult to extract water from the ground. Some villages such as Koh Kang and Boeung Kachhang get water from different places, and the others still lack water in the dry season such as Koh Kapik, Chroy Pras and Thmei village, although they have some wells or ponds. Some people establish water tanks to sell water, and in some places people have dug a pond and pump water through pipes connected to houses for sale. The water is sold at different prices according to the distance the water has to flow. According to the discussion in Koh Kang water is sold at 20 Bat/200 Litres and Bueong Kachhang at 40 Bat/200 Litres. The middlemen take water from Koh Sraloa to sell to Koh Kapik villagers at the price of 10 Bat/200 Litres. It was found, however, the water selling in Chroy Pras, Thmei, and Koh Sraloa village is cheaper than in the other places (1 cub meters costs 30 Bat at Chroy Pras), because the water sources are in these villages. According to the interview with the water supply owner, the water is extracted from a pond sized 3×5 meters, pumped 2 times per day, filled into a tank sized 3 cub meters about 4 meters from the ground to support the households. This water supply pond can support approximately 50% of population of these two villages.

The sanitation in the area is still the main issue. The people seem to be living on garbage. The waste is thrown around the houses and into the water under the flooding houses. Nobody knows how to reorganize or clean these areas. On the other hand, most people make toilets on the water and some of them go to forest or paddy field next to their houses.

Power Supply

Koh Kong Province

There is no grid providing power to the villages in the area. Households depend on generators and batteries for electricity.

Natural Resources

Fisheries

Information from the Provincial Department of Agriculture, Forestry and Fisheries covers the fish catch in the Koh Kong province as a whole. The fisheries activities are shown through different types of fishing gears and captured fishes. The tables below show the statistics from the Koh Kong Fisheries Office.

Table 8: Fishing Boat and Gear Statistics in Koh Kong Province 2001

HP	No of boats	Trawler's nets & Motorized push nets	All types of fishing nets	Crab nets	Crab Traps	Squid Nets	Fish Traps	Shrim p nets	Long line fishing hooks	Hand push nets
Row boats	71	-	-	-	14	-	57	-	-	-
Below 10HP	2531	-	750	804	43	-	35	835	-	64
10-30HP	597	184	178	89	6	12	-	112	1	15
30-50HP	93	73	6	-	5	7	-	-	2	-
50HP up	217	195	13	-	7	2	-	-	-	-

Source: Koh Kong Fisheries Office, 2001 "Statistics of fishing gears". The hand collection fishing gears were excluded.

However, referring to the 'State of Environmental Report', Koh Kong the statistics of the fishing boats from the same source, shown Table 9, are more elaborated.

Table 9: Number of fishing boats in the coastal area: 1993-2000 (Koh Kong Province)

Year	Row Boats	Machine on the boat board		Machine on the bottom of the boat					
				16-74HP		75-150HP		151HP up	
		No	HP	No	HP	No	HP	No	HP
1993	330	810	4860	259	3634	71	6887	90	16541
1994	245	987	5922	288	4486	128	13905	108	23458
1995	216	1450	8700	303	3607	90	9517	88	15552
1996	76	2856	17136	422	5954	74	8266	72	17892
1997	71	2110	12660	347	6225	55	4730	80	13040
1998	71	2110	13715	347	6388	63	5166	72	11880
1999	7	1622	9759	596	11860	130	17598	95	15675
2000	19	2787	17902	438	7068	195	19934	76	11456

Source: State of Environmental Report, Koh Kong 2002 which refers to the original source from Department of Agriculture, Forestry and Fisheries, Koh Kong 2000

Table 10: Statistic of caught fishes in the period of 1990-2000, Koh Kong province

Years	Categorized caught fisheries 1990-2001 (Metric tonnes per year)								
	Fishes			Invertebrates	Squids	Crabs	Molluscs	Rays	Trash fishes
	Grade 1	Grade 2	Grade 3						
1990	437	1245	1612	3001	2554	371	52	1008	11772
1991	1753	2969	3943	1848	907	834	109	374	7263
1992	8060	2000	2700	3000	799	700	146	318	6485
1993	611	1740	3747	2368	601	925	120	146	6346
1994	540	1523	3030	2695	487	612	135	133	4845

Koh Kong Province

1995	550	1880	3000	2000	450	300	200	120	5700
1996	616	1810	2789	2046	390	644	110	110	4997
1997	776	1595	2495	2380	445	547	195	108	3380
1998	650	1200	2170	1840	510	520	180	30	3600
1999	566	3620	3020	1115	480	458	82	40	3215
2000	670	2277	2981	2815	498	1348	325	69	3307
2001	334	2704	3830	1634	544	1410	1032	60	5852

Source: Koh Kong Fisheries Office (KKFO), Statistics of Captured Fishes 1990-2001

The 'State of Environmental Report', Koh Kong, 2002, mentions that the total quantity of caught fishes per year in the four coastal provinces and municipalities is around 33,000 tons of which 12,340 tons only come from Koh Kong province. However, there is no statistics of the trend of the captured fishes. But these statistics are likely based on 2000 figures, and the table below indicate a fairly higher annual catch in Koh Kong.

Table 11: Fisheries production in Koh Kong during the period 1990-2000.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Catch (tons)	9300	8300	8600	8560	8650	9150	10100	10000	14400	16800	16500

Source: Department of Fisheries 2000. Fisheries production in Koh Kong during the period 1990-2000.

The statistics in Table 11 indicate that the yearly fish catch is increasing, likely because the number of fisher folks and modern fishing gears have increased as indicated by information from PRA dialogues, which shows that the number of fisher folks is increasing and all categories of gears were used in the offshore fishing and inshore, including shallow water fishing. This goes along with population growth and perhaps lack of livelihood alternatives for the coastal poor population. There are several mooring places in the villages to where boats can access through rivers and creeks.

The categorized fishing gears for the offshore fishing are shrimp nets, motorized push nets, crab traps, squid traps and all types of fishnets, whereas the gears for inshore and shallow water fishing are long-line fishing hooks, hand push nets, crab traps, fishnets, motorized push nets and shrimp nets, coastal bag nets and all kinds of gears using hand collection.

The offshore fishing frequently occurs in places about 7km offshore in front of the Koh Kapik coastline. In addition, offshore fishing can extend to 20km and more. The offshore fishing boats stay at least a week or even 10days to two weeks in the open sea. Each fishing boat consists of five to ten employed fisherfolks. The group of employed workers would share the benefits, which is about 20%-30% of the income per each total fish catch.

The inshore fishing and shallow water fishing occur near the coastline, located in front of the Peam Krasoap Wildlife Sanctuary. Additionally, fishing activities also operate in the rivers, creeks and estuaries of the Peam Krasoap. Most fishing gears used in inshore and shallow water are crab traps and coastal bag nets.

PRA dialogues found that captured fish is based upon the seasonal calendar. The declination of the fisheries resources and other coastal resources is due to several factors relating to weak law enforcement and poor cooperation among the relevant agencies. Furthermore, the low awareness and education including lack of technical skills to exploit resources and lack of livelihood alternatives for their daily subsistence are the critical factors.

Koh Kong Province

The present practice of harvesting natural resources is to cut the branches of the tree to collect the fruits. The present harvest by motorized push nets and trawlers in the shallow water and inshore areas can result in degradations of the coastal fisheries resources. In addition, unrestricted size of the gears - in particularly to the inshore and shallow water fishing - can be an indicator of destruction of resources.

Although the changing fish catch and the declination, certain species remain increasing largely based on season, which below shows certain species, that involving to trends of the fishes catches and scale of the fishing activities.

Table 12: Fishing Calendar in the Koh Kong Community Project Area

Fishing items	1	2	3	4	5	6	7	8	9	10	11	12	Notes
Offshore fishing activities													
Shrimps													→ Business & food
Mullet fishes													→ Business & food
B.S Crabs													→ Business & food
Squid													→ Business & food
Trash fishes													→ Aquaculture feed
Inshore and shallow water fishing activities													
Krill													→ Business & food
Mudcrab													→ Business & food
Coastal bag nets													→ Business & food
Seasarmid crab													→ Business & food
Mullet fishes													→ Subsistence
B.S. Crab													→ Business

Source: PRA Dialogue 2003 (EMCZ Phase 3)

According to PRA dialogues in Peam Krasoap community, most rich fisher folks go fishing at open sea and they have better livelihood for their daily subsistence, whereas poor fisher folks do fishing in shallow water and/or inshore fishing. Most poor fisher folks have faced difficulty during the wet season due to little savings during the peak season of their fishing activities.

Shrimp fishing: The peak seasons for shrimp fishing activities begin at the sunset of the wet season (some days in April, but mostly in the beginning of May). There is only three month for the peak season of shrimp fishing, but actually only 5 days to one week in which shrimp can be caught at the maximum level (around 100kg shrimp per boat per day). The price is based upon the grade i.e. first grade 100bath/kg, second grade 40bath/kg and third grade 20-25 bath per kilogram. For shrimp fishing activities, trawlers and motorized push nets are used to fish shrimps in the open sea. Each trawler and/or motorized push nets has at least one to three or four employed fisherfolks. Most fisherfolks doing fishing in the offshore area belong to the rich households, having better or medium standard livelihoods.

Mullet fishing: This fishing is operating in the peak season between January-February and October - December. The fishing boats with an engine of medium or high HP have to leave the mooring place about 2.00 am or 3.00 am for the fishing area in the open sea. The fisherfolks spend around three hours to reach the fishing areas and another 2-3 hours for fishing activities. They go back at 12.00pm or 1.00pm and sell at the markets in Pak Klorng or Dong Tung. The price of such fish is unstable, sometimes at the price of 15bath/kg and sometimes less than 10bath/kg even 5bath/kg.

Blue swimming crab: The fishing is similarly to the squid fishing; It starts in the month of October to January, and May to July and the peak days are only few days per month during the season. The offshore fishing activities have a similar period of about 5 days to a week before going back to land fish at the market. The crab products were directly landed at Klorng Sunn at the Thai market, Klorng Yai district, Trat province. The price here for two types; (i) boiled crab @100bath per kilogram and (ii) raw fresh crab @80bath per kilogram, indicated that blue swimming crab caught at the open sea is relatively of big size.

Squid fishing: There are few fishermen involved in the squid fishing. The right season for squid fishing activities occurs from November to February and May to June. Each boat consists of 150 squid traps and some boats have more than 300 squid traps.

Trash fish: Trash fish are small fish that are used for aquaculture feeds such as crab feeds and seabass feeds. Trash fish can be sold at one bath per kilogram or sometimes can get about half bath per kilogram. Trash fish can be caught with different types of gears such as motorized push nets, trawlers and even coastal bag nets in the estuaries at the shallow water, although it is not a target in itself. Besides the categorized fishing activities, there are also few activities found in the open sea, especially near the islands. Such fishing is the grouper fishing, using nets or hooks as well as grouper traps.

Inshore/shallow water fishing activities

Krill fishing: The peak season is between the month of April to June and small shrimp (called *ky*) can be caught at the maximum level of 200kg to 300kg per days for the motorized push nets and trawlers, whereas the hand push net can catch about 10kg to 20kg per day during the peak season. The krill fishing is commonly seen in shallow water in front of the Koh Kapik coastline. There are three kinds of *ky* species, namely whitish small-shrimp (called *ky sor*), purplish small-shrimp (*ky svay*) and blackish small-shrimp (*ky khmao*). When whitish small-shrimp (*ky sor*) are processed into *ky bok* (shrimp paste), they become reddish in colour and is called *ky kraho*. The blackish small-shrimp is processed into *ky bok*, and when they become blackish in colour they are called *ky khmao*. The purplish small-shrimp (*ky svay*), when processed into *ky bok*, become purplish in colour and is called *ky svay*.

The raw krill can be processed into two kinds and they are namely (i) Dried krill (called *ky kriem*) and (ii) shrimp paste (called *ky bok*). However, the dried *ky* processing was not found in the Peam Krasoap community as *ky bok* processing is preferred more in village..

The most preferred processing of ‘*ky bok*’ is *ky krahom*, because the fisherfolks can earn from the Thai market 25bath to 30bath per kilogram. Additionally, *ky khmao* is the most preferable in Cambodia community in Koh Kong province, because of the deliciousness. It is here sold for 30bath per kilogram, while *ky svay* and *ky khmao* are sold for 30bath per kilogram. In Koh Kapik village ‘*ky khmao*’ is found more delicious and preferable for Cambodian people, while the *ky krahom* is exported to Thailand and give more profit, when the middlemen buy from them and sell to Thailand.

Mud crab fishing: The right seasonable mud crab fishing is from April to July and fishing frequently occurs within the mangrove forest and in the rivers and estuaries in the Peam Krasoap. Most poor fisher folk go fishing within shallow waters up to

10km-20km in the mangrove forests in the sanctuary. Each poor fisherfolk has about 50 to 100 traps and some fisherfolks have more than 100 traps. The daily catch of mud crab per fisher is about 1kg to 2 kg. The price depends on the grade. The first grade can get 100bath to 130bath, while other grade get around 50bath to 70bath and the smaller can fetch 40bath per kilogram. The other crabs are boiled for crab processing. The crab products are sold to the middlemen who come to the villages. Based on the PRA information in Peam Krasoap community the mud crab is increasing compared to last years. The crab catch is based upon the yearly fishing, because of the migratory species of their behaviours.

Coastal bag nets: Such fishing gears are considered by the community as the destructive gears, because of the small size net, which can catch all kinds of fish species, including mollusks and invertebrate species. The gear can be described as a fence with a 8m gap. There are 8 or 9 poles with 6m or 8m between each gap. The nets (called bag net) were laid behind the poles and bag nets have at least 30m to 40m of bag net-tail. The harvest of fish products was collected every 2 or 3 days and different species of shrimp and fish, including other aquatic species, would be caught. Each harvest can fetch about 50kg-80kg and sometimes reach to more than 100kg. However, the purpose of such fishing is targeted on shrimp species. No information related to seasonal catches, neither the existing data nor PRA dialogues, was found but only single qualitative data from interviews with Koh Kang's villagers. It was indicated that the fisher folks use coastal bag nets yearly around the peak season, which seems to be related to the period of tides.

Seasarmid crab: The good season for sesramid crab harvesting is in January to June during the dry season. The crabs are caught by hand by the poor fisherfolks who are fishing in the mangrove forest. The crab can be made salty crab and sold at the price of 20bath per kilogram. Such sesramid crab-fishing frequently occurs in the mangrove forest during the night time.

Mullet fishing: Mostly, a good season occurs between May to October, when mullet fishing is carried out in the estuaries, rivers and off the mangrove forest. Such mullet fish can be sold @ 30bath per kilogram in Dong Tung market. Most fisher folks unload directly at Dong Tung market. During high tide the mullet fish migrate from open sea to find food or even lay fingerlings in the inshore area and mangrove forest. However, fisher folks harvest mullet fish during the low tide by using mullet nets or bag nets gear. The fishing is done along the river beds and/or estuaries bed.

Blue-swimming crab fishing: The peak season of the blue swimming crab in the shallow water takes place between Novembers and July. Such crabs are of a smaller size than the open sea fish. Crab products are processed for crabmeat, graded into quality of crabmeat. The first grade crabmeat was sold at 200 Bath per kilogram and second grade at 40 Bath per kilogram.

Mangroves

The existing data from the various sources show the mangrove status and its trend over the last decades. Koh Kong province has the largest mangrove forest in Cambodia.

Table 13 show the mangrove forest in Koh Kong province over the past 20 years (1973-1993

Table 13: Koh Kong Mangrove Coverage Data

Period	Area in coastal provinces (ha)
1973-1976	83400
1992-1993	63700
Trend over 20 years	(-) 19700

Source: Cambodia Land Cover Atlas, 1994 prepared by the Mekong Secretariat

Based on the above figures the mangrove forest has degraded due to conversion into settlements, agricultural farms (paddy fields, seasonal crop farms and perennial crop farms) and other factors of natural physical features such as erosion. The mangrove destruction during the Pol Pot regime also had a negative impact, and resulted in the loss of mangrove areas.

Table 14: Mangrove forest in the districts along the coastal areas in Koh Kong province

Names of districts	1992-93 (ha)	1996-97 (ha)	Status of changing (ha)
Koh Kong	13395	12971	(-) 423
Modul Seima	10811	10811	00
Sre Ambel	10817	8700	(-) 2117
Smach Mean Chey	3133	2703	(-) 130
Botum Sakor	18520	16656	(-) 1864
Kirisakor	5741	5741	00
Total (ha)	62416	57582	4834

Source: Koh Kong Fisheries Office, 2001.

The figure in Table 14 shows the declination of mangrove forest over the last five years. There are several causes that resulted to mangrove degradation such as conversion of the coastal forest into shrimp farms, human settlements and agricultural farms of paddy fields and crop farms and charcoal exploitation. The alteration of mangrove forests into shrimp farms have operated probably since early 1993 in the Koh Kong province. Since then, the mangrove forest in Koh Kong province, especially in the Peam Krasoap Wildlife Sanctuary has severely suffered from the shrimp farming operation. Additionally, coastal population growth has also pressured the coastal area in particularly to extend mangrove forest for settlements and agricultural activities.

Based on information from PRA dialogues in the villages in the Peam Krasoap, the mangrove forest is subjected to the community's awareness at the embryonic stage toward sustainable management. Although the present status of mangroves has been gradually recovered/improved, the unsustainable practices still continue and are exploited at the level of small-scale families. Their use of the mangrove can be considered as negative due to unsustainable extraction and poor management. However, large-scale exploitation of mangrove products through charcoal kilns are no longer found in Peam Krasoap Wildlife Sanctuary.

Mudflats

The largest mudflat area in the Peam Krasoap Wildlife Sanctuary is located near the Koh Kapik village. It is at least six to seven kilometres long and about 1km width to the seaward. The deep soft mud is seen during the low tide with a very large muddy area. During the high tide, this mudflat area provides potential for shallow fishing such as krill fishing for shrimp paste. However, other mollusc species seem less and even certain species are almost. Based on the PRA dialogues hand collection seems to be absence in the mudflat too. Additionally, there are several muddy areas in the

Peam Krasoap found during low tide. These muddy areas are habitat for several species of molluscs, and poor fisher folks can earn their daily income for subsistence in such muddy areas. Hand collection frequently occurs in the muddy areas in the mangrove forest and the species caught are clams, cockles, mussels and others mollusc species.

There is no information from the Koh Kong Fisheries Office related to mudflat areas and their potential fishing activities.

Forests

The forest area except mangroves is small and located on the islands and coastline of the terrestrial forest. Additionally, malaleuca forest covers the second largest area after mangroves in the Peam Krasoap. These forest types support the coastal community in many ways, as it can be used for boat building and construction material and for non-forest products such as rattan, liana and vines for fishing gears as well as other non-timber forest products (NTFPs).

Wildlife

Through PRA dialogues in the villages in the Peam Krasoap community, wild animals seem to be less or nearly absence with regard to the large animals. The wildlife in the Peam Krasoap consists of bird species, otters, dolphins and some certain aquatic species. Furthermore, the existing data from the State of Environmental Report, Koh Kong, 2002 indicate a general potential use of aquatic species, so a detailed survey on wildlife was not conducted.

Protected Areas

The proposed studied areas are in the protected areas, Peam Krasoap Wildlife Sanctuary (PKWS) and Botum Sakor National Park. The area, particularly PKWS, is covered by mangrove forests, where small-scale fisher folk rely on their livelihoods. The resources reportedly became degraded when a huge flow of people from other provinces arrived. The selected villages are located in the protected areas, (Boueng Karchang, Peam Krasoap commune, Koh Kapic and Stueng Veang commune) and (Chroy Pras).

Coral Reefs

No information of the coral reefs was obtained during the PRA dialogues. However, most coral reefs are located around the islands, where the physical and biological features are favourably. The existing information refers to the general physical state and the ecological status of the coral reef areas.

Sea grass

Based on the information from PRA dialogues there is a little sea grass bed in the Peam Krasoap. However, referring to the 'State Environmental Report, Koh Kong 2002', observation by the Provincial Department of Fisheries found that Chhroy Pros area in Chhroy Pros commune has taken care of a large area of a sea grass bed about 6ha. These sea grass bed has severely degraded by use of destructive gears in the shallow water of the sea grass bed.

Fresh water

According to the 'State of Environmental Report', Koh Kong 2002, water is the first priority, requiring appropriate and urgent development to enhance and improve the people's living standards and welfare and to ensure the supply for daily consumptions, livestock raising and family gardening. Furthermore more than half of the provincial population (57.2%) use wells as the water sources for consumptions. Characteristically, 2,5 m deep ponds and wells are found in the coastal areas.

According to the PRA discussion, freshwater is a very important factor to daily consumption and need to be developed. In dry season, most of the coastal villages in the Peam Krasoap have faced difficulty of freshwater shortages. There are some shallow wells in those villages, but fresh water is only available in the wet season. The water wells can be used for body cleaning and other non drinking use. The wells could not be dug deeper because the water quality is poor and brackish. Those wells can store water during the wet season. The freshwater for drinking is especially brought from especially the water source near the hills in Koh Sralao village. The people have to buy fresh water for drinking at the price of 25 Bath to 30 Bath per barrel (one barrel can contain about 220 litres). Otherwise local people have to collect water far from the village. They have to spend at least the whole morning to fetch some barrels of drinking water.

Land Use

Based on the information from PRA dialogues in the villages in the Peam Krasoap community, land uses are categorized into several landforms such as human settlements, agricultural land of the certain areas and aquaculture lands of shrimp farms. The typically characteristic of agricultural activities include seasonal crops of home gardens and perennial crops of coconut palms, cashew trees and other edible fruit trees grown in the villages with settlements. Meanwhile, settlements with several poor cottages are standing out with a few painted houses in the villages in the Peam Krasoap community as a whole. In addition, paddy fields are found in those villages, located closely to the mainland.

Based on the Koh Kong Physical Framework Plan, 2002 rice is grown in areas with good soil, but the paddy fields must be protected from seawater intrusion by building dikes surrounding the paddy fields. The rice is grown in individual plots of land that are smaller than one hectare of land. The rice yield is ranged from one ton to 1.5 ton per hectare.

The aquaculture operations of shrimp farms have been abandoned gradually due to the collapse of capital investment. Most abandoned shrimp farms have been altered to crab fattening and/or fish ponds and some areas become private ownership for other purposes, but does nothing to develop the lands. Additionally, aquaculture is also found in the estuaries and rivers of the cage culture and pens as well as green mussel culture. Based on the exiting data from the State of Environmental Report, Koh Kong 2002, the master plan for improving aquaculture has not been developed yet. However, the total aquaculture areas and yields are also unknown.

Socio-economy

Population:

Information from the PRA dialogues provides an overview of the population in 9 selected villages in five different communes of Bak Klong, Peam Krasoap, Koh Kapi, Chrouy Pras and Stueng Veang, which are presented in the Table 15 below:

Table 15: Village Population Data from Koh Kong Community Project Area in 2003

N	Names of villages	HHs	Population	Male	Female	Women headed HHs	HH size	Children bellow 15	
								M	F
1	Preaek Svay	070	565	294	271	14	8.1	116	95
2	Stueng veng	297	903	?	?	-	3.0		
3	Koh Kang	110	583	290	293	04	5.3	127	109
4	Thmei	158	801	403	398	4	5.1	62	58
5	Chrouy Pras	161	832	417	415	-	5.2	-	-
6	Koh Kapi 1	129	552	293	259	1	4.1	100	114
7	Koh Kapi 2	093	534	279	255	6	5.6	77	77
8	Koh Sralao	297	1511	793	718	7	5.1	213	242
9	Boueng Kachang	112	543	270	273	14	4.9	107	88
	Total	1427	6.824	3039	2882				

Source: PRA Dialogue 2003 (EMCZ Phase 3)

Within the selected community project area for phase III intervention in Koh Kong province 9 villages are situated within 5 communes. These villages are located in the Peam Krasoap Wildlife Sanctuary, except for Chrouy Proh commune, which is in Botum Sakor National Park.

Initially, after the Khmer Rouge regime collapsed, this province seemed to be isolated with a low population, because the province could only be accessed by boat (took about 15 hours) and the security was not so good. When the country got full security and particularly adopted a free market economy, people from other lowland provinces such as Prey Veang, Takeo, Kompot and Kompong Cham started moving to settle in this province (PMMR report 2000). This flow has made the population in the province to increase repeatedly, especially during 1993 to 1997. Peam Krasoap Wildlife Sanctuary has felt the most impact from the flow due to its abundant of mangrove resources from which people were making charcoal. For instance in Peam Krasoap commune, situated in the middle of the mangrove area, the population had doubled in 1998 due to this flow. More clearly, Koh Kang, which before was the inland without people living here had in 1998 over one hundred households.

From the discussions with chiefs and the villagers the population trend has been stable since 1999.

Differing from the other coastal areas, men seem to exceed women in number, although the data might not be very accurate. There are not so many women headed households found from the discussions. Those who usually become head of household are widows. The household size is fairly equal, ranging between 4.1 and 5.6, except for Preaek Svay with a very low HH size of 3.0 in and Stueng Veng which has a HH size of 8.1.

Health:

Health services

Information from PRA dialogue show that there are no health centres in these communes, only a health centre building located in Koh Kaptic commune. A nurse used to be sent to this health centre, but he could not stay due to the cost of travelling from the town to this village. Moreover, there is no water and electricity in the village making it difficult to work in this centre. At least 2 to 4 small medicine shops are found in these villages and normally they are run by local villagers who have little knowledge regarding use of medicines. However, Chrouy Pras could be counted as being better among the selected villages, regarding health services. This is because there are at least two medical shops run by local nurses (one who just retired). General, these shops are popular to the local villagers who get minor diseases, as this is their only choice. It is costly if people go to the referred hospital in Dong Tung town.

Diseases and Treatment:

The most common diseases and symptoms seen in this area are Malaria, digestive problems, diarrhoea, dengue fever, stomach-ache, high blood pressure, headache, cough etc. Children get usually cold and fever; malaria disease often occurs in the early rain season. Regarding to AIDS, 9 people died from 2000 to 2003 within the selected villages. In Koh Kaptic village alone between 2000 and May 2003 four pregnant women died during birth delivery, and 4 babies also died.

Traditional nurses or herbs are used when women give birth, nevertheless some people use the herbs for health care for their families. Those who get seriously sick, have to go to Dong Tung town or some (the medium and better off) would go to Trad province, Thailand

Raising Awareness

Information from Department of Health and local villages, chiefs of villages and communes shown that the DOH and CARE has cooperated, providing monthly immunization & pill drops, as well as a programme of awareness and education related to health issues, birth spacing, mother and child care, use of condoms and AIDS matters. Furthermore, they have distribution mosquito nets to those areas most affected.

Sanitation:

Wastes management

Generally, the environmental condition is not so good in these coastal communities i.e. bad smell can be felt in some blocks in the villages and also wastes can be found.

From the discussion with the villagers there were only a few households in these communities with toilets. Particularly, there is no toilet for households in Koh Kang, Beung Kachang, Koh Sralao and Preaek Svay (in Beung Kachang there is one toilet for school provided by CZM, 2001, Preaek Svay has 1-2 for the pagoda, and 1 for the school, and also Koh Sralao has one for the school and one for the pagoda). The other villages could have from 2 to 4 toilets. Since most of the PRA dialogue villages are settled on the coastline, the villagers just drop faeces into the water (because their houses are built on the water).

Other wastes (plastic wastes and things left over from food for instance) are scattered widespread in the villages. Some villages like Beung Kachang, Koh Kang and Koh Sralao used to hold a cleaning's day (monthly); however, this has stopped since early 2003.

Generally, there are no dumping sites in the villages. CARE is working on this issue. Koh Kapic and Koh Sralao, the villagers used to receive rubbish bins from CARE, and PMMR/IDRC, had prepared two dumping places in Koh Sralao. Village chiefs said that few people use the bins and dumping places. The chief of Koh Kapic village has added that the bins even got stolen.

In terms of sanitation, wastes from animal or domestic livestock are not a big problem, because not many families are involved in livestock raising.

Preparation of food

Usually villagers wash their hands before having meals, and also always cover meals after cooking and keep the food properly. However, some villagers do not keep the left meal properly, but several villagers re-cook the left meal before having it.

Nutrition:

Daily meals

Generally, the very poor and the poor eat two times per day (around 9:00am and 5:00pm) and sometimes the poorest households eat rice and porridge for dinner, whereas the better off would eat three times per day.

The poorest and poor eat some fish, crabs, shrimp, blood cockles that are left over from selling and which is always of low equality. The poorest and poor people do not usually eat vegetables, because the price of vegetables is similar to the price of fish, while the medium and the better off would normally eat. Beside the good quality fish, the medium and the better off people can afford to eat pork. Beef is not a common food in these communities.

Rice supply

Only the better off and some of the medium households produce rice from their own rice paddy and are self-sufficient the full year.

Apart from those who have rice paddy, the people have to buy rice for eating. Because the income is low, the poorest and the poor normally buy rice daily. Every day that they could not catch fish (particularly the poorest) they have to borrow someone's rice.

It was found from the villagers that only the Governo used to distribute rice to villagers. This donation was to encourage people to replant mangroves in the areas.

Vegetables

Vegetables are actually imported for villages located on the main land. Nevertheless, based on PRA dialogues in 9 selected villages, 10 % of households have a small home garden and it mostly is by the better off and some of the medium households. Such vegetables are: pumpkins, melons, chilly, cabbages, morning glory, herbal plants, cucumber, long Soya beans, gourds, etc. These can contribute partly to their daily need.

Koh Kong Province

The poorest and the poor rarely have vegetables for consumption. Due to low income, some would go to collect the wild plants when they want to.

Education:

From the discussions with villagers and chiefs, generally children attend school, even in one village (one settlement site called Kang Koung) the school is about 5 km from home. However, most of the children from the poorest households are not able to go to school, because the parents are not able to buy suitable cloths and materials such as books, pens for children.

It was found that generally classes in the selected villages do not go very well. They are irregular. The reason is that the teachers have to go fishing. They rotate among the teachers themselves (one teaches while others go fishing). For example there are three teachers in Koh Kopic. The three are supposed to teach three classes, but in fact there is only one teacher responsible for the three classes for one day while the others have to go fishing.

Many children, coming from the very poor and the poor households, drop out of school at grade 3 to 4, and some would finish primary school (grade 6). These children then mostly come to help the family to earn money. Only better off and some of the medium households would afford to send their children to secondary school and high school. Although, there is a secondary and high school in Dong Tung, many parents send their children to study at their home province (Kompot, Takeo etc.) where these children could stay with their grand parents, aunt or uncle. The villagers (living in the province for a long time) mostly could afford to send their children to school in Thailand. This is known since the province is bordering with Thailand, where these villagers would have a house or at least have relatives that enable their children to stay during their school.

The rate of girl students dropped out of school is higher than the boy students. It is tradition that parents don't want their children to be away from them, and they (the girls) are expected to do housework.

Literacy:

Number of illiterates and classes in the 5 communes

Table 16: Illiteracy Data from the Koh Kong Community Project Area

N	Names of village	Number of Illiterates			# of classes	# of students	
		Total	F	M		Total	F
1	Preaek Svay	143	75	68	2	45	29
2	Stueng Veang	101	64	37	1	50	-
3	Bueng Kachang	110	81	29	1	40	23
4	Koh Kang	146	89	57	1	13	8
5	Koh Kopic Ti Mouy	246	142	104	No illiteracy class		
6	Koh Kopic Ti Pi						
7	Koh Sralao		175	142			
8	Chrouy Pras	356	229	127	No illiteracy class		
9	Thmei		201				
Total		1478	881	597	5		

Source: Interviews with Village Chiefs in 2002

Based on information from village chiefs, 5 villages in Koh Kaptic and Chrouy Pras commune do not have illiteracy class. But they are found in other communes/villages. Interviews with technical staff from DoEYS showed that there are two types of illiteracy classes - one run by the DoEYS with government fund, another a cooperation between DOEYS and CARE (operate through CARE fund). There are 3 villages outside the 9 selected villages for community project in Smach Mean Chey district, supported by CARE, and there are 9 villages (2 villages are in the project site) supported by DoEYS. The mandate of classes supported by the department is one year meaning that there is always an evaluation at the end of the year which decides on the preparation of a continuation. The preparation for such classes is under the responsibility of the village chief and commune council.

Chief of Boueng Kachang village said illiteracy classes in the village finished by end of 2002, and he is not sure now someone is preparing for continuing.

According to the PRA dialogue with chiefs the team found that all illiteracy classes in the villages stopped by the end of 2002.

The team working in Koh Kang noted that there were 13 illiterates who contributed money for the teachers who taught them. However, the class has just stopped early 2003.

Household Economy:

General livelihood activities

Two communes in the project area for phase 3 are situated at the coastline, the areas having agricultural land, while the other 3 communes (Koh Kaptic, Peam Krasaop and Bak Klong) are located on islands, the areas having no/little agricultural land (in Koh Sralao and Koh Kaptic villages have some small pieces of land available for Cham Kar). Although some villages have agricultural land, the PRA dialogue shown that almost all the villagers are involved in fishing activities.

Generally, living condition of the local residents who have lived here for a long time (born before Pol Pot regime) are better off than the new comers, mainly because of skills and the abilities to use of the coastal resources. The new comers (after the Pol Pot regime), who came to settle in the areas without skills in fishing, were initially engaged in smuggling and selling labour, e.g. to produce charcoal. Some produced charcoal themselves, whereas later they have adapted to fishing, when the charcoal production was stopped. Shifting from one livelihood activity to another (from a rice producer in low land provinces to a charcoal producer and to a fisher) was not an easy task. Unlike the new-comers, old residents hold diverse and skilled livelihood activities in terms of utilization of natural resources as well as agricultural work.

Generally, these coastal communities largely depend on natural resources, especially on the fishery resources.

Occupation

Fishing is a main occupation to earn a living in these coastal communities. Although fisher folks from these selected villages are referred to as small-scale fishers, the fishing activities are divided into 2 groups: 1) fishing in mangrove areas, which usually occurs among the fisher folks with small boats (can be small engine boats, and row boats) or who fish by hands, particularly women who are collecting snails and mussels and crabs by hands. Also fishing by coastal bag net catching shrimps and krill

are common. Discussions with the village chief disclosed that almost all fisher folks in Koh Kang village fish in the mangrove forest, surrounding their village. Aside from fishing in the mangrove areas, Chrouy Pras bay is also a fishing ground for small-scale fisher folks. Fisher folks who fish in this bay are those who have engine boats bigger than the ones in the mangroves. 2). Fishing in the off shore (depth about 3 to 6 m). This often occurs among the fisher folks coming from Koh Kaptic, Peam Krasoap, and Bak Klong commune. Their gears could be shrimp net, crab net, crab trap, trawlers, and push net.

Selling labour, often for fishing and meat crab collection (women in particular), is another alternative livelihood activity in these communities. This is normally happening among the poor and poorest people.

Rice farming and Cham Kar: as mentioned above is only in 2 communes, which have agricultural land, but not so many people are involved in these activities. It was observed that the agricultural activities occupied only by the long residents.

Aquaculture has not developed after the collapse of the shrimp farming in 1997. However, it was observed during the PRA dialogue that some aquaculture practices were initiated in some of the targeted villages such as Boeng Kachang, Koh Kang, Koh Sralao and Koh Kaptic, though they were at a small scale. Local fisher folks are now interested in mud crab raising and others such as sea bas, groupers, green mussel (only in Koh Kang village). It has been taking place in these villages almost one year. Interviews with local villagers who engage in crab raising shown that, they seem to gain benefit, though this is a local initiative. Crabs have been released in the abandoned shrimp farms. Another method is that the people put poles to fence around a certain water area (about 5x7m) and then the crabs are released. This method is practiced in Koh Kang. Normally, crab seeds are under the size of about 15 to 20 pieces per Kilogram (1k.g costs about 40 Bath, almost 1USD). 2,000 crab seeds require a pond, sized 1 ha. Raising period is about one and a half to two months. Crabs are then collected at about the size of 5 to 10 pieces per Kilogram (1k.g price 80 to 120 Bath).

Other occupations would be buying and selling fish products, selling fresh water, running grocery shops, fixing engines.

Information from Department of Women Affair disclosed that the department has run a credit programme in the outskirts villages, but not in the 5 selected communes. It was expressed by the deputy chief of the department that the programme could not be expanded to these villages as travelling is costly. In these villages, generally, credit is controlled by the middlemen in the villages. Since the poorest families do not have any value asset, only the medium and some few poor households have access to this service.

Generally, livelihoods are more difficult during wet season, specially the poor people who are known to be dependent wholly on mangrove. There are not so much aquatic resources in the mangrove areas as the water get fresh in such a season. Those who fish in the off shore sometimes struggle with storm.

Boats are the only transportation means for these villages. A few families in Stueng Veang commune would have bicycles and motorbikes (this is an outskirts village accessible by road). It takes about 5 hours by a long tail engine boat from Chrouy Pras

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village to Dong Tung (the provincial town). The local people who are medium or better off, and visitors would use a speed boat though it is a bit costly.

Poverty Profile

The poverty profile was worked out through a wealth ranking session and social mapping with mixed village groups (in 3 villages) and village chiefs (in 9 villages). The participants came up with the definition of what it is to be very poor, poor, medium and better off household, which has been inserted in the table below.

Table 17: Definition of Wealth Ranking Classes in Koh Kong

Wealth group	Definitions	Who?
Very poor	Very poor households depend almost entirely on fishery resources and their main income generation is fishing and selling labour for casual work. A few of the very poor HHs would have small-row boats, and some have small engine boats. These people fish in the mangrove area due to having only small fishing gears. Usually they can earn as low as 60 to 80 Bath per day. Some days they earn no money during raining season. Family is normally big, having children from 5 to 8, who are usually born very small and who therefore are very vulnerable to diseases and to malnutrition. Children from these HHs, mostly have a chance to attend schools, because these primary schools are located in the villages (except Steung Veang); however, they drop out of school when their ages are around 11 or 13 years old and become an income generator for the family. Their incomes are generally only for daily consumption so that food is normally not so delicious, and they have two times a day and a small amount. During the wet season in particular, some of the poorest people sometimes do not have rice to eat, they have to go to the forest to get non-timber forest product. The very poor do not have any economic assets, including livestock, transport, house etc. They often live in a small cottage (less than 3 meters) covered by thatches and palm leaves and built on someone or relative's land, and some would live with someone's house. They have low general knowledge.	Households immigrated from other provinces and no skills. Widows with no support
Poor	The poor families also depend entirely on aquatic resources in mangrove areas. They generally have small- engine boats with some fishing gears like crab net, crab traps, and some collect snails by hands. As the very poor HHs, the poor sell labour (mostly the women do crab meat collection). They usually can earn about 150 Bath per day. They have children as much as the very poor HHs and the children attend school in the village. Some children may drop out of school at grade 3 or 5 to help earn money for the family. They have their own houses, though these houses are not so good condition. They usually eat two times/day. Their food is a bit better than the poorest. Some families could borrow money from middlemen. They have no livestock, Radio, TV. They have low general knowledge.	Immigrated families from other provinces having many children
Medium	Medium households usually also depend on fishery resources and they fish in the off shore water and Chrouy Pras bay. They have bigger engine boats (engine 13 to 30 horse powers) with fishing gears like shrimp net, fish net and crab trap. Some would have trawlers and motorized push netting boats, and coastal bag net. Some medium HHs (living in Steung Veang and Chrouy Pras commune), have rice paddy. Their income would be 200 to 300 Bath per day. They have children 4 to 6 and these children could finish primary school, and some continue to study at secondary school or high school. Their house is about 5 x 8 meters covered with zinc sheets and built on their own land. The medium households are able to have a few livestock and have 2-3 meals a day. They have a Radio or some would have a television. They have jewellery. These people can	Households have diverse skill in exploiting natural resources. Households have agriculture land

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Wealth group	Definitions	Who?
	access middlemen, but they are mostly in debt. They have small home gardens.	
Better off	The better off have a house bigger and nicer than the others and settle on their land near good places/mini market for earning money. Generally, their houses are used for running business. Better off households occupy more livelihood activities including buying and selling fish product, selling fishing gears, agriculture, fishing, running coffee/karaoke shops, and selling fuel in the villages. Most of them do not directly involve in fishing, but are hiring the poor/poorest to do so. They have economic asset cattle, tractors, generators, trawlers, and communication means like a motorcycle or bicycle, Icon for rental, speed boats, TV/Radio. Some would have a rice field (1 to 2ha) and Charm Kar. They eat 3 times a day or more with delicious food. They send their children to school, up to high school. They can earn 700 to 1,000 Bath per day. They have nice cloths. They have jewellery.	Business-men/ employers

Source: PRA Dialogue 2003 (EMCZ Phase 3)

Table 18 below show the percentage of wealth classes as reported by villages and village chiefs from PRA dialogues.

Table 18: Relative Wealth in Koh Kong Community Project Area by Wealth Classes

N	Villages/commune	Wealth classes (%)			
		Very poor	Poor	Medium	Better off
1	Chrouy Pras commune	29	29	39	3
2	Koh Kapic Ti Mouy &Ti Pir	15	58	20	7
3	Koh Sralao	1	70	26	2
4	Koh Kang	3	66	25	5
5	Beong Kachang	18	45	30	7
6	Stueng Veang	9	27	63	1
7	Preaek Svay	3	23	63	2
Total					

Source: PRA Dialogue 2003 (EMCZ Phase 3)

According to these data, the better off wealth group is mainly present in Koh Kapic, Koh Kang and Boeng Kachang, while the medium off wealth group is fairly dominating, e.g. almost two third of the villagers in Preak Svay and Stueng Veang belong to this group.. These figures might, however, not be very precise and are based on reporting, not on ranking.

Gender

Decision-making

Based on the PRA dialogue in 3 selected villages the team found information on Roles and Responsibilities of both men and women such as:

Women:

Women can decide to buy something for support of their households, prepare foods, sending their children to school and attend ceremonies or festivals in and out of the village. She is selling fish that is collected from the sea. Although she has some activities she can not do fishing activities as those activities are far from home and take more time and she could not leave home, because she need to arrange the households,.

Men:

Men can decide some activities in their households and is leading and managing activities to support their households; he is fishing, attend meetings in or out of village, attend ceremonies in or out village and attend patrol activities for protecting against illegal fishing in community fishing ground. but some work he can not do such as traditional midwifery, collecting swimming crab meats and collected shrimp meats at their home as he thinks its women's task.

Participation

Based on PRA dialogue on participation of women and men in society and rural development task, detailed information show below that women can participate in fishery community activities, in member's community, in women association, in some activities conducted by the village development committee and so on, for instance, in Koh Kapi village one woman had been selected to join fisheries community members as villagers had confidence in her and they were thinking that women are able to communicate with women in the village to attend communities activities, especially women need strongly natural resources such as snails, crabs, fish, muscle and cockle near the village as they are the ones who collect, when they have free time after cooking and preparing foods for their families.

Men strongly participate in committees of communes, e.g. village development committee, associations, organizations in the villages and communes, particularly in the commune councils in preparing and establishing the commune development plan. Otherwise, chiefs ranking from commune level to community levels are mostly men. In selected villages for PRA, men are said to be strongly responsible to lead all activities in their villages. Men strongly need to collect natural resources to support their family such as fishing crabs, shrimp and fish from far from home and cutting mangrove for fire woods for daily consumption.

Daily activities

Based on the PRA dialogue in 3 selected villages with villagers daily activities of both men and women, relating to their responsibility to support their family, were found to be:

- Men often go fishing, collecting clean water, cutting firewood from dawn until dusk. Fishermen go fishing at offshore and open sea at night time and come back home in early morning.
- Women usually do the housework; prepare food for children to go to school, go to market to buy food. They also spend time collecting small marine products to support their daily livelihood and assist in preparing fishing nets for fishing and selling fishing product.

According to both men and women on daily task for supporting their households, women were found to spend more time than men daily, especially among most of the men who are spending time on fishing activities. Wives are found able to work harder than husbands.

Family violence

Based on PRA dialogue, only two cases were found where women have beaten their husband, and that was because they drank together. Most family violence was found

among illiterate. There are many cases where men beat their wives due to poor living condition and where the wives are making problems with the husband. For instance, there are 3 family violence cases in Koh Kaptic village, but nobody was injured and they could not complain to the village chief or commune chief to help them. They have compromised after the conflict.

Internal and External Relations

Internal and external relations:

During interviews with the Commune Councils and village chiefs internal and external relations and their work were identified. However, the activities of these relations in the villages/communes were only given sporadically during the meeting of consolidation, which instead focussed on the coverage of the presence of these relations in each village.

The external relations with functions in the two communes are national and international organisations, running time bound programmes/projects, campaigns or are monitoring rights issues in the communes, e.g. on bilateral terms with the Royal Government of Cambodia and working with specific ministries and line ministries, and which have established offices outside the municipality. Internal relations are here defined as those established inside the commune, being part of the commune structure and infra-structure.

External relations:

The external relations include

- International organisations (mainly UN organisations and humanitarian and relief organisations and organisations, working with public health)
- National based institutions/banks and organisations (incl. two types of credit schemes/bank)
- Bilateral projects (incl. Danida/EMCZ).
- Private donors
- Regional associations (a Chinese association)
- Provincial departments
- Enforcement authorities (army and policy)
- Business/companies

Although the number of external relations present in the municipality might be high, most of them are only present in a few of the villages, while Helen Keller Worldwide, and CARE are working in most of the villages.

These relations support the communes fairly widely within health services and programmes, nutrition, education, children's well being (rights, health and education), infra structure, credit, wildlife.

Despite the number of relations, the types of activities are fairly varied and for the time being might not overlap each other. Instead it provides various opportunities for collaboration and for utilising structures and services that are being built up. It is also an opportunity for the very poor and poor HHs to exploit the various services and programmes for their improved living.

For the purpose of utilising the opportunity of the diversified external organisations and institutions and to avoid overlapping, ideally the various activities should fall under the commune council plans. As these are not yet in place and the idea of local development plans is very novel, coordination will at this time have to be ensured in other ways, most relevantly through and by the councils and the Provincial Working Group, headed by the Governor and through bilateral communication between the organisations, working in the same field.

To obtain a good overview of the organisations/institutions and the input they can provide to the communes, a relation profile is being developed and a data base will be established. (Annex : Framework for External and Internal relations). Such an overview would also support coordinating attempts that should prevent overlap of the inputs.

Internal relations:

The number of internal relations are fairly limited, covering .

- The local authorities (Village Chief and Commune Councils),
- The pagoda,
- The mosque
- The school
- The local H/C
- VDC
- Women's Association
- Funeral Associations
- Middlemen

No internal associations were mentioned, although some PRA dialogues referred to both Village Development Committees and women's association as well to some funeral associations.

The villages are covered with H/Cs and schools, though villagers do not find these enough, and neither the H/Cs are functioning well enough, despite the support given by the apparently active municipality health centre/hospital. The pagodas and mosques have a central function to their own communities and might provide some relevant training facilities as well as some ethical inputs.

Plans:

The Commune Councils have been supported by the Seila Programme under RDC to develop 5 year plans. So far the proposals have been approved at provincial level, but the communes have not yet been provided funds by the programme. Plans for all 4 communes are at hand.

Some of the plans priorities relate to protection and management of the natural resources, where the councillors would also make reference to the pilot project in Thmei village on mangrove rehabilitation and restoration of habitat for aquaculture. Water for consumption and for irrigation is another priority, though some dams are being construction.

Follow up on Relations and Plans:

There is still a need to

- find more information about external and internal organisations/institutions (e.g. using annex : profiles of internal and external organisations/institutions)
- Check with chiefs and councils that the internal relations are covering the actual number

Justification for Support

Issues

A wide range of issues was identified in the PRA dialogue. Table 19 and Table 20 lists natural resources and socio-economic statements respectively and group these according to main issue, which is further categorised either as a cause issue or an effect issue from a management point of view.

Table 19: Natural Resources Statements from PRA Dialogue grouped by main issue⁵

Main Issue	Type	Natural Resources Statement from PRA Dialogue
Mangrove areas decreasing	Effect	Mangrove resources going down Cutting mangroves by outsiders Encroachment into mangroves for private ownership
Forest areas decreasing	Effect	Forest has been decreasing so far Burning forest for land and farming Upland forestry decreased by 80% Cutting forest for firewood and poles (by villagers and outsiders) Numbers of people using forest resources increasing
Fisheries resources decreasing	Effect	Reduced fish catch Marine resources declining by 70-80% over 10 years Marine resources down 80% Dynamite fishing Use of illegal fishing gears Illegal Fishing by outsiders Number of fishermen has increased rapidly Fish yield has decreased
Wildlife threatened	Effect	Loss of wildlife Wildlife poaching and trapping
Land degraded	Effect	Poor soil quality Rice production has decreasing yields
Low education	Cause	Dynamite Fishing Use of Illegal fishing gears Encroachment into mangroves for private ownership Cutting forest for firewood and poles Wildlife poaching and trapping
Weak institutional and legal framework	Cause	Dynamite fishing Use of Illegal fishing gears Illegal Fishing by outsiders Encroachment into mangroves for private ownership Cutting mangroves by outsiders Poor management of Fisheries resources Ineffective management of NR by DOF Ineffective management of NR by Local Authority Cutting forest for firewood and poles Wildlife poaching and trapping Limited forest management
Strong dependency on natural resources for household livelihood	Cause	Number of people using forest resources increasing Number of fishermen has increased rapidly

⁵ The statements from the PRA dialogue have in many cases been inserted under different groupings as they have been considered relevant in relation to several main issues. Each main issue has been categorised, either as a cause or an effect issue.

Main Issue	Type	Natural Resources Statement from PRA Dialogue
Low awareness on natural resources	Cause	Dynamite fishing Use of Illegal fishing gears Encroachment into mangroves for private ownership Cutting forest for firewood and poles Wildlife poaching and trapping
Poor technical support	Cause	No non-timber forest products Insufficient water canals for agriculture purposes Illegal fishing activities Poor rice seedlings Rice production yields has decreased High vulnerability to extreme weather conditions
Poverty among households	Cause	<i>Please refer to SE issues</i>

The overall effect issue from Table 19 is a depletion of natural resources in the community project area. The overall cause for this depletion can be attributed to poor management of these resources in general.

A problem tree related to natural resources has been developed outlining the various management aspects which cause depletion of the natural resources.

Table 20: Socio-economic statements from PRA Dialogue grouped by main issue⁶

Main Issue	Type	Socio-economic Statement from PRA Dialogue
Poor health	Effect	High work load Poor sanitation No toilets/latrines No clean water sources Many diseases
Low income	Effect	Poverty Limited Income In debt to others Sell land for livelihood Low salaries for casual labour Inability to send children to school
Insufficient nutrition	Effect	Limited food No livestock no cattle No money to buy cattle and some agricultural crops
High disease frequency	Effect	High disease frequency High work load Poor sanitation No toilets/latrines No clean water sources Many diseases
Conflicts and Violence	Effect	High work load Family violence

⁶ The statements from the PRA dialogue have in many cases been inserted under different groupings as they have been considered relevant in relation to several main issues. Each main issue has been categorised, either as a cause or an effect issue.

Main Issue	Type	Socio-economic Statement from PRA Dialogue
Inadequate credit facilities	Cause	Inadequate credit facilities In debt to others Insufficient fishing gear for poor and very poor No planning capability to qualify for EMT credit High interest rates from ACLEDA although collateral requirement Sell land for livelihood No livestock no cattle No money to buy cattle and some agricultural crops No vaccination of livestock
Depleted Natural Resources	Cause	<i>Refer to NR issues</i>
High fertility rate	Cause	Having many children
Insufficient clean water	Cause	Livestock diseases No sources of clean water for household use
Illiteracy/low education	Cause	No planning capability to qualify for EMT credit No alternative businesses Low salaries for casual work Livestock diseases No vaccination of livestock No technical support on agriculture No toilets/latrines Wastes scattered in village No dumping site Many diseases Low education level Illiteracy
Insufficient social security for vulnerable groups	Cause	In debt to others Insufficient fishing gear for poor and very poor No support to widows No support to disabled No support to old people No support to Widows with many children
Inadequate skills and technical knowledge	Cause	Insufficient fishing gear for poor and very poor No planning capability to qualify for EMT credit No alternative businesses No livestock no cattle Livestock diseases No vaccination of livestock No technical support on agriculture Insufficient health education
Insufficient health care	Cause	Insufficient health services People have no trust in health centres
Inadequate skills and technical knowledge	Cause	Livestock diseases Poor sanitation No toilets/latrines Wastes scattered in village No dumping sites Many diseases
Insufficient education institutions	Cause	Insufficient health education
Poor sanitation	Cause	Poor sanitation No toilets/latrines Wastes scattered in village No dumping sites Many diseases

Main Issue	Type	Socio-economic Statement from PRA Dialogue
Little land for households in the village	Cause	No rice paddy land and “cham kar” Small land due to newcomers to the village
Weak institutional and legal framework	Cause	Small land due to incomers No technical support on agriculture Wastes scattered in village No dumping sites Insufficient health services People have no trust in health centres Insufficient health education

The overall effect issue from Table 20 is poverty and poor quality of life. The overall cause for this depletion can be attributed to a low capability for households to manage their livelihoods. This low capability is at the household level as well as at the external level.

A problem tree related to socio-economy has been developed outlining the various management aspects, which cause poverty and poor quality of life.

Opportunities

Opportunities for improving the conditions in the proposed community project area have been outlined by reversing the problem trees for natural resources and socio-economy. From the opportunity trees it is suggested that:

- 1) Sustainable exploitation of natural resources should be addressed through improved management systems, capacities and practises for these resources coordinating all relevant levels, including the local communities.
- 2) Good quality of life in households should be addressed by increasing the capability within the household while improving the enabling environment.

Support opportunities in the natural resources tree are listed in Table 21.

Table 21: Natural Resources Support Opportunities

Natural resources support opportunities	Government Arrangements	Other Arrangements
Incorporation of natural resources management into curriculum in schools	Department of Education, Department of Environment, Department of Agriculture	UCC, Pagoda,
Coordinating all management levels in enforcing agreed regulations on natural resources management	NCSC, PWG, Provincial Departments, Local Authority	
Improving the household utilisation of natural resources and making available alternative livelihood options	Department of Agriculture, Department of Environment	
Establishing an understanding throughout the local community of the importance of sustainable use of natural resources	Department of Agriculture, Department of Environment	
Provision of training opportunities for natural resources management and supporting improved and alternative livelihoods	Department of Agriculture, Department of Environment	UCC

Support opportunities in the socio-economic tree are listed in Table 22.

Table 22: Socio-economic Support Opportunities

Socio-economic support opportunities	Government Arrangements	Other Arrangements
Access to credit as required with conditions adequate for all community members		ACLEDA, EMT, Middlemen
Secure natural resources base		
Birth spacing practiced in communities	Department of Women Affairs	
Access to clean water for all members of the community		
All children attending school and illiterate adults under training		
Livelihood options or social support available to vulnerable groups		
Community members have good technical skills important for livelihood and related to sanitation		
All members of community have adequate access to health care		
Access to latrines and toilets secured and household waste handling organised		
Adequate education available within the community		
Understanding throughout the community about health, sanitation, environment, gender and other issues		
Land and land use options available for households		
Coordinated efforts given at all management levels to enforce agreed regulations and to provide services and technical assistance satisfying community needs		

Kampot Community Programme LFA

Project descriptions, using a Log-frame will follow the outline below:

Objectives

Outputs

Activities

Inputs

Implementation Strategy

Implementation Plan

Organisation

Assumptions and Risks

Logical Framework Analysis Problem and Opportunity Trees

Annex 01: Relevant Contacts

- Provincial Working Group
- Task Force and Action Team
- Park Office and rangers
- Provincial Departments
- Commune Councillors
- Villages Chiefs and Deputy Chiefs
- School Headmasters
- Health Centre Contacts
- Pagoda Contacts
- EMCZ Contacts
- Others (NGOs etc.)

Annex 02: PRA Dialogue

Objectives of the PRA Dialogue

1. A shared and agreed understanding of the Natural Resources, Environment and Socio-economic issues in the Local Coastal Area
2. A formulated and agreed framework for the Phase 3 Community Project in the Local Coastal Area.
3. Requirements for additional information gathering and awareness raising identified for consolidating 1 and 2.

Outputs from the PRA Dialogue

- 1.1 A situational description of the Local Area in terms of Population, Infrastructure, Natural Resources and Socio-economy based on secondary data and field input
- 1.2 Identification of issues arising from participatory analysis of the situational description.
- 2.1 A Logical Framework Presentation of the Community Project
- 2.2 Outline Terms of Reference for additional information gathering, awareness raising.

Activities in the PRA Dialogue

1.1.1 Development of format for description

A list of content was prepared for the Community Project Document. It is based on an LFA approach to project management and contains all relevant chapters relevant to this approach. Furthermore, an extensive situational analysis is provided for in the list of content as justification for the proposed project based on the PRA dialogue undertaken in the project area and supported by secondary information sources.

1.1.2 Acquisition of secondary information

1.1.2.1 Identification of information sources

Secondary information was mainly sought through the Census 1998 and related analyses, which was and will be found in the Ministry of Planning, Statistical Department, and through the SEILA Programme surveys at commune level. The PRA-Dialogue teams also sought information in the respective provincial departments of Health, Education, Agriculture and Fisheries, and in the offices of the District Governors and Commune Chiefs, especially drawn local surveys in the provinces other than the SEILA programme and the Census '98. Further, studies and surveys carried out in phase I of the CZM project in the selected villages were also included as secondary sources.

1.1.2.2 Review of information

1.1.2.3 Extraction of relevant information

1.1.2.4 Incorporation into the Community Project Document

1.1.3 Participatory development of baseline description

The PRA dialogue process was planned to use a participatory approach. It was the responsibility of the Project team to organise the PRA dialogue and write draft reports, and the responsibility of the provincial teams to develop tools and

facilitate the PRA dialogue process in the field. The PRA dialogue is in itself anticipated to be participatory, considering the villagers as those who are experienced in village life and conditions and the present form for management of natural resources.

The collected information has contributed to a baseline on socio-economic and natural resource and environmental conditions. During the process, needs for additional information was identified and will consequently be collected during follow-up interviews and surveys.

1.1.3.1 Development of questionnaires, checklist for dialogues

The development of tools/checklists and questionnaires in Khmer was carried out over two days by the Provincial team, one CCU member, two local consultants and the NSE. This was a different approach from Kep and Kampot, where the tools had been developed in English by the Project Team and translated into Khmer by the Provincial Team. As the members, however, found it difficult to fully understand the questions themselves and therefore could not take direct ownership of the dialogue, it was proposed to have the Provincial Team develop the tools to fit into the actual situation.

1.1.3.2 Dialogues with Provincial Departments

As 4-5 of the provincial departments participated in the PRA dialogue through the Task Forces and Action Teams, it was possible to have first hand information about various aspects within their department. In addition, the teams visited the departments of Health, Education, Agriculture and Fisheries, Women Affairs and the District Governors and Commune Councils, where they by support of a checklist mapped out which kind of data the department possesses and how it relates to CBNRM concerns.

1.1.3.3 Dialogues in villages in Local Area

Primary data were collected by 7 teams on structure, infrastructure and internal and external relations, natural resources and environment and use and dependency of the same, wealth, health, nutrition and sanitation, education, historical and cultural aspects, livelihoods, land issues and marketing. The sources of information were the provincial departments, commune councils, village chiefs, heads of local institutions and organisations, village groups mixed by sex, ethnicity and age on natural resources and socio-economic information, groups of women only, men only and elders only. Also individuals dealing with charcoal burning, selling firewood and poles, and brewing beer/wine as well as traditional birth attendants were interviewed on use of NRE. Each PRA-dialogue was wended up with a discussion on related issues/problems and suggestions to how these can be solved.

The PRA teams used PRA methods to motivate the discussions and as a way to make the process of information more transparent and visual. Most of the groups worked with mapping, e.g. village mapping, showing the outlay of the village identifying the location of water sources by type, toilets and latrines and public garbage pits; social mapping, identifying the location of wealth groups and showing land use; and resource mapping, showing the distribution of natural resources. Teams also made use of ranking, especially with regard to use of resources and their importance to different wealth groups. Also time lines facilitated the discussion with the elders and calendars and activity profiles were used on gender issues.

Seven teams were active:

Team 1, composed of the TL and NSE and a local consultant (AIT), met with the District Governors and Commune Councils in the selected areas on local development, the structure, the 5 year Commune Council plans and related issues. The team also formed the management and monitoring team.

Team 2, composed of the DOE, Kep, the local consultant, UCC and a volunteer, interviewed Village Chiefs as key informants in each of the selected LACRM villages on structure and infra-structure, NRE and Socio-Economic related issues, also related to legal issues and security, and discussed issues and suggested solutions to the issues.

Team 3, composed of a CCU member with experience in GPS, two Action Team members from DoRD collected information on infra-structure and institutions in each of the selected LACRM villages, and discussed issues and suggested solutions to the issues.

Team 4, composed of the DOE, the representative, DOF Phnom Penh and a local consultant (AIT), met with mixed groups of community members and established dialogues with them on wealth, related to 4 categories of Very Poor, Poor, Medium and Better Off. In addition, the team worked with a group of fisher folks and learnt from them about the Natural Resources in the village, dependency on resources by wealth groups, and existing livelihoods, based on natural resources. The team also discussed related issues and suggestions to how they could be dealt with. Wealth ranking, resource mapping and ranking of resource dependency were methods used. No transect walks were made.

Team 5, composed of the DOWA, the DOA, the Action team member, DOWA established dialogues with a mixed community group on health, nutrition and sanitation issues and with a men's and women's group respectively on health, gender and education as well as on livelihood, based on natural resources. This team also talked with a group of elders about history and culture of the village, water sources, gender and education. The team winded up with a discussion on related issues and likely solutions. The team did social mapping on sanitation, a gender activity profile and a calendar as well as a history line with the group of elders. It also walked in a few villages to observe conditions and talked with individuals on a limited scale.

Team 6, composed of the DO, the DoRD and a CCU member, conducted focus group discussion with a group of chief, midwife, community members (F/M) with knowledge on land issues, elders and farmers. Likewise, it conducted a focus group discussion with fisher folks, farmers, middle women on marketing of products. Finally, they discussed with a group of traditional birth attendants on health issues and gender, related to natural resources and environment, and winded up the discussion with related issues and suggestions to likely solutions.

Team 7, composed of the DOP, the Action Team member, DoWA and a CCU member, talked with individuals occupied with beer brewing, charcoal burning and firewood cuttings/selling and a midwife about use of natural resources, and winded up the discussion with related issues and suggestions to likely solutions.

All teams were requested to photo the group/individual and the dialogue situation.

The dialogues took place in a number of selected villages in each local area (3) with pre-defined groups and in places that were accessible to everybody in the village. But the discussions were not always undisturbed. The teams were

encouraged to be part of the village groups and not distance themselves to the groups, hiding behind tables or standing looking down upon the group. This, however, was difficult to achieve by some teams.

A number of situations were anticipated to likely influence the dialogue situation, which could be out of control of the Project team. The weather was one such situation, where people might have had to prioritise their time if prolonged rains start. Also the understanding of the village chief of the whole exercise and the arrangements of groups and individuals to be interviewed decided on the outcome in a few villages. The Village Chiefs however were informed of the intervention and its arrangements through the Commune Councils with whom the NSE has held meetings prior to the PRA-dialogue. Also the capacity and interest of the TF/AT has been essential to the success of the dialogue. Only one TF member managed to participate fully, while many of the key departments (Fisheries and Environment) were absent several days. Although all participants had agreed to a schedule before the dialogue, collisions were experienced with various meetings and private matters.

1.1.4. Data Analysis and Reporting

The gathered primary information was reviewed by project team members, mainly the 4 local consultants (2 AIT students and 2 CBRNM consultants), 3 CCU members, the NSE and an officer of Fisheries Department, Phnom Penh. The ISE and the EMCZ Team Leader supported the Khmer-speaking team in discussion of the information at the time of report writing.

Team 1 mainly used the gathered information to draw up structures and discussed local development plans. Each of the remaining 6 teams on a daily basis downloaded relevant issues into coloured cards that represented NRE, SE and Organisational/Institutional issues as well as suggestions to how to deal with the issues. In addition, the teams on a daily basis wrote a brief report, using an outline for their categories of information. These were transferred to a file on each village together with the tools used in the field and related maps, rankings, calendars, time lines etc.

Team 3 that collected infra-structural information, e.g. using GPS, transferred quantitative data into tables and maps. Relevant qualitative data were inserted into the respective sessions. Likewise, relevant information collected from chiefs by team two was extracted from their interview and inserted into the village reports and into tables on infra-structure as long as it would give new value to the report by other teams.

Based on the review of the information collected by each team and the above mentioned reporting, the project team extracted, analysed and edited the information into a generic report format, which was used for each province. Village reports were produced and inserted as annexes, mainly based on the PRA-teams' reporting.

The GPS collected information was incorporated in forms of maps and information tables and inserted otherwise in relevant chapters.

1.2.1 Issue discussions in dialogues

Each PRA sessions ended with an identification of related issues by participants, and a successive discussion on the issue, which as a statement was not just be taken un-debated. In addition, each group would be requested to discuss related possible solutions to the issue or ways that the issue could be dealt with. Not all the teams had the capacity to

really discuss issues, but took more the statements from either individuals or the group debate.

The issues were discussed in plenary by all the team members to ensure clarity of the individual issue, joint understanding and a debate of the issue. This was followed by a grouping of the teams to deal with NRE and SE issues respectively, and – if any organisational and institutional issues – with these as well. These three teams were asked to organise the issues into related “bushes” and organise them logically into cause and effect issues.

2.2.1 Outline LFA by Facilitation Team

The facilitation team did not reach a stage where it was ready for outlining the LFA together. This was done with support from the TL and the ISE.

2.2.2 Discussion among representatives of outlined LFA and agreed LFA

A meeting was held on the fifth day with Commune Council and Village Chiefs, where the outlined LFA was discussed together with opportunities and where it was concluded that it would be the planning framework, which however would be communicated further with the Councils.

3.1.1 Identification of information gaps

During the compilation of the data for the draft community project document, the facilitation team found some information, which would make the description more complete. This inadequate information was related to both NRE and socio-economic factors, especially to the economic situation of the fishing community and to population. One team went back to Kampot and Kep to collect information on boats and catch. Secondary data will be added from the sources like the census 1998 and the Seila data base. Data on reproductive health under population was carried forward. Waste management would also be looked more into with the respective department and the councils.

3.1.2 Identification of lacking awareness

Despite that several identified issues related to limited awareness, the PRA teams did not come up with more specific observations of low awareness. However, low awareness on hygiene was expressed indirectly in terms of not washing hands before meals, not bathing much, diseases relating to insufficient water, etc. Also attitudes towards education was expressed as dropping out of school, girls assisting at home, boys going fishing or working in the salt farms. These expressions, however, is not only an issue of low awareness, but also poverty. Most people seem to be aware of the importance of natural resources, but they also depend on them and therefore are in a situation, where they might exploit the resources, although they would always refer to outsiders as the “offenders”.

3.1.3 Identification of required actions

It is proposed that a CCU member, responsible for NGOs, together with AT members (and TF members?) will follow up on a description of internal and external relations

The NSE together with the TL and the CCU members with GPS experience will follow up on secondary data.

It will be considered which remaining information will be collected through further surveys, e.g. a household survey, which will look more into economic issues of the household in relation to natural resources and livelihood and to the meaning of some of the population issues.

Koh Kong Province

Areas of low awareness will further be defined with the International Communication and Awareness Specialist, and approaches on how to deal with those areas, relevant for the EMCZ will be further developed.

3.1.4 TOR development

Facilitators in PRA Dialogue

Table 23: PRA Dialogue Facilitators by Field Team

Name	Department	Province or Municipality	Position	EMCZ Affiliation	PRA TEAM	Position in Team
Ouk Lykhim	Project Office, Sihanoukville	Sihanoukville	National Socio-economist	Staff	Management Team	Team Leader
Kimsan	Project Office, Sihanoukville	Sihanoukville	Translator and CBNRM	Local Consultant	Management Team	Member
Gorm Jeppesen	DHI Water and Environment	Sihanoukville	Chief Biologist	Team Leader	Management Team	Member
BK	UCC, Kampot	Kampot	Director	Resource Person	Team 2	Member
Mr. Touch Vina	Project Office, Phnom Penh	Phnom Penh	Natural Resources Planner	Staff	Team 3	Member
Mr. Soy Thea	Project Office, Sihanoukville	Sihanoukville	CBNRM	Local Consultant	Team 5	Member
Mr. Rivath	Coastal Coordination Unit, Phnom Penh	Phnom Penh	Staff	Counterpart	Team 6	Member

Annex 03: Village Reports

1- Stueng Veang Village

Geographic Feature

Stueng Veang is a village that people have lived in it since long time ago. It is about 1 km away from Dornng Tung market, in the provincial town of Koh Kong. Stueng Veang is one of the villages that the means of communication by land is accessible. The geographic area is vast with paddy field, Chamkar land (the upper land) and it is adjacent to the mangrove forests (the lower land). Anyway the village is not adjacent to the mountains.

Population

The study showed that Stueng Veang is the most populated of all villages that the group has studied about. It has 358 families. And the total number of the population is 903. The village chief said that the number of the people increased a lot during the period from 1985 to 1998. At that time those people came to this area to work for the others and some others came to run in the kiln of charcoal production. And this rate has never increased during these last few years. For nowadays, there are two main ethnic groups in this village: Khmer and Islam. People among the Khmer ethnic group are the combination of Khmer who have so long time ago lived here in the village and Khmer who just moved to live in the village after the Khmer Rouge Regime, especially those who just came to live in the 1990s. The groups also remarked that among those original people of this village use Thai language for their everyday communication. This seems to be different from other villages. People live detachedly. They don't live very blocky. They build their houses some distance away from each other. The study showed that the inhabitant people of this village live in places with paddy field or all along the canals, which is much convenient and enable them to commute from their houses to other places, and also they can park their boats very easily. The group found 14 families who are the ex owners of the charcoal kilns. All of them live in a block together close to the mangrove forests. That place is called "Kheng Khong", and some others live near the incense stick workshop.

Infrastructure

Stueng Veang village is right in Stueng Veang commune. It is a part of and under the supervision of Smach Meanchey district, Koh Kong province. It is under the direct supervision of the chief village, which is the same compared to other villages. All though the village is wide, but it is ok with no any difficulty with the means of communication and traveling in and out of the village. This is because of most people live along the main path (the path connecting to the provincial town). Besides, there is another one path line, which is just scraped and added with more pieces of land. The path runs all the way from the provincial town to the village too. There is no health center, pagoda, and school in the village except an Islamic mosque. Young children go to school in the provincial town (Samdach Chea Sim primary school) because this village shares its border with the provincial town. Therefore, the constraint doesn't appear to those children who live near or close to the town, but for those who live on the other side of the village they have some constraints to go to school because they have to spend time and walk a long distance to their school. People in Kheng Khong told us that young children in their village have to leave for school at 5:00 am everyday so as to reach the school on time at 7 o'clock. They have more difficulty in the rainy season. They have to walk across the water, the mud

field, the shrub, or more other fields. Anyway, there is a pagoda in a neighboring village. That is called Preaek Svay pagoda. People in Stueng Veang village go to this pagoda when they celebrate the festival or other funerals.

Natural Resources

Fishery

Most of the time, people fish by using the mud crab traps and by using the manual fishing gears or using their own hands to catch the blue crabs, to collect cockle in the water, and to collect mollusks. The outputs from family fishing of these poor people are certainly only enough for their subsistence. Each family owns 30 to 50 crab traps but some families may own 100 crab traps. The daily fishing output harvested is ranged from 0.5 to 2 kg per day, and most of these outputs are mud crabs. These mud crabs are usually small in size because the fishing output has extremely decreased, which is the result from some factors like illegal fishing practice, the increase in number of fishermen, using the electric cut-shock equipment, and fishing fish and shrimp by polluting. The fishermen from outsiders cause these factors, not the villagers themselves. Those fishing outputs are brought to sell in Dornng Tung market. For example, 1 kg of mud crab costs 70 Bahts, 1 kg of small mud crabs costs 40 Bahts. These small crabs are bought to fatten more. However, there isn't no other types of fishing here, even fishing in the open sea. Most of the fishermen do fishing all along the mangrove forests near round the village. Sometimes they fish in the mangrove away from the village by using the rowing boats. Besides, there are about 2 or 3 motorizing boats in this village (the engine is between 3.5 and 5 C).

Mangrove and Muddy Field

Nowadays the mangroves have been growing again. They look better than before. Today there is no more charcoal kiln taking place in the village. However, it still has the mangrove charcoal using as a family consumption in each family. Villagers made the ground-dug kiln (small ground oven for making charcoal as a family consumption) so they can make the charcoal for their own family consumption but not for sale/ doing business. The people's awareness on the mangrove seems not to response to the requirement of the current situation because they still continue to use the mangrove without thinking about the continuity of mangrove management. The mangrove destruction/ cutting for charcoal production in the previous time had left the area some difficulties in fishery sector. Mangroves grow all around the village, and especially all along the canals. Most of them are the mangrove growing at the front and the one behind, and so on. Moreover, we have the muddy field front-bounded the mangrove forests. This muddy field has some potentials relating to the mangrove replanting and fishing. It is not too large and also not so many fishes live in such area.

Land using

Most of the village areas are the Swamp Forest of the Malaleuca forest (Smach tree forest). The rest of the free space lands belong to other outsiders. The village has very little paddy field and Chamkar land.

Water Consumption

There are a lot of problems with the source of fresh water during the dry season period but it doesn't matter in the rainy season. There is one well in the village and other 3 or 4 digging wells for storing the water for use in the rainy season, but these wells have no water and not in use in the dry season. The wells are not so deep (about 2 or 3 meters deep). Anyway, we can dig the well deeper but deeper the well is, the water tastes salty, which is unusable. In the dry season villagers take water from other places, which stay 2 or 3 km away from the village. Sometimes they have to buy the water, which costs them

25 Bahts per barrel. Due to all of stated factors and conditions above villagers requested for the concrete pipes for storing water to be used in the dry season.

Forests and Wildlife

There is no forest or wildlife in this village except the Malaleuca forest, which can produce very small outputs and provide very little advantages for the villagers' subsistence. There are not so plenty of the Malaleuca mushrooms in the Malaleuca forest, so people can only harvest some mushrooms for supporting their own food. Sometimes they go digging the wild potatoes for food when they fish nothing.

Socio-Economy

Economic Status

The study showed that nearly all of the people who live in all the villages of islands along the coastal sea make their living by fishing. Besides, in Stueng Veang village is different. Some people practice rice farming (they have food enough to eat), some are fishermen, and some are workers. Also there are more numbers of government officials compared to any other villages in the region. They do not fish in the far open sea, but in the mangrove and all along the canals. Rice farming is the first prioritized career of the inhabitants in this village, while fishing is the secondary/ complementary career for them. However, for the newcomers fishing is the first prioritized career (for those who live closely to the mangrove forests), and some work as motor taxi drivers (those who live near the main path – the path connecting to the provincial town). Most of the rich or well-off families practice the rice farming while the poor are those who do only fishing. We noticed that most of the inhabitants of this village build their houses detachedly or distance away from each and grow various kinds of domestic plants and vegetables in the yard around the house. Furthermore, they also practice livestock raising: chicken raising, duck raising, pig raising, and the cattle fattening (oxen and buffaloes) for use as workforce in the rice farming work.

Classification of the Livelihood (Standard of Living)

a. The destitute (very poor)

These people live in small huts roofed and walled with palm leaves. Some families build their huts on their own land and some others build on the others' (those who take care of the other's land). They usually live: 1) near the incense stick workshop. Some of these people are the workers in the workshop. Some pick the forest product such as Trurmoung leaves and other tree leaves. They take these products to sell for some income to help support their family subsistence. 2) in Kheng Khong, Chhmar Batt, and Boeng Prey are the villages located adjacent to the mangrove, so they rely mainly on the mud crab fishing. All of them have no possession of paddy field, Chamkar, bicycle, radio, or a TV. As stated above, the professions of all destitute people are actually depended on where they live. The study revealed that people live on the upper land (not close to the mangrove) are those who normally lead their lives by picking the tree leaves for selling such as Trurmoung leaves, Khnanh leaves, or sometimes they grow the rice seedling or harvest rice for the others for money. However, for those who live close to the mangrove catch the blue crabs by their own hands, hook the crabs, and collect the mollusk. Destitute people have two meals a day: lunch and dinner. When they make nothing from fishing, they have porridge instead of rice for one mealtime and another mealtime they keep having rice. They cannot afford to buy much rice to store in their house for longer time of use. They manage to buy for each-day consumption according to the amount of money they have earned in each day (worse quality rice). Normally they eat fish, mud crabs, snails, and small snails that they fish by themselves. The food isn't tasteful and

un nourished. Rarely we have never found any livestock raisings in such families such as chicken raising, duck raising, or even pig raising. The average each family has 5 to 7 children. The income of each family is ranged from 30 to 40 Bahts per day. They are not in debt because no one lends them the money. They can borrow the money only from their own relatives or their close friends.

b. The poor

There are about 1000 families of people living in this condition. They have small houses with palm-leaves roof. Some roofed with zinc roof and walled with palm-leaves. Most of these people build their houses on their own lands except some who build their houses on the other's land (they look after the land for the others). They usually live near the destitute. They earn their living by putting mud crab traps in the mangrove or being workers, and so on. They have no possessions of paddy field, Chamkar, radio, or a TV. They fish in the mangrove, which is the same as the destitute ones but they are different because they have rowing boats, and a few families have old motorizing boats. Moreover, they have 20 to 30 crab traps, and fishing nets that they can do a little fishing. The rest works for the others. People in this state have two meals a day: lunch and dinner. But when they make nothing from their fishing, they will have porridge for one mealtime instead of rice and keep having rice for another mealtime. The income they earn for one day is only enough for the expense in that day. The average they earn 60 to 100 Bahts per day. There are 5 or 6 members in each family.

c. Middle Class

These people own better house and also have better livelihood than the destitute and the poor ones. Their houses made of wood with zinc roof, wooden walls, and wooden floor as well. These people have their own land for building houses. Some own 2 – 3 hectares with all kinds of plants, tree fruits on it around the house. They have oxen and buffaloes for plowing the rice-farming field, motorizing fishing boats with the engine of 5 – 6 c power. They own fish net, shrimp net. They make their living by fishing, rice farming, seeking for heartwood (Kloem Chan), and working for others in Thailand. The nutrition of these people is much better compared to the destitute and the poor. They eat three meals a day with a nourished food. Each family has 4 or 5 children. Those children are sent to school. Some of them can afford to send their children to study in the junior high school. They can earn 1,000 to 2,000 Bahts per day. This amount is more enough to satisfy the family demand. All of these people can borrow the money from the middlemen to buy fishing gears or to satisfy other immediate need in the family.

d. Well off

These people certainly have better and lovely livelihood compared to the whole village. They have decent wooden houses. They were built high detaching from the ground with zinc roof/ fibro roof, wooden walls, and wooden floor. They build their houses on their own land. They usually live in certain convenient places, which enable them to sell or to do some small business domestically or they prefer to live in the wide-open space area with plants and tree fruits around in the yard. Some of them own plowing motor for plowing their own field or for rent. They possess 2 – 3 hectares of paddy field and plus Chamkar. They possess motorbike, television, karaoke, generator, and motorizing boat. They have abundant rice for consumption supply. For these rich people, they have never do rice farming on their owns, but they employ the destitute and the poor to grow the rice seedlings and to harvest the rice for them. Besides, these well-off people are the middlemen that they can earn around 4,000 to 5,000 Bahts per day. The average they

have 2 – 4 children in the family. All of those children have attended the school. They go to Chea Sim Primary School.

Natural Resources Consumption

Firewood consumption: the destitute, the poor, and the middle class use the firewood that they have collected from the jungle such as the white Malaleuca (white smach tree), the red Malaleuca, and some firewood from domestic trees for cooking, while some middle class families and the well-off families use the charcoal and sometimes gas for cooking. On the other hand the poor, the middle class and the well off having their own boats usually go around to collect the dead mangrove to be used in cooking.

Nutritional resources consumption: the destitute and the poor usually use the small fish, different kinds of snails in the mangroves, and small salt-water shrimps as their food. Sometimes they eat un nourished or poor quality swimming crabs and small mud crabs with vegetables and tree leaves taken from the jungle such as Trurmoung leaves, Khnanh leaves, Prong leaves, and so on. As if the middle class and the well off eat nourished food such as fresh fish (Tbork fish), snails, swimming crabs, mud crabs with the vegetables taken from the woods or bought from Dorng Tung market. Beside these stated forest vegetables, we still have some other kinds of outputs taken from that forest as well. For example, the Malaleuca mushrooms. These mushrooms are dried up to be free from poison and edible.

Output Selling

There are mud crabs, mollusks, marshal, Plet snail, and blue crabs, all of which are harvested and sold by the destitute and the poor but the middle class can harvest the fish and the shrimps for selling because they have the fishing net. However, the well-off families do not do fishing or anything. They are the middlemen who buy all the fishing products to sell in Dorng Tung market, and some are sold to Thailand.

Health

Types of diseases

The study revealed that the diseases exist according to the places they are living in. The well off and the middle class families seem not to be sick very often because they live in decent houses located in more convenient places with no environmental pollution. In contrast, the destitute and the poor living closely to the forests seem to get sick or ill very often. They might have malaria, fever, diarrhea, or typhoid. Most of the time fever, diarrhea, cough, and intestinal worms have threatened on the children. Anyway, no one die of these diseases, and there is no clear information figured out about AIDS.

Medical Treatment

There is no health center in Stueng Veang village. Whenever they get ill, they usually go for medical treatment in the provincial hospital but for well-off people, they may go for medical treatment in some private clinics in Dorng Tung. Some people, especially the poor and very poor ones still believe in worshipping the sacred idol. Therefore, they choose the way for curing their illnesses in both ways together by worshipping the sacred idol and using the medicine as well.

Pharmacy (Medicine selling Store)

There is no pharmacy in Stueng Veang village, and even in Kheng Khong, so whenever they need to buy some medicine they have to go to Dorng Tung to buy it. However, in case when they have common fever, headache, or diarrhea they can just buy it from some grocer stores in the village.

Awareness Conducting

According to the dialogs between the groups the some people who live all along the woods showed that since they moved to live here ten years ago, they have never seen any agency from the department of health or any NGOs agency or any other agencies arriving in this area to provide training or awareness conducting about diseases prevention to all of them. But they have understood and got aware of health issues and birth spacing when they came to the provincial hospital for illnesses treatment, or because they listened to the radio.

Sanitation

Aquatic resources consumption: In the wet season, people in Stueng Veang village use the rainwater and the water from wells in the village for daily consumption such as for cooking, drinking and for other purposes. It doesn't matter for those who live near the main path, but for those who live all along the mangrove forest the water supply is the major problem they are facing with, especially in the dry season. Obviously, people living in Kheng Khong have to spend a lot to take water from a long distance away.

The toilets: For those families who live collectively along the main path have the toilets in their houses, but for those who live away from the path do not have the toilets in their houses. Obviously, in Kheng Kong people shit on.....

Meal Preparation: Having cooked the meal, most people prefer to keep their food by covering over, or some prefer to keep it in the rice pot. Whenever they need it they take it out and take the rice into dish with their spoon to eat. They never dispose the leftover food, but they keep it for the next mealtime. Some families heat this leftover food before they eat at the second time, but some other families don't. They won't throw this food away unless the food has been kept for many days and it becomes sour.

Animal Keeping: Not so many people in Kheng Khong raise the livestock. Only a few families practice the livestock raising. Each family raises only 2 or 3 chickens. They don't like raising the livestock so much because there are diseases threatened on these animals in the dry season and many of them die. On the other hand people have never gotten any training about the techniques in livestock raising or livestock caring.

Nourishment

Meal supply: Generally they have their meal two times a day: lunch and dinner. When they make nothing from their fishing, the poor people have to go into the forest seeking for potatoes and other fruits to eat instead of rice. Their normal food is rice or sometimes porridge with small fish harvested from their own fishing, or sometimes the crab, snail, or other shellfish left over from selling. Most of them find vegetables or other tree leaves from the jungle to eat when they need them. But for the middle class and the well off, they eat nourished and tasteful food.

Education

Systematic Education: Children do not learn well and properly. Most students drop out of school when they are at grade 4 or when they finish their primary school (grade 6). Some other they can pursue to junior high school or senior high school as well. This depends on the living standard of their families and also the encouragement from their parents that wish to push their children. Obviously, only a few children from rich families can pursue to study in senior high school. The study group dialoged with villagers in Kheng Khong and they let us know that a lot of school-age children cannot afford to attend the school when they have to because their houses are away from the school that they have to walk long distance through the woods to school. So this is why their 5- or 6-year old kids cannot attend the school because they are too young to walk to school. All the village kids can attend the school when they are 8 or 9 years old and they cannot study after they

finish their grades in primary school. Generally they can only afford at grade 2 or 4. After that they have to quit school to help their parents with housework or earning some money. However, even the parents are poor, they have sent all of the kids in the village to school except 4 children found in Kheng Khong that weren't sent to school.

Illiteracy: There is no clear figure/ statistics of the number of illiterate people in this village. But we have noticed that most of old people in Kheng Khong are illiterate because they have been very busy with their fishing. There was one class of illiteracy in the village that has just stopped its performance and validity last ending of 2002.

Gender

Women decision-making: Women have rights to make decision on their own on deciding whether to participate in fishing. They take responsibility of all expenses in the whole family and they responsible for keeping the money that the husbands have earned. Anyway, those women in Kheng Khong have never participated in any social activity because there has never been any organization appearing in this remote area.

Men decision-making: They decide whether to go fishing, to sell their labor working for the others in the rice harvest season and rice growing season in order to earn some money for sustaining the family subsistence.

Violence: For such a small remote area of Kheng Khong, there has never had a serious violence remarkably. There were some slight arguments but never have a complaint to the group leader or the village chief.

Problems and requests

- There is no school in the village
- The school is away from the village
- People have no profession/ are being jobless
- No fresh water supply in the dry season
- Raising animals is impossible because diseases exist and many of them get ill and died
- No paddy field for rice farming practice
- Never got any training or awareness conducting
- No money to buy the necessary fishing gears
- The fishing outputs get decreased
- Wells for providing water supply in the dry season
- Means of transportation for children to go to school
- Provide more jobs for villagers
- Help to take more care of all villagers living here

2- Boeng Kachang Village

General Demographic of the village

Boeng Kachhang is located at about 4 km away from the Dorng Tung commune. So long time ago this commune was a small island. It was called Bueng Kachhang and there were no people living there at that time. There were so plenty of very thick mangrove forests on the island with lots of kinds of different species of fishes and other marine lives, especially the mud crabs. By 1982 there were four families moving in to live here on the island. They worked as workers to lead their lives. Not too long later, more and more people came to live on the island and primarily worked as shrimps farming workers, timber conversion factory workers, or they cut mangrove for charcoal production and do fishing (very fewer). Then, because of this reason more people and families arrived to live on the island too. Consequently, a lot of people live on it, so the island was called Bueng Kachhang village. The village has been a part of and under the supervision of Bak Klorng commune, Mondoulseima district, Koh Kong province until nowadays. All of the residents in this village moved from some different parts and provinces of Cambodia such as Prey Veng, Kampong Cham, and Ta Keo province, and so on. In recent days, the daily lives subsistence of the villagers mainly relies on the aquatic resources surrounding the village. Some typical resources are mangrove, mud crabs, fish, shrimps etc.

This village is the one that the Koh Kong Provincial Working Groups selected to implement the pilot project proposal on reduction of poverty at phase two of the project (2001 – 2002).

Population

According to the dialogs with the village chief, he let us know that there are three different ethnic groups in this village. These ethnic groups are Khmer, Thai, and Islam. This village has a population of 543 including 270 males and 273 females. There are 107 boys, aged below 15 years old, 88 girls, and 14 widowed women. They are living in 122 different families.

According to the data in the national population statistics survey in 1998, this village had a total population of 846, which is equivalent to 244 families. This showed that the number of the population has decreased of approximately 50 % off. Relating to this remarkable number, the village chief recounted and explained to us that there are three major causes. Firstly is that one timber conversion plant (factory) in the village was closed in 1999, so those villagers working as the factory workers had no jobs. Consequently, they left the village. Secondly, the shrimp farming surrounding the village was also closed because the owners of the farms had a serious loss of doing their businesses, so they decided to stop doing them. As a result, all those villagers working as workers in the shrimp farming got redundant and jobless, so they had to leave the village. Thirdly, it was because of the elimination of the charcoal kilns in the village as well as outside around the village. During the period from 1990 to 1998, there were so many charcoal kilns in the village and a lot of villagers had participated in and strongly concerned with the charcoal production. Some of them worked as workers, some worked for their own running business of charcoal production. These production activities had nearly absolutely been stopped in 1999, so it was the reason that made people have to leave the village to find their new ways of life and new careers in elsewhere.

Infrastructure

Buseng Kachhang is in hand and under direct supervision of the village chief and the deputy village chief. In addition to the administrative management, the village still has other complement subordinators, which are the team leaders of 7 groups in the village.

There is no means of communication connecting from the provincial town or other places to this village or even though in the village itself because it is an island. Also there is no other means of vehicle like bicycle or motorbike because they usually use the boats or ships for traveling and commuting to other villages. Moreover, there is no health center, so when people get ill they just buy some medicine for homely treatment, or they have to go to the provincial hospital for medical treatment when they get serious sick. In the village there isn't also even the marketplace. However, it has some small business shops. These shops sell mostly the nutrition stuff. Therefore, when they need to buy some clothes or some fishing gears they have to go and buy them in Bak Klorng or Dornng Tung markets. Anyway, the village has one school building with three classrooms providing for grade 1, 2, and grade 3. The building was constructed in 2001 under a part of financial support from the Coastal Zone Management (CZM- Danina).

Natural Resources

Fishery

According to PRA, it shows that the fishing outputs in the canals and in the mangrove forests has increased in number in terms of shrimps, swimming crabs, mud crabs, and so on. Nearly 90 percent of the people are fishermen. Those fishermen have used different fishing gears in their fishing practice such as: crab traps, three-layer nets, fish net (Kamong is a kind of sea fish in sardine family. It looks similar to the sardine), shrimp net, trawling boats and motorizing pushing net boats. Besides, they also use the small size fishing gears such as: the fish spears, shrimp spears, crab strainers and the hooks etc. Moreover, or they might catch by hands.

There are two kinds of fishing in this village. One kind of fishing is called Shallow Water Fishing – that usually takes place inner the mangrove forests or all along the canals. Another kind of fishing is called Deep Water Fishing – which usually takes place in the far open sea. The first kind of fishing is done almost absolutely in the whole of the Peam Krosoab Wildlife Sanctuary, which stretches about 10 km far from the village such as in the Koh Srolao, Ta Chart, and so on. The location of this area gives a lot of good potential of fishing to the poor villagers because they can go out to fish in both dry season and wet season. The fishing gears they normally use are the crab traps, the nets, fishing hooks, the fish spears and shrimp spears. Sometimes they catch by using their hands, but commonly when they catch swimming crabs, or blue crabs, and so on. The people here they normally like using the rowing boats and the motorizing boats with 5-7 C engine as means of fishing. Anyway, the outputs they have made are good enough for their living subsistence only.

Even though the fishing output has somewhat increased, but villagers told us that they still have some constraints and difficulties because some people use the bag nets stretching all along the canals, and do nighttimes fishing of blue crabs by using the Thmor Sa-Oiy (chemical substance) for lighting. The bag net they use is the small mesh net. They put it in the canals and it can trap fish, shrimps, crabs etc. As the meshes are small, so it cannot ensure the continuity of fishing here. On the other hand the waste of the Thmor So-oiy was removed into the water, so it makes pollution for the fish and all other sea lives.

The large-size fishing in the open sea needs motorizing boats with higher capacity engine. The engine should be the 22c, 25c, 37c, or 75c ones. Shrimps and swimming crabs are the kinds that fishermen use only the net and the trap to catch. But some people do Kamong fishing. The implementation of this kind of fishing is usually done at nighttime and the harvest time is according to the season. The high season of the shrimp harvesting starts from mid of April until July. However, during this period the highest yield of shrimp

harvesting is usually found in only two or three days a month. A part of the income they have made in the high season period are saved and kept for the expense in the low season while Kamong fishing takes place from September to January.

The mud crab farming: Some villagers practice the career of mud crab farming. They farms mostly in the ex-shrimp farming fields, while some other do it in the woods around the village by putting the net or grow young plants surrounding the farm. According to the brief dialogs we have known that people can get quite profits from this business because the crab feed is cheap (1 or 2 Bahts/ km), or some other people can make or the feed by themselves. Besides, those people also culture the Chhpoung Sor Fish (sea bar) as well.

Mangrove

The mangrove surrounding the village is not quite different from other places in Peam Krosoab Wildlife Sanctuary. It is growing again after getting so serious destruction in the 1990s. At that time, the mangrove was cut for making charcoal production and for keeping space for shrimp farming field. The mangrove is the main property of this village because nowadays all villagers, especially the poor, they rely extremely on this mangrove. They go into the forest every day in order to find food or made some little income for the family subsistence.

Both the location of the village and the mangrove surrounding the village are in the area of Peam Krosoab Wildlife Sanctuary, which is under the direct control and supervision of the Ministry of Environment. However, under the assistance from the technical departments at the provincial level, all villagers have requested to transfer the power of controlling and the supervision to be under each community. In response to this, one community (which is composed of villagers and the local authority) will be established in order to take control of the mangrove as well as other resources around the village. This implementation needs the endorsement from the community committee and some members of the community to make sure that this is the most feasible and acceptable alternative to manage this resources available and with continuity. Obviously, under the financial support from the Coastal Zone Management Project, the community has patrolled and smashed some charcoal kilns, and educated some kiln owners. Moreover, in the previous time (2002) the area of about 4 hectares was planted the areca palm plants.

However, in the discussion of our group, we have found some illegal practice of cutting mangrove for charcoal production and for making wooden sticks for selling. Moreover, most of the ex-shrimp farming fields haven't plant any areca palm trees yet. More of this, the community seems to be having some problems that it needs help and attention from outsiders (local authority, technical departments, and other organizations) to assist and precise the goals.

Fresh water sources

The biggest problem the village has is lacking of fresh water. As it hasn't got any fresh water sources such as rivulets tributaries, streams, or canals that can provide fresh water to the villagers.

There's only a pumping well in the whole village, which can just provide fresh water in the rainy season, and that water isn't clean enough to drink, but it can be used for washing and irrigating. In the dry season, especially in December, January and February the village is almost covered by seawater when the tide is high.

Socio-economic

Livelihood

As mentioned earlier, nearly all of the people who live in this village come from other provinces. They first came here to be the shrimp-farming workforce, timber factory workers or charcoal kiln workers and the rest run small businesses. After timber factories and charcoal kilns were prohibited in 1999 and the shrimp farming could no longer process, half of the villagers decided to leave the village. The rest who went living here changed their careers - they became fishermen. People can't do the farming at all as there is no land available for farming. Therefore, all villagers must depend on just the natural resource, fishing. The fishing is differently operated according to the capital and skills each family has. For example, the poor fishermen can't afford to buy a fishing mesh or a motorizing boat so they can only fish in the mangrove forest. They can only catch crabs and collect shells but for those who have enough money buy trawling boats or motorizing pushing net boat and shrimp fishing mesh in order to fish in the open sea. And some of the villagers may work as the fishing workforce, especially women responsible for removing crab shell and very few may own grocer stores, be the government officials or run a small business - buying and selling the fishing products. Livestock farming is scarcely seen except chickens and ducks. Besides, there is also some sea bar (fish) and crab farming in the village.

Classification of livelihood

The survey has shown that the standard of living is divided into four categories: the destitute, the poor, the middle class and the well-off living standards. The clarification is only surveyed in Bueng Kachhang village; not compared to other villages in the region.

The discussion is resulted in

The very poor

they do not have a decent housing - they live in huts covered and walled with palm leaves and are in the state of being broken and leak. And most of the huts were built on the neighbors' land and in polluted environment area or in the deserted area. They support their living by collecting shells, catching mud crab, blue crab, fishing small salt-water shrimp, collecting mollusks, and work for others. They have neither the boat nor the fishing gears that they do their job by catching with their own hands. They earn about 20 or 30 Baht (42 B = 1\$) per day. They don't have any belongings like radio, television or furniture. They can afford two meals a day but some family can only afford to eat porridge. The food isn't made from fresh fish, crab or shrimp. They can afford to buy beef and pork for their meal now and then. Most of the families have loaded 7 or 8 children. Some of the children don't go to school, some others do but they generally leave school when they're in grade 2 or 3. They are not in debt because no one lends them the money. The people who live in this condition are up to 30%. Most of them are widows with no economic dependency and the newcomers coming from other provinces who are not familiar with new skills.

The poor:

They live in a little better condition than the destitute. They live in wooden houses with zinc roof and walled by palm leaves. Some of the poor people live near the destitute ones; others live near the fairly poor or the well off. Most of them possess rowing boats or old motorizing boats and the fishing gears like shrimp fishing mesh or crab fishing mesh about twenty hands (1 hand = 4 inches) and about 50 to 100 crab traps. These fishing gears are stretched in the mangroves near the village. Some of them earn their living by catching crab, collecting mollusks and snails and work for other fishermen to earn extra money in a particular season. The down-and-out and poor women remove the crab cover

to make money. They can earn more or less around 50 to 100 Baht per day. The poor are like the destitute ones; they don't have a radio, a television or any furniture in their houses. They have two meals a day but their food is a little better than the destitute people's. Each of the family may have five or eight children, and these kids can only be in grade three or four since their parents get into debt. There are about fifty families living in such state. These people are poorly educated and unskilled in fishing.

The Middle Class:

They possess a decent house with zinc roof and wooden walls and most of the houses were built in the unpolluted environment place. They have motorboats and fishing equipments such as crab net, lobster net, shrimp net, fish net and about two hundred or four hundred crab traps. They fish in the open sea. Some do a certain business at home, fish culture and crab farming, others may work as mechanic, and their income is about two hundred Baht a day. There are lights, radio and television in their houses. They eat two or three meals a day but the nourished food. Each family has two or five children and they can finish primary school (grade six). Some families owed from 10,000 to 15,000 Baht, some don't. There are maybe thirty families in this case as their richer relatives support them or they are skilful in fishing.

The well off:

Having a proper house to live in the densely populated area and easy to make a living. They have modern fishing gears like trawling boat and motorizing pushing net boat. They may have other jobs like working as middleman or investor. They have enough utensils such as radio, TV, generator including means of transportation. Also, these people have enough food to eat. Most families have four or five children and their children can go on to a higher educational institution like Junior high school or Senior high school. There are about seven or ten families and most of them are middlemen.

Resource Development for Living

- **Wood use:** The dry mangrove and floated woods from faraway mountains and charcoals are used to cook. However, for those with a better off living standard may use charcoals for the cooking.
- **Nutrition:** The destitute and the poor mostly eat Kamong fish (fish in sardine family), snails or small and stale crabs and the vegetable called Prang leaf, while the middle class and the well off family eat fish, crab, shrimp and octopus that are still fresh, above all, they can afford to buy fresh vegetable from Dornng Tung Market and Bak Klorng.
- **Animal food:** The poor and the middle class use rotten fish and tiny shellfish that can't be edible to feed animals like chicken, duck and pig and so on.
- **Medication:** The seahorse can be used to ease the high risk of relapse.
- **Natural fertilizer using:** fish, the shell of crab or shrimp are used to make natural fertilizer to grow domestic plants and vegetables around the house.

Health

Disease:

In the village, the common illnesses the old people have to frequently face are influenza, gastro intestine (typhoid) and stomach ache. These illnesses usually occur in the dry season but may not lead to the loss of life. However, three villagers died of AIDS in 2002. This village differs from others because the villagers discriminate against the AIDS victims.

Treatment:

Generally, all people who live in this village usually buy medicine from the village shop whenever they become ill. In case, the medicine they have taken did not have any good effect, the villagers may go to buy the medicine or have medical treatment in Bak Klorng Hospital if need be. For those who are short of money may borrow it from bosses (rich men) in the village to buy medicine from the shop nearby. Moreover, they have to go to Bak Klorng Hospital if they want good quality medicine. The middle class and the well-off villagers, they go to Bak Klorng or Dorng Tung Hospital to be treated when they get ill or ask the doctor to come to their home to cure them. The villagers live in poverty and believe in worshipping the sacred idol. Anyway, there's no health center in the village. The poor villagers prefer buying medicine from the village pharmacy as it is cheap and they can buy on credit. The poor people who don't have enough money to pay for the treatment, they go to the state hospital in the provincial town.

Medicine selling:

There are two pharmacies in the village owned by unknowledgeable pharmacist and there's also a traditional herbal pharmacy. Anyway, in the village there are two people are knowledgeable about medication, but they work as police physicians.

Awareness conducting

The health awareness education was conducted in the village like examining the pregnant women, tetanus, and program of AIDS awareness, contraception (birth spacing) and vaccination for children to prevent them from getting the six diseases. CARE organization based in Koh Kong offered the medical training program to traditional midwives in the village.

Sanitation

Water consumption:

Most villagers drink unboiled water but they have the rainy water in the raining season. When there is no raindrop, people buy fresh water from outside which costs 20 Baht per barrel (one barrel = 200 liters). The village has a reservoir/ tank that contains 18 m³. This reservoir was built with the support from CZM-Danida. Because they have to buy water, the washing and cleaning up the body is not good enough, especially young children.

Toilets:

It has got only a toilet with two rooms for the local school, donated by costal zone management project. The residents built some lavatories with no sewage system to properly keep faeces that when the tide is high and low, the faeces start to melt and flow into the sea. Only people with a well-off living standard who can build such lavatories, and most people get used to shitting in the sea by building a small lavatory surrounded by walls or shit at the back of their house because the villagers live close to the seaside and they have neither the land for building the lavatory nor the budget.

Mealtime arrangement (eating manner)

People always wash their hands before having meals. Poor families often keep the leftover food for the next mealtime.

Garbage management:

Having conducted training program about the sanitation to all villagers, we noticed that they have taken good care of the garbage untidiness in the village. People always clean their houses and bury the garbage under the ground or burn it out everyday.

Nourishment

Eating

In general the poor families usually have meal twice a day (lunch and dinner). Sometimes some families eat porridge instead of rice. They eat their meal with fish, crabs and small snails, which are cheap and power-degenerated, or sometimes they only borrow the fish from the neighbors. For vegetables they get it from the forest, and they buy the cheap rice. However, for well-off families and medium class families, they usually have meals two or three times a day. These people eat fish, lobsters, beef and fresh vegetables that they have bought from Bak Klorng market.

Rice Supply

Villagers have no paddy field for rice farming, so they live their lives by rely mainly on fishing. They could earn some little income to buy rice from the rice middlemen in the village (the rice is imported from Thailand). Each poor family in this village used to receive 5 kg of rice from coastal zone management project in 2001 and another 5 kg from provincial governor of Koh Kong in 2000.

Vegetables

There are few gardening yards/ fields. There are only 10 families in the village that have the gardening yards, and also in the school ground. People do gardening of some kinds of vegetables in their each family. Some typical vegetables and fruits are citronella, herbs, egg fruits, papayas, and sponge gourds. They grow all these plants and vegetables in the vases, ewers, and old containers. People do this cultivation in order to support their family subsistence. Only the medium class families and also the school have the capability to do this kind of gardening and cultivation. The school does it because it is a place necessary for the students to practice their agricultural work when the school needs them to do, while most people do not grow some supplementary domestic vegetables around the house because they have no water sources to water those vegetables.

Education

In-system education

In the village there is one school building with three classrooms and there are three only grades: grade 1, 2, and grade 3. There are totally of 127 students and 2 teachers. At this level, there are 19 students quit the school. These include 9 girl students and other two students they quit because their parents had moved out. On the other hand, it is because of their parents are poor, so they have to quit the school in order to help earn some income for the family support. Statistically, the rate of the girl students who quit the school is higher than the boy ones. This is because the daughter can usually help with the housework much better than the son. On the other hand, it is culturally that the parents themselves don't want to send their daughters away from home. There are not too many students that their parents can afford to send them to pursue their study at distance places (in Dorng Tung/ Bak Klorng) because they have to spend a lot of money on boat traveling. Therefore, only the well-off families and the middle class families that can afford to send their children to go to school at higher grades/ levels.

Non-system education (Private Education)

There are about 70 illiterate people in this village. There are more illiterate women than the illiterate men. These illiterate people are at the age of over 15 years old. There's an illiteracy program that had run up over the period of 6 months in 2002 with the support from Care Organization in Koh Kong. However, the program had already stopped. All

villagers have ever attended in the program of technical training on how to practice chicken raising, duck raising, and pig raising, and horticulture.

Gender

Decision Making

Commonly, the nature of the decision making process is relied mainly on the type and the size of work we perform. The general work in the village is normally under the decision of the village committee, while most of the time, the housework in the family is decided by the women when they want to buy some household utensils like the food/ meal, or some other domestic stuff. However, the men are responsible for buying fishing gears. On the other hand, for the decision related to some important things in the household, the decision cannot be made alone by either husband or wife, but there must be an agreement between both of them.

Participation

In this village, we can see that there are few women among the members of the fishery community committee and the village committee. Anyway, villagers, who have participated, showed that it is very important to assign the position for the women and to have the participation from those women in the village because at least the women can be better and easy to understand and have good communication with the other women if we compare to men. They can be more friendly and helpful to each other in the village.

The natural resources consumption among the men and the women

The scope of the women's work that strongly concerns with the natural resources are: fishing, collecting the mollusk, collecting the snails, peeling the skin of shrimp, peeling the shell of crab. These works are taken place in or surrounding the households, or in the mangrove forest area, so they can come back home early. This gives them time to take control of and manage the house, while men usually go out to fish in the open sea like stretching the net to trap/ catch fish, crabs, shrimps, and lobsters.

Violence

There are a few cases of family violence in the village. Most of the time, husband fights the wife because she drinks wine/ alcohol drink or practice the gambling. They curse each other. Sometimes they have a serious argument that needs the intervention from the village chief to solve out the problem.

Problems found in the village

The followings are the problems that the work team had found during the dialogs:

- The poverty
- The occurrences of gambling practice in the village
- Decrease of the natural resources
- Lack of fresh water supply for daily consumption
- Lack of toilets in the village
- When it is high tide, there are rubbishes from outside moving into the resident's household area
- Eating tasteless or power-degenerated food
- People are not aware of the sanitation
- Most people drink unboiled water
- People have no paddy field for farming
- Lack of sources of water for vegetation watering
- Not enough and proper financial support for the teachers of illiteracy

- Lack of teachers
- Cutting mangrove for charcoal production
- Fishing by using subsistence for lighting (nighttimes fishing)
- Trawler fishing and Motorizing push net fishing
- Illiteracy
- Have a lot of children in the family
- Existence of diseases

Requests

- Change the place of livestock raising and provide the fader
- Tanks for storing water in each family
- Construct the toilets for each family
- Make fence surrounding the village to protect the rubbish from outside
- Kiln/ oven for burning the rubbish, and provide awareness conducting to the people through the community and the school.
- Additional complementary careers
- Documents of environmental education for teaching the students in school
- Ask for continuation the illiteracy program
- Assist to re-strengthen the community
- Library for environmental education

3. Koh Kaptic Village

Geographic Feature

Koh Kaptic is a village of island with people living on it for long time ago. After 1979, the district town of Koh Kong was located right on Koh Kaptic Island. The location wasn't changed until 2000. After that the district town was moved to Tror Paing Rong. In fact, all of families living on the island nowadays are divided into two different villages: Phoum Ti Mouy and Phoum Ti Pi. But here in our study, we combine the two villages together as one village because all of those families live together on the same island, have the same lifestyle, especially they keep in touch and have good, close communication with each other. The southern part of the island village face to the open sea and the other parts are surrounded by the mangrove. The village doesn't have Chamkar land, but it has about 10 hectares of paddy field left free. Even it doesn't have land for Chamkar practice, but we have found various kinds of tree fruits on the island, especially we have even noticed the coconut trees exist on the island as well. Villagers in this village rely mainly on the aquatic resources for making their living.

Population

According to the statistics that the village chief provided showed that in the village there are 222 families, which are equivalent to 1,086 people comprising 514 females, 358 of children under the age of (158 girls), and 7 widowed women. Not different from other villages, nearly all of people in Koh Kaptic village come from different provinces of Cambodia after 1979, especially after Cambodia changed to practice the free market policy. The number of people has only increased about 1.2 percent during these last ten years.

Infrastructure

Koh Kaptic village is under the supervision of Koh Kaptic commune. There are 3 villages in Koh Kaptic commune: Phoum Ti Mouy, Phoum Ti Pi, and Koh Slor Lao village. Boat is the only means of transportation for commuting to this village. From Dorng Tung (provincial town of Koh Kong) to Koh Kaptic; if we travel by a fast motorboat, it takes us one hour if traveling through the open sea, and it takes us about one and half hour if we travel through the canals inside the mangrove. Traveling through the open sea is recommended when the waves are not too big, especially in the dry season, while traveling through the canals inside the mangrove is impossible when the tide is too low. The most difficult time of year for traveling in and out through the canals is in May, June, and July. Villagers use the long boats for loading the fishing outputs and other products for trade in the village itself. Relating to the education sector, the village has one building of primary school. The building is very poor and contains 3 classrooms. There are 6 classes of students: 3 classes in the morning and other 3 classes in the afternoon. On the other hand relating to the health sector, there is one health center in the village, but it doesn't work.

Natural Resources

Fishery

Shrimps, krill, swimming crabs, mud crabs, and some other kinds of fishes are some typical species of main aquatic resources that villagers can fish to help them solve out problems in their living subsistence. Fishing of these resources are taken place and used different fishing gears according to each different season. However, there are also some villagers fishing by using their own hands. Some typical fishing gears that they normally use are: three layer shrimp net, shrimp pushing net, krill net, cheesecloth net, crab net,

crab trap, manual pushing net, and big trawling motorizing boats. Moreover, there are also Kamong fish net, and Tborck fish net. On the other manual fishing is applied for blue crab catching, mud crab catching, seeking for Tror Det snail, searching some shell in the water by hands, collecting the mollusks, and so on. There is no cuttle fish fishing in this village. Fishing boats, people have rowing boats and motorizing boats, which have different engine power ranged as follow: 05c, 10c, 15c, 16c, 20c, 22c, and 24c. The big motorizing boats use the higher power engine of 100 to 150c. Some examples of offshore fishing in the open sea are shrimp fishing, Kamong fish fishing, and swimming crab fishing. Fishing usually takes place at around 1 km away from the village. Otherwise, some people go fishing farther in the open sea. They go far into 10 km away from the village and sometimes it take 3 hour's time to get to that fishing place. In common fishing is applied by season – generally from January to May.

Each family can harvest up to 100 kg of fishing output per day, especially in the high season of krill fishing. This fishing output might decrease in some days that they can make about only 7 kg per day from their fishing. These are considered as their worse days of all. They fish by using the pushing net motorizing boats (krill fishing), or manual krill pushing net but very few people practice this method of fishing. In the high season of krill, there are problems in krill market causing by this abundant, the price of krill is too low in the marketplace. However, the middlemen came to buy the krill from the village and bring it to Thailand, which cost 10 to 15 Bahts per kilogram. Otherwise, the krill sold to people in the village cost 20 – 30 Bahts per kilogram (red krill). But the black ones cost 35 Bahts per kilogram because the residents here favor the black krill better than the red ones. And this seems to be different from Thailand because in Thailand people prefer the red krill better than the black ones. The output of krill differs from year to year. For example, some years are high and some are low. Krill fishing is applied most in the dry season.

Anyway, shrimp fishing takes place in the open sea between June and August, which is best fishing season of the year. However, during this high season period, there are only 3 or 7 days per month that fishermen can fish most shrimps. People fish by using the motorizing pushing net boat with high capacity of engine. This shrimp fishing season is the best season that fishermen can earn most and a part of this income is saved for expense when the low season comes - that's when they earn less. Fishing outputs in Koh Kapic village are divided into two main types: the meshh-fishing shrimp (shrimp fishing in the open sea by stretching the shrimp fishing net) and shrimps made from trawling and motorizing pushing net fishing. The selling price of the two types of shrimp stated above is different. For example, one kilogram of mesh-fishing shrimps is 140 Bahts, whereas the price of the trawling shrimps and the motorizing pushing-net shrimps may differ according to the different classification. That is 140 Bahts per kilogram of the first class and the rest cost only 25 or 10 Bahts per kilogram, which depends on the size of shrimps. Other kinds of fishing seem to be scarce, for example swimming crab fishing. Besides, there are also some methods of fishing using small fishing equipment for catching Tborck fish, catching mud crabs and blue crabs in the mangrove. Base on the data from the PRA showed that mud crabs have little increased compared to last year. The big mud crab costs 80 Bahts per kilogram, but the smaller one cost only 40 Bahts per kilogram. These smaller crabs are bought to fatten more. The fishing output in the area outside the mangrove has decreased. This is because of some factors such as fishermen get richer, so they use the modern fishing gears and employ more workers to fish for them. On the other hand fishermen from outsiders try to encroach into the fishing territory of the community and they use such modern fishing gears, for example the boat using electric power (Light). One more thing it is because of the large fishing boats that do fishing in the shallow water such as the trawling boat. Moreover, there are some more problems

occur in the fishery sector. For example, the conflicts among the fishermen that use different types of fishing gears in the same fishing ground. Again, base on the data from the PRA figured that the number of fishermen have decreased during these last few years. This decrease of fishermen is because of the decrease of fishing output mentioned accordingly. Consequently, some villagers quit their jobs and moved to find new jobs in other villages. Some minor fishermen quit their own careers in fishing and decided to work for the other well-off fishermen instead. The compensation they receive from their work depends on the amount of output that they have fished. The compensation is a percentage pay rate of the total fishing output (the rate is from 20 to 25 percent per worker).

Mangrove and Muddy Fields

According to the data from the PRA revealed that the mangrove has grown up much better after the serious destruction in the 1990s. Recently there is no more a large scale of mangrove cutting occurred, but only a small scale, cutting for family consumption. Even the mangrove has grown up again in recent days, but there are still some free spaces having no mangrove that need more attention on the replanting of mangrove. Through the observation we learned that villagers seem to change to not cut mangrove for construction equipment (using as the pillar of the house), but they prefer to cut the Malaleuca (smach) instead because the mangroves are not so big enough for house construction. On the other hand, it is because of the prohibition and patrolling from guards of the Wildlife Sanctuary in Peam Prosoab. People have limited understanding and awareness on the value of mangrove and the mangrove protection, so they suggested having training and awareness conducting about the mangrove and mangrove replanting.

Natural Resources and other resources

In Koh Kaptic there is no coral area or even sea grass area. Beside the mangrove, there is some little mountainous jungle. In this jungle, the large wildlife doesn't exist. There is only the small one, so people do not take a career in wildlife hunting in such a village. In the mangrove, some species of animals exist such as otter and birds.

Koh Kaptic has a coastal mud of about 7 to 8 kilometers long, which is around 1 kilometer far into the sea space (the continental shelf). This coastal mud field has a partial potential to the fishery. Minor fishermen can do fishing in this area, even collecting the mollusk.

Land use

Except the residential land for households, the village has no paddy field for rice farming, but it has some land for Chamkar practice. Anyway, there are about 10 hectares of left-free paddy field. Unfortunately, the fields belong to the private ownership. However, base on the data from the PRA, people showed that the left paddy field has very good potential for rice farming. In the village, there is no reserved land for development task in the future. On the other hand most part of the area are the mangrove.

Socio-Economy

Economic Status

About 95 percent of the people in Koh Kaptic village are fishermen and for the rest practice other different professions in the village that some are the middlemen, some are the government officials and some others are the vendors in the village, and some more do other jobs. Fishing is done according to the differentiation of effort and the available resources that each family obtains, and the skill they have as well. Fishing in this village is divided into two different types of fishing: offshore fishing, which is done in the open sea (done at 1 to 10 kilometers away from the village), and fishing in the mangrove and

all along the canals inside the mangrove. Most of villagers do fishing in the open sea that they can fish shrimps, swimming crabs, fish, krill etc. Among those fishermen in the open sea, the way they fish is different regarding the fishing gears they use. In general the well off ones they use the trawling boats, some use the long motorizing boats (the engine capacity is 10 to 13c), some possess the small motorizing boats that they can fish in the area around the village (inshore fishing). However, they can afford to buy the different fishing gears for a change regarding to each different season of the year. For example, in the high season of krill they all do krill fishing as possible as the effort and the fishing gear the individual have. Fishing in the mangrove they fish the mud crabs, blue crabs, and mollusk etc. All of these fishermen, who do fishing in the mangrove, are those who are poor and have no effort to buy fishing gear, especially the motorizing fishing boats for fishing in the open sea.

Standard of Living

The very poor HHs

In Phoum Ti Mouy in Koh Kapic commune, there are about 30 percent of people living in poverty. They live in very difficult condition. They live in huts roofed and walled with palm leaves and are in the state of being broken and leak. And most of the huts were built on the others' land close to the sea. They own no possession of paddy field or Chamkar. Thus, they make their living by catching crabs. The women do the jobs as workers washing clothes, collecting snails, mollusks, and serving as fishing workforce. They can earn from 30 to 100 Bahts per day. All of them have no fishing boats, fishing gears, or any other equipment in the household such as radio or television. They can afford two meals a day. Sometimes some families have only the porridge for the meal and usually they have many children – 8 to 10 children in the family. Only a few families can afford to send their children to school – the primary school. However, they can afford to grade 3 of the primary school only and after that they drop of out school. There aren't any rich men both inside and outside the village lending them the money. And usually these people are in debt when they are ill.

The poor

There are about 60 percent of people living in this state and these people live their lives in such condition as follow: they live in palm leaves house, which walled with palm leaves and roofed with zinc. The size of the house is 4 meters wide and 5 meters long. Some live in the poor old building, having no paddy field, or Chamkar. They make their living by pulling the crabs, searching the mollusks in the water by hands, and collecting the snails. Some own rowing boats and some own old motorizing boats. Some other families possess about 20 hands (each hand equal 20 m) of shrimp net or crab net. The daily income of these people is the same to the destitute ones, which is ranged from 30 to 100 Bahts per day. There are 4 to 8 children in each family. Those children go to school in the village at grade 1 and grade 2. They have two meals a day. Most of all, these people are in debt to the middlemen. They owe the middlemen from 3,000 Bahts to 10,000 Bahts per each.

The Medium

There are only about 5 percent of people who live in this condition or standard of living. They live in decent house with clean environment along the path with wooden walls and zinc roof. They have no paddy field but some own Chamkar. They make their living by fishing the shrimps and swimming crabs because they have the motorizing boats. They are the middlemen or vendors that they can earn enough money for the family sustainability. The average they can earn 1,000 Bahts per day (in the high season of

fishing). In their houses, there are some equipment such as radio and color TV and so on. They have enough food supply for all family members. There are 5 or 6 children in the family. Fortunately, all of these children have attended the school. Anyway, they are in debt to the middlemen as well.

The Well Off

There are only 4 percent of people living in this standard of living. They live in decent houses. Some have a two-story house. They have several careers such as: selling things in the house (grocer's), These people can certainly afford to send their children to high level/ grade of education because they can earn better money for supporting their families that the income of these people is comparable with the middle class ones. They have enough food supply to eat and they own some equipment in the house such as color TV, and karaoke. They have large motorizing boats for fishing and other families have motorboats for personal use in the family and so on.

Daily Natural Resources Consumption

Firewood consumption:

All of villagers use the dead Bassac tree for firewood. However, for those rich people in the village they can afford to use the charcoal to add more in their consumption.

Nutritional resources consumption:

The destitute and the poor mostly eat Kamong fish, snails, or small crabs, which are poor in quality and unnourished with other vegetables such as the bud of mangrove trees, the root of orange/ citrus trees ...etc. for food. Whereas, the middle class and the well-off eat good quality and nourished fish, crabs, and shrimps for food, best of all they can afford to buy vegetables and meat such as chicken, beef, pork, and so on.

Using as animal feed/ fader:

The poor and the middle class use fish and minor snails from their fishing, which are poor in quality and uneatable as the fader for their animals such as chickens, ducks and pigs, and so on.

Using as medicine:

There are seahorses, the shell of oyster, coral, black wood, and *Thloeum Thmor* (black basal: a kind of rock). Most of people using these are the poor.

Using as Natural fertilizer:

Most people use the fish fertilizer (fertilizer made from fish) to fertilize their domestic plants and vegetables around the house.

Health

Diseases:

In this village the diseases that have often threatened on the old people are all of these followings such as diarrhea, fever, cough, typhoid, stomach illness, high blood pressure, and malaria, while some other diseases have always threatened on young children such as Korm (skin disease characterized by blister and intense itching on the head), itchy, measles, chickenpox, intestinal worms, dengue, typhoid, asthma, and diarrhea. People noticed that malaria usually arise in the rainy season (when the first rainfall start), while cholera arises in March and April. Moreover, there have been 6 people already died of AIDS since 2000.

Medical Treatment:

People in Koh Kaptic like to treat their illnesses by using the medicine bought from some shops in the village. Sometimes when they have a serious sick, they have to go to have medical treatment in the provincial hospital of Koh Kong in Dorng Tung. Anyway for the poor ones, when a member has a serious sick, they have to intend to find way by borrowing the money from the other to send the sick person to the hospital for medical treatment. However, some other people prefer to have medical treatment in Thailand because they think that there - in Thailand they would have better health service, safer, and faster to arrive. In the village there is one health center but there is no nurse to work in it. Generally when giving birth, nearly all of women usually give birth with the midwives in the village. This seems a habit of people in this village as well and very few families that give birth in the provincial hospital. There have ever been accidents while giving birth that kill the mother, or the baby, or both the mother and the baby. Villagers proved that there have been 4 women already died after giving birth. And another woman died while giving birth because she had malaria.

Sale of Medicine:

There are four pharmacies in the village owned by unknowledgeable pharmacist, and there is one pharmacy that owned by a skillful pharmacist in medicine. On the other hand there's also a traditional herbal pharmacist who provide combination of different herbal medicine together to people who need it for curing.

Awareness conducting:

People in this village used to receive the health training and awareness conducting from the district health department cooperates with the provincial hospital about pregnancy diagnosing, birth spacing (contraception), providing the preventive vaccination of six kinds of diseases to children. Also there have been health awareness-conducting programs conducted by CARE based in Koh Kong provincial town.

Sanitation

Water resources consumption:

Villagers consume the rainwater, the well water, the pond water, and water bought from outsiders. Most of villagers drink unboiled water. During the dry season people meet the lack of water for consumption because there is no water in the 5 wells that the village has. During dry season people buy water from Koh Srolao village for use, which cost them 10 Bahts per 200 liters. So the use of water supply is very economic.

The toilets:

There are only 7 toilets in the well-off families. These toilets were built outside the house, except one family that builds the toilet in the house. For the rest of villagers usually shit out to the water.

Meal Preparation:

Before having meal, they have the habit of washing their hands. People always keep their food properly after the food has already cooked because there are lots of mosquitoes and flies in the village. Some people have the ability to make the water foam containing itchy substance into edible foodstuff (they take the water foam to soak in water with the bark of the mangrove for one day so that the foam gets tough. Then we take to clean with water. After that it becomes foodstuff).

Waste management:

There is one dumping site, which is a little distance away from the village. There have been training and awareness conducting about sanitation in the village. CARE has

concerned most with this. CARE used to provide rubbish bins for the village but villagers themselves seem not to take good care of the sanitation in their own houses as well as the in the public site for example along the pathway, especially they don't manage the garbage in a proper way/ place.

Livestock

There is no livestock farming such as cows, buffaloes, chickens, ducks, and pigs farming in Koh Kapi village because there are lots of mosquitoes exist in this area that make these animals difficult to live in. According to the dialog with people in this village they let us know that in the previous time there were chickens and ducks died of mosquitoes bite them, and even we try to keep them by mosquito netting or burning the fire around the cage.

Nourishment

Rice supply:

As stated above accordingly, there is no paddy field in this village. People depend entirely on the imported rice, vegetables, and many other imported foods. During the wet season period is the most difficult time of year that they face with the problem because during this time they make less output from their fishing. In the previous time villagers used to receive the rice donation from the PMMR/IDRC as a favor/ or compensation to what they had participated in the mangrove replanting, in which each family receive 3 – 5 kilograms of rice.

Vegetables:

People garden some domestic supplementary vegetables in each family such as citronella, herbs, chili, egg plants, and ridge/ sponge gourds. These vegetables are planted in old vase, ewers, bowls, and other old containers for family consumption. Unfortunately, this gardening arises in only some middle class and well-off families.

Education

In-System Education:

Most village children at the age of over 15 years old are illiterate. There is one school building, which is too poor now. When it rains, children do not come to school because the roof of the school building is broken and leak. On the other hand the teachers are not punctual and seriously responsible for his work. There are three teachers but three of them work/ teach in shift. One teacher teach the children for one day, while two others go fishing.

Non-system Education:

Most villagers are illiterate and there is no school or classes of illiteracy in the village.

Gender

Decision Making:

Women have the right to make decision related to some domestic work in the family without asking or discussing with the spouse, for example: do vending, cooking, and participating in funerals or anniversaries in the village. Whereas men have rights to make decisions on some work in the family such as managing the career, fishing, participating the meeting in the village or out of the village, participating in funerals or anniversaries in the village, and go patrolling the community fishing boundary as required.

Participation:

Women have the right in participation to be the chief of the village fishing community or a member of the village committee. Women participated in this work is much easier to have and keep good communication with other women in the village. Also they can better keep in touch and be friendlier to each other compared to what men can do. Anyway, men have more chance given to participate in the position of the village chief or chief of the village fishing community committee. Furthermore, men are easier to travel and attend in any program and local meeting or long-distance meeting than women. More of these, men are more knowledgeable and considerable about fluctuation in fishing output, and about the natural resources.

Violence:

In the village, there are 3 cases of family violence that the husband fights the spouse and two cases that the wife fights her husband. This violence usually arises when they are drunk and mostly in the poor family.

Problems occurred in the village

Problems found:

- Middlemen set price lower than the market price
- There is no materials for processing/ keeping the fishing output left from selling
- People are in debt of borrowing money to buy the fishing gears
- Middlemen are the price leader
- Lack of fresh water for consumption
- Lack of sanitation
- No health staff work permanently in the village
- No awareness and understanding about the sanitation/ cleaning
- Education is limited
- Domestic violence occurs in the family
- Lack of foodstuffs in the wet season
- There aren't sufficient sources for water supply
- There are women died while giving birth
- There are people died of AIDS and malaria
- There are disputes and fighting in the family

Requests:

- Limit a clear fishing boundary
- Provide conducting about sanitation awareness through the school
- Supply of the water tanks and the wells
- Provide classes of illiteracy and select the teachers from inside the village
- Provide the technique to traditional midwives in the village
- Technical and vocational skill training courses in the village
- Awareness conducting about gender and the contraception program (birth spacing program)