

SUSTAINABLE LIVELIHOODS IN CONTEXT: LEARNING WITH COASTAL FISHERS

KOH SRALAO, KOH KONG RAINY SEASON, 2002

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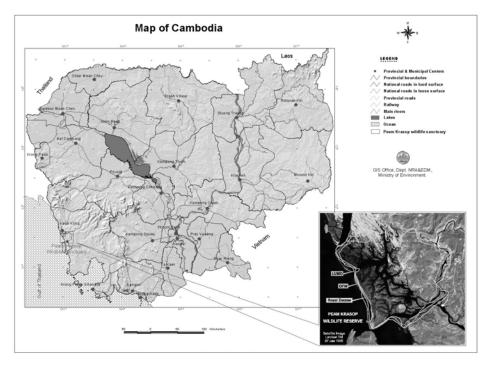
SUSTAINABLE LIVELIHOODS IN CONTEXT: LEARNING WITH COASTAL FISHERS

SHARING FIELD EXPERIENCES

REVIEWED AND FINALIZED: MARCH 2003

BACKGROUND TO THE FIELD SITE

This workshop took place in Koh Sralao village, Peam Krasaop Wildlife Sanctuary, Koh Kong province during the rainy season, 2002. This site was selected because of the community based natural resource management work that community members have been involved with. With the help of an international donor project¹, villagers have been actively engaged in community forestry and fishing activities since 1998. This site was selected for further research, in-conjunction with the NGO working in the area, because of the (a) interest expressed from villagers; (b) community natural resource management



activities in the area; (c) reliance on fish and flooded forest products; and (d) comparabilit y with the field site selected in Siem Reap province.

¹ PMMR began research in December 1997, working with local communities to better understand livelihood and management issues in one protected area. This team, funded by Canada's IDRC, is composed of government staff, at the national and provincial levels, from various technical departments. The lead institution is the Ministry of Environment; the provincial team is interdepartmental coming from the Department of Environment, the Department of Fisheries, the Department of Rural Development and the Department of Women's Affairs. Although this research project is coordinated by project members in the Ministry of Environment, as PMMR's understanding of CBNRM has grown more partners have become engaged in this process. For example, in Phase Two (July 2000 – June 2003) new government partners included the national Department of Fisheries. See Marschke, M. and Nong, K. 2002. The Cambodian Coastal Experience. Presented at: *Communities in Southeast Asia: Challenges and Responses*. University of Victoria, Canada. October 26th – 27th, 2001.

OVERALL GOAL:

The overall goal of this workshop was to facilitate a community-generated livelihood analysis, using participatory research tools, to (a) understand livelihood conditions and (b) factors that affect livelihoods.

SPECIFIC OBJECTIVES:

- a) To understand what livelihood means to community members;
- b) To understand the different livelihood strategies that households engage in;
- c) To understand what sustainable means to community members;
- d) To examine factors that help and hinder livelihoods i.e. seasonality, relationships, markets; and
- e) To think about coping and adapting strategies.

TABLE ONE: WORKSHOP DESIGN

	Day One		Day Two	Day Three
Morning	Introductions and	Looking in-depth at		In-depth discussion on
	Expectations; Workshop	live	elihoods:	personal livelihood
	Objectives;		Seasonality calendars:	stories;
			illustrating how	Sustainability
	What is Livelihood?		seasonality affects	discussion;
	what is it that		livelihoods in multiple	Wrap-up.
	makes up your		ways (complexity).	
	life?		Commodity flows and	
			their link to livelihoods.	
Afternoon	Factors affecting		Institutions affecting	Individual discussions;
	livelihoods;		livelihoods.	VMC meeting
	Influences: positive and		Getting specific about	
	negative.		livelihood activities.	

THIS 'REPORTING' STYLE

Twenty villagers were selected to participate in this three-day workshop. Working through the Village Management Committee, a combination of men and women practicing a diversity of livelihoods were selected to participate in this workshop. Absent from this discussion were any 'rich' people (one middleperson participated who is considered to be medium-rich within this village context). This was the first time that this workshop had been facilitated: it took time and active reflection sessions daily to refine sessions and to work out the 'kinks'. All discussions were facilitated in Khmer, with simultaneous translation for myself into English. One weakness of this approach is that some of the nuances and subtle points were missed or potentially misunderstood by going between both languages and myself not being fluent in Khmer; however, time was built into each session for clarifications and further questions.

This report synthesizes much of the information that was shared during the *Sustainable Livelihoods (SL) in Context: Learning with Peam Krasaop Fishers* three-day workshop. The report is purposely written to reflect, as much as possible, local opinions and ideas surrounding SL issues, providing only preliminary analysis into such issues. Both an English and a Khmer version of this report have been written.

DAY ONE: UNDERSTANDING LOCAL LIVELIHOODS

WHAT IS LIVELIHOOD?

Participants were asked to draws six pictures that relate to their daily life. The word livelihood was not used: participants were encouraged to draw pictures that meant

something to them within their context. What emerged, interestingly, was a representation of coastal livelihoods. Figure One captures some of the pictures drawn; see text boxes for examples of how villagers discussed why they had chosen to draw specific pictures. Pictures of mangrove trees, houses, fishing gear and boats figured predominately in the drawings; however, diagrams were not all the same. For instance, pictures of a kettle (for water when fishing), vegetables (home gardening to feed family) and illegal fishing gear (factors affecting ones living) were also drawn.

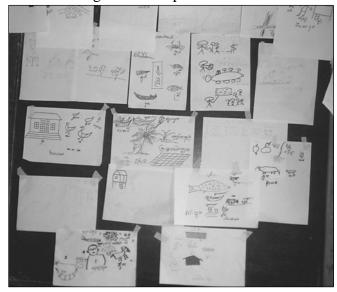


Figure One: Pictoral representation of rural livelihoods



PICTURES: CRAB FISHER, PEOPLE, HOUSE, ANIMAL, MANGROVE TREES, PAPAYA TREES

"I'm a fisher, so I drew a crab. The people represent the future and the house is for my family. I plant mangrove and papaya trees and raise animals so that I can sell them and buy rice. I didn't include fishing gear, but I could have since that helps with my livelihood. And, I think home gardening can also help with my daily living" (male fisher, SL Workshop, 2002).

Once participants were finished presenting their pictures and the linkages of their pictures, the following question was asked: what else is part of your daily living, besides what you drew? Participants reflected on 'what was found' in the pictures, summarizing

these ideas and adding some additional ideas of what was considered part of their daily lives. This list included:

people; house; mangroves; fishing gear (nets and traps; hook and long line; push nets); livestock (pigs, chicken and ducks); sea grass beds; natural resource protection; home gardening (lemon grass, onion, morning glory, herbs, water spinach); mullosc collection; crab net construction; shop seller; school and pagoda; palm tree; housewife/keeper; mountains; hospital; toilet; water source; clean village; sanitation; teachers and knowledge.

Villagers were thinking or brainstorming about things that were part of their daily lives. Facilitators didn't

PICTURES: CHARCOAL KILN, FOOD, PINEAPPLE, CHICKEN, PIG, MANGROVE

"I used to own a charcoal kiln but now I sell cakes and food to the villagers. I planted pineapples and other fruits but they only give me a bit of fruit. I raise pigs but the feed is expensive and I also raise chickens. I drew a mangrove because I've participated in mangrove replanting activities to help protect our village from storms" (female seller, SL Workshop, 2002).

probe too much: the idea was to ask villagers what was part of their daily lives, and to use this as a starting point for a deeper analysis. For example, villagers did not initially mention the role of the middleperson in their lives, but this became more apparent during the second day of the workshop. This initial list was a good 'grounding' or starting point from which the workshop could be built upon and reflected upon.

WHAT IS THE KHMER WORD FOR ALL OF THESE ACTIVITIES?

Participants were then asked to reflect upon the things that were drawn and the discussion that had ensued. Since everything is linked together, what word best describes this? Participants in Koh Sralao held a lively debate around this idea, really thinking of different ideas and definitions. It was difficult to capture all of the discussion since people were talking among each other before offering a definition. After a few minutes, several ideas were listed on the white board.

- 1. part of living;
- 2. career for daily living;
- 3. daily activity for life;
- 4. activity of living;
- 5. situation and condition of life activities.

PICTURES: FISH, BOAT, PEOPLE, COCONUT TREE, SEA GRASS, LOTUS FLOWER

"The fish and boat is how I earn my daily living. The people represent those that stop the illegal activities. We have many coconut trees, which give us fruit and the sea grass is where I go fishing. The lotus flower comes from the mud and represents nature that was decreasing but is beginning to increase again" (male fisher, SL Workshop, 2002).

Participants then discussed each definition, and agreed to vote between number two and three. Definition number two, *career for daily living*, was selected to best represent the term of things that encompass ones life (or what would be referred to in English as livelihood).

DIFFERENT LIVELIHOOD ACTIVITIES FOUND IN KOH SRALAO

Participants were asked, in the plenary, to list out all the different livelihood activities that households could be engaged in within their village. The livelihood activities, broken down in some cases more specifically, were listed out. From here, a discussion of

who in the village practiced these activities (i.e. was this an activity accessible to all, or only to some families) ensued. Finally, the activities were ranked in terms of activities most commonly found within the village and activities least commonly found within the village (ranked between one to five). Fishing is, by far, the most common livelihood activity for all households living in Koh Sralao.

Table Two summarizes the discussion that took place about livelihood activities, who undertook which activity in the village and how common different activities were perceived to be.

TABLE TWO: LIVELIHOOD ACTIVITIES WITHIN KOH SRALAO

LIVELIHOOD ACTIVITY	SPECIFIC DETAILS	Poor,	RANKING**
		MEDIUM OR	
		RICH?*	
Fishing			1
_	Crab trap	M/R	1
	Crab nets	M/R	3
	Fish nets	M	4
	Fish net by hand	P	2
	Surround net	M	5
	Hook and long line	M	5
	Mollusk collection	M	2
	Deep sea traps	M	5
	Traps for freshwater fish	M	5
	Clam collection	P	5
	Meat from oysters	P	5
	Krill collection	P	5
	Spear fishing	P/M	5
	Light fishing for crab	P	5
Raise animals		P/M	4
Crab meat collection		P/M	1
Home gardening		P/M/R	1
Farming		M	5
Selling		P	5
Midwife		P/M	5
Middleperson		P	5
Carpenter		P/M	5
Government officer		P/M/R	5
Sell labour		<u>P</u>	5
Fish aquaculture		M/R	5
Karaoke/coffee shop		R	5

^{*} After listing all livelihood activities, villagers were asked to consider who carries out each of these activities in the village, poor households, medium households or rich households? Villagers classified themselves as:

- Poor families have small boats; they owe money to a middleperson; they have access to little (including middleperson) and few opportunities;
- Medium families having a motor boat and some fishing gear; have access to a middleperson if needed; have skills;
- Rich villagers collect fish products and have access to large fishing gear and boats.

** This ranking activity took place in the plenary once all the livelihood activities were listed and were agreed upon. A number between one and five was assigned for each livelihood activity, number one representing a livelihood that was very popular until number five representing an activity that was not very common.

Villagers agreed, in the plenary, that most families in Koh Sralao were medium families.

To show the same results with an emphasis on whom in the village i.e. rich, medium and poor households can access which livelihood activities, consider the following:

TABLE THREE: LIVELIHOOD ACTIVITIES BROKEN DOWN BY CLASS

RICH PEOPLE'S	MEDIUM PEOPLE'S	Poor people's
ACTIVITIES	ACTIVITIES	ACTIVITIES
Middleperson	Fish nets	Light fishing for crab
Seller	Surround net	Spear fishing
	Hook and long line	Fish net by hand
	Mollusk collection	Mollusk collection
		Meat from oysters
	Deep sea traps	Selling Cake
	Traps for freshwater fish	Clam collection
		Krill collection
		Sell labour
	Carpenter	Carpenter
	Midwife	Midwife
karaoke/coffee shop	Crab meat collection	Crab meat collection
Raise animals	Raise animals	Raise animals
Crab traps	Crab traps	
Crab nets	Crab nets	
Farming	Farming	
Fish aquaculture	Fish aquaculture	
Home gardening	Home gardening	Home gardening
Government officer	Government officer	Government officer

WHAT AFFECTS YOUR LIVELIHOOD?

Participants were broken into three groups: a woman focused group, a fishers group and an Elders / Village Leader group. Each group was asked to discuss and prepare for the plenary a discussion surrounding what affects ones livelihood. Groups brainstormed on positive and negative factors affecting their livelihood, and presented this to the plenary.

After this exercise, individuals wrote down positive and negative livelihood affects onto pieces of paper and handed them into the facilitators to compile (see Table 3 below).

Group One: the female perspective

This group felt that crabs and fish had decreased since "crabs no longer have a home". Women were referring to the cutting of mangroves. Another problem that fishers face is

getting their nets and crab traps stolen. For example, one woman spoke of her nets getting stolen just when she had saved enough money to buy an engine. In terms of marketing of fish products, there is often little choice of what the villagers can follow. For example, only one middleperson comes to the village and they determine the prices of fish being sold to the market. Fishers felt that they had no choice but to sell to this middleperson, and that this didn't give them many choices. For grouper, the one middleperson coming to Koh Sralao sets the price, and it is low. For cockle collection (done during the rainy season) there is only sometimes a buyer. So, people cannot always sell their cockles and people often lose their way to collect mollusks when it rains. The rainy season is particularly challenging for fishers since there is not always a middleperson that comes to buy products.

"The mangrove snail middleperson only comes to Koh Sralao every three to four days. They are bought for 20 B per kg and sold elsewhere for 25 B per kg. Sometimes people collect mangrove snails and other mollusk species and other times not so much is collected. Since the mangroves have been cut down, less snails are found. This iob can be dangerous, for example, when the mangroves break people can fall down. One pregnant woman lost her baby from falling down; two people have been killed from collecting in the This is a rainy season mangroves. activity, and many widows and children collect snails"[although anyone in the village can participate]. Female participant, 2002, Koh Sralao.

On a more positive note, women felt that they had good relationships with each other: they could help each other during hard times and borrowed money from each other. Having friends to borrow money from was seen as far better than borrowing from the middleperson as far less 'strings' were attached to this type of money lending.

Group Two: Fishers

Fishers felt that natural resources were decreasing i.e. fish and mangrove trees. This was because of mangrove deforestation (cutting for firewood and charcoal production) and illegal fishing such as big nets, cyanide fishing and trawling activities. Another problem for fishers is that fishing gear is getting stolen or destroyed. For example, sometimes push nets destroy peoples crab traps and other times thieves are stealing peoples crab traps. Fishers felt that migrant fishers were able to fish in their areas when the fishing was good and would leave when the fishing was poor. They didn't understand this, and felt that individuals that were doing illegal activities must be supported or backed by someone.

On a positive note, all villagers were participating in mangrove replanting activities to protect their community and some fishers were involved in patrolling activities. Both these activities can help to increase the fish. And, the Village Management Committee

was preparing to paint signs to let people know about the fisheries posts. It was felt that there was good cooperation between villagers and local authorities (i.e. police, government officials). This group was quite proud of the activities that they were partaking in to help with decreasing resources.

Group Three: Elders and Village Officials

This group commented that the authorities broke down the charcoal kilns, no longer allowing anyone to make charcoal from the mangroves, and that this action impacts the fishers i.e. more fishers. And, people throw a lot of garbage and waste into the sea which affects the health of the fish, especially in fish culture activities near the village. Illegal fishing activities are problematic, especially dynamite fishing and cyanide fishing. Garbage can also leave a bad smell in the village. Sometimes there is a problem with storms, meaning that people cannot fish. And, there is a heavy reliance on the middleperson for the marketing of all fish products that greatly affects peoples' daily livelihood, especially the amount of money they can earn. Many fishers are dependent on a middleperson.

On a more positive note, this group felt that there was good security in Koh Sralao and good sanitation i.e. toilets.

POSITIVE AND NEGATIVE INFLUENCES ON LOCAL LIVELIHOODS: INDIVIDUAL THOUGHTS Villagers were asked to list, on individual sheets of paper, what they believed could enhance their livelihood (positive influences) and what they believed could hinder their livelihood success (negative influences).

TABLE FOUR: INDIVIDUAL THOUGHTS ON POSITIVE AND NEGATIVE INFLUENCES ON LIVELIHOODS

POSITIVE AFFECTS ON LIVELIHOOD	NEGATIVE AFFECTS ON LIVELIHOOD
Home gardening	Illness
Husband and wife understand each other	Families are living as individuals, not
	together
Have boat and enough fishing gear	Thieves steal traps
Good neighbourhood to help each other	Cannot do fishing in the rainy season because
	of strong winds, storms and heavy rains
Mangrove replanting	Don't have enough money to cure illness
	when they are ill
Children listening to their parents orders and	Cannot afford to send children to school
their parents doing housework	
Children can go to school	Have lots of children
Working hard in order to find money for the	Low income and low fish prices
children's education	
Have good friends	Especially in the rainy season, food is
	expensive and income is low
PMMR project helps villagers and provides	Pressure from the middleperson i.e. lower
knowledge in protecting natural resources	fish prices and cannot sell to anyone else
Have natural resources	Fisher owes money to several middlepersons
Mangrove forest starts to increase and there are	Pressure form technical departments to the

more fish	poor villagers
Have work to do for supporting their life i.e.	Colleting mangrove snail can only feed the
midwife or home gardening	family from day to day sometimes
Community have regulations and can fine those	Lack of technical skills to raise animals and
who do illegal activities	medicine
Besides fishing, fishers help the community	Cannot fish far from the village because do
	not have a boat or gear
	Difficult to sell things in the village, many
	poor people
	Husband gambles

WHAT DOES SOMEONE WHO IS SUCESSFUL HAVE ACCESS TO? WHAT DOES SOMEONE WHO IS NOT HAVE SUCCESSFUL HAVE ACCESS TO?

TABLE FIVE: INDICATORS OF SUCCESS

Not Successful	Successful
Illness	Knowledge
Doesn't have wide ideas	Skills i.e. middleperson, seller
Can only think of the short term, not long	Has investments
term	
Has only one job	Has support from relative and other people
Lack of fishing gear	Money is well managed
Does gambling and drinking which doesn't	Husband and wife understand each other
help their situation	
Has many children	Patient and talented
Lack of capital to invest in other activities	Has several jobs

WELL-BEING AND WEALTH

A plenary discussion took place around issues of wealth and livelihood. The facilitators were interested in understanding participants' view of well-being. The idea of the discussion was to get beyond economic indicators of wealth and livelihood activities challenging participants to think about what else affects someone's well-being.

What factors help to make someone rich or poor? What are your ideas?

TABLE SIX: FACTORS AFFECTING WELL-BEING

Poor	Rich
Family has bad management	Knowledge and wisdom
Lack of ideas	Have capital (if not, might have a good idea
	but wouldn't be able to use)
Earn little and need to spend all (because	Have a supporter (middle person or
fewer ways to earn money)	protector)
Any family with illness quickly becomes	Know how to save money
poor	
Poor fortune	Are willing to struggle and make an effort
Cannot decorate their houses	Know how to communicate

_				
		Have servar	its to help keep house and wash clothes	
Comments and discussion surrounding this is Skills (selling or buying) and experience i			rich. But, my husband is	
	have skills to catch certain fish) can help their livelihood; Rich families tend to have knowledge and	I I		
	Having capital and relatives to support a	household	participant, 2002).	
	enables them to try new activities. Howe think more than others;	ever, not all ri	ch families are creative. Some	
	Some families have more ability than oth example, if the husband can fish well and the family will do better than a household husband is lazy or a poor fisher. Can do home gardening to help;	"I think that some ric people are not real talented, they are just lucky (male participant, S Workshop, 2002).		
<u> </u>	People who have lived in the village a lot be richer than newcomers because they k fishing grounds and have gained skills ov Some people don't struggle a lot with fish earn a lot of money. This is because it is borrow money. So, you can be a good fish better in your livelihood;	not so difficult but still do not y new things if you cannot		
Vi con mo and thi	lationship between struggle and effort llagers suggested that if a family was not wald not improve the well-being of their famost participants engaged. This, to me, was disclosed that some struggle was important conversation in light of the Buddhist influence comments:	nily. This dis an indicator t nt. More anal	cussion was quite lively, with hat people related to struggling, lysis needs to be considered of	
	Knowledge, skills and wisdom can only leach family has the gain these skills if they are willing too;	_	Being patient is key to livelihood success. If people are lazy, they will not have	
	Need to be able to experiment to gain known	_	any benefit. One must persist in ones activities, to	
	This often takes some money and some le Both rich and poor families struggle and		stay and endure them. That is, one must fight against	
	make an effort; Some people try to earn money and try to supporter (i.e. middle person); other family	_	difficulty and be resilient. Children can also be great teachers and help parents	

supporter and then they don't struggle. It can also

depend on your supporter as to how much you

livelihood

with

struggles.

their

struggle. If you manage to find a good supporter, than this really helps you;
You need skills to communicate with other people and you have to be willing to take
risks;
Some families may have the same ideas, but only one family is willing to take a risk.
This family may be able to improve their daily condition, and they may not.

DAY TWO: GETTING AT FACTORS THAT INFLUENCE LIVELIHOODS - SEASONALITY, MARKETING, INSTITUTIONS

ANALYSIS OF THE SEASONAL CALENDAR

Since the coastal areas face heavy rains and long, dry spells, seasonality issues are particularly relevant to fishing villagers. This exercise began by brainstorming the multiple factors that affect livelihoods throughout the year. For example,

Weather;
Income;
Expenditure;
Fishing species;
Illegal activities;
Mangrove replanting activities;
Migration; and
Illness

are all factors that affect people livelihoods. For example, illegal fishing gear such as cyanide fishing and blast fishing are a problem near Koh Sralao during some season. Working together to form a seasonal calendar, villagers were able to explore seasonality issues in small groups together before agreeing on one seasonal calendar in the plenary. Figure 1 illustrates how villagers viewed seasonality surrounding these factors.

FIGURE 1: SEASONAL CALENDAR FROM KOH SRALAO

	JAN	FEB	Mar	APR	May	Jun	JUL	AUG	SEP	OCT	Nov	DEC
Weather	X	XX	XX	XXX	X♣	*	* * *	## ## ##	** **	 ★X	X	XX
Earning	Н	Н	Н	Н	Н	L	L	L	L	L	M	M
Spending	L	L	L	L	L	M	M	M	M	M	Н	Н
Grouper	alport alport	alport alport	alpore alpore alpore	व्यक्तिर व्यक्तिर व्यक्तिर	da ≪						*	a ≱ e-c
Grey Mullet					d pr≺	alport alport	alport alport	alper:	a te ≪			
Serrated Mud Crab	₩ ₩				(4)		(4)	(4)	(4)	(1)	₩ ₩	
Blue Swimming Crab												
Dynamite												
Cyanide				•	• •	• •						
Mangrove replanting							**					
Important dates	7 of Jan			Khmer New Year			Chorl Vorsar			Pchum Bent	Water Festival	
Illness	88	88	888	888	88	8	8	8	8	8	8	8
Migration	† † †	† †	† † †	† † †	† †		<u></u>	<u></u>	<u></u>		† †	† †

Analysis of the Seasonal Calendar

According to the seasonal calendar, the dry season starts at the end of October and continues until the beginning of May. From October to January the weather is warm whereas from February to April the weather is hot. The rainy season starts from the end of May and lasts until the beginning of October. The rain is heavy from July to September and then is lighter for May, June and October.

Income for villagers is highest during the dry season, especially January to May because the weather is good and it is easy to find fish. In the dry season villagers can catch many fish, selling some and having lots of good food. During these months (January until May) less money is spent on food. From June until August, more money is spent since there are less fish than during the dry season. During the rainy season it is quite difficult to fish because of storms and rains and fewer fish. A lot of money is spent at the beginning of the dry season preparing for the fishing season i.e. repairing nets and boats, buying fishing gear.

In January the Grouper (Greasy Grouper, *Epinephelus Tautina*, and Yellow Grouper, *Epinephelus Owoara*) catch is medium: February until April see the highest amount of grouper. May, November and December are low for grouper species. The Bluesport Grey Mullet (*Valamugil Seheli*) and Diamond-scaled Grey Mullet (*Liza Vaigiensis*) is medium in June and July, and low in May, November and December. The Serrated Mud Crab (*Scylla Serrta*) can be caught all year, especially from November until May. From June until October there are few mud crabs. The Blue Swimming Crab (*Portunus Pelagicus*) cannot be found the whole year: from January until early May these creatures can be found.

In Koh Sralao illegal fishing occurs especially in April until June.

Key festivals are observed in Koh Sralao, such as 7th January, Khmer New Year and the Water Festival.

Illness occurs all year; however, more illness occurs in the dry season than the wet season. For example, in March and April there is a lot of illness.

Outsiders migrate into Koh Sralao for the dry season, from November until April since this is when the fishing is quite good. The catch many fish products during these months. Then, people will leave for the rainy season returning to their home provinces to practice farming.

INSTITUTIONS AND LIVELIHOODS: VENN DIAGRAM

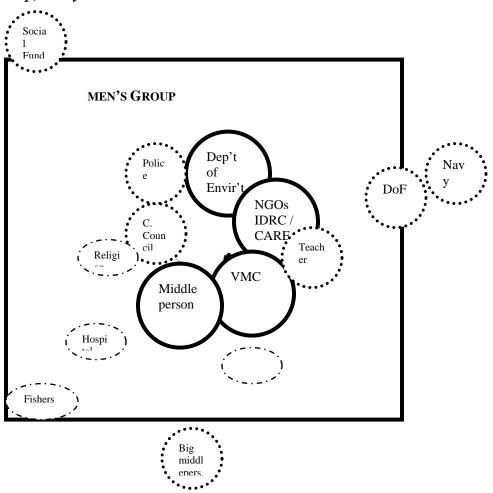
Listing exercise: Which institutions affect your livelihood?

Illustrate this influence and the relationships between these institutions (three sizes of circles, with the biggest circle meaning a large influence and smaller circles meaning a small influence; the villagers are at the center of the page, the square border represents

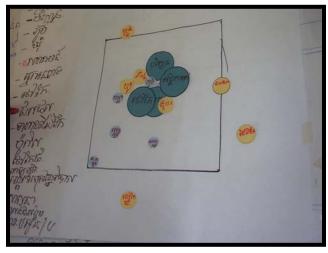
the village boundary i.e. some institutions seen as outside the village while others are seen inside the village, even if they are not living there).

FIGURE TWO: VENN DIAGRAM, INSTITUTIONS (FORMAL AND INFORMAL) THAT AFFECT LOCAL LIVELIHOODS.

Men's Group, Rainy Season 2002



According to the discussion surrounding the men's group, the following institutions were seen to have a large affect on local livelihoods: Department of Environment (DoE), NGOs, VMC and village middlepersons. The DoE has a big affect on villagers since they banned charcoal production,



prevent mangrove cutting, illegal fishing activities in the PKWS and help to set up checkpoints and mangrove replanting activities with villagers. NGOs (i.e. PMMR, CARE) also have a big affect on villagers since they help to develop the village and to help improve their livelihood. Previously NGOs have provided household equipment such as hoes, buckets, seeds and mosquito nets; currently, NGOs support home gardening, animal raising, protecting their natural resources and helping the villagers set up their community. The middlepersons in Koh Sralao who collect fish products from households also have a large affect on villagers. Villagers have to sell their products to specific middlepersons since they are generally in debt to a middleperson. The VMC has a large affect on the village, since it has the role in developing the community and managing natural resources. These institutions (DoE, NGOs, VMC and middleperson) were all placed close to villagers indicating a close relationship with villagers.

This group felt that the big middleperson, the police, the commune council, the military navy, department of fisheries (DoF) and the social fund all had a medium affect on local livelihoods, some being nearer to the village and some being further from the village. For example, the big middleperson buys fish products from the middleperson in Koh Sralao and affects the price of the fish, although not having a close relationship with villagers themselves. The police help to keep security, help with patrolling activities and solving local quarrels. Teachers teach children in the village, although there is only a primary school. The DoF is involved with community fisheries i.e. they support this, although they are not working so closely with the villagers. The social fund is government money that helps to build infrastructure, for example, the new school.

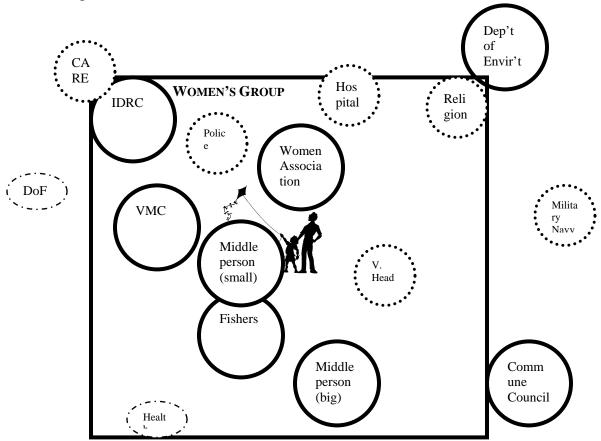
The men's group felt that the village headman (in discussion, not reflected in diagram), religion, hospital and political parties all affect local livelihoods a little. For example, since the village headman is close to villagers he cannot make big changes but can solve some problems. Religion teaches the village how to live in unity and to develop the community: many villagers worship Buddhism. Doctors sometimes come into Koh Sralao and heal people or provide medicine (but live far away), there are two local midwifes that help to deliver babies. Again, this is seen to have a small affect on local lives. There are three political parties in the community, which sometimes don't help and cause conflicts. The fishers have a small affect on each other, sometimes positive and sometimes negative, since they are also thieves, stealing nets and fish products from each other.

FIGURE THREE: VENN DIAGRAM, INSTITUTIONS (FORMAL AND INFORMAL) THAT AFFECT LOCAL LIVELIHOODS.

Women's Group, Rainy Season 2002

The middlepersons in Koh Sralao strongly affect villagers. Not only do they influence the villagers with their (a) budget and (b) access to fishing gear which are provided to the poor but the middleperson also sets the price and buys from those people that he lends money to (at a lower price than the going rate). Thus, the middleperson makes people poorer but also provides them with security. The middleperson that comes from outside Koh Sralao affects their living situation as they buy the products from the middleperson in Koh Sralao to sell to Thailand. Fishers can also sell fish worth more money to a

middleperson outside of the village, but this depends on this middleperson and how often they come. The small middleperson is closer to the villagers than the women's association since they go to the small middleperson to borrow money and to sell some of their fish products.



The women's group felt that the VMC had a strong affect on their livelihood as they help with all difficulties in the village and raise women's rights. For example, the VMC promotes the protection, management, usage of natural resources, and settles some difficulties and helps to solve village problems.

The headman is the person that helps villagers to solve problems in the village; however, he is seen to have a medium affect on villagers daily lives.

This group views IDRC as part of the village i.e. setting up the VMC and CARE outside of the village. IDRC helps to village development, creating a commission fighting against charcoal kilns and the destruction of mangroves. And, villagers changed their activities as they understood more how to protect the environment. CARE has medium power over people's livelihoods since they provide hoes and grains.

The health center is outside of Koh Sralao and has some affect on the villagers. Medicine and cures can be provided and the two midwives in the village help with births in the village.

Religion plays a major role by teaching people via the Dharma way, the pagoda commission makes villagers united and builds many things. The Christians built a school in the community.

The Department of Fisheries has a small influence on the community although they sometimes help to fight against illegal fishing activities. And the Military Navy are supposed to protect the sea but they stay far from the village. They can also cause problems as they maybe back illegal activities. The Department of Environment, although outside of the community, have a big influence on the community and help with activities such as mangrove replanting and coordinate with other authorities. The Commune Council has a very large influence: although they are outside of the community they are close to the community and contribute to its development. They are also the group that coordinates everything that happens in the village.

COMMODITY FLOW DIAGRAMS

A commodity flow diagram was undertaken for several different types of fish caught in the dry season and the wet season to better understand marketing systems. Marketing systems vary depending upon the species. What follows attempts to capture how villagers view the flow of fish from their homes to the market.

FIGURE FOUR: COMMODITY FLOW DIAGRAM, GROUPER

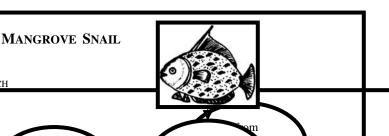
(GREASY GROUPER, EPINEPHELUS TAUTINA AND YELLOW GROUPER, EPINEPHELUS OWOARA)

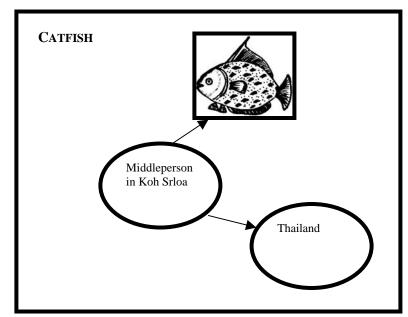
Grouper (Greasy Grouper, *Epinephelus tautina* and Yellow Grouper, *Epinephelus owoara*) have a high price for both small and large grouper. The fish can be sold directly to the middleperson in Koh Sralao or to the middleperson that comes from outside of Koh Sralao. This choice depends on their relationship with a middleperson. The middlepersons come to the village and then sell grouper at Lamdum, Chouy Pros and Lantan depending on the size of the fish. The middleperson in Chus Pros buy fish from export middleperson (or the export middleperson can go to Chus Pros) and then sell the Grouper to Thailand.

FIGURE FIVE: COMMODITY FLOW DIAGRAM: MANGROVE SNAIL (CERITHIDEA SP.)

People who collect Mangrove Snails (*Cerithidea sp.*) are mostly women during the rainy season. This is the season where it is most difficult to find other fish, so women go into the mangroves to try and find Mangrove Snails (*Cerithidea sp.*). This isn't good money, perhaps 18 - 22 Baht / kg. The villagers sell their goods to the middleperson from Dong Tung and Pak Kong which are then sold to Thailand. Village middlepersons do not buy this product, and mostly poor women are involved in Mangrove Snails (*Cerithidea sp.*) collection.

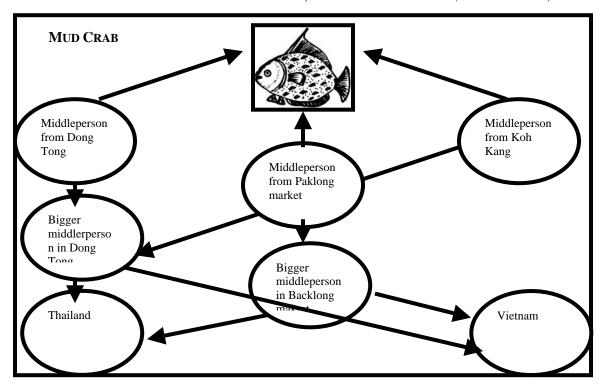
FIGURE SIX: COMMODITY FLOW DIAGRAM, STRIPED SEA CATFISH (PLOTOSUS ANGUILLARIS)





Fishers in Koh Sralao sell Striped Sea Catfish (*Plotosus anguillaris*) the middleperson in Koh Sralao. These are then sold to Thailand. This fish doesn't have a market in Cambodia, and is sold from 18 – 25 Baht/kg. Therefore it is not the wanted fish for villagers in Koh Sralao.

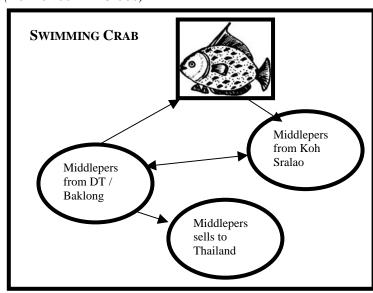
FIGURE SEVEN: COMMODITY FLOW DIAGRAM, SERRATED MUD CRAB (SCYLLA SERATA)



The middleperson from Dung Tong, Koh Kang and Bak Klong market come to buy the Serrated Mud Crab (*Scylla serata*) from villagers. There is an agreement between middlepersons in Koh Sralao and outside Koh Sralao that middlepersons inside Koh Sralao can only buy swimming crab and middlepersons outside Koh Sralao can only buy mud crab. The middleperson in each market sells to the bigger middleperson there. The

big middleperson in Don Tong and Bak Klong sells the Serrated Mud Crab (*Scylla serata*) to Thailand (big crab) and to Vietnam (small crab). The market price for crabs is good, so villagers can earn their livelihood from selling their products.

FIGURE EIGHT: COMMODITY FLOW DIAGRAM, BLUE SWIMMING CRAB (PORTUNUS PELAGICUS)

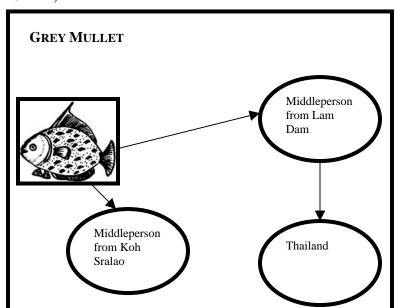


Villagers sell Blue Swimming Crab (Portunus Pelagicus) (meat) to the middleperson in the village and from Bak Klong. The middleperson in Dongtong come to buy the meant of the crab from both villagers and the middleperson. Then, this is sold to Thailand. The meat of the crab costs is bought for 100 Bath/kg in Koh Sralao and is sold for around 140 Bath/kg in Thailand. The Blue Swimming Crab (Portunus Pelagicus) has a

good market price.

FIGURE NINE: COMMODITY FLOW DIAGRAM, GREY MULLET

(DIAMOND-SCALED GREY MULLET, LIZA VAIGIENSIS AND BLUESPOT GREY MULLET, VALAMUGIL SEHELI)



There are two sizes of Grev Mullet (Diamond-scaled Grey Mullet, Liza Vaigiensis and Bluespot Grey Mullet, Valamugil seheli), large and small respectively. Fishers who have larger gear catch the large Grey Mullet and those with small fishing gear catch the small Grey Mullet. Fishers sell small fish to the middleperson in the village and large fish to the middleperson in Lam Dam. The middleperson in Lam Dam sells to Thailand.

The fish bought in the village sell for a lower price than those sold to the Thai market. When fishers catch Grey Mullet they prefer to sell it to the market outside of Koh Sralao since this fetches more money. Again, this depends on the relationship that a household has with the middleperson.

Analysis

All six products illustrate how fishers view how their freshly caught fish products flow from Koh Sralao village to the market. The Serrated Mud Crab (*Portunus Pelagicus*) and Greasy Grouper (*Epinephelus tautina*), Yellow Grouper (*Epinephelus Owoara*) fetch a high market price, and are eventually sold both to Thailand and to Vietnam. Villagers livelihoods depend on these fishing products, and the middlepersons within the system continue to set the prices. Each middleperson squeezes the next middleperson making it difficult for villagers to fetch a fair price for their products.

Fish Name	Scientific Name	Fish	Fishing Gear
		Product	
Greasy Grouper	Epinephelus tautina	Alive	Engine push net;
Yellow Grouper	Epinephelus owoara		Push net
Mangrove Snail	Cerithidea sp.	Alive	Knife & hand
Striped Sea Catfish	Plotosus anguillaris	Fresh	Hook & gillnet
Serrated Mud Crab	Scylla serata	Alive	Crab trap & net
Blue Swimming Crab	Portunus pelagicus	Meat	Crab trap & net
Diamond-scaled Grey Mullet	Liza Vaigiensis	Fresh	Circle net
Bluespot Grey Mullet	Valamugil seheli		

DAY THREE: THINKING ABOUT FUTURE, SUSTAINABILITY AND LIVELIHOOD STORIES

WHAT DO YOU THINK ABOUT THE FUTURE FOR YOUR CHILDREN?

Participants were asked to think about the discussion that had taken place during the past two days, and to then turn towards the future of their village. Participants were asked to write down their hopes for their children in the future. These ideas were then shared in the plenary. Table Seven summarizes this discussion.

TABLE SEVEN: THINKING ABOUT THE FUTURE

Thought	Number (out
	of 20)
Children have a high education	IIIII IIIII IIIII II
Want to work with government or NGO	II
Not to be a fisher; hard and no money	IIII
Want children to study the law	I
Want children to know Khmer culture	IIII
Protect resources for children to know	II
Children to be good people	III
Have good health and welfare	I
Saving money for children to go to school and have a good job	I

Study English and computer skills	I
Children have a job with the factory	IIII
Children to raise animals to improve their livelihood	I

Discussion:

Participants discussed their dreams for their children. Several woman talked about working hard to ensure that they could find money to send their children to go to school. Another Elder talked about spending time with children to pass on skills such as fishing and fixing things; his wife teaches his grandchildren how to make food and process fish. Another villager said that with a high education, his children could come back to the village to help them.

People talked about the link between protecting their natural resources and having a future livelihood. Natural resources can ensure a steady income to help live out their dreams for their children.

If we want our children to have a high education, the fisher must protect the fish and mangroves. It is important to replant mangroves, for example, to ensure that we have money in the future. Protecting the environment can mean the difference of children going to school or not... we need our resources to make money!

Each family needs a job and needs money to send their children to school. If each family protects the resources and stops illegal activities, then the resources will begin to increase and it will be easier for families to earn money. However, if illegal activities continue life will become more and more difficult.

Another villager talked about wanting to set up a 'community' to buy and sell products. For example, a 'community' could share and provide money. Then all children could go to school. And, with a 'community', there will be more fish and crabs which will make the villagers happy. With a 'community', households will work together to protect the village e.g. from stealing nets or traps.

However, still challenging for how to send kids to go to school outside of Koh Sralao. This is really expensive and few families can afford to do so.

WHO IN THE VILLAGE IS THINKING ABOUT THEIR ENVIRONMENT AND THE FUTURE?

Poor people think more about the environment than rich, since rich people already have enough money. Poor people are dependent on the environment as this is where they get money from. Ironically, poor people also destroy the environment since they have to make enough money to support their family. There tends to be two types of poor people: those that take care of the environment and those that don't.

In general, all villagers think about the environment. For example, rich people also find money from natural resources and don't cheat each other.

Rich people destroy the environment by hiring poor people to carry out livelihood activities. Poor people are often the labourers of the rich. It comes down to money, if there is no money then they have to destroy the environment. Poor people have no other way to find money, whereas rich people may have other options.

Good management would really help towards environmental protection. There are few good managers in the village, and they cannot manage Koh Sralao very well. Both insiders and outsiders destroy the environment.

People think differently. For example, two families might use the same forest and one family cuts down the trees to make money and another family might try to find different ways of earning money from the forest without cutting trees. Similarly, two different families might raise pigs. One family might sell (short-term thinking) all the pigs whereas another family might sell some of the pigs and continue to raise some (longer-term thinking). Sometimes families have no choice but to think of the short-term, especially if they have no food to feed their family.

WHAT IS THE WORD YOU USE FOR SUSTAINABLE?

After discussing the idea of future and children, participants were asked if there was a way of expressing these ideas. Although this was the last session in the workshop, and participants were tired, the following ideas were expressed:

Long into the future;
Lasting for a very long time
Glory future.

Participants were too tired to agree upon a definition of sustainable, and it was decided to leave participants with the notion of sustainability as related to their livelihood.

PARTICIPANT LIST

NT	Q	D
Name	SEX	Role
Hong Broeung	M	Deputy Chief of Commune
Veng Somsak	M	Environmental Ranger
Puthi Sien	M	Chief of Committee Group
Khein Sayuth	M	Headman
Som Samaul	M	School Teacher
Math Souk	M	Fisher
Lem Lunn	M	Fisher
Chhen Yanna	M	Chief of Group
Lem Sarroun	F	Seller
Dana Heab	F	Oyster Collector
Sok Yuna	F	Seller
Thai Bros	M	Fish trap
Sok Hooeung	F	Livestock feeder
Malies Lon	F	Former Charcoal Middlerperson
Kim Choeun	F	Seller
Chorn Samy	F	Crap Trap
Tuk Saouth	M	Member of Committee
Kheim Dom	M	Crab Trap
Keo Sisovanna	M	Crab Trap / VMC Leader

SUSTAINABLE LIVELIHOODS WORKSHOP, KOH SRALAO, PKWS

Rainy Season, 2002

Overall Goal:

A community-generated livelihood analysis, using participatory research tools, to (a) understand livelihood conditions and (b) factors that affect livelihoods.

Specific Objectives:

	To understand	what livelihood	means to	community	members;
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☐ To understand the different livelihood strategies that households engage in;

☐ To understand what sustainable means to community members;

☐ To examine factors that help and hinder livelihoods i.e. seasonality, relationships, markets;

☐ To think about coping and adapting strategies.

Potential Workshop Design²

	August 23rd	August 24 th	August 25 th
Morning	Introductions; Expectations; Workshop	Looking in-depth at livelihoods:	In-depth discussion on personal
	Objectives;	□ Seasonality c	livelihood stories. Sustainability
	What is Livelihood?	□ alendars: illustrating how seasonality	discussion; Wrap-up.
	□ what is it that makes up your	affects livelihoods in multiple ways	
	life?	(complexity).	
		 Commodity flows and their link to 	
		livelihoods.	
Afternoon	Factors affecting livelihoods;	☐ Institutions affecting livelihoods.	Individual discussions; VMC
	Influences, positive and negative.	☐ Getting specific about livelihood	meeting
		activities.	

² Part of this workshop design is adapted from work done by Becky Guieb-Rivera with CDFO, Phnom Penh in July 2002 on CFM. PRA methods are adapted from IIRR. 1998. Participatory methods in coastal resource management. Volume 2. This workshop was conceptualized by Melissa with significant input from PMMR to meet both Melissa's research needs and PMMR's research needs.

Day	Ti me	Objectives	Activity	METHODS	Needs
		INTRO TO WORKSHOP OBJECTIVES AND SCHEDULE	Plenary Session		
1	AM	INTRODUCTIONS	Drawing Plenary Session	THINK OF 6 WORDS OR SYMBOLS ABOUT YOURSELF Ask the participants to draw on a white sheet of paper 6 words or symbols about themselves. This initial exercise ended up forming the planned collective card on livelihoods. Although we did not ask people to specifically talk about their livelihood, what emerged was related to livelihoods (possibly since we had introduced the workshop objectives before this or because people are so connected to their livelihood)	Flip chart; Colored markers; Tape.
		WHAT IS A LIVELIHOOD? □ Define their own livelihood; □ Reflection on livelihood i.e. what is part of your daily activities? □ Arrive at a common understanding / definition of livelihood;	Drawing; Group Work; Plenary.	MAKE A COLLECTIVE CARD ON LIVELIHOODS In fact, our initial introductions served this purpose quite well. In the plenary, these initial results/pictures are presented. Facilitators probe: What is missing? What else can we include? Is everyone's livelihood represented? What ideas are included in the term livelihood? What is the appropriate Khmer term? At the end of the activity, the participants should agree (in plenary session) on a "representation" (i.e. made up of symbols) of livelihoods in coastal Cambodia. □ Part of the exercise included a group brainstorming of everything that livelihood means to these villagers; □ Several definitions were suggested in Khmer (5), of which one was agreed upon.	White paper; Colored markers; Tape; Flip chart paper; Scissors.
	PM	WHAT AFFECTS YOUR LIVELIHOOD? List factors affecting their livelihoods.	Group work; plenary.	What affects your livelihood? Group brainstorming activity with presentation (3 groups including woman's group).	Flip chart; Markers; Tape.
		WHAT MAKES SOMEONE RICH OR POOR?	Group discussion	Brainstorming / facilitation exercise asking participants what makes someone rich and / or poor. What are the differences and why?	
		POSITIVE AND NEGATIVE INFLUENCE ON YOUR LIVELIHOOD	Writing down on paper.	List, on cards, 2 things that help your livelihood and two things that hinder your livelihood.	Paper, pens.
		WRAP-UP □ monitor participants changes in mood during the course of the workshop.	The mood meter	Prepare a mood meter sheet (horizontal line drawn across the center). Positive moods are indicated above the line, negative moods below. One can further divide into sessions. At the end of each day, ask participants to fill in the mood meter.	Flip chart; Markers.

SUSTAINABLE LIVELIHOODS IN CONTEXT: LEARNING WITH FISHERS

Day	Time	Objectives	Activity		Needs
				METHODS	
2	AM	REVIEW OF DAY ONE; REMINDER OF DAY TWO'S ACTIVITIES	Plenary Session	Note takers / facilitators present feedback from day one.	
		THINKING ABOUT FACTORS THAT AFFECT LIVELIHOODS: SEASONAL CALENDARS Group work; Plenary This exercise links to first days work and will help to illustrate complexity (see lesson plan i.e. can show fishing cycles; weather patterns; division of labour; diet and food consumption; illnesses; prices of animal fodder / fish bait; migration; debt). Ask participants to identify/review factors that might influence their livelihood conditions. As a group decide on multiple factors and symbols. Then break down into two groups to fill out seasonal calendars. Each group can share their ideas with the other group. Note what trends and ideas require further probing. LINKING LIVELIHOODS TO Commodity Ask participants to identify key commodities the produce and sell.	Flipchart; markers; tape.		
		LINKING LIVELIHOODS TO THE MARKET	Commodity Flow Diagram	Ask participants to identify key commodities the produce and sell. Divide into four groups to examine several different commodities. Explain the symbols (see lesson plan); and ask participants to illustrate the flow (from producer to consumer including middle persons). Ask group to present their results to the plenary. Return to the plenary to synthesize results from groups, highlighting similarities and differences.	Flipchart; markers; tape.
	PM	WHO (FORMAL/INFORMAL) AFFECTS (CONTROLS?!?) LIVELIHOODS IN COASTAL CAMBODIA? Identify/describe different institutions affecting rural livelihoods; Identify/describe r/ships of these institutions.	Facilitators' list with description Venn diagram	As a group, participants will list the different institutions that affect livelihoods (some of these will already be listed, others can be brainstormed). When the list is finished, they need to describe the interests of each institution on livelihoods. The results are then presented in a plenary. The participants are then divided into several groups. Each group will be asked to describe the relationships of these institutions in a Venn diagram. The results are presented in a plenary.	Flip chart paper; Colored paper; Scissors; Markers; Tape.
		Clarification on livelihoods	Listing activity	Discuss all the potential activities that someone can do in your village. Go into specifics. <i>How many people might participate in the general categories?</i> In terms of fishing gear, rank what is most common to what is least common on a one to five scale and discuss.	Flipchart paper; markers.
		WRAP-UP	The mood meter con't		

Day	Time	Objectives	Activity		Needs
				METHODS	
3	AM	REVIEW OF DAY TWO;	Plenary	Note takers / facilitators present feedback from day one.	
		REMINDER OF DAY			
		THREE'S ACTIVITIES			
		IN-DEPTH PARTICIPANT	Initial	Start the morning by reviewing all the livelihood activities	Paper; pens.
		INTERVIEWS.	brainstorming;	mentioned the day before. Discuss, in a plenary, what does a poor,	
			2 participants	medium and rich person do? How does one learn?	
			with one	Break into small groups (2 participants per facilitator), asking the	
			facilitator	'guiding question' How has your livelihood changed over time?	
		SUSTAINABLE: WHAT	Listing	In the plenary, ask participants to write down on paper what they	Individual
		DOES THIS MEAN?	exercise,	dream of for their children? List in the plenary and discuss. Then	paper; pens;
			plenary;	ask, where does environment fit into this? Who in the community is	flipchart
			brainstorming.	able to think about this? Let this discussion lead into a discussion	paper;
				on the Khmer concept of sustainability.	markers; tape.
	PM	M'S THESIS WORK		Individual HH discussions (with potential key informants)	
		PMMR WORK			
		VMC committee meeting			
		Back to Koh Kong town			