# Livelihood in Context: Learning with Cambodian fishers

By

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**Livelihood in Context: Learning with Cambodian Fishers**

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*In liebevoller Erinnerung an meine Schwester Jannette*

# Abstract

This study explores livelihood dynamics, sustainability issues and resilience-building strategies through the perspective of households and local level institutions in two rural Cambodian fishing communities, Koh Sralao (coastal) and Kompong Phluk (freshwater). Two analytical approaches enhance this exploration: (1) a sustainable livelihood framework, with an emphasis on household level negotiation strategies; and (2) a resilience analysis, with an emphasis on scale and uncertainty. An investigation into perceptions of well-being is used to complement this analysis, illuminating local level livelihood realities and additional variables that may enhance well-being such as relationships and luck (an important cultural component).

Qualitative and quantitative methods were used for data collection and analysis, spanning the individual, household and community level. Participatory research methods included (a) four community workshops spanning one to three days, and (b) focus group sessions with households and two resource management committees carried out over 21 months. An open-ended qualitative survey was conducted with 15 members from each resource management committee. Quantitative methods included a livelihood composition and complexity survey with 148 households, representing 20 percent of the households in each community. Research findings were supplemented, and triangulated, with project reports and related documents.

Rural Cambodian livelihoods are diverse, with households relying on a combination of activities and relationships (from the natural resource base and elsewhere) to secure their well-being. This research illustrates how diversification and migration are two important livelihood strategies for rural Cambodian fishing households. Fishing communities, in particular, have porous, ever-shifting boundaries. Household livelihoods may be multi-local (connected to different locations), depending upon seasonality and opportunities that present themselves.

This study illustrates how rural fishers are able to live with uncertainty, and deal with on-going stresses and shocks. There is an ever-increasing fishing pressure in coastal areas and along the Tonle Sap Lake: more fishers are competing over scarce resources within the same fishing grounds. Conflict ensues, for instance, manifested in gear loss. People cannot adapt to all stresses and shocks, given the constant changes that communities do face. Nonetheless, people are continuously 'doing something' in response to these stresses and shocks. Community-based natural resource management practices found in Koh Sralao and Kompong Phluk provide an example of this.

Perhaps local development is best understood by paying more attention to the way that households respond and deal with continuous change. For households and local level institutions in Koh Sralao and in Kompong Phluk personal relationships with people at various locations (inside and outside a community) are a key element in dealing with change and in establishing a secure livelihood. Local leadership appears to be an important component for enhancing rural livelihood. Thus, a challenge in the development of sustainable livelihoods is creating policy that is flexible and responsive, to support making unsustainable practices more sustainable. Donor policy is often risk-averse: rural livelihood is complex and requires constant (re)negotiation.

# Acknowledgements

Ahhh, where to begin? So many have been such an important part of this four-year journey! Some of you have been with me for this entire process; others have stepped in and out. This fluid combination provided support in multiple, meaningful ways!

To the Cambodian households and villagers that I learned and shared stories with over the years: your warmth, enthusiasm and candid comments continue to teach and inspire me. *Kop khun mak ka* to the Som Sak household who were generous hosts, for myself and the many visitors that have joined me.

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I was fortunate to be able to feed this thesis work into on-going Cambodia and regional work. Thanks to Sovanna for providing me an opportunity to consider community-based management practices in other parts of Cambodia. The SL gang kept me engaged in finding a way to get beyond frameworks and actually do meaningful livelihood research. Jen, your inquisitive mind and interest in these issues kept me pondering; Becky, your approach to fieldwork and facilitation taught me much. And, a special thanks to Brian

Davy and Stephen Tyler who offered unique opportunities to plug this research in with other IDRC work in southeast Asia and Canada.

Thanks to SSHRC and IDRC for the funding support – this ensured adequate time in the field. Artwork found throughout the thesis was done by Mark Crossland-Turgesen and Mike Renaldo. Your friendship and artistic talents are much appreciated!

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## GLOSSARY

Commune: a commune is an administrative unit that consists of a series of villages (often between three and seven).

Dragon flood: the Year of the Dragon occurs every 12 years according to the Chinese calendar and is known to be a powerful year. During such years, water levels are said to be higher. Thus, high water levels are known as 'dragon floods'.

Fishing lot: an area that is exclusive for large-scale fishers and industry. Fishing rights are auctioned to private bidders from the Department of Fisheries to raise revenues: the highest bidder then holds exclusive fishing rights over a particular area.

Fish paste (*prahoc*): a fermented fish paste made from low-value species or fresh fish that cannot be sold. Fish are dried in the sun, salt is added and this combination is ground into a fish paste. This is a staple item in rural diets, along with rice, and can be kept for months without spoiling.

Fish sanctuary: an area in the lake or sea that is protected from fishing activities (often protecting brooding and spawning areas).

Flooded forest: a forest area that is subject to water (seasonally, such as in the Tonle Sap Lake, or permanently, such as the mangrove ecosystems found along Cambodia's coastline).

Internal migrants: people that move within Cambodia, often driven (or forced) to move because of natural disasters or economic needs.

Inundated forest: see flooded forest.

*Moi*: a small-scale middleperson (money lender and/or fish buyer) who tends to be female, specific to the Tonle Sap area. Women buy fresh fish from fishers who did not sell their entire fish catch, and then process this fish into fish paste (*prahoc*) for sale.

Peeling crab meat: processing boiled crabs to produce a shell-free product that is sold to the market and, eventually, is canned.

Small brush parks: a suspended broom-like fishing gear (made from flooded forest branches) used by small-scale fishers to catch shrimp in the Tonle Sap.

Tonle Sap Lake: a flood plain area, also referred to as the Tonle Sap. The Tonle Sap has an exceptional water regime, with huge changes in water levels and water volume between seasons.

# Chapter One:

# Learning with Cambodian fishers

Sketch: M. Renaldo, 2005

A fisher rowing home during the flooded season, Kompong Phluk

# Chapter 1: Learning with Cambodian fishers

My name is Mat Sok. I am 34 years old, born in Phnom Penh. I came to Koh Sralao in 1991 because I did not want to be a soldier anymore. People ... told me about the opportunity to work in the narcotics plantation in Koh Sralao. So I came as a worker. ... The narcotics plantation closed shortly after I came, so I had to learn something else. I became a fisher. I built a house on the water, and used a light at night to catch crabs with my hands. Actually, I had to use candles. For two hours, during low tide, I could wade across the water to the area that was good for crab fishing. I learned from people nearby, asking questions about their nets and about the water.

I felt shy to go back home, so I decided to stay. I didn't know anyone [no relatives], so I had to find a middleperson and borrow money. It took a year, but I saved enough money to buy a boat. I still caught crabs but I used a bamboo trap instead of candles. Even today I still catch mud crabs, but I now use a net and go deeper in the water since I know where to look.

Since 1997 I have not been able to pay back my money to the middleperson. Before this, I could pay back every year but now it is too difficult. I can pay some back. Resources are less abundant. [Even so], I have been working with the resource management committee on mangrove replanting and resource protection. In areas where mangroves have been replanted, there are more crabs. I am also involved with the mosque.

While I go [crab] fishing, my wife processes the meat and then ensures that the meat is sold. My wife is responsible for money in our family. I also have 50 traps that my children are responsible for. They use this money for school fees and school supplies.

~ excerpts from several interviews with Mat Sok
Muslim fisher, Koh Kong province, Cambodia
August 2002; March 2003

Multiple factors affect Sok's current situation: environmental shocks and stresses, changing government policy (crack-down on narcotics), a declining natural resource base, the need for a patron or middleperson to support his household, lack of extended family networks and needing to learn new skills. These quotes above describe aspects of Sok's life, illustrating several of the continuous stresses that one rural fishing household deals with. Although Sok considers his household economically poor, he also acknowledges that his household works well together and with other community members (this is a predominately Buddhist village, Sok's household is Muslim). For example, when Sok's fishing gear was stolen in May 2003, a neighbour lent him an old gill net thereby enabling Sok to save money to replace stolen fishing gear for the next fishing season. Sok contributes to the overall health of his community, working with the Mosque Association and on resource management issues. In turn, Sok has been able to observe and learn fishing skills from neighbours, and now passes these skills onto his

children. As Sok's story suggests, rural livelihoods are enmeshed within complex social-ecological systems.

Livelihood studies, an integral component of this research, can be traced to a body of literature that conceptualizes poverty through the 'eyes of the poor' (e.g., Sen 1981; Chambers and Conway 1992; Scoones 1998; Bebbington 1999; Ellis 2000; De Haan and Zoomers 2003). According to Ellis (2000: 10), "a livelihood comprises the assets (natural, physical, human, financial and social), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household." This combination of assets, activities and access enables (or hinders) households to develop various livelihood strategies, each resulting in different outcomes. A livelihood strategy is a plan or technique for achieving a means of living, and is influenced by a given cultural context. Livelihood strategies include nurturing social networks and engaging in community level work that can enable livelihood diversity to be secured and sustained (Bebbington 1999; Sen 1999).

A livelihood analysis, therefore, debunks the misleading categorization of people as 'fisher', 'charcoal producer' or 'housewife'. In reality, most individuals and households practice a diverse portfolio of activities relying on resources that have multiple functions such as a fishery or a flooded forest (Kirkby et al. 2001). Livelihoods are increasingly diverse -- many households engage in occupational multiplicity -- and may pursue their livelihoods in multiple areas (Bailey and Pomeroy 1996; De Haan and Zoomers 2003). Fishing activities feature alongside many other contributions to household well-being. A livelihood analysis enables an exploration into social-ecological systems or 'human-in-environment' relationships (Ingold 2000; Davidson-Hunt and Berkes 2003). Such an analysis relates livelihood choices and strategies, the capacities that people have to enhance their quality of life and their capabilities to confront the social-ecological conditions that reduce poverty (Bebbington 1999). Such an analysis also hints at the limitations that households may face in making their livelihood choices.

This complex web of assets, access, capacity and capability provide households and local level institutions with what Glavovic et al. (2002) call 'layers of resilience' to deal with 'waves of adversity'. Resilience can be defined as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (Walker et al. 2004: 1). Sustainability when seen as a process of attempting to improve the management of social-ecological systems through learning, understanding and better use of knowledge can strengthen an analysis dealing with 'waves of adversity' (Wilkinson and Cary 2002). Livelihood sustainability in an uncertain and dynamic world may be enhanced through pursuing strategies that build and maintain resilience.

## RESEARCH OBJECTIVES

This research is about livelihood, sustainability and resilience-building strategies, explored through the perspective of households and local level institutions in two rural Cambodian fishing communities. The broad objective of this thesis is to understand livelihood complexity and how people living in these communities deal with constant change. Of particular interest are the multiple livelihood activities -- and specific livelihood strategies -- that households negotiate, along with the resource management practices that local level institutions may be able to pursue. The following objectives fulfill the research purpose:

1. To examine the types of resource management strategies undertaken by local resource users;
2. To determine how sustainability issues are addressed by local resource users and managers;
3. To explore livelihood in the rural Cambodian context, within a sustainable livelihood framework;
4. To consider examples of resilience-building strategies, at multiple scales, for rural livelihood; and
5. To reflect upon the current policy framework that has been created around resource management in Cambodia in relation to rural livelihood sustainability.

To explore each of these objectives, research was carried out in two rural fishing communities over the course of 21 months. Several objectives were 'theory filters' (aspects of development theory including livelihood studies, and complex systems theory with an emphasis on resilience) through which descriptive data on community-based

natural resource management and livelihoods is analysed. The final objective relates to policy; this objective was elaborated upon to respond to Cambodian needs and priorities for rural livelihoods.

## THE CONCEPTUAL APPROACH

The complex and multi-disciplinary links between development, well-being and livelihood make them difficult to identify and define. "They often go unnoticed, fall down the cracks between disciplines, or get ignored because they fit so awkwardly into the structures of academic analysis or discourse" (Adams 2001: 17). Blaikie (1995: 1) comments that, "environmental issues are by definition also social ones, and therefore our understanding must rest on a broader interdisciplinary perspective that transcends institutional and professional barriers." This study draws specifically from the literature found in livelihood studies. More generally, this study's objectives sit at the cross-section of human-environment relations within the broader framework of neopopulist development theory and resilience thinking.

The next section briefly outlines the main theoretical approaches drawn upon within this study. Each concept is further explored within specific thesis chapters. For example, Chapter Three considers sustainability theory, arguing that sustainability centres the discussion on "the actual strategies that people employ to attain and protect livelihoods rather than on national development strategies far removed from people's lived experiences" (Sneddon 2000: 535). Chapter Five draws upon the literature found in livelihood studies, and explores the sustainable livelihoods framework. Chapter Six furthers this discussion, providing a conceptual and 'grounded' analysis of livelihood, resilience and well-being. Several chapters also draw from literature based in cultural studies (i.e. references to Cambodian culture) and public administration (i.e. references to decentralisation processes). In other words, rather than writing a separate literature review, literature is integrated throughout the thesis chapters (most significantly in Chapters Three, Five and Six). What follows, therefore, is a brief overview of the literature found within the body of this thesis.

## NEOPOPULIST DEVELOPMENT THEORY

> 'The question is,' said Alice, 'whether you can make a word mean so many different things.' 'The question is,' said Humpty Dumpty, 'which is to be master – that is all.' Lewis Carrol 1872

What does development mean? Development can be a semantic, political and moral minefield (Goulet 1971)! Debate in development studies has reflected changing ideas about the meaning of development, and the policies[1] necessary to achieve it. Blaikie (2000) identifies three paradigms[2] that govern development thinking today: (1) the classic development paradigm (e.g. modernisation theory, dependency theory and classical Marxism); (2) the neoliberal development paradigm (e.g. Adam Smith, market liberalisation); and (3) the neopopulist paradigm (e.g. an emphasis on diversity and unique local contexts). Each of these development paradigms is a "domain of thought" within the development context, "internally consistent with a particular view of human decision-making, a set of development goals, and theoretical and normative assumptions about social change" (Blaikie 2000: 1040).

Neopopulist development emerged in the late 1970's as a critique of classical development: many of the thoughts, values and behaviours of the development industry were rejected (c.f. Alen and Thomas 1992; Blaikie 2000). Neopopulism emphasizes the local and place-specific, a gendered interpretation of livelihood systems and local analysis and action (Kirkby et al. 2001). Within this paradigm, diversity is embraced and not "treated as a disease" (Shiva 1993: 8). Dietz (1999) discusses similar issues under the label of ecopopulism[3]. Blaikie (2000) further characterizes neo-populist development as: (a) a rejection of modernisation as the inevitable direction of social change; (b) a respect for local diversity and agendas; (c) accepting that truth is variable and negotiable; (d) an

[1] For example, in the early 2000's Poverty Reduction Strategy Papers (PRSP) and Millennium Development Goals (the MDGs) became prominent development policies (Chambers 2004). Both development policies have become important in Cambodia from a donor perspective and a national policy perspective. At this point, the linkage between poverty reduction and resource management is not often made.

[2] A paradigm is used here to mean a dominant form of understanding.

[3] Bryant and Wilson (1998) *as cited in* Kirkby et al. (2001) define political ecology as the political economy of human-environment interactions. Kirkby et al. (2001) further note that in Third World political ecology there are two main modes: (1) ecoimperialist (similar to the classical development paradigm); and, (2) ecopopulist (similar to a neopopulist development paradigm) (see Dietz 1999; Kirkby et al. 2001).

awareness of power relations; (e) encouraging local action; and (f) recognizing that development is a continually negotiated and subjectively defined process. Although critiques of the neopopulist development paradigm suggest that this view is naïve, painting a romantic view of the South (see Adams 2001), much of the critical assessment of people and nature debates has stemmed from an eco/neopopulist paradigm (Kirkby et al. 2001).

Chambers (1997; 2004) defines development as responsible well-being. Responsible well-being encompasses dimensions of well-being, livelihood, capability, equity and sustainability. Chambers (2004) argues that using the words 'responsible' and 'well-being' together encourages people to give their own meanings, definitions and dimensions to what encompasses 'a good life'. Definitions, thus, may be wide in range and include elements of self-esteem, meaning, security, happiness and power along with more 'conventional' material concerns (Start and Johnson 2004). This research pays particular attention to dimensions of well-being, livelihood and sustainability.

Although responsible well-being is not a widely endorsed concept[4], well-being -- as an opposite to ill-being -- is increasingly found within development discourse. The *Voices of the Poor* study (Narayan et al. 2000) asked respondents from 23 southern countries to share what encompasses a 'good life' and a 'bad life'; the Millenium Ecosystem Assessment (2003) also touches upon human and ecosystem well-being. Although well-being may appear similar to the idea of utility, utility supposes that people have agency to make logical choices and pursue economic strategies. Well-being, on the other hand, is a descriptive term that makes no "assumptions about the feasibility of achieving the desired outcomes, nor the constraints that may act to limit choice" (Start and Johnson 2004: 26).

Livelihood is an integral component of responsible well-being: a substantial literature has now been generated in the area of livelihood studies (c.f. Scoones 1998; Carney et al. 1999; Leach et al. 1999; Ellis 2000; Solsebury 2003; De Haan and Zoomers 2005).

[4] Chambers (2004: 19) argues that responsible well-being has not 'taken off' as a concept because it has no literature, nor any institutional champion. More than this, the word responsible "discomforts and exposes those of us who are 'haves' for what we do and what we leave undone".

Recent livelihood studies acknowledge that households often make decisions within "the confines of limiting structural conditions", although also recognize that households do have a "veneer of free choice" and may take a critical role in creating change (De Haan and Zoomers 2003: 352). Linking livelihood with well-being captures both the objective dimensions of "having to make a living to get by" as well as the subjective dimensions of the conditions in which one lives (Bebbington 1999: 2033). This is because households consider their livelihood in a material sense and in people's perceptions (both their own and others') of well-being. This approach to livelihood is actor-oriented and place-focused (Kirkby et al. 2001), and situates itself within the neopopulist development paradigm.

## RESILIENCE ANALYSIS

> Make things as simple as possible, but no simpler. Albert Einstein

Theories of chaos and complexity can contribute insights and analogies to development thinking (Chambers 2004). For example, complex systems that are based on few rules, in some ways, parallels with decentralized, rather diverse human organization; how actions can have significant ramifications at future points hints at the power of individual choice and responsibility (Chambers 2004). Or, how there can be zones of stability within turbulence suggests continuation even in chaos. Levin (1999) aptly comments that many resource and environmental problems can be viewed as complex systems problems.

Consider, for instance, the intricacy found in both ecological and social systems. Additional complexity is found within the interactions between natural and social systems (Berkes et al. 2003). The notion of systems considers the "context of the larger whole" (Capra 1996).[5] Social and ecological systems are linked: "nature and culture must be seen as co-created" (Scoones 1999: 486). More specifically, complex systems thinking is used to better understand the complex and unpredictable relationships that govern resource management issues (Holling et al. 1998). A systems approach is "a way of thinking in terms of connectedness, relationships and context" (Gallopin et al. 2000:

[5] Complex systems theory builds upon systems theory. For example, general systems theory is concerned with the exploration of whole and wholeness (Berkes et al. 2003).

6). This approach recognizes the complexity and inherent uncertainty found in natural system dynamics.

The concept of resilience was introduced into the ecological literature in an attempt to understand the processes by which ecosystems maintain themselves in the face of perturbations and change (Holling 1973; Gunderson 2000). Resilience is an emergent property of a system since resilience cannot be predicted or understood simply by examining the system's parts. Resilience can be defined as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (Walker et al. 2004: 1). This definition focuses on persistence, adaptability, variability and unpredictability (Resilience Alliance 2005). A resilience analysis contributes to understandings of dynamism, sequences, transitions and synergies (Chambers 2004) and includes elements of "interdependence, recycling, partnership, flexibility, diversity and, as a consequence of all those, sustainability" (Capra 1996: 295).

Focusing on the resilience of a system may be the key to understanding sustainability (Berkes et al. 2003). According to the World Commission on Environment and Development (WCED) sustainability entails, "development that meets the needs of the present without compromising the means of future generations to meet their own needs" (WCED 1987: 43).[6] Concern over sustainability, with regards to development, societies, livelihoods and other social, economic and ecological activities, has rapidly grown in the past two decades (Sneddon 2000). Notions of how sustainability might be interpreted and achieved vary:[7] however, for the purposes of this research sustainability is viewed as a process to strive towards (Lee 1993). In other words, sustainability is a statement of intent, not a route map!

[6] The WCED definition of sustainable development popularized this concept: the notion of sustainable development is now central within orthodox development discourse (Sneddon 2000). However, the *World Conservation Strategy* (IUCN/UNEP/WWF 1980) is generally credited for coining the term 'sustainable development' although earlier incarnations exist (see O'Riordan 1993, *as cited in* Sneddon 2000).
[7] For useful critiques of sustainability see Lele 1991; Ludwig et al. 1993; Sneddon 2000; and Adams 2001.

## THE RESEARCH APPROACH

This research is comparative, taking place in two distinct regions of Cambodia: (a) in the coastal zone, Koh Kong province and (b) in the Tonle Sap Lake region (a large lake and seasonal flood plain that forms along the tributaries of the Mekong River), in Siem Reap province. Each research area represents an ecosystem (e.g. a coastal ecosystem and a freshwater ecosystem). Working with households and local level institutions fostered an understanding of livelihood issues found within and between these two areas. Livelihood complexity in each of these areas is detailed, as are the stocks and flows of 'assets' found within several households and several local level institutions. Because livelihood strategies may take place in different locations, research was multi-local (De Haan 2000) and multi-scaled (household, local level institutions, regional). Comparative work in two field areas enabled some in-depth fieldwork to take place, and allowed for a broader reflection into rural Cambodian livelihood issues.

A scoping mission to Cambodia in December 2001 enabled the researcher to discuss preliminary ideas about this research with several project teams and in several villages in one of the proposed project sites. Both project teams and villagers specifically requested this research be done within their 'field areas' to further explore livelihood issues, and this research was designed, in part, to help facilitate this learning. Previous experience working in rural Cambodia (e.g. through Master's work and as an 'advisor' for a Canadian research-for-development project) ensured that the research was conducted in a manner to support project teams grappling with livelihood questions at the field level while meeting the researchers' own academic needs.

Although the initial plan was to carry out the research over 12 months, it was extended to 21 months (the researcher remained in Cambodia for some writing time to enable follow-up fieldwork to occur). The work can be broken down (approximately) into three research phases: (a) Learning and Gathering; (b) In-depth Livelihood Analysis; and (c) Verification and Synthesis (Figure 1).

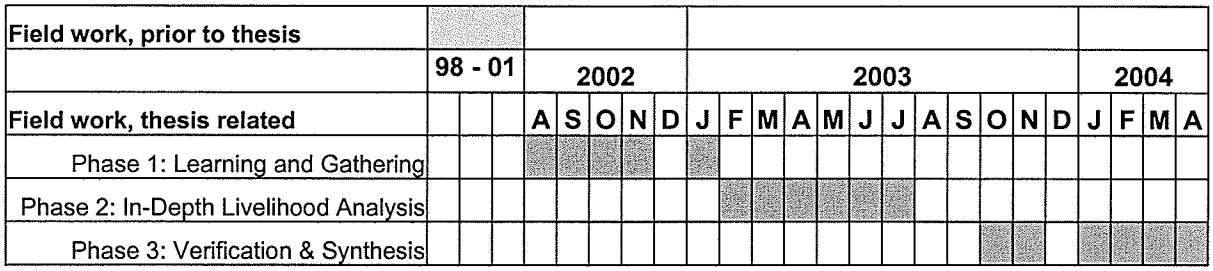



Figure 1: A time-line for fieldwork in Cambodia

"Research on rural livelihoods must make difficult choices, because the encompassing character of the livelihoods concept means that almost any aspect of the way people go about gaining a living is potentially legitimate to investigate" (Ellis and Freeman 2004: 8). Therefore, field research began by touching upon the complexity of livelihoods, generally, at a village level (through workshops and a village level livelihood questionnaire) and then focusing (through the use of interviews and other participatory research appraisal methods) on how rural livelihoods look at a household level. Initial focus group discussions with households included: (a) can you tell me about the different jobs you have done in your life, and (b) how does your household feed itself? These 'entry level' discussions led to a more in-depth exploration in several areas, including the assets that households drew upon and how households negotiated their livelihood strategies.

Particular attention was paid to household activities, how households dealt with stresses and relationships (with middlepersons; within and between households). As these dimensions came to be better understood, probing and analysis of specific livelihood and resilience-building strategies were pursued. Discussions and interviews with resource management institutions, focusing on community-based management initiatives, also took place throughout the 21 months. Synthesis and confirmation of information took place through a series of informal village sessions (including focus groups) and sharing workshops.

## RESEARCH PHILOSOPHY

**Poem of reflection and thanks**

We have all joined together in this training for two and a half days,
both myself and my brothers, sisters, aunts, uncles.
We have studied all the main ideas and more than this,
to combine our ideas together to develop the country.
We gave up some of our work to learn together and these two and a half days will be remembered forever.
For studying about livelihoods.
This was created and supported by IDRC. Thank you.

Las Hart
Written and presented at the end of the Sustainable Livelihood workshop
Kompong Phluk, Cambodia. September 2002
Appendix A lists more details of this workshop

The purpose of this section is to discuss the rationale behind using a participatory research approach, in particular the use of Participatory Rural Appraisal (PRA) tools. A 'mix and match' approach ensured that a range of participatory tools and concepts were drawn upon, and adapted specifically to the Cambodian context for a livelihood analysis. To be familiar with what happened 'on the ground', specific research methods are detailed to enable a more comprehensive understanding of the iterative nature of this research process.

### WHY PARTICIPATORY RESEARCH?

> Participatory research is a bit like medicine: it depends on how the doctor administers this medicine! If a facilitator is good then the process will be effective, if the facilitator is not so strong than the process will not be so useful (An, provincial Cambodian fisheries officer, September 1999).

Participation is the exercise of popular agency in relation to development: contemporary development policy is based on recognizing existing capacities of people (e.g. sustainable livelihoods, rights-based approaches) (Hickey and Mohan 2004). Much of the conceptual thinking on participation stems from the work of Paulo Freire, a Brazilian educator[8]. In his book, *Pedagogy of the Oppressed* (1970), Freire takes an emancipatory approach to participation (e.g. participatory action research and conscientization) advocating peasant

[8] Participation has a more varied geneology in development thinking than is usually acknowledged. For a greater appreciation of these nuances, see Hickey and Mahon 2004.

empowerment through education that raises people's awareness of how personal experiences are linked to larger social problems (Chambers 2004). More recent approaches that influence participation in development theory and practice include: (a) neopopulist development (participatory: rural/urban appraisal, learning and action, monitoring and evaluation); (b) social capital (networks and associations); and (c) participatory governance (scaling-up of participatory methods, poverty reduction strategy consultations) (Hickey and Mahon 2004).

Participatory research approaches arose in the 1970's and 1980's in reaction to the classical top-down, non-inclusive, 'expert-knows-best' development paradigm that was doing little to improve the lives of the rural poor (Rennie and Singh 1996; Blaikie 2000). Hall, an adult educator, comments that:

> All the years of organized professional social science research which we have conducted and the vast heaps of print which have somehow been contributing to that mystical void of knowledge have done little to contribute to either the reduction of suffering or the improvement of the welfare of the largest part of the world's population (1979: 19).

Participatory research approaches are meant to emphasize a reversal in modes of analysis and interaction, learning and professional values so that development initiatives (research and projects) can potentially succeed (Burkey 1993; Chambers 1994). This approach uses a plurality of methods (or 'bundle of tools') to promote an analysis of diversity (Deshler and Selner 1991). The 'bundle of tools' offers researchers and participants multiple ways to grapple with local perceptions and complexities, and can be an appropriate approach for sustainable livelihoods research (Davies 1996; Chambers 2004). Participatory approaches in research and development initiatives, in particular Participatory Rural Appraisal (PRA[9]), have shed insights into many local contexts.

PRA, specifically, is a family of evolving approaches, methods, values and behaviours that seek to enable local people "to share and analyze their knowledge of life and conditions, and to plan, act, monitor and evaluate" (Chambers 2004: 7). An initial set of

9 For a succinct review of how PRA has evolved (including Participatory Learning Approaches and Participatory Poverty Assessments) see Chambers 2004.

Rapid Rural Appraisal (RRA) tools emerged as development practitioners searched for better ways for outsiders to learn about the life and conditions of rural households. PRA methods drew upon concepts found in adult education and RRA tools, further drawing from social and development anthropology and agro-ecosystem analysis (developed in Thailand) (Chambers 1994). In Cambodia, PRA tools are used in creating community fisheries plans or village level land use planning; examples of adapting PRA concepts include farmer-to-farmer field schools and participatory poverty assessments.

What differs between participatory research techniques is the degree of participation[10] by local people and the research ownership. RRA methods tend to be extractive, with information being gathered and analyzed outside the community, whereas PRA methods tend to focus on enabling rural people to share, enhance and analyze their knowledge. Table 1 illustrates the participation continuum between RRA and PRA. In both approaches, the research agenda is generally driven by outside researchers or facilitators: what varies is the approach of each facilitator and their familiarity with the local context.

Table 1: The participation continuum, RRA – PRA

| Research Process | RRA ⟷ PRA | |
|---|---|---|
| Mode | Finding out - elicitive | Facilitating– may empower |
| Outsiders' Role | Investigator | Facilitator (or *facipulator*[11]) |
| Info. analysed/used by | Outsiders | Insiders |
| Methods | RRA (*quick & dirty: alternative to the traditional survey*) | PRA (*eclectic: use of local drawings & representations*) |

Adapted from: Chambers 1997

Development scholars and others have debated the strengths and weaknesses of more extractive research and research approaches that are geared to be more participatory in nature (c.f. Chambers 1983, 1994, 1997, 2004; Selner 1996; Hickey and Mahon 2004). The risk of any participatory research method is that it can be implemented in a rote

[10] See Arnstein's (1969) now classic 'participation ladder' to consider the range of processes that participation may include.

[11] *Facipulation* suggests a combination of facilitation and manipulation. In the Cambodian context, facilitators use this word as a reminder that facilitation techniques are often manipulated to meet research or development objectives.

manner with an emphasis on output rather than process. Although quantitative research often fails to reveal diversity and complexity, participatory research can be extractive much like the very techniques critiqued! Blaikie (2000: 1046) comments that:

> Fundamental contradictions therefore arise in the practice of neopopulist development as a result of its rhetoric of local autonomy, empowerment and the necessity for outsiders to listen and learn from insiders on the one hand, and the structural position in which development agendas (local functionaries of the community-based organization or NGO) find themselves, on the other.

Another potential weakness of participatory research is that community heterogeneities and issues of class, gender, ethnicity, power and authority are missed: the public nature of many participatory research activities results in certain types of knowledge being more likely shared (often the view of local elites) (Grenier 1998; Blaikie 2000). However, an awareness of community heterogeneities and power relations, along with sensitive facilitation, will help in addressing these concerns. Participatory research, when effectively executed, is a time-consuming process that requires personal commitment, critical awareness and creativity (St. Denis 1992; Chambers 2004). Much depends upon the attitude and skills of the researcher.

With a consideration of these debates, this research drew upon a range of PRA methods and worked at several scales (household; local level institutions; community). Employing a plurality of methods and tools enabled for triangulation and cross-checking of field research. Fieldwork activities were planned together with local organizations working in the area (in particular for community level workshops), and were discussed with each local level village management institution. Households helped to steer the research, especially with regards to analyzing different livelihood activities and strategies. Some research techniques were more extractive in nature (structured and scheduled interviews; open-ended interviews) and other methods encouraged learning and sharing amongst participants (focus group discussions; community level workshops; household discussions and diagramming exercises). Ultimately, the researcher facilitated this research process - listening, reacting, adjusting and letting participants input and control the research to the extent that was appropriate and possible.

## USE OF PRA TOOLS AND ACTIVITIES

Although a plethora of PRA tools exist, the 'trick' to good PRA research is to experiment with tools to ensure that they are appropriate for the given context and the research. Therefore, many tools were modified and adapted to suit the specific nuances within this livelihood research[12]. What follows is a brief description of the 'bundle' of tools that were used at different points of this research (in no particular order):

- *Well-being ranking*: this exercise involves card sorting into groups or rankings of households according to local criteria (including those considered worst off), often expressing key indicators of well-being and ill-being (see Rennie and Singh 1996; Chambers 1997);
- *Linkage diagrams*: this diagramming exercise can be used for the analysis of sequences, marketing, migration, social contact, impacts of interventions and trends, income and expenditure trees etc. Linkage diagrams are about flows, connections and causality (see Pretty et al. 1995);
- *Institutional or Venn diagrams*: this exercise is useful for facilitating a dialogue about individuals and institutions important within and outside an organization or the community and looking at these relationships, and can help to highlight some communication and learning cycles (see Pretty et al. 1995);
- *Seasonal calendars*: a diagramming exercise that breaks down seasons or months and can show: fishing cycles; weather patterns; division of labour (women's, men's and children's); diet and food consumption; illnesses; prices of animal fodder/fish bait; migration; debt. Seasonal calendars can illustrate the complexity of a system (see Chambers 1997);
- *Participant observation*: this valuable tool enables the researcher many insights into household or community life. The subtle understanding gained from participant observation cannot be emphasized enough!;
- *Historical resource transects*: a diagramming exercise that enables pictorial representation of changes in resources, population and income over time (see IIRR 1998);
- *Mapping exercises*: can be adapted for livelihood purposes. Use the 'common' map, changes in resources and livelihoods can be detailed. Can foster a discussion of how women and men interact with their landscape (varying resource patterns);
- *Focus groups*: can be well suited for describing the broad community context of rural livelihoods, and in identifying key trends and emerging constraints. Follow-up focus groups can then be undertaken at the household level (see Braakman 2002);
- *Role-playing*: enable several individuals to act out a situation, with other group members observing and commenting on this process. Particularly insightful for the researcher to capture movements, actions, sequence, roles and relationships of people, things and practices (see IIRR 1998).

[12] All research activities were documented, in English and Khmer, for communities, organizations and government institutions to continue their own livelihood analysis, if so desired.

- *Semi-structured interviews*: this technique is useful as a follow-up to focus groups, and can enable specific information to be probed in greater detail. Semi-structured interviews are flexible but can help to guide the researcher;
- *Photo stories*: suggests telling a story or narrative through the use of photos. This technique enables a photographer, in this case a household member, to take pictures and share the meaning behind such pictures. Photos reflect issues from the perspective of the photographer.
- *Ice-breakers*: games or action-oriented activities that encourage participants to solve an issue in a fun, creative manner while linking to a learning objective. If an ice breaker 'fits' what is being discussed, such games help participants to better understand or express abstract concepts.

### ADDING IN THE NUMBERS: QUANTITATIVE METHODS

Combining qualitative research methods with a quantitative component strengthens livelihood research, especially in an investigation into livelihood diversity (Ellis and Freeman 2004). Quantitative household surveys draw out information that complements participatory research approaches. The major strength of a household sample survey, as an example, is its capacity to yield detailed information at a household or individual level about a population from a relatively small sample: since a quantitative household survey can be standardized, information may be comparable between field sites (Ellis 2000). Mixing qualitative and quantitative data collection is "gaining credence in the literature on development methods" (Ellis and Freeman 2004: 8).

## METHODS: WHAT HAPPENED

### SITE SELECTION

Two Cambodian fishing communities (Figure 2) were chosen to investigate rural livelihoods, one coastal and one freshwater, over a 21 month period. Each site was selected -- with feedback from the two projects[13] working in that area -- with the following criteria in mind: (a) interest expressed from villagers; (b) community-based

[13] The *Participatory Management of Mangrove Resources* (PMMR) research project began, in December 1997, working with local communities to better understand livelihood and resource management issues in one coastal protected area in Koh Kong province, Cambodia. This team is funded by Canada's International Development Research Center (IDRC), with implementation through Cambodia's Ministry of Environment. For more details on Phase One and Two (1997–2003) of this project, see Marschke and Nong 2003. In Siem Reap province, the *Participatory Natural Resource Management in the Tonle Sap Region* project began in 1994 to address concerns over deforestation and land clearing within the inundated forest ecosystem and the subsequent threats to fishery productivity: the current focus is community forestry and community fisheries. Funds are provided by Belgium government, with implementation through the United Nations Food and Agriculture Organization (FAO). For further information, see Evans 2002.

natural resource management (CBNRM) activities in the area; (c) reliance on fish and flooded forests in pursuing livelihood strategies; and (d) comparability between field sites. Koh Sralao is a coastal village of 297 households that became actively involved in community-based management as their resources became depleted. Kompong Phluk is a commune (this is a small commune, consisting of three villages that run together) of 434 households on the Tonle Sap Lake that has been practicing forest protection since the 1940's, perhaps one of the oldest examples of forest protection known in the Tonle Sap region.

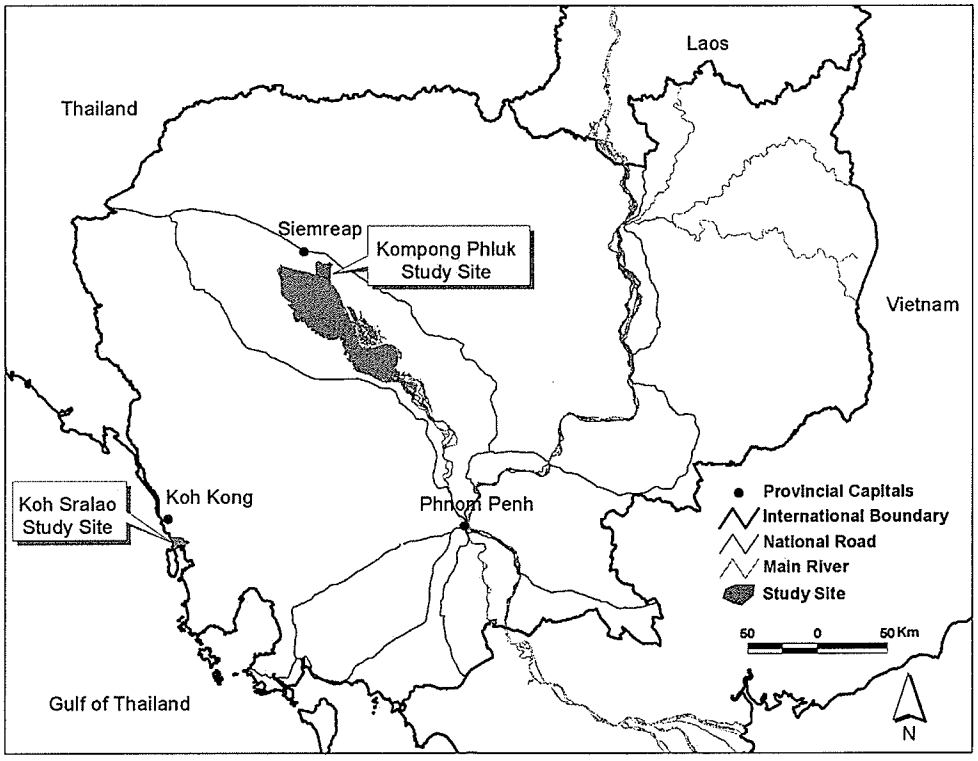



Figure 2: The location of the two study sites

## HOUSEHOLD RESEARCH

### *Household selection*

A total of 11 households were chosen, six in Koh Sralao and five in Kompong Phluk to work with over 21 months. To ensure a diversity of households, selection criteria for households in each community included: female-headed and male-headed households; a range of ages for the key contact person in each household; economically diverse

households (within the 'economic' range found in each context); a non-Buddhist household (if appropriate); a member of the village resource management committee; and a non-fisher (as a main livelihood strategy). See Table 2 for the range of households selected. This table will be further built upon in Chapter Five, Table 22.

Table 2: Details of main informant of households tracked over 21 months

| Detail | Koh Sralao HHs | | | | | | Kompong Phluk HHs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 |
| M/F | M | M | M | F | M | M | M | F | M | M | F |
| Age | 30s | 40s | 50s | 40s | 50s | 40s | 50s | 20s | 50s | 40s | 50s |
| R/M/P[1] | R | M | M | M | P | P | M | M | P | P | P |
| Religion[2] | B | B | B | B | B | M | B | B | B | B | B |
| RMC[3] | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | No |
| Fisher | No | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | No |

[1] Indicates a rich, medium or poor household. Since 'economic wealth' is a subjective, context-specific category, households themselves indicated where they felt themselves to fit within the village context. This information was verified by a focus group of elders and village leaders.
[2] B = Buddhist; M = Muslim. In each area households were predominately Buddhist. In Koh Sralao, there is a small Muslim population (10% of villagers); in Kompong Phluk, it appeared that all households were Buddhist.
[3] RMC = resource management committee. In each context, a resource management committee that worked on natural resource management issues existed. Several members from each RMC were also household informants.

The main contact for each household was, generally, the household head with the exception of one household where the main contact was unmarried and living with her parents. Of the 11 households, two households were female headed. The household as a unit of analysis enabled particular insights into livelihood complexity, dynamics and how households negotiate their livelihood opportunities.

### *Household level research*

In total, 15 potential households were met with (initially selected from personal observations of workshop participants, time in each village and suggestions from each resource management committee). Not all households were interested in participating in this research (especially richer, business-oriented households in Kompong Phluk): several households were migrant fishers and could not be found after initial discussions. After several months, it became clear that 11 households were interested to work in this research process. Within the 11 selected households, some households moved away from

the area on a seasonal or one-time basis (two in Koh Sralao; one in Kompong Phluk) (Table 3). When possible, households were tracked down wherever they were living.

Table 3: 21 month interview history

| | 2002 | | | | | 2003 | | | | | | | 2004 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | # |
| **KS** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | 1 | | 1 | | 1 | | | Not in village | | | | | | 1 | | 1 | 6 |
| 2 | 1 | | | | | 1 | | 1 | | 1 | | 1 | | | 1 | | | 1 | | | 1 | 8 |
| 3 | 1 | | | | | 1 | | 1 | | 1 | | 1 | | | 1 | | | | | | 1 | 7 |
| 4 | 1 | | | | | 1 | | 1 | | 1 | | 1 | | | 1 | | | | | | | 6 |
| 5 | 1 | | Not in village | | | | | | 1 | 1 | | 1 | | | 1 | | | | | | 1 | 6 |
| 6 | 1 | | | | | 1 | | 1 | | 1 | 1 | 1 | | | 1 | | | | | | 1 | 8 |
| **KP** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | 1 | 1 | | | | 1 | | 1 | | 1 | 1 | | | | 1 | | | | 1 | | 8 |
| 2 | | 1 | 1 | | | | 1 | | 1 | | 1 | | | | | 1 | | | | 1 | | 7 |
| 3 | | 1 | 1 | | | | 1 | | 1 | | 1 | 1 | | | | 1 | | | | 1 | | 8 |
| 4 | | 1 | | | | | 1 | | 1 | | 1 | 1 | | | | | | | | 1 | | 6 |
| 5 | | 1 | 1 | | | | 1 | | 1 | 1 | 1 | | | Not in village | | | | | | 1 | | 7 |
| | | | | | | | | | | | | | | | | | | | | **Total Household Interviews** | | 77 |

The most significant component of the research involved working with these 11 households over the 21 months. An informal research process was adopted with a particular interest in livelihood strategies and how households dealt with change. This iterative, reflexive learning approach enabled the researcher and household members to build upon each visit, and provided opportunities to learn and explore issues together. Sometimes tea was drunk for an hour before anything was specifically discussed; sometimes a day was spent learning about a specific issue that was troubling a household.

Every household was met with for several hours (sometimes for an entire day) at least six times during the research with some being visited as many as eight times. In addition to informal visits, discussions and 'check-ins', a series of PRA tools were used at several points during the research time with household members. For example, family histories, family portraits, mapping exercises, seasonal calendars and commodity flow diagrams helped to focus the discussion on household interactions with the resource base. One household in each field site was given a disposable camera, undertaking a photo story exercise.

## SUSTAINABLE LIVELIHOOD WORKSHOPS: FALL 2002

The goal of these initial three-day workshops (held in each field site) was to facilitate a community-generated livelihood analysis, using participatory research tools, to (a) understand livelihood conditions and (b) factors that affect livelihoods (Table 4, see Appendix A for greater details). Specific PRA tools included seasonal calendars, Venn diagrams, linkage diagrams and a well-being ranking. A series of card-sorting exercises, focus group discussions and story telling exercises enabled further probing.

Table 4: An overview of the sustainable livelihood workshop design

| | Day One | Day Two | Day Three |
|---|---|---|---|
| **Morning** | Introductions/Expectations /Objectives<br>What is Livelihood? | Looking in-depth:<br>❑ Seasonality<br>❑ Markets | Personal stories<br>Clarifications<br>Wrap-up |
| **Afternoon** | Factors affecting livelihoods (+ and -)<br>Livelihood specifics | ❑ Institutions affecting livelihoods<br>Well-being ranking | Individual discussions<br>RMC meeting |

Working through the resource management committee in each community, a combination of twenty men and women practicing a diversity of livelihoods were selected to participate in each workshop. Absent from this discussion were any 'rich' people (one middleperson participated, in each case, who was considered to be medium-rich within the village context). All discussions were facilitated in Khmer, with simultaneous translation for the researcher into English.

## STRUCTURED INTERVIEWS: WINTER 2003

Structured, scheduled interviews were undertaken between January 2003 and February 2003 *to understand livelihood complexity at the community level.* Specifically, these interview questions aimed to identify:

1. the range of livelihood activities households engage in, with a focus on multiple fishing activities;
2. household problems i.e. debt, illness and how such problems may be dealt with;
3. how government policy is viewed by households; and
4. beliefs and attitudes of households towards resource management and livelihood activities.

Prior to administering the interview questions, field-testing took place between a Cambodian field researcher, one member from each resource management committee, a member from the PMMR team and the researcher with five households. Feedback was

shared and the survey was refined. This survey was then administered by the Cambodian field researcher who was familiar with both field sites (although not a resident of either). In one field site, additional help was provided by two members of the PMMR team; in the other site, the field assistant and the researcher facilitated the interview questions. The researcher was present in both field sites for around 20% of the interviews.

In total, 148 households in the two rural Cambodian fishing communities that fieldwork took place were randomly selected. The sample size, 1:5, was based on the size of the smallest group of interest i.e. the smallest village. All households agreed to take part in the interview, however, 5% were unable to be contacted at the interview time so were replaced by the next household on the sampling frame. A starting point was randomly selected, and every fifth household was selected on the sampling frame. Households were visited, and these questions were asked verbally in Khmer since not all people are literate. Each interview took an average of 69 minutes, ranging from 18 minutes and 100 minutes. The data were entered into a computer program, SPSS, for analysis and creation of frequency tables. See Appendix B for the livelihood questionnaire.

### RESOURCE MANAGEMENT COMMITTEE WORK: SPRING 2003

Resource management institutions existed in each area, having been created with support from the outside institution working in the area. This research focused on understanding what it was that resource management committees did. A series of focus group discussions were held with each resource management institution, along with individual interviews with committee members. Additionally, non-scheduled structured interviews were carried out with members from each resource management committee. See Table 5 for the interview history, and Appendix C for resource management committee interviews.

Table 5: Interview history with each resource management committee

| | 2003 | | | | | | | | | | | | 2004 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | # |
| **K. Sralao** | | | | | | | | | | | | | | | | | |
| Group | 1 | 1 | | | | 1 | | | | | | | | | | | 3 |
| Manag't com. | | | | | | 15 | | 5 | | | | | | | | | 20 |
| Other | | | | | | | | 1 | | | 1 | | | | | 1 | 3 |
| **K. Phluk** | | | | | | | | | | | | | | | | | |
| Group | | 1 | | 1 | | | | | | | 1 | | | | | | 3 |
| Manag't com. | | | | | | | 15 | 4 | | | | | | | | | 19 |
| Other | | | | | | | | | | | 2 | | | | | 4 | 6 |
| **Total Resource Management Committee Interviews** | | | | | | | | | | | | | | | | | **54** |

### *Group work*

A total of six group interviews, three in each field site, enabled discussions surrounding the work of each resource management committee to take place. A series of PRA methods was used during these group interviews, including institutional time-lines, small breakout groups, role-plays and photo stories. Follow-up interviews were held with individuals on each committee.

### *Management committee interviews*

Non-scheduled, structured interviews were completed with selected members of each village Resource management committee. The purpose was to determine the activities of Resource management committees with regards to (a) individual roles and responsibilities, (b) communication, (c) decision-making processes and (d) learning opportunities. Time was also left to discuss other issues surrounding resource management work in the community.

## RESILIENCE WORKSHOP: FALL 2003

A workshop (Table 6, see Appendix D for more details), using participatory research methods, was held in each study site to: (a) understand livelihood challenges, strategies and learning; and (b) discuss indicators of resilience. More specifically, focus group discussions, card listing and card sorting exercises helped to focus this workshop. Story telling was an important aspect for understanding local notions of resilience.

Table 6: Resilience workshop

| | Day One |
|---|---|
| **Morning** | Introductions/Expectations/Objectives<br>Brainstorming livelihood successes and challenges<br>Livelihood challenges, strategies and learning (group work) |
| **Afternoon** | Monitoring daily life<br>Resilience indicator discussion |

### WRAP UP: SPRING 2004

The researcher continued following the 11 households while in Phnom Penh carrying out initial data analysis. Therefore, final feedback and reflection sessions were held with each household in the Spring of 2004. This sharing session enabled the researcher to give, or update, household photos with each household. Additionally, PRA information such as household portraits and daily activities were updated. A summary for each household was presented, with households confirming or adding additional information to this summary. Perhaps most importantly, a reflection session was facilitated to hear feedback on the research process and each household's comments on participating in this research.

Members of each resource management committee and commune council were met with to provide an overall summary of the research. Workshop reports were shared, in Khmer, at this point (this had been done at an earlier point in the research, also, but this was another time to ensure that information was flowing). Additionally, presentations were made to each NGO working in the area (PMMR and FAO-Siem Reap) to share key findings and summarize documents written to that point. Training materials were translated into Khmer, and a day was spent reflecting on how future participatory livelihood work could be facilitated.

### DATA ANALYSIS

Given the multiple scales that this research spanned (household, institutional, community level), a significant data set was produced. Time was taken to organize this data: interview notes, focus group discussions and non-structured interviews were entered into

the computer; workshop reports were also electronically organized. PRA tools were re-drawn into the computer, with original copies being left with household or community members. When possible, digital photos were taken of these PRA tools. All photos were scanned or downloaded into a computer, specifically the photo-stories generated with two households. Once data was electronically organized, all information was printed out to ensure clarity of what each data set entailed (scale and type of data covered within a particular data set).

Time was taken to learn the appropriate software to facilitate further data analysis (Nvivo for qualitative data; SPSS for quantitative data). Good data analysis can only occur with researcher familiarity with the data set. This took time, patience and persistence (new computer programs were being learned). Given that this initially took place while the researcher was still in Cambodia, there was time for further clarification and reflection with households and others in each research site. Each chapter drew upon a range of data, from PRA tools to quotes to community level livelihood analysis.

### CONFIDENCE AND RELIABILITY

The benefit of working with such a large data set over 21 months was that information was shared with the researcher in numerous ways at multiple scales. Certainly initial workshops were biased by the influence of the local resource management institution (in terms of participation and their perspective on resource management and livelihood). However, trust is a critical part of any research process, and it was essential to work with local organizations to ensure their comfort with this research process. Households spanned a range of villagers, and follow-up workshops also ensured a greater range of participants. Research began with less controversial topics around livelihood complexity: controversial topics were only probed in small focus group discussions and on an individual basis. Informal discussions also took place to verify ideas and to ensure varying perspectives on issues.

Although some translation was necessary, the researcher spoke enough Khmer to have a gist of what people were saying. The 11 households became more comfortable with the

research approach as the research progressed. By the second year, household members often approached the research team to say hello and to find a time to meet. By choosing a young research assistant with significant respect for elders, villagers were comfortable with our attitude and approach to this work. Perhaps the real reason that villagers were willing to speak so frankly on a range of issues affecting their livelihoods was the knowledge that the researcher had worked in Cambodia for several years prior to starting this research project. As Preun, an elder, shared, "you have helped us a lot with your work; we want to help you with your studies (Preun, April 2004)."

Quotes are an integral part of this thesis: whenever appropriate, the name of the person and date of the discussion are placed after the quote. This follows the work of Cruikshank (1998) and others who advocate for acknowledging and respecting individual research contributions and for a better collaborative ethic within research practices. Although many individuals and groups were met with throughout the 21 months of field research, the most consistent, in-depth work took place within 11 selected households (refer to the household level research section, in this chapter, for more details). Within these 11 households, we (the researcher, the research assistant and household members) discussed the pros and cons of using names or pseudonyms (within each household, and then as a focus group in each community). These 11 households decided that they should be quoted directly unless a topic was 'sensitive' (relating to politics or power issues, for example). For others (individuals and groups) that were met with, and whom we did not have a chance to adequately discuss the use of names, their role such as 'a fisher' or 'a commune councillor' is indicated rather than a name. For survey-like questions, information remained confidential and anonymous.

## ORGANIZATION OF THE CHAPTERS

This thesis is organized into eight chapters, followed by a list of references and four appendices. Each chapter format is set appropriately to its role in this thesis. For example, Chapter Two provides a review of literature related to Cambodia whereas Chapters Three, Five and Six blend theoretical concepts with field findings, much like an academic paper. Chapter Four is descriptive, drawing from primary research findings

and Chapter Seven combines research findings with policy literature related to Cambodia. The following explains the details found in each chapter more specifically:

*Chapter One* sets out the context for this research, and the research objectives. Theoretical concepts that guide this research are introduced: the neopopulist development paradigm, specifically drawing from livelihood studies; complex systems theory with a focus on social-ecological resilience and sustainability. Next, the research approach and research philosophy are explored. Specific research methods are outlined, including the PRA tools used during the 21 months of fieldwork.

*Chapter Two* draws upon secondary information to present an overview of livelihood issues found in Cambodia. A brief exploration into culture, religion and social indicators is given, before turning to a discussion of resources and rural livelihoods. Since this study examines fishing communities, the importance of aquatic resources for rural households is considered. The basic ecology of the Tonle Sap and the coastal zone are outlined, and the history of fisheries resource management is detailed, with an interest in more recent management practices and the build up to the 2001 Fisheries Reform.

*Chapter Three* explores the resource management strategies pursued by two Cambodian community level resource management committees. What are these resource management committees doing 'on the ground' once they are organized? An investigation of the resource management strategies undertaken by these committees and their ability to approach sustainability issues at the local level illustrates the complex nature of resource management issues. Consideration of how such resource management strategies develop and what may be learned in doing so is also detailed.

*Chapter Four* paints a picture of rural livelihoods dynamics in the two field sites, Koh Sralao and Kompong Phluk. Each community profiled, including general household characteristics. Household activities, specifically the details surrounding fishing households, are noted and seasonality is considered. Institutions, formal and informal, are then discussed, along with marketing opportunities and relationships with a

middleperson. Household problems and challenges in accessing livelihood opportunities are probed, before turning to household livelihood priorities.

*Chapter Five* uses a sustainable livelihood framework to centre the discussion on how predominately fishing households negotiate their livelihood opportunities. How does access to a combination of assets (or capitals) affect household livelihood activities? The livelihood strategies that households may then pursue are explored, including intensification, diversification and/or migration strategies. The ability for rural households to persist and endure is considered. Particular attention is paid to issues surrounding access to cash, loss of fishing gear and solving land conflicts.

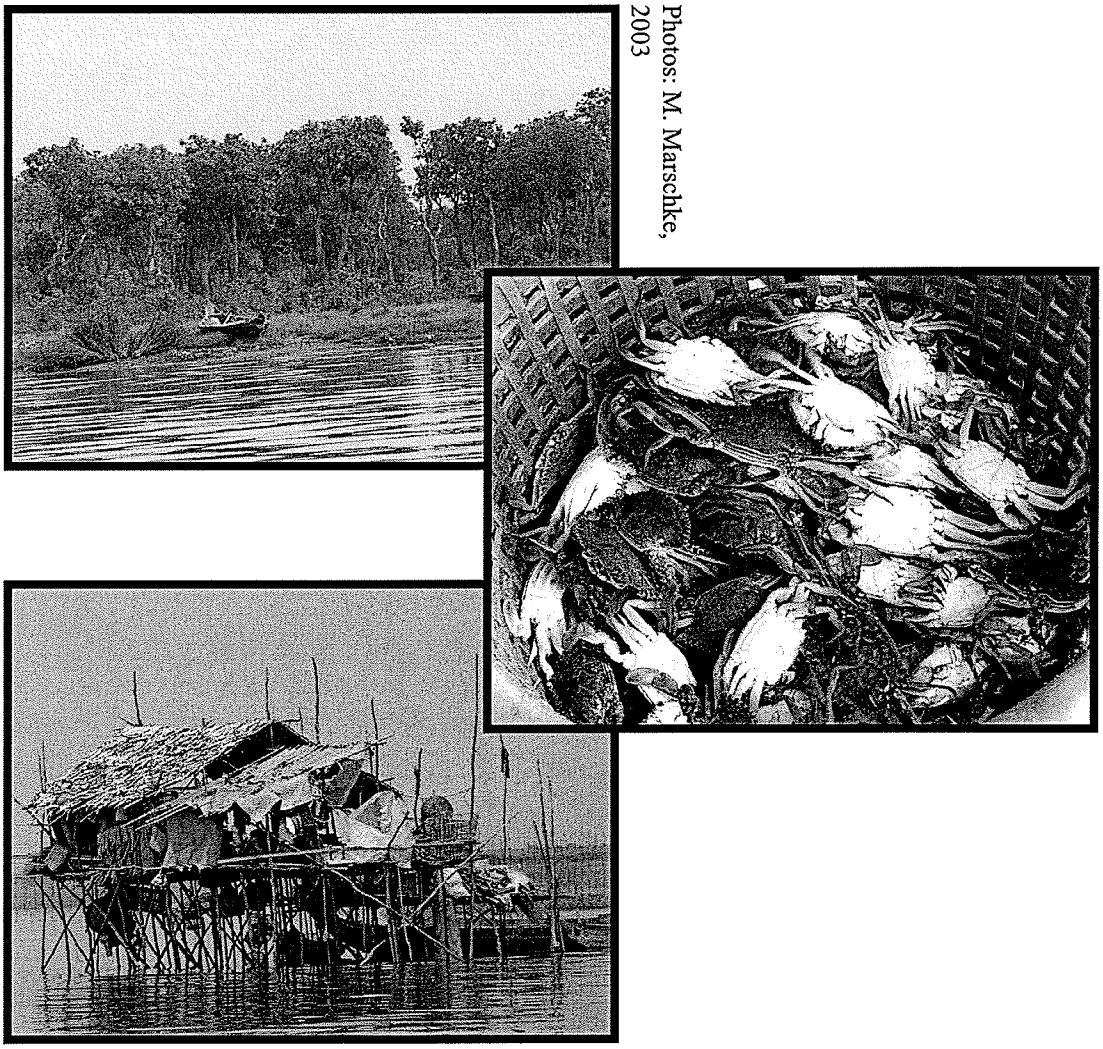
*Chapter Six* uses resilience thinking and a study of well-being to further analyze livelihoods rural livelihood. The stresses and shocks found in each context are explored, along with an investigation into livelihood diversification as both a coping and adaptive strategy that households may pursue. An analysis of resilience-building strategies is presented from several perspectives before turning to a local analysis of what well-being means for Koh Sralao and Kompong Phluk villagers.

*Chapter Seven* begins by highlighting early experiences with community-based management in Cambodia, followed by a synthesis of three approaches to community-based management: (a) community fisheries management, (b) participatory land use planning and (c) an emphasis on mainstreaming resource management into commune council plans. These three approaches are compared and briefly analyzed, before turning to a more detailed analysis of incorporating resource management into commune level planning and field experiences with incorporating these policy approaches. How livelihood fits into community-based management practices is considered.

*Chapter Eight* concludes this thesis. This chapter re-visits the main concepts, along with the thesis objectives. Key findings and conclusions are then presented, and some attention is then given to reflecting upon the development of this thesis.

# Chapter Two:

# Embracing diversity, the Cambodian livelihood context



Photos: M. Marschke, 2003

The flooded forest, crabs and a seasonal home on the Tonle Sap

# Chapter 2: Embracing diversity, the Cambodian livelihood context

Chapter Two draws upon secondary information to present an overview of Cambodian livelihood issues, and emphasizes trends in resources availability and fisheries-related polices. This chapter begins with a brief examination of Cambodian culture, religion and social indicators to provide insights into the cultural context where this study took place. The discussion then focuses on resources and rural livelihoods. Ecosystems of the Tonle Sap and the coastal zone -- ecosystems that the two groups of fishers rely upon -- are detailed. Since this study examines two fishing communities, the importance of aquatic resources for rural households is considered. Then, a historical perspective is taken, briefly examining the history of fisheries resource policy and considering how history influences why communities may become engaged in fisheries management. In conclusion, the build up to the 2001 Fisheries Reform is examined.

## CAMBODIA IN CONTEXT

### CAMBODIAN CULTURE

> Small people do the work, the big give orders; when the small challenge, then the big will kick. Cambodian proverb

This Cambodian proverb describes how those with less power (the small) should not try to challenge those with greater power. The proverb hints at values that may be deeply embedded in the Cambodian way of life, namely hierarchy and power relations. Although Cambodian culture is "constantly being re-imagined, and negotiated, through the everyday actions of people going about their lives" (Legerwood and Vijghen 2002: 110), there are values that are ingrained within Cambodian society.

Cambodian social relations take place within a generally authoritarian, hierarchical construct (c.f. Legerwood and Vijghen 2002; Marston 1997; Ebihara 1968). From childhood, people are taught to obey and respect those with authority. Challenging, questioning, and holding dissenting views are discouraged, conflict is seen as bad and

loss of face is inappropriate. O'Leary and Meas (2001: 48) further comment: "In Cambodian society social stratification and differences in status are extremely important. Everyone knows, and needs to know, their place relative to that of others". In Cambodia, power is a particularly understood concept, representing those with money, connections and friends-in-high-places (Marston 1997). While the powerful assume their right to control, subordinates internalize and accept their powerlessness (O'Leary and Meas 2001). Notions of power and authority relate to patron-client relationships (Ayres 2000).

In Cambodia, patron-client relationships are subject to negotiation. That is, the particular nature of dominance and dependence of two parties are in constant flux (Legerwood and Vijghen 2002). The Khmer saying "*neak mein knong*" which literally translates as "person with back" refers to the idea that someone with greater power is supporting them. In the context of resource management, for instance, if villagers wish to prevent illegal activities from taking place someone with greater power may need to support such actions (Nong and Marschke *in press*). Culture is dynamic, subject to accommodation, adaptation and revision (Smith 1994).

## RELIGION

> Don't reject the crooked road and don't take the straight one; instead, take the road travelled by ancestors. Cambodian Proverb

Within Cambodia, a Theravada Buddhist society, a complex relationship between Buddhist and non-Buddhist practices exist. Cambodian scholars describe their religion as a mixture of animism, Brahmanism and Buddhism (Marston and Guthrie 2004). Although Cambodia's dominant population, the Khmer, practice Theravada Buddhism, other religious practices are also found in Cambodia. For example, some Khmer have converted to Christianity (i.e. refugees returning from border camps; evangelization by overseas Cambodians and Christian NGOs). There is also a blend of 'Chinese' and 'Khmer' religious practices, of which little is written on. In terms of minority populations, there is a significant Muslim Cham movement and diverse religious practices are found within Cambodia's ethnic groups (Marston and Guthrie 2004).

In Buddhist communities, pagoda's and Buddhist festivals are the ritual centre of community life. For example, reconstruction of a local pagoda was often the first thing a community worked towards after the Khmer Rouge (KR) genocide (1975 – 1979) (Legerwood 1998). Pagoda associations are found in most pagodas, and often include self-help groups (Pellini 2004). The calendar of Buddhist festivals has a direct connection with Cambodia's agricultural cycle. The Day of the Dead festival (meant to honour the dead) corresponds with the end of a period of intensive labour associated with transplanting rice; the Water Festival (meant to generate merit and community spirit) occurs before the harvest (Marston and Guthrie 2004). The link between such pagoda associations, Buddhist teachings and environmental practices in Cambodia is not well explored.

### SOCIO-ECONOMIC INDICATORS

Over 13 million people live in Cambodia, with 43% of the population living below the poverty line (84% in rural areas) (Human Development Report 2000). Half the households within nearly one-third of all Cambodian communes[14] live in poverty. Poverty, according to Cambodia's National Poverty Reduction Strategy (NPRS), is a function of "high population growth, inadequate opportunities, low capabilities, insecurity, exclusion and vulnerability" (NPRS 2002: 10).

Cambodia has one of the poorest human development performances in Asia. According to the latest Cambodia Human Development Report (2002), Cambodian society is characterized by entrenched inequality as demonstrated by poverty, inequality in gender status and access to education. Poverty affects households differently. From a gendered perspective, as an example, poor women have less access to health-care, education and productive resources than their male counterparts (Larrson 1996). Women are vulnerable to trafficking and prostitution. Regional differences, particularly between urban and rural areas, enhance inequalities ever further.

[14] Administratively, Cambodia is divided into 24 provinces, including four municipalities that are divided into 183 districts. Districts are further divided into 1615 communes and 13 406 villages. Most villages are small: 2/3 of all villages have a population of between 1000–2000 persons (MoP 2002).

Social indicators remain low in Cambodia: most likely it will take another generation to regain human capital lost during the Khmer Rouge era. The population structure is skewed with approximately 42% of the population being below the age of 15, thus indicating a high dependency ratio. The illiteracy rate for adult males is estimated to be around 20% and for adult females 43%. Life expectancy at birth is 54 years, and the level of adult literacy is 69% (World Bank 2004). Malnutrition is widespread. Both maternal and child and infant mortalities are high despite improvements during the 1990's. Between 1990 and 2002 infant mortality decreased by 24% (down from 125 to 95 per 1000 live births) while under five mortality decreased by 37% (down from 200 to 124 per 1000 live births). Also maternal mortality decreased by some 25% during the period but remains at a high level (437 per 100 000 live births) (World Bank 2004). These numbers are estimates, since there is no reliable system of birth and death registration in Cambodia.

Cambodia remains one of the most heavily aid-dependent countries in the world (UNDP 2002). Low GDP per capita (270 USD) also makes Cambodia one of the poorest countries in the world (World Bank 2004). Economically, Cambodia relies on the agricultural sector; however, agriculture's share of GDP decreased from 37% in 2000 compared with 56% a decade earlier. Agriculture's significance is particularly important in relation to employment: over 70% of the population over 15 years old pursues agriculture activities (this statistic also includes forestry and the fishery) (MoP 2002). For many rural Cambodians, agriculture-related pursuits are critical livelihood strategies.

## RESOURCES AND LIVELIHOODS

Rural households practice a diverse range of income and livelihood strategies to meet their needs, including agricultural practices, using common pool resources (CPRs) and other economic activities. For example, 90% of rural households engage in some form of agriculture and 30% or more of rural households engage in wage labour of some type including small businesses (World Bank 2004). CPR-based activities (fishing and forestry) are important livelihood strategies for subsistence and economic purposes (Helmers et al. 2004). Rural Cambodians may depend on forests for construction

materials, fuel wood, non-timber forest products (NTFPs) and for traditional medicines. Indigenous communities place a high spiritual value on forest areas. Aquatic resources that households may depend upon include fish and other aquatic species, water lilies, morning glory and lotus plants.

In a survey of 9 villages, Sophal and Acharya (2002) noted a relatively higher dependence on CPRs for the poorest households in a village, although better-off households gain higher incomes from CPR in absolute terms. This is related to access to labour and to capital required to maximize benefits. For instance, if a source is far away a household requires access to male labour (since women rarely leave the village area for longer time periods) and a means of transportation (Helmers et al. 2004). Overall, rural livelihoods in Cambodia depend heavily on natural resources. Helmers et al. (2004: 7) comment that, "forestry and fisheries/aquatic resources are an essential part of rural Cambodian households' livelihood activities. They support subsistence and constitute sources of income. They are of particular importance to the rural poor".

Continued access to fishery and forestry resources represents insurance against agricultural risks, providing livelihood security for those with little or no land. Not all rural households, however, can access CPRs (this depends upon where a village and/or a household is located). Even if forests or water and fish are located near a community, fishery and forestry resources do fall under a mix of property rights regimes (which may or may not facilitate access). Such property regimes include: community controlled (e.g. community fisheries or community forestry sites); open-access (e.g. coastal fishing areas; non-fishing lot areas); state owned (e.g. protected areas); and private ownership (e.g. forest concessions; fishing lots). A commune or village chief will most likely have access to small amounts of land within a village or commune. Private ownership of larger areas of land in a village or commune tends to be owned by outsiders to an area (business people). If a forest or fishery area is under private ownership, state ownership or open-access it can be challenging for smaller fishers, farmers or NTFP collectors to access these resources, especially if competing with large-scale fishers or loggers, or access is restricted.

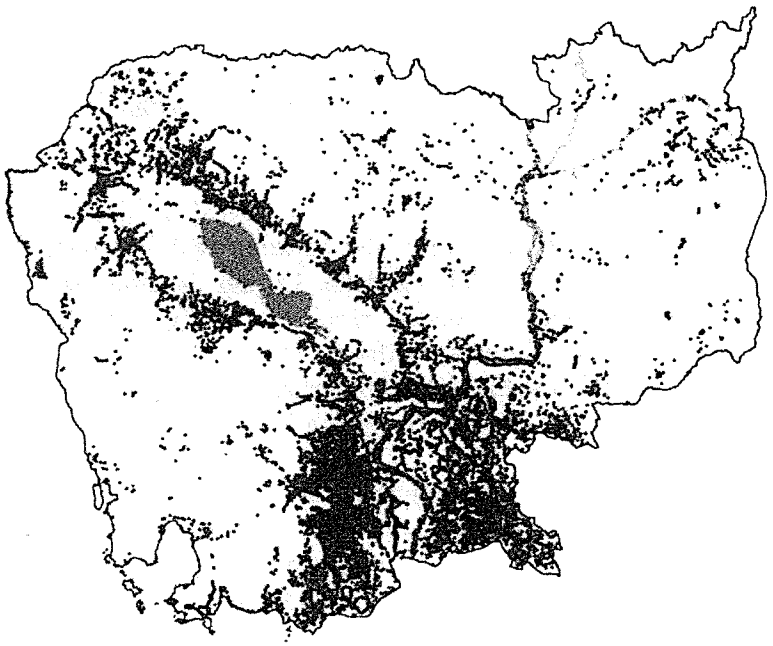


Figure 3: Cambodian villages (each dot represents one village)

Although rural livelihoods may depend upon access to natural resources, not all parts of the country can support such demands. For example, there is a heavy concentration of villages in south-eastern Cambodia (Figure 3), an area that is prone to flooding and severe droughts. Many households seek livelihood opportunities in other parts of Cambodia because of the resource scarcity found here: Cambodia's population is highly mobile. For example, 1998 data shows that 10% of the rural population moved in the 12 months prior to the survey, with over 57% of migrants moving from one rural area to another (NIS 1998). More recent data (NIS 2002) suggests that rural to urban migration has increased in the 2000's. Such patterns have implications for natural resource use.

Cambodia's once rich natural resource base is declining as Cambodia makes the transition to a market-based economy. In the past ten years, fishery and forestry resources have been rapidly exhausted (McKenney and Tola 2002). Since 2000, catches in the Tonle Sap Lake have been lower than would be predicted by peak flood level, and the 2003-2004 catch was the lowest ever recorded (Hortle et al. 2004), apparently the result of ever-increasing fishing pressure along the Tonle Sap Lake and Tonle Sap River. The illegal 'grabbing' of land, forest and water areas by those with 'power' reduces the range of options available to rural households. For instance, although flooded forests play a crucial role in maintaining the health of the fisheries much of these forests have been cut and converted for agricultural purposes including rice cultivation and mung bean

farms. By 1997 only 450 000 ha of flooded forest habitat remained compared with one million ha of flooded forest found in 1973 (Smith 1999). How is this rapid over-exploitation affecting the livelihoods of rural people?

For many rural households, poverty is increasing with growing inequalities in asset ownership, declining access to common property resources and a decline in traditional income generating activities (Turton 2000). Although in some rural areas this has been compensated for by a growing demand for labour, Murshid (1998 *as cited in* Turton 2000: 13) paints a bleak picture:

> the poor have increasingly limited access to land and few own animals. They rely largely on access to common property resources and the sale of their labour. Migration in search of work is becoming more and common, with women in particular taking on heavy labour ...in order to repay loans. ...An important purpose of such loans at high rates of interest is to deal with health emergencies, which often have catastrophic consequences.

In rural Cambodian households, there is a particularly high prevalence of shocks that lead to income loss or increased spending. For example, 90% of households are affected annually by (a) illness; (b) rice crop damage or failure; or (c) death of livestock, such as pigs, with this type of crisis costing a household 30% of total household annual cash income (Helmers et al. 2004). Limited analysis has taken place in fishing communities (which often have minimal access to land) to consider how households or local institutions deal with stresses and shocks.

While Cambodia remains a donor-driven country, little research and aid money is allocated for natural resources (1%) or agriculture, forestry and fisheries (4%) (Godfrey et al. 2000). Helmers et al. (2004), in a review of research on rural sources of income and livelihood strategies in Cambodia, found that national level studies are limited in understanding the dependency of rural households on different income sources and the resource base. Results tend to be based on the main livelihood activity of an individual or household. For example, households involved in agricultural, forestry or fishery activities are lumped together in one or two categories, usually accounting for 70-80% of rural households. It is difficult to understand the relative role of livelihood activities

based on resource sector (and the importance of specific activities within each sector), or the role of casual wage employment (Helmers et al. 2004).

Yet the results of these few studies are repeatedly used in most secondary studies and analyses concerning national level policy issues (Helmers et al. 2004). Better understanding of rural livelihood is necessary (McKenney and Tola 2002). Also critical for poverty alleviation is a consideration of the potential for equitable growth in the natural resources sector. Turton (2004: 16) comments that, "we need to move the debate from that of current dependence and utilisation to the potential contribution of natural resources with an emphasis on equitable access and equitable sharing in revenue flows". Access to and benefits from natural resources by villagers might just enhance rural livelihood.

## EXPLORING TWO ECOSYSTEMS, THE TONLE SAP AND THE COASTAL ZONE

### THE TONLE SAP

#### *Biophysical setting*

The Tonle Sap[15] is a huge inland water body and one of the largest and richest freshwater fishing areas in Asia, supporting the livelihood of more than one million Cambodians. This freshwater lake lies in the flat, fertile plains in the centre of the country (see Figure 4). Its

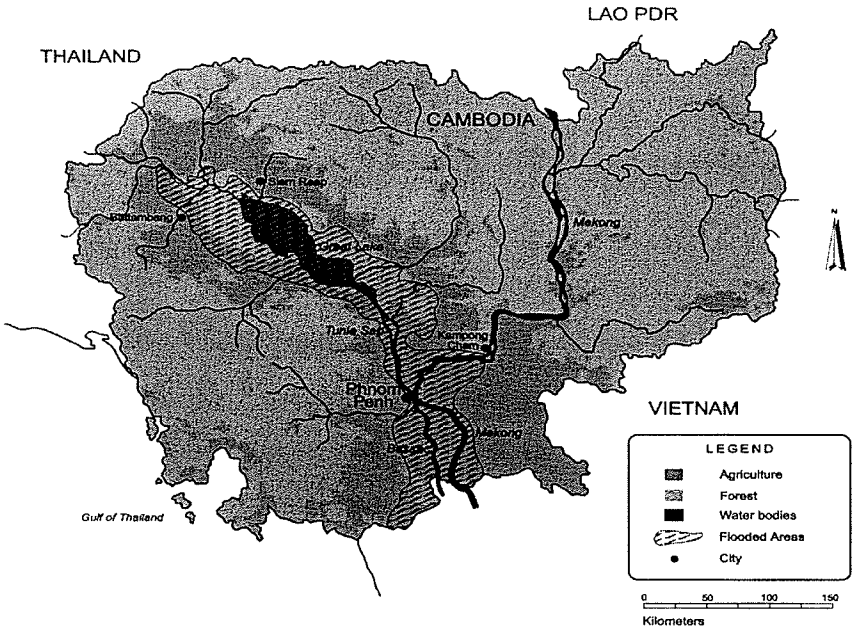



Figure 4: Cambodia's water system

[15] I alternate between writing the Tonle Sap Lake and the Tonle Sap in this thesis. When referring specifically to the river, I indicate the Tonle Sap River.

size varies from approximately 160 km long and 35 km wide during the dry season up to 250 km long and almost 100 km wide during the height of the flooding (Keskinen 2003). The Tonle Sap is known for its exceptional water regime with huge changes in the lakes water level and water volume between different seasons.

The variation in water levels is caused by an extraordinary hydrological phenomenon driven by the water levels of the Mekong River (Lamberts 2001). The Tonle Sap River connects the Tonle Sap Lake with the Mekong River. Many fish migrate into the Tonle Sap during the wet season (June to October) to spawn in the nutrient-rich waters surrounding the flooded forest areas. As the Mekong River rises, with the monsoon, the Tonle Sap River flows backwards to the north, filling the Tonle Sap Lake and inundating the floodplain (extending over flooded forests, shrubs and rice fields). The Tonle Sap more than quadruples its dry season size from 2 500 $km^2$ to 11 000 $km^2$ and increases in average depth from one meter to ten meters (MRCS/WUP-FIN 2002). As the water level of the Mekong River falls at the end of the monsoon season, the Tonle Sap River reverses, flowing south and gradually emptying out the Tonle Sap Lake.

The Tonle Sap ecosystem is one of the most fish-abundant lakes in the world (Keskinen 2003), in part because of the unique combination of annual flooding and high biodiversity. There is extensive and diverse fish migration of different species between the Tonle Sap and the Mekong River. The flooded forests and shrubs offer shelter and breeding grounds for fish and other aquatic animals (Bonheur 2001). The lake also has one of the richest stocks of water birds in Asia, including many endangered species. Flora includes almost 200 different aquatic plants (Tonle Sap Biosphere Reserve 2002).

The Tonle Sap continues to be ecologically and socially significant for Cambodians. According to Bonheur (2001) half of Cambodia's present population benefits directly or indirectly from resources found in and around the Tonle Sap. Angkor, a great ancient southeast Asian civilization, developed in proximity to the Tonle Sap (Keskinen 2003). Much of Cambodia's history revolves (and evolves) around the Tonle Sap and the Mekong River.

## THE COASTAL ZONE

### *Biophysical setting*

Little is written about Cambodia's coastal zone. The coastline is relatively short at 460 km, and the coastal areas support a small population (Figure 4). Common fisheries include: fish, especially grouper and sea bass; wild shrimp; crabs, mostly mangrove mud crab; and squid (Marschke 2000). There are small fisheries for cockles, mantis shrimp, volutes, gastropods, sea cucumbers and clams (Gum 2000). The mangrove forests[16] provide habitat to a variety of fish species, crustaceans and shellfish (Ruitenbeek 1992).

Cambodia's coastline is relatively rich in mangroves (an estimated 85 000 ha) and shares species and coastal ecosystems with the Gulf of Thailand. The majority of mangroves are found in Koh Kong (Marschke 1999). This mangrove ecosystem is dynamic, in a continuous state of change. In other words, each mangrove forest type is the result of adaptations with plant communities to the bio-physical influence in a particular environment (Masteller 1997). Mangrove forests are highly productive. As a result, there is an increased incentive for market products and aquaculture. The history of failed shrimp aquaculture found in Gulf of Thailand (including Koh Kong province) is an example of this (Huitric et al. 2002).

## AQUATIC COMMON PROPERTY RESOURCES

Fisheries in Cambodia are an integral component of rural livelihoods, contributing to food security and to the national economy. There are few accurate or relevant statistics on the fishery: it is impossible to say how much fish and other aquatic resources are harvested annually, to know national revenues or to know sustainable catch levels. MRC (2004), combining a variety of data, estimates that annual catch of inland fish is over 400 000 tons. This makes Cambodia the most productive country in southeast Asia and the fourth most productive country in the world (Helmers et al. 2004). The annual catch of other aquatic animals such as shrimps, crabs, frogs, snakes, insects and turtles is

[16] Mangrove forests are fertile, diverse saltwater ecosystems (Aksornkaoe 1987).

estimated to be 60 000 tons (MRC 2004). There are no reliable estimates for annual catch levels in the coastal area.

Precisely estimating the number of people dependent on fisheries is difficult given seasonal fluctuations and the shifting ability of people to access fisheries resources. In the Tonle Sap, a floodplain environment, there are also annual variations in abundance according to the flood extent. Nonetheless, most Cambodians are said to be dependent upon aquatic resources for nutrition and/or income. One study suggests that over two million people derive direct employment from the fishery and fisheries-related activities (FACT 2002). Fish, in one form or another, is estimated to provide around 75% of animal protein for rural people in the country (Degen et al. 2000). Annual fish consumption is estimated at 40kg/person, although this is higher in floodplain and coastal areas where fisheries resources are more accessible (Helmers et al. 2004). For farmers, during periods of rice shortage fishing and collecting, aquatic resources provides food security and an additional source of income. Access, of course, varies depending on the agro-ecological zone, distance to the source, access to boats and fishing gear and availability of labour.

### *Fisheries decline*

Over-fishing along the Mekong River threatens both large species and the overall catch. At some sites, including the Tonle Sap River, past fish catch historically has been closely correlated to peak flood level. The number of fishers in the Tonle Sap River basin has increased from 360 000 in the 1940's to an estimated 1.2 million in 1995. During the same period, catch per fisher has decreased by 50% but overall catch has nearly doubled (Allan et al. *draft*). Although large and medium-bodied fish dominated the 1940's catch, by 1996 the catch was heavily dominated by small fish due largely to increased fishing pressure and assemblage over-fishing (Van Zalinge et al. 2001). Small cyprinids now make up over 40% of the total catch of the Tonle Sap system, while the populations of large migratory catfish and carps have declined (Allan et al. *draft*).

Sophal and Acharya (2002), in a study of nine villages, asked respondents to give their subjective opinion regarding the availability of fish stock and 66% reported a decrease. Reasons suggested for this decline included: over-fishing; blast fishing; electro-shock fishing; large push nets and population pressures. Other qualitative studies have also hinted at this decline (c.f. McKenny and Tola 2002; Marschke and Nong 2003; Evans et al. 2004) and further suggest that illegal fishing, clearing of forests, climate change and misuse of pesticides also contribute to this decline. The Tonle Sap fishery is threatened by a variety of illegal and destructive practices. There is also an extensive use of fine mesh nets (including mosquito nets) and other illegal fishing gear, as well as commercial medium or large-scale gear used out of season (Evans et al. 2004). The extreme diffusion of the fisheries resource in the Tonle Sap during the flooded season means that much fishing is opportunistic.

Perhaps the greatest challenge to the sustainability of the Tonle Sap fishery stems from outside Cambodia. Dams on the upper Mekong in China and on tributaries in Lao PDR and Vietnam negatively impact river water volumes and hence fish stocks in the Tonle Sap: water flows have decreased in recent years by 12-15 percent (Van Zalinge et al. 2001). McKenny and Tola (2002) note that the implementation of proposed dams for the Mekong would further reduce the wet season water flow of the Tonle Sap River by 20 percent. Not only would an estimated 240 000 ha of regularly submerged land in the Tonle Sap no longer be flooded, there would be a dramatic loss of fisheries habitat and productivity. Greater attention needs to be paid to how dams threaten this particularly unique ecosystem.

There is limited data available for coastal fisheries; however, fishers' themselves suggest significant fisheries declines in the past decade are influenced by greater fishing pressure and the use of illegal and destructive fishing practices (coastal bag nets, large-scale trawlers, dynamite fishing) (PMMR 2004). Nelson (1999: 1) highlights that, "there is no reliable data on catch statistics, but the indications of catch per unit effort of fish, shrimp, squid and crabs is declining, particularly for small-scale fishers...Effort has also increased in the last ten years". Another indicator of resource declines is the conversion

of Cambodia's mangroves (which are critical habitat for coastal fisheries) to salt farms, for fishponds or shrimp farms, logging or charcoal production (Mastaller 1999). This is similar to the overall trends of fisheries and mangrove decline found in the Gulf of Thailand (Huitric et al. 2002).

### *Role of household members in the fishery*

Women, men and children tend to play different roles (often complimentary) in the fishery. Women participate mainly in small-scale and daytime fishing close to the home and play a dominant role in processing, marketing and selling fish, as well as in the maintenance of fishing gear and fish culture ponds. It is predominantly men who participate in harvesting larger, more lucrative fish often further away from villages (Gum 2000). Children tend to help out parents, depending upon age and gender.

Households without access to adult male labour may not be accessing CPR equitably. Sophal and Acharya (2002) found that households with little or no access to male labour only earn half as much as male-headed households from the sale of snails, freshwater shellfish and water plants. In villages close to larger water bodies, male-headed households could make substantial incomes from catching and selling larger fish (although this often requires a capital investment that not all male-headed households can afford either).

## FISHERIES 'MANAGEMENT' IN CAMBODIA: A POLICY PERSPECTIVE

This final section examines fisheries management in Cambodia. A historical perspective is taken, considering the involvement of government in fisheries management and considering if any communities were involved in resource management prior to the late 1990's. Then, the 1987 *Fisheries Law* is explored, along with the recent history of fisheries management (with particular attention paid to fisheries management in the Tonle Sap) that led to the 2001 Fisheries Reform.

## HISTORICAL INSIGHTS, FISHERIES MANAGEMENT

> Some French writers have asserted that Cambodian villages had no government at all, and in most of them, indeed relations with outsiders and with the state were sporadic and unfriendly ... Villages were usually 'ruled', for ceremonial purposes and for the purposes of relations with higher authorities... Taxes ...seem to have been paid, irregularly, on demand (Chandler 1996: 104).

The once-abundant aquatic resources found in the Tonle Sap have generated significant revenues for Cambodian royalty, the French Protectorate, and more recently the Department of Fisheries and high level officials. For example, Cambodian royalty held a tradition of fundraising through issuing fisheries concession leases; King Norodom (1859–1897) was entitled to arbitrary dues on fishing (Petillot 1911 *as cited in* Degen et al. 2000). French colonizers (1863–1953), like Cambodian royalty, recognized the revenue potential of these rich natural resources. A taxation system was, in part, modeled on Cambodia's traditional practices: the French Protectorate formalized these concession arrangements in order to generate revenue for the colonial administration.

French colonial policy enabled local level leaders to claim common lands, lands that were once available to all villagers (i.e. what may have been common property gradually was taken over by local or other elites). The prime fishing grounds in the Tonle Sap and Tonle Sap River were designated as 'fishing lots'[17] for the exclusive use of large-scale fishers and industry. Fishing rights were auctioned to private bidders to raise revenues: the highest bidder then held exclusive fishing rights over a particular area, with Chinese merchants monopolizing the market. By the early 1900's, a significant amount of trade was taking place (50 000 ton per year of fish were exported in the form of dried, salted and fresh fish, along with fish oil and fish paste). In 1908 an initial *Fisheries Law* was established. Although already in the 1930's there was an indication of stock declines in the Tonle Sap, only a few restrictions in fisheries practices were set in place. More or less, this 'fishing lot' system continued through Cambodia's independence when the 1956 *Fisheries Law* was written and the Department of Fisheries was established (1960), until the rise of the Khmer Rouge (Degan et al. 2000).

[17] This 'fishing lot' system -- found in Cambodia and Vietnam -- is specifically for freshwater areas. Perhaps because of the abundance of resources found in the Tonle Sap, coastal resources were largely ignored.

During the Khmer Rouge era, fishing resources were neglected in favour of agricultural development (in particular, rice production), which also involved clearing some flooded forest areas. Although aquatic resources were for the most part untouched during the Khmer Rouge, examples of exploitation such as the massacre of the *Irrawady* dolphin population found in the Tonle Sap (using the oil contained in the dolphin's flesh as an engine lubricant) do exist. Fishing that did take place was to supply leading Khmer Rouge cadres in Phnom Penh (Degen et al. 2000). Although in the early 1980's the Vietnamese government organized fishers into solidarity groups[18] to fish (selling their product to the State), by the late 1980's the government re-established the fishing lot concession system to raise revenues. Once again, fishing lots were auctioned to the highest bidder thereby excluding villagers from these fishing grounds (generally, officials from Phnom Penh or a provincial town won bids on the fishing lots: local business people did not have enough cash to compete in this process).

### HISTORICAL INSIGHTS, INCENTIVES FOR COMMUNITY LEVEL RESOURCE MANAGEMENT

Little is written about how communities in Cambodia 'managed' their resources prior to the devastating Khmer Rouge regime, or for that matter at any point leading up to the proliferation of community-based management practices in the late 1990's (which coincides with the appearance of many donor agencies and NGOs). Some accounts suggest that little management took place (c.f. Chandler 1996). Other descriptions suggest that some local resource practices were endorsed, and most likely led, by village and higher level government officials (c.f. Martin 1997; Marschke 1999). One detailed explanation describes state-controlled marketing systems for resources in the 1960's. Villagers could 'manage' their resources however they liked, so long as they sold their product to a centrally appointed government official. Household harvests were recorded, with money being collected after the district chief sold the harvest on behalf of households (Martin 1997). In coastal areas near the Thai border, villagers recall designating specific areas within the mangroves to produce charcoal, including devising a

[18] During the 'Vietnamese occupation' of Cambodia, in the 1980's, farmers and fishers were organized into 'solidarity' groups within each village. This was part of a collectivization process.

rotational system for mangrove cutting and charcoal production (Marschke 1999). Such examples are few and far between: it is difficult to get a sense of resource management practices at the local level.

### *Kompong Phluk: building upon local practices*

This is what makes the history of flooded forest protection in Kompong Phluk particularly interesting. Considering that much of the flooded forest in and around the Tonle Sap Lake has been cut in recent years, it is worth considering the history of flooded forest protection found in this area. The flooded forest near Kompong Phluk is dense in comparison to other communities (Evans et al. 2004). Table 7 highlights flooded forest protection practices that elders recall in Kompong Phluk.

Table 7: Historical time-line in Kompong Phluk

| | |
|---|---|
| 1930's-1940's | Parts of flooded forest near villages cleared for watermelon cultivation. Wind and storms began affecting these villages. Late 1940's villagers protest (most likely complained to commune or district level)! Watermelon cultivation stopped; reforestation was encouraged near villages. |
| 1960's | Some forest cutting for mung bean cultivation; also pumpkin, cucumber and other vegetables are grown near village. Dense forests found near villages. |
| Khmer Rouge | Mung bean cultivation expands into edge of the flooded forest: other resources (fish and trees deeper in lake) not used. |
| early 1980's | Collective farming: mung bean farms divided between 300 families living in Kompong Phluk; immediate forest surrounding village was 'protected'. |
| 1987/1988 | Administrative reshuffling: parts of Kompong Phluk commune transferred. District authorities handover mung bean farms to upland communes. |
| early 1990's | Slash and burn of the flooded forest area, especially bordering other communes, for conversion into mung bean farms. |
| 1994 | Fire, possibly from 'outside' fishers (upland areas), burned 200ha of flooded forest, enraging villagers and serving as a catalyst for further flooded forest protection. |
| 1998 | The community requested assistance to expand the area of community 'protected' forest and stop encroachment of mung bean farming; replanted seedlings onto 50ha of former farmland with provincial Department of Fishery support. Began working with FAO-Siem Reap project. |

Adapted from: Evans 2002; Evans et al. 2004; Marschke 2005.

Table 7 illustrates that villagers were motivated to protect their homes from storms and winds: hence, flooded forest protection practices emerged (Evans et al. 2004). Farming practices were stopped (with government support) near people's homes in the late 1940's to let the flooded forest regenerate naturally (Evans et al. 2002). After the Khmer Rouge regime that, ironically, enabled forest and fishery resources to replenish, flooded forest areas began to decline. There was an increase in mung bean farming, and other types of farming, both by villagers and outsiders. However, with the centralized administration reshuffling in the late 1980's, Kompong Phluk farmers lost their mung bean fields to other communes. Since then there has been a steady encroachment from upland farmers into the flooded forest areas (Marschke 2005). Community members engaged in flooded forest protection in and around Kompong Phluk through an informal monitoring system (stopping outsiders from cutting trees) (Evans et al. 2004). However, continuous resource pressures (i.e. population growth, resettlement post-Khmer Rouge, less access to common property resources and declining fish stocks due to rapid over-fishing) led the community to re-think their more 'traditional' flooded forest protection strategies (Marschke 2005). This 'rethinking' – and the resource management strategies that are now pursued in Kompong Phluk – is explored in Chapter Three.

### *The story of Koh Sralao: shocked into resource management*

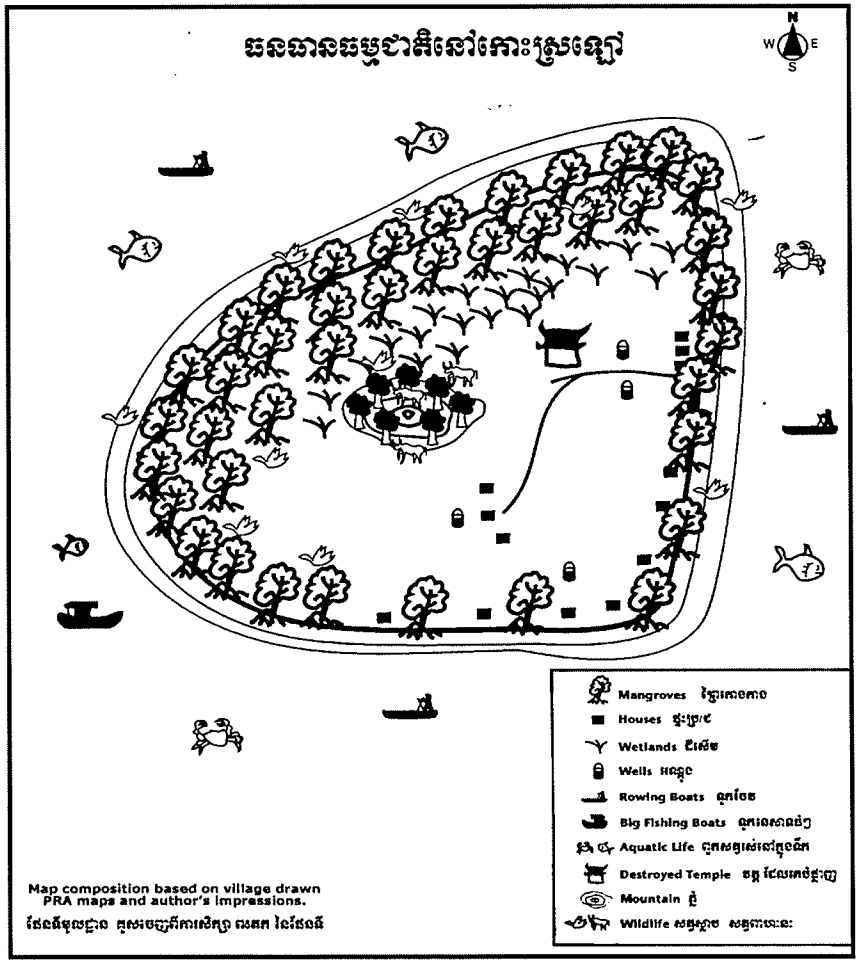
While there may be a history of flooded forest protection or other forms of resource management within Kompong Phluk, other communities were not necessarily involved in resource management practices. For example, in the coastal village of Koh Sralao, most households were involved in resource extraction activities in the 1980's and 1990's (Marschke and Nong 2003). However, with continuing market demands for a number of products, the resources of in the area -- including mangrove forests and fisheries habitat -- declined significantly in the 1990's.

Since there is limited secondary data regarding how coastal people may have interacted with coastal resources, I am relying on my own earlier work to provide background. Marschke (1999) describes the changes in resources that longer-term Koh Sralao residents observed and sketched between 1980 and 1998 (Figure 5). By 1998 many

mangroves had been cut near Koh Sralao, and much of the upland forest area had been cleared. There was a dramatic increase in charcoal kilns (which was linked to the decline in mangrove forest areas) in the village, along with an increase in garbage. Meanwhile, the number of fishers had increased, including larger-scale fishers competing for the same fishing grounds as smaller-scale fishers. Although the population had increased (around 100 households in 1980 compared with nearly 300 households in 1998), the number of wells found in the area had not (six additional wells were built in the village by one NGO in 2001, which now face salt-water intrusion) (PMMR 2002). It was in the late 1990's, as a result of significant resource declines, that villagers in Koh Sralao became interested in resource management. Specific resource management strategies are explored in Chapter Three.

Insights from Koh Sralao and Kompong Phluk suggest that resources became less abundant in the 1990's. Most likely, this type of resource decline is found both in areas that were and were not 'managed' by local communities (McKenney and Tola 2002). Such declines affect local livelihoods, and perhaps helped to spark the growing interest in local resource management. One reason that fishing communities experienced such rapid resource declines, especially in the Tonle Sap, can be attributed to the state-controlled fisheries management system. The 1987 *Fisheries Law* is explicit about the State's ability to use the fishery as a revenue source.

Koh Sralao, 1980




Koh Sralao, 1998

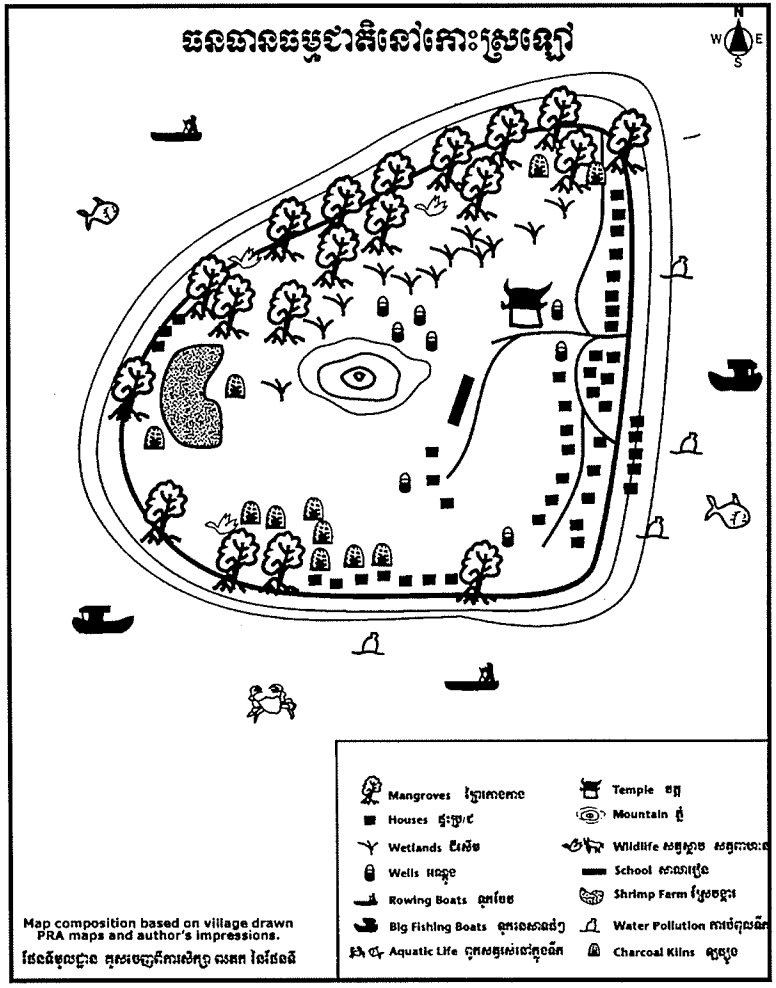



Figure 5: Comparing Koh Sralao between 1980 and 1998, villagers' perspectives

Source: Marschke 1999

## THE *FISHERIES LAW*

In 1987, the most recent *Fisheries Law* was approved. Within the 1987 *Fisheries Law* there are three categories of fishing, based on gear type: small-scale, medium-scale and large-scale fishing gear. This Law recognizes large-scale fishing operations – that were initiated under French colonial rule – as a major State revenue source and tool to control the fishery. Large-scale fishing involves the leasing of specific physical areas to selected individuals as 'fishing lots' with resource management activities defined in 'burden books'. Fishing lot boundaries were demarcated in the late 1980's. This was a lucrative business. In the mid-1990's, nearly one million ha of the Tonle Sap Lake were controlled by 135 fishing lot operators (Evans 2002). The most productive fishing grounds came under this type of lease arrangement, resulting in limited access by local people.

Outside of 'fishing lots' and 'fish sanctuaries' (deepwater locations in permanent water bodies were set aside as 'fish sanctuaries' for the protection of brood stock), medium-scale fishing was permitted within a defined fishing season (October 1st to May 31st) and a permit from the Department of Fisheries. Until the last decade, medium-scale fishing involved the use of passive fishing gear, such as long bamboo fences that direct fish into bamboo fish traps. Medium-scale fishing has changed significantly in recent years, with more efficient gear being used (monofilament gill nets of with smaller mesh sizes are now used). When the *Fisheries Law* was passed in 1987 most fishers were small-scale fishers, practicing subsistence family-scale fishing (which can be practiced year round in open access areas). This is no longer the case.

According to the 1987 *Fisheries Law*, small-scale fishers[19] do not pay taxes whereas medium-scale fishers do, based on length of nets and size of traps. In 2004, according to these 1987 gear classifications, nearly all fishers (including most poor fishers) would be considered medium-scale fishers[20] and are required to pay taxes. The shortcomings of the 1987 *Fisheries Law* are recognized: the Department of Fisheries sought World Bank

[19] Small-scale family fishing, according to the 1987 *Fisheries Law*, includes single hooked lines, small dip nets, cast nets and gill nets less than 10 meters in length.
[20] Medium-scale gear includes large seines, powered trawls, and long gill nets.

support in 1999 to draft a new Fisheries Law (Evans et al. 2004). A new draft law was completed in late 1999. However, this law was designed to strengthen and support the fishing lot system with little regard for local fishing communities (Evans 2002). Hence, given the recent changes in fisheries policy (which will be discussed next) this draft Fisheries Law continues to undergo revisions and debate (as of early 2005).

### LEAD UP TO THE FISHERIES REFORM

Evans (2002: 6) details the how the system of concession management unfolded in the 1990's:

> It was a system designed to extract revenue from the Great Lake while providing some degree of protection to the inundated forest habitat. However, in practice the system was managed to generate maximum revenue, which involved sub-leasing and sub-sub-leasing of a given fishing lot. The large amounts of money involved dictated a *total harvest* mentality. For years, armed militias jealously guarded fishing lots and a tense armed atmosphere prevailed around the Great Lake. Consequently, the thousands of fishermen living on the Great Lake or along its borders were subjected to threats, intimidation and gunfire when straying too close to fishing lot boundaries. By the late 1990's, some 80% of the entire dry season lakeshore was under the control of 18 fishing lots.

As indicated by Evans (2002), by the late 1990's fisheries management in the Tonle Sap involved a complex array of formal and informal arrangements governing fishing access, rights, and practice. Fishing lot owners held exclusive fishing rights, including to the flooded forests growing in their fishing lots. Although some protection may have occurred, between 1980 and 1998, 50% of the flooded forests around the Tonle Sap were deforested (Smith 2001). An exclusionary system had developed with no one other than a few fishing lot owners being able to access a significant portion of the fishery (in spite of the fact that many rural Cambodians rely on this fishery for their livelihood).

In 1999, the Department of Fisheries shifted this system slightly, designating larger fishing lots as 'research areas'. Four-year contracts were awarded to key concessionaires without auction. These large operators allegedly extended their lot boundaries, encroaching upon the open access waters that communities relied upon. Such exclusionary arrangements caused significant tensions between fishing lot owners

community members reliant on the fishery (and, the political climate had changed: fishers could somewhat voice their frustrations to such exclusion). By 2000, the inequities and conflicts emerging around the Tonle Sap gained the attention of the donor community, including working groups established to guide the development of resource management policies in Cambodia (Evans et al. 2004).

In response to increasing conflicts between fishing lot operators and local fishers, and donor concerns, the Prime Minister initiated a fishery reform process in October 2000. One trigger (no doubt amoung many) for this fishery reform was the Prime Minister's flood-relief visit to Siem Reap province. Attention was drawn to the conflicts between fishers and fishing lots, after which the Prime Minister declared the release of 8 000 ha fishing lot area and designated these fishing grounds for community management. A Cambodian government commission was sanctioned to conduct a review of conflicts within the inland fishery sector.

The growing demand for a Fisheries Reform led to a decision in early 2001 to release 56 percent of Cambodia's commercially zoned fishing area to communities (Evans 2002). This hints at the magnitude of this Fisheries Reform and the challenges in implementing such a policy change. Not surprisingly, during this re-structuring period, a significant amount of lawlessness pervaded (over-fishing, an increase in the use of illegal fishing practices).

### COMMUNITY FISHERIES SUB-DECREE

With the release of fishing grounds for local management, the Cambodian Prime Minister instructed the Department of Fisheries to prepare a sub-decree for community fisheries (even though the newly drafted Fisheries Law was still not approved). The Department of Fisheries established a new community fisheries development office (CFDO) and, with donor support (and influence), extensive consultations were conducted (in freshwater and coastal areas) to draft this sub-decree.

The initial draft Community Fisheries Sub-decree was finalized in late 2001 and sent to the Ministry of Agriculture, Forestry and Fisheries where it was subjected to extensive revisions[21]. The draft was then submitted to the Economic, Social, Culture and Observation Unit of the Council of Ministers for review. The Council of Ministers, however, directed that that the sub-decree be improved, namely instructing the creation of a Royal Decree to provide the legal basis for such a sub-decree (the 1987 *Fisheries Law* makes no provisions for community fisheries). Thus, in 2003 a second round of consultations were held to seek input on the latest version of this sub-decree. Another draft was approved in late 2003 (TSEMP 2004).

During the consultative process, debates between local fishers (representatives from coastal and freshwater areas) and Department of Fisheries staff were intense. Although members of the CFDO office might have understood the needs of small-scale fishers, members within the Department of Fisheries were largely unreceptive to granting significant rights to community members. Issues that were particularly contested was a communities' right to exclude people within its' fishing grounds, patrolling issues and income generation (e.g. can communities grant fishing rights within their area to private businesses?). In most cases, the Department of Fisheries was not willing to make any changes to the latest draft, leaving fishers and donors frustrated with the consultative process. See Table 8.

[21] For an examination of the chronological development of the draft Community Fisheries Sub-decree, see Levinson 2002.

Table 8: Time-line for the Fisheries Reform and working towards new fisheries policy

| Year | Policy Work |
|---|---|
| 1999 | A new Fisheries Law is drafted. |
| 2000 | Fisheries Reform begins:<br>• The initial release of 8,000 ha from fishing lots for community management in Siem Reap sparked nationwide reform. |
| 2001 | Fisheries Reform:<br>• 56% of the areas (536,000 ha) under the fishing lot system were released for local level fisheries management, January 2001;<br>• Department of Fisheries creates Community Fisheries Development Office;<br>• Early 2001 communities gained initial access to fishing grounds, and gained full access to all fishing grounds June 2001;<br>• Consultations throughout Cambodia, with NGOs, fishers and government staff to draft a sub-decree on community fisheries;<br>• Final consultations in mid-2001; draft finished in August 2001. |
| 2002 | The draft Community Fisheries Sub-decree is held within the Ministry of Agriculture, Forestry and Fishing for revisions. Re-written. |
| 2003 | Presented for comment in early 2003. More consultations with donors, NGOs and Department of Fisheries staff; Contested issues include:<br>1. The rights of communities to generate revenue;<br>2. Community rights to control access of outsiders;<br>3. Community authority to stop illegal activities;<br>4. Local rights to decide the type/locations of fishing gear permitted in their community fisheries. |
| 2004 | ADB writes a fisheries management plan for the Department of Fisheries (DoF); the Community Fisheries Sub-decree is submitted to the Council of Ministers in late 2004. A hotly debated issues remains giving a community the right to limit access to their fishing grounds (internally, within the DoF and externally, between DoF and NGOs). |
| 2005 | The Council of Ministers is set to debate the draft Community Fisheries Sub-decree (April 2005). NGOs are frustrated as this version does not enable communities to limit access of outsiders to their fishing grounds (in essence, an open access regime is endorsed). |

Adapted from: Evans 2002; Evans et al. 2004; Evans 2005.

In April 2005, this draft Community Fisheries Sub-decree is scheduled for review within the Council of Ministers. As the sub-decree currently stands, communities cannot patrol their area without a member of the Department of Fisheries nor can they impose any fines without fisheries staff. Moreover, they are not allowed to determine gear types within their fishing area. Communities are not able to exclude outsiders from their community fisheries areas suggesting that community fisheries will largely remain open access property regimes.

Policy reform and consultation is new in Cambodia: it remains to be seen whether the sub-decree will be passed in a form that will adequately support community fisheries.

Policy, such as the Community Fisheries Sub-decree is being created as a result of donor pressure and the emergence of community-based management in the late 1990's. Nonetheless, 'getting it right' to meet local needs remains a challenge[22]. In the absence of formal legislation what, then, does the Cambodian community-based management movement entail? And, what are communities able to do 'on the ground'? Chapter Three provides an overview of community-based management in Cambodia and explores the work of two resource management committees in detail. Chapter Four then presents an overall picture of livelihood complexity within each community where community-based management practices exist.

[22] In part, this is because policy is written without taking 'on the ground' realities into account or considering Cambodian culture. Notions of culture were touched upon in this chapter, and are further explored in Chapter Seven.

# Chapter Three:

# Local level sustainability planning, a Cambodian experience

Photo: M. Marschke, 2004

Waste management practices in Koh Sralao

# Chapter 3: Local level sustainability planning, a Cambodian experience[23]

The concept of sustainability is increasingly being applied to specific social-ecological processes such as urbanization, renewable energy development and ecosystem-based management (Sneddon 2000). Sustainability is seen, not as a fixed ideal state or an end point, but as a process of attempting to improve the management of systems through learning, understanding and better use of knowledge (Wilkinson and Cary 2002; Berkes et al. 2003). Often the starting point of analysis is not some degree of sustainability because this cannot be observed, given space and time scale complexities (Ludwig et al. 1993). Rather, a more promising starting point is unsustainability – which can be observed. What is known to be unsustainable may evolve with social learning (Lee 1993) and self-organization (Ekstrand and Ray 2001), making the process of sustainability dynamic rather than static.

The approach of using unsustainability as the starting point has been used, among others, to analyze a case of acidified and disease-impacted crayfish lakes in Sweden (Olsson and Folke 2001), and a case in coastal Cambodia in which the evolution of adaptive co-management in a degraded mangrove ecosystem was traced (Marschke and Nong 2003) among others. Adaptive co-management helps operationalize the dynamics of sustainability because it combines (1) elements of adaptive management or learning-by-doing (Holling 1978), and (2) elements of co-management or the sharing of management power and responsibility between government agencies and local communities (Olsson et al. 2004). In practice, resource management is almost never purely government-level or purely community-based (Pomeroy and Berkes 1997). Virtually all resource management systems have some external linkages and drivers at different scales (Berkes 2002).

[23] This chapter has been adapted from: Marschke and Berkes 2005. The section on developing specific resource management strategies and learning is new; minor changes were made to the introduction and conclusion.

Nevertheless, the involvement of local communities with learning and shared management, the bottom-up (rather than top-down) view of sustainability, is a key consideration. What sustainability looks like to resource users themselves is important because sustainability policies need to be grounded, building on the knowledge and practices of rural people and resource-based communities throughout the world (Bingeman et al. 2003; LaRochelle and Berkes 2004). Kates et al. (2001) have argued that a new 'sustainability science' requires place-based models, and that understanding the dynamic interaction between environment and society requires cases situated in particular places. This is consistent with the 'Johannesburg Memo' which has tackled the integration of the environment and development agendas, giving priority to environmental fairness, equity, livelihood and poverty alleviation concerns (Sachs 2002).

In this regard, the consideration of local resource management practices is particularly important because sustainability is perceived strongly in the context of local livelihoods. Understanding the environmental, economic and political factors that enhance livelihood options, or alternatively, create poverty lies at the heart of sustainability. Sustainability centres the discussion on "the actual strategies that people employ to attain and protect livelihoods rather than on national development strategies far removed from people's lived experiences" (Sneddon 2000: 535). Such an analysis includes communities that undertake environmental actions to ensure access to and control over critical resources.

This chapter, therefore, seeks to bring to light various 'on the ground' activities of two Cambodian community level resource management committees grappling with sustainability. The focus of this chapter is how those villagers involved with resource management committees perceive sustainability and what they do 'on the ground' once they are organized and have their management plans recognized through the signature of government authorities. I provide an analysis of two resource management committees, highlighting how community-based management can unfold at the local level. What motivates resource management committees themselves to engage in this work? Through the lens of these two committees, I investigate the resource management strategies pursued and their ability to approach sustainability issues at the local level.

## STUDY AREA AND METHODS

Field research took place in two rural Cambodian fishing communities, one coastal and one freshwater, over a 21 month period (Table 9). Koh Sralao is a coastal village of 297 households that became actively involved in community-based management as their resources became depleted. Here, unsustainable resource practices were easily observed (logging and over-fishing). Kompong Phluk is a commune of 434 households on the Tonle Sap Lake that has been practicing flooded forest protection since the 1940's, perhaps one of the oldest examples of resource management known in the region.

Table 9: Key characteristics of each study area.

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| No. households (hhs) in area | 297 | 434 |
| Percent of hhs surveyed | 20 | 20 |
| Percent hhs involved in fishing | 75 | 86 |
| Percent hhs living in area for > 10 yrs | 40 | 92 |
| Percent hhs intending to stay in the area | 57 | 85 |

Both communities are dependent on fishery resources for their livelihood. In Koh Sralao, 75 percent of households surveyed were involved in fishing activities; in Kompong Phluk, the figure was even higher at 86 percent. The two communities differ in terms of homogeneity and stability. Koh Sralao includes many households that were displaced by internal conflicts and economic disasters in other provinces, whereas the household composition in Kompong Phluk has been relatively stable. Less than 40 percent of households in Koh Sralao have lived in the community for ten years or more. Most households have learned to harvest various resources, after other income generating activities, such as charcoal production and shrimp farming, collapsed (Marschke and Nong 2003). This differs significantly from Kompong Phluk where almost all of the people have continued to live in the community (returning after the Khmer Rouge) and intend to stay. In Koh Sralao, by contrast, nearly half of the households intend to move to other opportunities elsewhere.

Both field sites have had support from development agencies; this support has been more of a technical nature than financial. Although only touched upon within this chapter, the role of government partners and donor agencies in facilitating a community-based management process in Cambodia deserves further analysis. In Koh Sralao, the Participatory Management of Mangrove Resources (PMMR) research team has worked on community-based management issues since 1998. In Kompong Phluk, the Food and Agricultural Organization (FAO) funded project team has worked on resource management issues since the mid-1990's. Both areas are acknowledged as success stories for community-based management; other communities are not necessarily as well organized, interested or active (Evans 2002; Marschke and Nong 2003).

## COMMUNITY-BASED MANAGEMENT IN CAMBODIA

> I did not really think that resource management would improve our livelihoods. But, we are now able to solve some problems... We feel that our resources are improving a little bit as a result of our work (resource management committee member, March 2003).

After the disastrous Khmer Rouge regime of the late 1970's and the Vietnamese occupation of the 1980's, reorganization has been occurring in Cambodia in a number of spheres of life. According to Godfrey et al. (2002), Cambodia can be characterized as both a post-conflict society and a transition economy. These changes have resulted in an eclectic mix of policies; however, they have also created opportunities for creative ways of reorganization in various areas, including those related to resource management (De Lopez 2001). Government institutions, such as the Department of Fisheries, have typically controlled resources centrally. However, given the technical and budget constraints that such institutions face, there is a growing awareness that other forms of management, including participatory ones, may be feasible. This has created space for experimentation in many arenas, including resource management.

Experiments with resource management, perhaps fuelled by declining access to natural resources and a pervasive donor culture, have led to the emergence of community-based approaches in the area of fisheries and forestry. Although approaches vary, communities are actively establishing their own management areas and plans, often with support from

non-governmental organizations (NGOs) or government institutions. Community-based approaches have been proliferating. For example, in 2002 there were an estimated 162 community fishery sites and 237 community forestry sites in Cambodia (McKenney and Prom 2002). Such a proliferation requires extensive capacity and institution-building, and there has indeed been some policy development in support of community-based management. For example, the *Community Forestry Sub-decree* was passed in 2003 and a community fisheries sub-decrees has been drafted and under review as of 2003. However, policies tend to be disjointed and support is inadequate because the initiatives are undertaken without a real understanding of what community management entails.

Community-based management approaches in Cambodia share certain characteristics. These include emphasis on the promulgation of rules and regulations; formation of resource management committees to guide community-based management initiatives; thumb printing villagers who support such work; establishment of demarcated areas for management; and collecting official signatures from the commune, district and provincial or national level, as appropriate.

Although the structures on paper regarding management plans and approval mechanisms are similar, experience shows that what is happening 'on the ground' may be quite different in different areas – even between different sites in the same area. The official status of a committee appears to be neither a necessary nor a sufficient condition for its effectiveness. For instance, some resource management committees, although recognized by an appropriate national level government institution, remain inactive, whereas community-based management is active in some villages, even in the absence of formal organizations or higher level official recognition.

Many of the community forestry and fishery sites in Cambodia have an elected resource management committee (also known as a community fisheries or forestry committee) that is responsible for guiding resource management activities. However, none of these committees has any official power. There are government policies for supporting community management, but (as of 2003) no legislated community rights for local

resource management. Composition and operations of these committees vary, as illustrated by the two committees discussed in this paper. In Koh Sralao, prior to holding a committee election, a core group of villagers developed and accepted rules and regulations pertaining to resource management. Villagers then elected a committee of seven people, including two women, to oversee resource management activities. The committee holds monthly meetings, but additional meetings may be held when problems arise.

In Kompong Phluk, the resource management committee was elected after several meetings, and then worked together to make the rules and regulations. This committee consists of nine representatives (including two women) from the three villages that form the commune. In 2001, the fishing area under Kompong Phluk's management increased 15-fold[24]. This rapid policy shift, done as part of a decentralisation mandate[25], happened without a plan to provide technical support to communities. To accommodate this change, the resource management committee of Kompong Phluk expanded, in numbers and mandate, and roles and responsibilities were updated. The Kompong Phluk resource management committee (in contrast to Koh Sralao) holds meetings whenever something needs to be discussed or when problems arise. See Table 10 for details of both committees.

[24] As mentioned in Chapter Two, prior to 2001 most of the Tonle Sap fishery (where Kompong Phluk members fish) was managed by individual contractors leased from the Department of Fisheries in block areas known as fishing lots. Communities and small-scale fishers had little access to many fishing grounds. In 2001, however, 56 percent of fishing lot areas in Tonle Sap were released to communities for local management (Evans 2002).

[25] A more critical look at national policies surrounding community-based management is given in Chapter Seven.

Table 10: Key characteristics of the two resource management committees

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| Why committee was formed | Established in 2000, after working with an NGO for several years and seeing dramatic resource declines (fishery and mangroves) in their area. Although an in-migrant community, with people initially being lured for resource extraction opportunities, a need for resource management is seen by some. | Established in 1999, with support from an NGO. History of resource management, specifically flooded forest protection. Community members wanted to strengthen their resource management practices and get help in dealing with farmland encroachment. |
| Legal status | Informal – supported by agreements (maps of community management area, rules and regulations) with Provincial Governor and Minister of Environment (village is within a protected area). | Informal – supported by agreements (maps of community management area, rules and regulations) with Provincial Governor. |
| Management issues addressed | Illegal fishing, both inside and outside their community; charcoal production; stealing of fishing gear; declining resources; waste management; and other community issues. | Flooded forest cutting; illegal fishing, both inside and outside their community; declining resources; farmland encroachment; and other community issues. |
| Management strategies | Solving theft through innovative solutions (painting crab traps, patrolling); creating a grouper fingerling sanctuary; supporting local schoolteachers. | Engaging community members in a local system of flooded forest protection; creating a fish sanctuary; supporting poor villagers in times of need (funerals). |
| How strategies affect household livelihoods | Mitigation in the event of gear loss (perception of less traps being stolen, and a group to discuss this issue with); replanting and protection leads to more crabs in mangrove estuaries. This supports a rainy season livelihood activity for poor households (gleaning); schoolteachers remain in village. | Protection of flooded forest area provides shelter from wind and storms for commune, also provides a habitat area for fish; more abundant resources near fish sanctuary; enhanced awareness of villagers on value of local resources; poor households do not go into debt because of a death through committee support. |
| Reasons for villagers' support | Key community members are involved in the committee; people believe there are more mangroves and crabs as a result of this work; village leaders openly support committee. | Villagers believe in/trust the work of the committee; small commune, easy to communicate; people are long-term residents, so much local wisdom; people believe there is now less farmland encroachment. |

Table 10 highlights key characteristics of the resource management committees in Koh Sralao and Kompong Phluk, including: why each committee was established; their legal status; resource management issues addressed; examples of strategies for addressing resource issues; how such strategies affect household livelihoods; and reasons that villagers support the resource management committee. Although both committees are relatively young, having been established in 1999 and 2000 respectively, both have been able to experiment with various resource management strategies. For example, in Koh Sralao initial resource management practices emphasized environmental education and patrolling to prevent illegal activities, such as trawling and dynamite fishing, theft of fishing gear and charcoal production. Over time, however, the resource management committee decided to enhance this work through facilitating conflict resolution mechanisms in an attempt to find solutions in which more villagers could engage and which could be implemented without donor support. One such mechanism, which will be expanded upon later, addresses conflicts over stolen fishing gear.

In some cases resource management committees may be active without endorsement from local officials; however, experience in both field sites suggests that having support for community-based management from officials at the commune level helps to in generating support for such work. For example, in Koh Sralao the resource management committee leader is also a member of the commune council (which became an elected body for the first time in 2002). As a result, there is a strong environmental mandate within this commune council's five-year plan. In Kompong Phluk, a member from the commune council acts in an advisory role to the resource management committee, thereby being able to link environmental issues with broader local governance issues.

Although both resource management committees were initially formed to address community-based resource management issues, they view their mandate more broadly. For example, in Koh Sralao the resource management committee is finding solutions to other community problems, such as supporting the schoolteacher to stay in the village and considering a system for waste management. In Kompong Phluk, the resource management committee helps poor families in times of need, for example by providing

support for funeral ceremonies. In each village, resource management committee members suggested that villagers support their work mainly because committees have been able to build the trust of villagers in doing things that support each community.

Committee members, and villagers, believe that the protection and rehabilitation work (flooded forest protection and mangrove replanting, in particular) that the committee engages villagers in does enhance local livelihoods. In each area, fish habitat increases with such measures. For Koh Sralao households, mangrove protection ensures a rainy season livelihood activity for poorer households: gleaning for snails from the roots of mangrove trees. Devising a rotational management system for cutting firewood in Kompong Phluk ensures that the forest near the commune remains in tact. Small improvements in resources surrounding the village, given the overall context of resource decline, can make a difference for rural households (even if it is just pride in 'doing something' or a belief that life is slightly easier).

Each committee's experience suggests that motivation and problem-solving skills from the resource management committees themselves are necessary to drive this work. For instance, in both Koh Sralao and in Kompong Phluk, multiple strategies are used for dealing with illegal activities and resource declines. These strategies include creating local systems of support; getting police and government agencies to engage in patrolling and enforcement activities together with villagers; disseminating rules and regulations; and networking amongst villagers and local level leaders to support the committee's work. Persistence is critical to ensuring the success of any given strategy. The first time something is tried, it may or may not work, and often several attempts are necessary before knowing if a strategy may work or not.

### WHY PARTICIPATE IN COMMUNITY-BASED MANAGEMENT?

Villagers, and committee members themselves, may choose to participate in community-based management initiatives for a number of reasons, which are often overlapping and difficult to tease apart. This is in part because villagers view their resources holistically (i.e. they see fishery, forestry and water issues as linked). Nonetheless, it appears that the

reasons for participation may include spiritual aspects, e.g. to protect forests near pagodas. The reasons may be political, e.g. for personal benefit or prestige, or historical, i.e. there may be a tradition of resource management in the village. They may be environmental, e.g. to stop or slow down rampant resource declines, or economic, i.e. the belief that protection can lead to income generation for community development. The reasons may also involve relationship building, e.g. a donor can help facilitate or negotiate requests on behalf of a community.

To investigate more specifically what motivates community members to invest their time and effort in community-based management, I discussed with villagers (including resource management committee members) their notions of future and sustainability. Two questions were posed, one regarding the future, worded in terms of their children's future, and the other as to understand local definitions of sustainability. In these discussions, villagers linked community-based management with sustainable livelihood practices. One villager commented that, "if we protect our flooded forest and do not take the small fish, our children will be able to support their families" (July 2003). However, when villagers were asked about what was important for their children's future, most expressed the need for access to higher education or for their children to have options other than fishing.

While villagers recognized the importance of resource protection and sustaining livelihood activities, a variety of livelihood activities, including the ability to gain employment outside the village, were also emphasized. Community-based management, therefore, was seen as something that could benefit some community members in terms of enhanced livelihoods. This, in turn, might lead to future opportunities either inside or outside the village. There is no direct translation of the word sustainability into Khmer. Villagers, after lengthy discussions linking their children's future with local resources, defined sustainability as 'all things living for a very long time' and 'prosperity for children and for village development'.

Having established that there were, in fact, local concepts of the future and sustainability - and that they were considered important in the context of villagers' children and future livelihood options - I turned to further discussions with resource management committees. In Kompong Phluk, villagers engage in resource protection for historical reasons and as a response to environmental decline and access to resources, specifically farmland encroachment in their community forest.

> Long before the fisheries community was set up, people loved and took care of the forest. It was not perfectly managed, though, especially in recent times. So, it was good timing to work with [NGO], for them to help us. We wanted to stop the mung bean farming near our commune and needed outside support (an elder, May 2003).

For this elder, having lived in Kompong Phluk all his/her life, flooded forest protection made sense as there was a history of resource management in Kompong Phluk. Elders recall protesting against watermelon farms encroaching their village area in the 1940's and stopping further loss of forest (Poffenberger 2002). Chapter Two, Table 7 highlights the history of flooded forest protection in Kompong Phluk.

The experience in Koh Sralao has been quite different from Kompong Phluk. Most villagers migrated to Koh Sralao after the Khmer Rouge era with the hope of cashing in on lucrative resource extraction opportunities. Resources remained relatively abundant until the 1990's, but rapid resource declines since have greatly affected local livelihoods, thereby motivating villagers to 'do something'. I discuss elsewhere the experience in the Koh Sralao area of one project team mobilizing villagers around the issue of mangrove decline and how the use of this experience for adaptive co-management can be applied more generally (Marschke and Nong 2003).

This is not to suggest that all villagers in the two communities are active in supporting the work of the resource management committee (for example, in helping with patrolling activities). On the one hand, resource management committees themselves do not create enough opportunities for villagers to take an active role in their work (this will be further explored). Even so, multiple other factors affect who is involved in resource management. Households do not necessarily have the choice of active participation.

Household responsibilities can make it difficult to participate, and hence women have less opportunity to do so (especially in public meetings). In other cases, villagers who have difficulty meeting basic needs cannot afford to volunteer their time towards resource management or other community activities (for example, taking part in a day-long workshops). Consider the comment of one former resource management committee member:

> Right now my livelihood situation is not very good. I need to focus on my family first. When I find a job with a secure income and finish building a house for my family then I can return to working with the resource management committee. It takes up a lot of time, and I am too worried about my family right now (a crab fisher, January 2003).

Resource management committee members, and key villagers who are active in resource management, tend to have decent livelihoods and be influential. Often, these people have strong social networks and relationships that they can call upon to support their resource management work.

## COMMITTEE RESOURCE MANAGEMENT STRATEGIES

> Since our commune is small, we work easily together. Each village is responsible for protecting one part of the forest and we are all responsible for protecting the forest near the village (a resource management committee member, April 2003).

The resource management committee in Kompong Phluk knows that the forest near their commune protects them from wind and storms. Management issues that the committee addresses include: (a) forest protection; (b) illegal fishing activities; (c) resource decline; (d) farmland encroachment; and (e) other community activities. Multiple strategies are used to tackle these issues, some of which are working better than others. Table 11 highlights some issues that are faced in Kompong Phluk and the strategies devised by the resource management committee to resolve these issues.

Table 11: Management issues and management strategies in Kompong Phluk

| Management Issue | Management Strategy |
|---|---|
| Flooded forest cutting | Committee directs villagers to manage specific parts of the forest, reporting any illegal activities to the committee, which then investigates and tries to solve the issue (if possible). |
| Use of illegal fishing gear (push nets, electro fishing) and theft | Patrolling and fining for illegal gear; discussions with other communes about Kompong Phluk's rules and regulations; community members working closely with committee to stop illegal activities and to monitor their own fishing practices. |
| Declining resources | Creation of a 1 $km^2$ fish sanctuary; educating people about the rules of the community; villagers encouraged to collect floating wood for firewood and to collect fuel wood outside of mature-forest areas. |
| Farmland encroachment | Work with provincial authorities and NGO staff to stabilize encroachment. |
| Other activities | Supporting poor villagers in times of need |

Several strategies are used to deal with the use of illegal fishing gear. While patrolling activities may seem to be the obvious solution to stopping illegal activities near the community, patrolling is expensive because of fuel costs and because the community cannot generate enough income to support consistent patrols. Patrolling is also risky as it can escalate into conflict and is difficult to organize for the lack of consistent technical support. It is sometimes hard to motivate committee members, and villagers, to patrol. Although resource management committee members do engage in some patrolling activities with police and technical staff, they also focus on networking inside and outside the village, to strengthen their own practices and that of neighbouring communes and districts. As elsewhere in the world, peer pressure can work wonders regarding compliance (Ostrom 1990; Bingeman et al. 2003)!

Many small-scale Cambodian fishers face the common problem of declining resources and stolen fishing gear. Stolen or destroyed gear leads to conflict, both among villagers, and with those using the same fishing grounds. In Koh Sralao, for example, crab traps were constantly being stolen, allegedly by outside fishers but sometimes by villagers themselves. After several brainstorming sessions, the resource management committee decided to devise a system to enable villagers to recognize their own crab traps more easily:

> After many discussions we had an idea. Each group [of the eight that the village is divided into] has to mark their crab traps with the same color. Individual owners then, using this color, have a specific sign i.e. slash marks in certain directions indicates whose traps these are. So far, painting the crab traps has been a good solution for cutting down the stealing of crab traps. People that are caught with the wrong color traps are fined. Or, they are asked to give back new traps. We cannot solve all the problems, but this is helping (group discussion, July 2003).

In general, villagers were happy with this solution. One fisher commented, 'I have had less traps stolen than last year. I now can sleep in the village at night, and am not afraid to leave my traps'. This solution is providing some security for fishers, and villagers are working together to watch for boats that they do not recognize. Although crab traps do continue to get stolen, villagers thought that there was a decrease in theft and a better chance of recovery of stolen crab traps.

Another management strategy, both in Kompong Phluk and in Koh Sralao, was the creation of fish sanctuaries within community management boundaries. In the case of Koh Sralao, some fishers developed the technique of using hand push nets (a kind of beach seine) to catch live grouper (*Epinephelus* spp.) fingerlings for the Thai market. As more fishers entered into the fishery, too much pressure developed on the inshore sea-grass beds in which groupers were found. Faced with imminent depletion, the village resource management committee, with PMMR facilitation, established a demarcated no-fishing area to protect the core of the grouper nursery area.

As one fisher noted, "our fish sanctuary is located near our fishing grounds so it is easier for us to protect this area. Plenty of fish can now be found there, and this makes us realize that we need more areas where we protect fish" (July 2003). Fishers themselves, along with local authorities, can monitor the no-fishing zone. Of course, if large-scale fishers from the outside, such as trawlers, decide to not respect local rules, greater technical/outside support would be needed. The resource management committees recognize that they cannot resolve all problems, but with creative thinking some issues can be addressed to work towards the sustainability of their livelihoods, resource base and communities.

## STRUGGLING WITH EFFECTIVE MANAGEMENT STRATEGIES FOR SUSTAINABILITY

Finding solutions to complex issues takes time and often involves multiple stakeholders, both within a community and outside a community. Moreover, implementing strategies that are locally accepted, viable and can enhance livelihood sustainability is challenging. The experience of both resource management committees illustrates that committee members deliberate and experiment with different strategies and ideas in their attempt to enhance resource management (and, in turn, local livelihoods).

The resource management committee in Koh Sralao, for example, has been grappling with how to prevent the rapid decline of one of its main livelihood resources, the swimming crab, *Portunus* spp. Three-quarters of all fishers in Koh Sralao use crab traps with 2 cm mesh size to land crabs that, according to provincial biologists, are too small and are pre-reproductive. Fishers themselves have commented on how this species has steadily decreased in size, especially in the last five years (this is in contrast to the two species of mud crab, *Scylla* spp., which fishers believe have increased with mangrove habitat protection). The risk of catching such small swimming crabs is the reproductive stock is reduced, leading to population collapse.

Cambodia's 1987 *Fisheries Law* requires 10 cm mesh size be used for crab traps, an unrealistic rule given the size of crabs in the area. Internal regulations in Koh Sralao, voted upon by all villagers, require 4 cm mesh size. However, when it came to implementing this regulation, villagers resisted:

> Although everyone in the village agreed to this [4 cm mesh size], when it came time to implement this regulation fishers reacted, stating that they would lose personal benefits [grouper by-catch] if they increased their mesh size. We [resource management committee] met together, and decided to ask fishers to increase their mesh size a little, from 2 cm to 3 cm. Fishers felt alright about this idea. Between 60% to 70% of fishers switched to 3 cm mesh size by late 2002 (group discussion, July 2003).

Koh Sralao fishers, however, became disheartened and frustrated when they realized that outsiders using their fishing grounds were not following their community regulations. "It is not fair that I increase my mesh size to allow the crabs to grow but outsiders continue to use a smaller mesh size, thereby getting all the benefit," noted one fisher (July 2003).

Thus, fishers returned to a 2 cm mesh size after only one season. In this case, a community level solution was found. However, changing mesh size did not work out the way it was envisioned, for several reasons: (a) villagers could not control, or regulate, who entered their demarcated fishing grounds and (b) the crab stock migrates over many fishing grounds. In the case of shared commons, resource management cannot work with the compliance of one village alone (Ostrom 1990; Berkes et al. 2001). A committee member noted:

> In Koh Sralao we have to find one strategy to reach new fishers who do not understand the resource and another strategy to reach those that only want to exploit the resources. Also, we have to find a way to convince both local authorities and technical authorities to provide us with more support. Sometimes we do not have the power to do all this (July 2003).

This committee, with support from PMMR, has worked with neighbouring villages to negotiate mesh sizes used for crab traps. Although all stakeholders agree that mesh sizes should increase, no additional communities have implemented this regulation. However, unless everyone implements such a strategy, there is little hope that the swimming crabs can be successfully sustained.

This case highlights how difficult it is to address the over-fishing of stocks that are mobile and seasonal (Berkes et al. 2001). Perhaps the current crisis in the swimming crab fishery will lead to negotiated, incremental solutions, or alternatively a stock collapse will force a closure of the fishery. Either way, Koh Sralao's resource management committee is well situated to deal with the crisis because they will be able to apply their learning from previous crisis (Marschke and Nong 2003).

Turning to the second study site, Tonle Sap Lake fisheries are organized through a community fishing ground allotment system that covers the seasonally flooded lake margin. Individual communities or clusters of communities (communes) have access to the flood plain fishery through this arrangement (Evans 2002). As already mentioned, some of the Tonle Sap communities were allocated extra fishing grounds under the 2001 Fisheries Reform. In the case of Kompong Phluk, the additional fishing area allocated is

very substantial: on paper, Kompong Phluk has had a 15-fold increase in the community fishing grounds in 2001.

However, Tonle Sap is a large, heavily fished lake. The open waters of the lake are used by large-scale fishing operations, and the community fisheries of Kompong Phluk are unable to control the fishing ground that they have been allocated. Hence, the resource management committee is struggling with how to enhance livelihood options for community members now that their fishing grounds have increased. "We are not catching more fish even though we have access to a much larger fishing area," noted one committee member. "Big fishers continue to use most of this area, and it is difficult for us to stop them" (July 2003). Although conflicts near the community are often resolved, it remains difficult for the resource management committee to enforce fisheries management within the expanded community fishing area.

Thus, a brainstorming session with the Kompong Phluk resource management committee was conducted to examine alternative solutions to the enforcement problem and if some of these may be viable in their opinion. Their responses to the options were indicative of extensive community discussions on planning and action, and an understanding of the management and legal context of the situation. Brainstorming was conducted around four alternative solutions or options.

Given that the community was unable to harvest its allocated fishing ground fully and control the larger fishers, were there ways to make deals with some of these fishers? Would a joint venture option, enabling community members to sell their rights to outsiders, work? The committee mulled over this idea and eventually rejected it for two reasons. First they did not think that their resource rights were strong or secure enough to sell or rent, as in transferable fishery quotas found in some countries. Second, if they invited a large fisher into their community area, it might be even more difficult to get rid of her/him later. Such "a person might over-fish, even if we had strong rules. We cannot prevent large fishers from cleaning out an area, even if we had an agreement" (July 2003).

A second option followed the practice in some Philippines lagoon fisheries in which armed guards are used to protect valuable fishing grounds. How would you feel about giving community members guns to patrol the area? This option was not seen as viable or desirable, given the recent conflict experienced in Cambodia. A committee member commented that violence does not solve problems, and besides, a larger fisher is likely to have a bigger gun than the community patrol. Another committee member commented, "if the illegal person has a gun, which is often the case, then there would be violence. Actually, this is not a good idea because we do not want more violence in our area" (July 2003).

A third option was to use the power of the temple, blessing the fishing grounds through a seasonal ceremony, as done in some community fisheries (such as in Brazil) and discouraging potential poachers through religious sanctions. What about using Buddhist teachings to stop illegal practices?[26] This idea received considerable discussion and many smiles but, ultimately, it was not seen as plausible:

> This cannot work. Every fisher kills fish, and this already goes against Buddhist teachings. We already have a problem, according to Buddhist teachings, since killing an animal is considered bad karma. We don't have the moral authority to use religious teachings to improve our resource management practices' (group discussion, July 2003).

A fourth option may be to compete with the large fishers on their own terms by using the kinds of highly efficient nets that large fishers employ. "If we use illegal gear, then we cannot expect the authorities to help us," commented one member. "Institutions need to respect the law, and that includes us. Right now they close their eyes, so the only option is for each institution to begin respecting the law" (July 2003). As well, committee members noted that small fishers gearing up to become more like the big fishers would

[26] This area requires further probing. One animist belief that I observed in Kompong Phluk, most likely related to livelihood well-being, was a *neak ta*. The *neak ta*, often translated into English as 'local genies' based upon the French translation, *genies territoriaux*, are guardian spirits associated with specific geographical locations. In Kompong Phluk, the *neak ta* was in the forest near the community. Villagers left offerings and incense in this decorated tree. The role of the *neak ta* is to appeal and appease natural forces as they affect the health and well-being of humans and animals (Marston and Guthrie 2004).

violate the basic principles under which Cambodia has been implementing community fisheries.

The Kompong Phluk discussion highlights the multiple factors that resource management committees actually do consider when working towards resource sustainability. Both cases show the sophistication with which committees have been assessing conflict management, resource sustainability, the legal and even the ethical background of the fishery. The cases illustrate how equity and livelihood considerations bring out the question of power and access rights (Sachs 2002). Ironically, fishers themselves are encouraged, through informal policies, to become resource managers – but without being given the technical or financial resources to manage the fishery or to enforce regulations. Indeed, the willingness of local community members to engage in resource management is impressive in itself, considering the barriers they face.

### DEVELOPING SPECIFIC STRATEGIES AND LEARNING

> We have had training [from NGO] on how to manage fines, how to manage the fishery and how to make a management plan. Although we keep going in my community, not everything is going well. We still have conflict between small-scale and medium-scale fishers within the community (Sok, March 2004).

As Sok's comments indicate, training and creating management plans is not enough to ensure that a committee can carry out its mandate. Kompong Phluk has a 'model' community fisheries plan: committee members underwent an extensive planning process with the FAO-Siem Reap team to create this document. Committee members (and those elders and/or other villagers participating in this planning process) have a sense of what strategies they would like to pursue, although their work is also influenced by the NGOs conservation mandate (encouraging activities that are seen to be part of community-based work such as monitoring, patrolling or protection of resources). A committee cannot always carry out its resource management strategies. For example, although an extensive patrolling and enforcement section is written into Kompong Phluk's fisheries plan, this committee struggles to enforce such rules and regulations for reasons that have already been discussed.

While an extensive management plan may be created, implementation of such strategies may result in conflicts between committee members and/or villagers. Until committee members 'try something' several times, plans may be unrealistic and may have to be altered. Committee members do get frustrated, and sometimes do not give strategies enough of a chance. For example, in Koh Sralao, fishers changed the mesh size of their crab traps for one season. The next step for this committee, rather than abandoning this strategy, might have been to get other villages that fish in the same fishing grounds as Koh Sralao fishers to change their mesh size too. Given the challenge (and amount of work) in implementing any new strategy, this 'on the ground' reality determines which resource management strategies a committee is able to consistently pursue. Table 12 further explores how each committee may develop and implement their resource management strategies and considers what committee members may learn from this work

Table 12: How resource management committees develop strategies and learn

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| Planning resource management work | Planning happens in several ways: (a) in response to a particular issue (responsive/reactive); (b) following up a request from the Village Leader; or (c) with support/push from the outside NGO. | NGO spend 2003 working with community/committee members to develop an extensive community fisheries plan (one of the first in Cambodia). |
| Implementation of plans and programs | Even with some 'action-planning' that is facilitated by the NGO, it is seldom that plans are referred to. Implementation takes place after an oral planning process.<br>This RMC can implement their ideas with leadership. | Sometimes this plan is followed (with a push from the NGO), sometimes activities respond to a particular issue. Committee is strong on flood protection but more challenged on implementing fisheries-related activities. |
| Communication/ public involvement in decision-making | Have formed sub-groups, with one representative per sub-section. RMC calls these members to meet and serve as the link between villagers and the RMC.<br>Little public involvement in decision-making. | Use a loudspeaker throughout the commune when want the community to understand something i.e. rules and regulations, marine sanctuary.<br>Little public involvement in decision-making. |
| What has been learned? | RMC members are learning from working together; sharing experiences and knowledge and using this process to help solve other issues. | RMC members can bring their problems to the group to help them solve i.e. how to change livelihood strategies enabling members to discuss issues together and build relationships. |
| Cross-linkages with other organizations | RMC leader is on all major committees in village (pagoda committee, school committee, commune development committee). Most other members are also on some other village level committees.<br>Cross-linkages with other organizations since membership overlaps. | Commune Chief is advisor to this committee (he sits on most committees). Committee members sit on the other committees (women's committee, village development committee; education committee).<br>Cross-linkages with other organizations since membership overlaps. |
| Are other villagers aware of this committee work? | Aware of mangrove protection (annual replanting involves most villagers); some awareness of other activities. | Aware of flooded forest protection work (involves most villagers); some awareness of other activities. |

Planning for resource management, in each case, often works best in response to something. The decision to create a fish sanctuary, for example, directly relates to fishers' experiences. As already mentioned, the resource management committee in Koh Sralao has been involved in sea-grass bed protection for several years. At some points, an active protection campaign was followed; at other points this has slipped. The steep decline in grouper by-catch within fishers crab traps served as an incentive to maintain and enhance sea-grass protection: this committee began to work with committees in other villages to ensure compliance to regulations. In Kompong Phluk, local knowledge of fish breeding grounds provided the incentive to protect such areas, especially in the face of significant fisheries declines (2004 was the lowest catch ever reported in the Tonle Sap).

In each case, an iterative process has been followed. An idea was hatched (perhaps influenced by the NGO, perhaps requested from a village or commune leader, perhaps influenced by resource declines), and then an action taken (most likely an oral planning process unfolded as something was tried). Several years of persistence were necessary to work out monitoring and enforcement strategies, and for such strategies to be recognized and respected by fishers (local and outside fishers). At this point, writing local level plans is an exercise undertaken out of necessity (in response to NGO demands or government planning requirements) and the benefits (or not) of committees engaging in planning processes may be better understood with time. Nonetheless, as discussed in Chapter 7, a management plan that is endorsed by higher level officials (provincial governor or national ministers) can be a useful tool for negotiating conflicts and in supporting local level resource management work.

Implementation of any activity very much depends upon the motivation and vision of local leaders. If a committee is too reliant on outsiders to drive the process or does not have an effective leader, they will not be able to carry out their own activities. Sovanna, the leader of the Koh Sralao committee, comments:

> In terms of working on the resource management committee I use two types of power to keep activities going. One type of power is the fact that I work with the commune council and this keeps people moving; the other type of power is my brain, this keeps ideas going (March 2003).

Sovanna is able to negotiate opportunities (e.g. with the police, with local politicians) to ensure that the committee can carry out its work. For instance, when Sovanna left Koh Sralao for six months, this committee did not function well together and patrolling activities ground to a halt. The temporary leader was not able to solve conflicts or garner the respect of other committee members.

Decision-making for resource management issues does lie with a certain group of villagers: those that have the skills and confidence to work with local authorities or political bodies to negotiate support for this work and that have livelihood security to participate in such work. In Kompong Phluk, the commune chief holds a key decision-making role. "The commune chief is the advisor, so he makes the final decision" (Sareun, November 2003). Committee members in both Koh Sralao and in Kompong Phluk tend to be engaged in community life. That is, most committee members sit on multiple committees (some members sit on three or four village level committees). Although both committees consist of elected representatives, only a few villagers are in a position to consider standing for election (either on their own initiative or because a village chief recommended that they run). At this point, a few people are making decisions on behalf of the entire community with regards to resource management strategies and the consideration of how to enhance local livelihoods.

Although having the endorsement of local leadership is seen as a key component for successful resource management, each committee is less active in ensuring that households are given a voice in resource management decisions (some opportunities have been fostered). This is, in part, to be expected given the hierarchical nature of Khmer society (O'Leary and Meas 2001). Any household member, as an example, can join in resource management meetings but would not do so unless specifically asked by the committee leader. This being said, there is a general awareness from villagers of what each committee does: villagers in Koh Sralao are aware of mangrove protection measures; villagers in Kompong Phluk aware of flooded forest protection strategies. Specific information, however, may not be shared as consistently. Sra, the wife of one committee member, notes: "[My husband] never discusses the community work with me.

... I do understand that some work benefits the entire village and can help to solve problems" (May 2003).

Information, therefore, tends to mostly be shared informally between resource management committee members. Or, information is shared between local level committees since members sit on such committees together. In Koh Sralao, group leaders serve as the link between the resource management committee and villagers. This communication strategy sometimes works, depending upon a group leaders relationship with the resource management committee. Communication with other villagers happens on an ad hoc basis, through informal means. Although the *Sub-Decree on Decentralisation of Powers, Roles and Duties to Commune Councils* mandates commune councils to use notice boards to keep residents informal of all matters including those related to land and resource management (articles 10 and 33), such sign boards are rarely used (unless an NGO or government institution enforces such use).

Communication strategies often develop in response to something (a forest fire, in the case of Kompong Phluk; sharing by-laws with other villages, in the case of Koh Sralao). These specific strategies can be quite effective. For instance, an active fire prevention campaign began after the 2003 forest fire in Kompong Phluk (sign boards, dissemination of information, sharing what happened with other communes): this strategy is further explored in Chapter 6. Communication does take place, albeit not as consistently as is necessary. There are additional benefits to written plans, from an information sharing perspective. Kompong Phluk's community fisheries plan is helpful for local officials during commune level planning activities (the map is particularly helpful in this planning process). At a certain point, however, resource management committees will need to explore other communication strategies (combing oral and written approaches) to strengthen their resource management work.

Perhaps committee members themselves, in Koh Sralao and Kompong Phluk, are benefiting the most from being engaged in resource management activities. "By joining the workshop I can learn from others. It is easier to answer questions and I can now

understand more" (Plan, March 2004). Learning from workshops or study tours helps committee members with negotiating their own local level strategies. "We are able to problem-solve. Bringing many ideas together is better than one idea," comments another committee member (May 2003). In Kompong Phluk, members commented on how this work helped them to consider ways to change their own household livelihood strategies, since they could use the committee to bounce ideas off of. Meetings and discussions to consider different strategies foster reflection and insights for committee members (for committee work and their own household level work).

In each area, committee members have also learned from working on specific activities, especially patrolling, creating fish sanctuaries and, in the case of Koh Sralao, mangrove replanting. These activities, in particular, have been done for several years. In the first year of mangrove replanting, for example, the propagules were poorly planted leading to a low survival rate (PMMR 2002). In subsequent years, better planting techniques and monitoring of seedlings has taken place. When activities are tried more than once, a committee can revise and improve this work as they learn from their mistakes. Once a committee itself is able to implement an activity, and explain this succinctly to villagers, this perhaps creates an opportunity for more villagers to learn and engage in different types of resource management work (i.e. considering more than forest protection or fish sanctuary protection).

## DISCUSSION

Since the end of intense era of political turmoil, Cambodia has been in a state of reorganization, providing a window of opportunity for sustainability planning. In resource management, a key platform of this planning has been community-based management. In Cambodia, experimentation with community-based fisheries and forestry initiatives has begun, in part encouraged by donor agencies favoring participatory, democratic approaches, as seen in other parts of the world as well (Moffat et al. 1998). But it is in part motivated by a real search for alternatives to reverse resource declines, one could say, starting with a perception of unsustainability (Wilkinson and Cary 2002). The larger sociopolitical context is that community-based

management is being used as a tool to provide some measure of environmental security in the aftermath of the Khmer Rouge regime and the resulting relocations.

How do Cambodian villagers perceive sustainability and what do they do 'on the ground'? Research undertaken with two local level resource management committees highlights how community-based management can evolve over a period of time in response to concerns about forests, fishing areas and other village level problems. Villagers are most willing to engage in community-based management when they believe that they can improve livelihoods within their community. This requires an approach that is more sustainable than what has been taking place (significant resource declines have taken place in each area, in particular this past decade). Resource management strategies that are believed to enhance livelihoods include the creation of fish sanctuaries and protection of forest areas to increase fish habitat (and serve as buffer areas from wind and storms for villages) and education strategies that enhance villagers' awareness and interest in their resources. What is less certain, however, is if environmental security in rural areas is something that future generations will consider to be worth striving for.

The establishment of a fish sanctuary in grouper nursery areas by the Koh Sralao resource management committee is illustrative of evolving sustainability thinking. A few years ago, grouper fingerlings would have been fished hard as long as a market existed for them because there was no individual incentive to conserve – what one fisher left behind today would have been harvested by another. The development of community-based management made it possible to consider longer-term sustainability issues. Tangible results from the work of resource management committees are many and include fewer stolen crab traps and an attempt to address social conflict, denser forests (near villages) and less farmland encroachment, mangrove recovery, and increased cooperation among villagers (through working on resource management issues).

> We know that the resource management committee will help us. They have taught us about mangrove replanting and about protecting our resources. There are more crabs this year near the mangroves, and we understand the relationship between mangroves and a healthier fishery (a fisher, July 2003).

This is not to suggest that all resource management strategies may work, as illustrated by the challenge of controlling illegal activities in Kompong Phluk and in over-fishing of small crabs in Koh Sralao. Nonetheless, significant attempts are being made by local level institutions to maintain, and if possible enhance, local resources. Valuable learning is taking place, especially for committee members, in this process.

'Community-based resource management' puts the emphasis at the local level, but most (if not all) resource management systems have cross-scale linkages and external drivers at various scales (Berkes 2002). Political relocations, a pervasive donor culture, economic imperatives and market demands are some of the driving forces not explored in detail here. Rather, I briefly comment on three aspects of cross-scale linkages as experienced by these two resource management committees: local level administrative support and leadership, the flexibility of the current arrangement, and the significance of new legislation for community-based management.

The two local resource management committees considered here were not picked at random; in Cambodia most of these committees exist on paper only. One of the reasons for the effectiveness of the committees in Kompong Phluk and Koh Sralao is support from provincial governors, whose endorsement facilitates the support of the commune council. Without the endorsement of management plans from the commune, the committees most likely could not function as well. While the NGOs working in both areas have helped to secure support at various scales (especially provincial and national level), the committees are effective at a village level because of local leadership. Leadership, including the willingness to take risks, is critical to garnering support of the local community. In these cases, both resource management committee leaders are respected within their village and tend to be influential in the community.

Flexibility is another factor of success. Resource management committees have had the flexibility (such flexibility has, no doubt, been encouraged by the NGOs) to address issues as they have arisen in the community such as responding to persistent gear loss or in pursuing a forest fire prevention campaign after the 2003 Kompong Phluk forest fire.

Neither committee is strictly bound by a rigid mandate (or plan), recognizing that they have the ability to solve problems around different community issues, whether these are environmental or social. As another example of this, upon request of the resource management committee in May 2003, Koh Sralao villagers hauled cement and other materials up a steep hill for the construction of a pagoda hall, used as a meeting place for different community events. Resource management, in a way, is a vehicle for committees to address and deal with a range of community level issues.

New legislation being drafted (and in the case of the community forestry sub-decree passed) for community-based management in Cambodia has the potential to reduce this flexibility by making mandates more rigid, but of course it also carries the promise of enabling and strengthening local level management. A critical question is how policy can best be implemented to serve sustainability, equity and livelihood objectives (Sachs 2002). Further thought might be given to if resource management committees can realistically pursue a path that leads towards sustainability. What will it take to ensure the longer-term sustainability of rural communities, given the context of resource declines and rural to urban migration?

Sustainability has become "a vital element in the discourse of researchers trying to explain the relations between economy, society and environment, and to influence these" (Adams 2001: 5). This analysis indicates that villagers' view (in particular the resource management committee) of their livelihood and of sustainability is holistic: people see connections between lands and waters and mangroves and crabs. Hence, further thought is needed to assess how different community-based policies identified in a range of legislation and programs (e.g. community fisheries sub-decree, community forestry sub-decree, protected areas law, land law and local governance programs) can best support sustainability needs, rather than leading to fragmentation. Greater consideration of the relationship between sustainability, livelihoods and local level institutions is necessary.

As has been shown by the experience in Kompong Phluk and Koh Sralao, community-based management can emerge in many ways. Through self-organization and

development of commons institutions, experimentation, elaboration of knowledge and social learning, unsustainable practices can be made more sustainable. In this regard, the development of the ability to self-organize, learn and adapt, may be more important than solving particular problems (Berkes et al. 2003). Creating the political space for communities to practice learning-by doing, and enabling communities to deal with resource management problems is one way to facilitate the dynamics of sustainability 'on the ground'. Finding and sustaining flexible approaches that support creative learning-by-doing and problem-solving opportunities represents an important challenge for local resource management and the development of sustainable livelihoods.

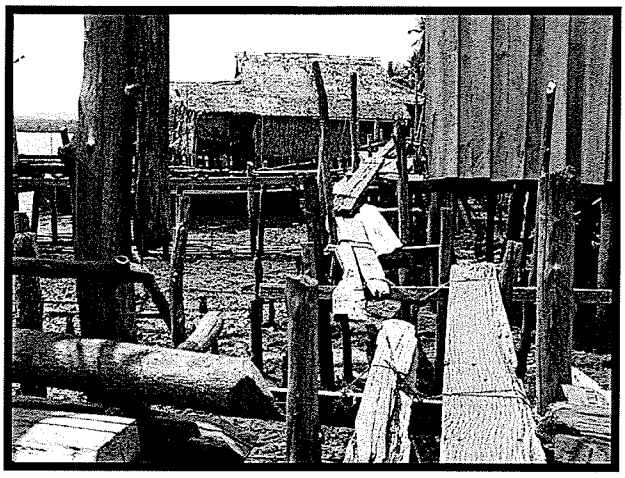


Photo: M. Marschke 2004

Koh Sralao, view from the walkways during low tide

# Chapter Four:

# The complexity of 'community' life

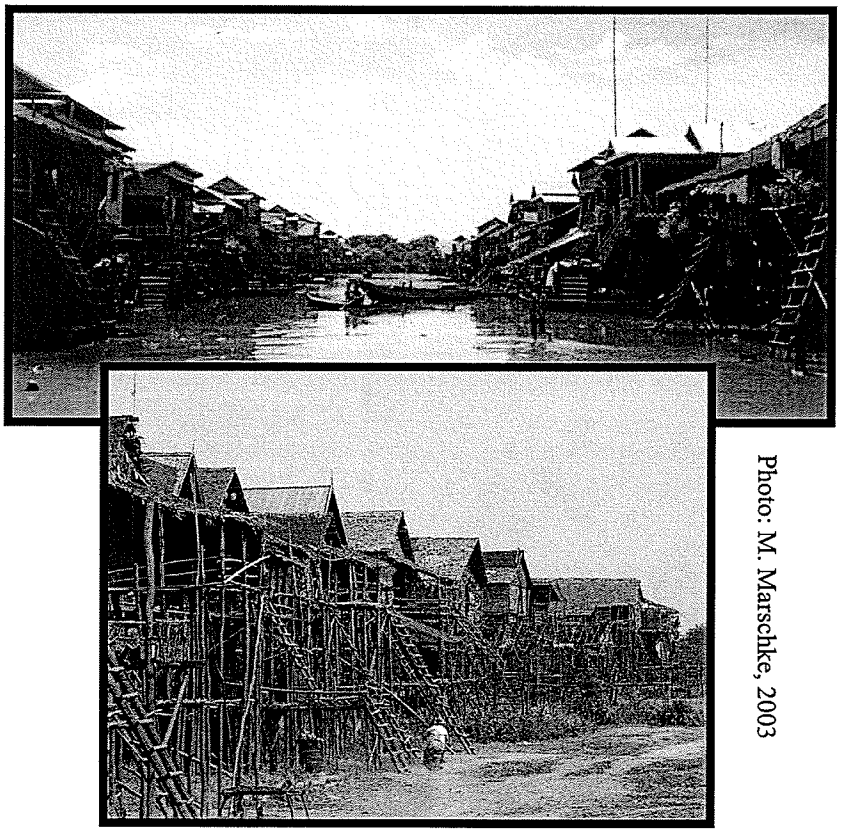


Photo: M. Marschke, 2003

Kompong Phluk, views from the declining flood (rainy) season and the dry season

# Chapter 4: The complexity of 'community' life

> This is the first year that I have not seen any grouper fish in my fish trap. I'll try again next year, to see if the fish return. I think this is related to crab fishers catching so many grouper juveniles in their small traps. My household is lucky, since I have skills and knowledge to do other things, and we have our selling business. Wayne, April 2004

Wayne's comment is quite telling. In saying "I'll try again next year, to see if the fish return," Wayne is speaking to the unpredictability of the fishery, acknowledging the seasonal fluctuations and perturbations. At the same time, Wayne recognizes that over-fishing may be impacting this resource. This may or may not be related to the increase of crab traps found in the area and the decreasing mesh size that fishers now use. This smaller mesh size enables fishers to also catch grouper juveniles within their crab traps. Since there is a market for juveniles in Thailand this grouper by-catch enables crab fishers, generally those with less income or opportunities in the village, another income generating opportunity.

Wayne also acknowledges that his household is lucky, and that the combination of luck and having multiple fishing skills gives him an advantage. In hinting at his "selling business" (a home-based retail shop), Wayne speaks to both the diversity of livelihood opportunities that his household pursues but also to the 'buffer' this business provides in times of fluctuation (or stress), such as this year with no fish in his fish trap. Wayne's comments suggest that he views his livelihood to be dynamic, and is prepared to adapt as situations present themselves.

This chapter sets out to explore the complexity of livelihood in two rural fishing communities. The main body of this text presents primary research findings, with footnote text containing supplementary information from secondary sources. This chapter begins by presenting a community profile, including general household characteristics. Household activities, specifically details surrounding fishing households, are noted. Attention is paid to seasonality. For example, how does seasonality affect a household's livelihood opportunities? Institutions, formal and informal, are then

discussed, along with marketing opportunities and relationships that households may have with a middleperson. Main problems found in each area are explored, along with a consideration of who can pursue which livelihood activities. In conclusion, the livelihood priorities expressed by households are presented. This chapter is designed to present an overview of the fluctuations and perturbations that surround community life in Koh Sralao and Kompong Phluk.

## COMMUNITY PROFILES

Koh Sralao and Kompong Phluk are fishing communities, dependent upon fishery resources for their livelihood[27]. Both communities are rural, poor[28] by average Cambodian standards, and have limited access to land (only a few households in each community have access to farmland). Each community is located in an ecologically significant area[29]. Koh Sralao is a coastal fishing village with 1992 inhabitants, and consists of many internal migrants[30] who came to pursue economic opportunities (often related to resource exploitation); Kompong Phluk is a long-established freshwater fishing community with 2755 inhabitants, where households move seasonally with the movements of the Tonle Sap Lake.

Basic services in Koh Sralao and in Kompong Phluk are lacking; for example, health and educational services are minimal, with people relying on provincial centres for non-traditional health care needs. Educational opportunities for children have improved

[27] Both communities are old fishing villages, although in Koh Sralao most households did not return after the Khmer Rouge (many went to Thailand or elsewhere) (Marschke 1999).

[28] According to a World Food Program Poverty Map, that uses 1998 data, the Tonle Sap area (including fishing villages in Siem Reap province) is one of the poorer areas within Cambodia. In contrast, southwestern Cambodia (Koh Kong province) is considered to be better off (in part because of low population density in this area, and a relative abundance of natural resources).

[29] Koh Sralao village is located within Peam Krasaop Wildlife Sanctuary (a protected area). This same area has also been designated as a Ramsar site (Ramsar sites are wetlands of international ecological significance; Cambodia has three such sites). Kompong Phluk is located within a Biosphere Reserve (an area rich in biodiversity). Both communities existed prior to outside recognition of their 'ecological significance'.

[30] In general, in-migrants have come to Koh Kong province, and into Koh Sralao, from central and eastern Cambodian provinces. These areas are highly populated, prone to flooding and to severe droughts. In-migrants can be government officials, business people, fishers, loggers (forest collectors), farmers or labourers. For some in-migrants, Koh Sralao is a temporary home while others re-establish themselves here.

(teachers are now willing to stay in each area to teach), however, children wanting to attend junior high or high school need to leave their area for district or provincial towns. Access to electricity is minimal: a businessperson in each area does run a generator but only some households can afford this service. Communication is challenging, as there is no landline phone system and cell phones do not work in most areas of each community. Trade, in each case, occurs through a series of middlepersons both inside and outside the village. Such relationships are often indebted.

Land tenure in Cambodia is a contentious issue, with many 'informal' certificates of land tenure being granted throughout the country. This is no different in either Koh Sralao or Kompong Phluk: some villagers have made informal agreements with village and/or commune leaders regarding the area where their home is built. Siet, a female fisher, explains how her household obtained an unofficial land title.

> This land belonged to my grandparents before the Khmer Rouge[31]. After the Khmer Rouge we moved back to the village and continued to live on this land. We did not ask for permission from the authorities, we just confirmed that we were living on this land. Several years ago the Commune Chief issued us land tenure although the Department of Land Title has never issued us land tenure (June 2003).

Legally, however, households in both areas cannot obtain land tenure. The land belongs to the state: the Ministry of Environment[32] in the case of Koh Sralao; and between the Ministry of Environment (Biosphere Reserve status) and Department of Fisheries in Kompong Phluk[33]. Table 13 highlights basic village infrastructure.

[31] Cambodia's 2001 *Land Law* only recognizes land titles granted after the Khmer Rouge (1979).
[32] The Ministry of Environment was created in 1993, and is responsible for Cambodia's 23 protected areas.
[33] According to the 1987 *Fisheries Law*, all lands that fall under water, either permanently or seasonally, are classified as fisheries domain under the jurisdiction of the Department of Fisheries (DoF). The flooded forest and mangrove areas (not in a protected area) are included within DoF jurisdiction: villagers cannot buy or sell land in this area since this land belongs to the state. The Ministry of Environment, however, also has jurisdiction over resources in the Tonle Sap Lake, due to its recent status as a Biosphere Reserve. Since the responsibilities of two Ministries are not clear, jurisdictional conflicts are arising between these government bodies; at the local level, it means that informal agreements negotiated between villagers are not recognized by the State.

Table 13: Basic village characteristics in Koh Sralao and Kompong Phluk

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| Health center | No health center; 2 midwives; 2 traditional doctors | NGO supported health center; 3 midwives; 2 traditional doctors |
| Water supply | Six wells - some can access. Rain water & bought water. | 4 ring wells, 46 tube wells. Use water from the Tonle Sap. |
| School | One, with five classrooms (Gr. 1–5); new school being built, Grades 6-8 | Two, with a total of five classrooms (Grade 1 – 6); new school planned. Grades 7-8 |
| Electricity | Battery, oil lamps (poorest), generator (richest) | Battery, oil lamps (poorest), generator (richest) |
| Communication | No phone system; two-way radio | No phone system; two-way radio; a few cell phones |
| Trade | Most villagers indebted to a village middleperson; most fish products sold to Thailand | Middlepersons come from outside, complicated marketing chain to provincial town and Phnom Penh or Thailand |

## HOUSEHOLD PROFILE

In each study site there was an average of six persons per household, with an average of three household members regularly generating an income. A mean of two children per household attended school in each community, with over four-fifths of these children attending school within (not outside) each community. Parents suggested their children did not attend school because a household did not have money to send their children to school or because children were busy working (helping their parents or as child-labourers). Nearly three-quarters of all households are in debt (slightly higher in Koh Sralao than in Kompong Phluk); nearly all households reported having someone in their household ill in 2002.

More specifically, someone in each household was sick in the previous 12 months (97% in Koh Sralao and 100% in Kompong Phluk). Common illnesses include fever, colds and malaria. For those that are severely ill, there are limited options other than traditional medicine or being sent by boat to the provincial hospital in the case of Koh Sralao villagers. Kompong Phluk households have a choice of an NGO clinic in this commune (that is sometimes staffed) or the provincial hospital. Villagers in both areas suggested that 'boiling water for drinking', 'taking medicine' and 'using mosquito nets' all helped

to prevent illness. 'Relaxing more' and 'providing healthy food with vitamins' were also mentioned. Longer-term illness in any household has severe implications, eating into meagre savings and forcing members to sell possessions to finance costly medical bills and hospital stays. Illness during a peak fishing season is especially problematic (a main income generator may not be able to work).

Households are able to enhance their daily lives. For example, raising chickens or pigs and growing herbs is common in Koh Sralao (74% and 50% of households); growing vegetables and herbs is common in Kompong Phluk (57% and 98% respectively). Many households collect rainwater: 67% of households use rainwater as their primary source during the rainy season in Koh Sralao. In contrast, 68% of households in the Tonle Sap use the Tonle Sap as their primary source of drinking water. During the dry season many villagers (70%) in Koh Sralao buy water (unless they have access to a well, 30% of households), whereas 58% of villagers in the Tonle Sap continue to use lake water as their primary source in the dry season. Collecting wood for cooking (mangrove or flooded forest species) is common. Over four-fifths of villagers in each area do so.

### HOUSEHOLD LIVELIHOOD PROFILE

A significant portion of households involved themselves with fishing activities (75% in Koh Sralao; 86% in Kompong Phluk) or fish processing activities (75% in Koh Sralao; 60% in Kompong Phluk). In each case, households are engaged in multiple activities related to the fishery: using a variety of fishing gear, fish processing, gathering and collecting, aquaculture and buying and selling fish. Other activities are also undertaken to enhance household livelihoods such as home gardening, animal raising or hands-on (i.e. hair dresser, carpenter) work. Livelihood activities such as selling goods or working for the government (village official, police officer) are more common in Koh Sralao than in Kompong Phluk where more activities appear to be linked to the fishery (see Table 14).

Table 14: Household livelihood activities

| Livelihood Activity | % Koh Sralao | % Kompong Phluk |
|---|---|---|
| Fishing activities | 75 | 86 |
| Fish processing activities | 75 | 61 |
| Gathering and collecting | 64 | 19 |
| Animal raising and aquaculture | 64 | 47 |
| Fish buyer and seller | 11 | 25 |
| Money lender | 7 | 5 |
| Middleperson | 7 | 7 |
| Labourer | 41 | 14 |
| Hands-on-person | 33 | 10 |
| Stay at home | 36 | 36 |
| Government employee | 20 | 7 |
| Local care | 0 | 2 |
| Selling | 29 | 9 |
| Karaoke shop | 3 | 0 |
| Pagoda | 3 | 9 |
| Other livelihood activities | 26 | 7 |

Questions allowed for multiple responses

### SPECIFIC FISHING ACTIVITIES

The diverse gear types found in each context illustrate the wealth of fishing knowledge held in the area, although not all households share in such diverse knowledge nor use a diverse amount of gear. In Koh Sralao most households either use crab traps or nets (73% and 29%). In contrast, in Kompong Phluk most people use gill nets (95%) and some use hook and long line (31%) and small brush parks (28%) (see Table 15).

Table 15: Household fishing activities specified

| Fishing Activity | % Koh Sralao | % Kompong Phluk |
|---|---|---|
| Gill net | 11 | 95 |
| Crab trap | 74 | 0 |
| Hook and line | 6 | 31 |
| Small brush park | 0 | 28 |
| Crab net | 24 | 0 |
| Circle net | 2 | 11 |
| Small vertical scit trap | 0 | 11 |
| Other fish trap | 2 | 8 |
| Hand push net | 13 | 0 |
| Trawling | 2 | 1 |
| Surround tree net | 4 | 0 |
| Light and dip net | 0 | 3 |

Questions allowed for multiple responses

Although there appears to be multiple livelihood activities that a household can engage in, not all households have access to these opportunities. For some activities, skills are needed; for others, capital is needed; and for others still, some luck is needed! For example, in Koh Sralao, most households are crab fishers: those households that are able to diversify tend to do specialized fishing (i.e. deep sea fishing) or non-fishing activities (i.e. selling, hands-on person or farming, in the case of a handful of households[34]). In Kompong Phluk, those households with access to capital diversify their fishing activities or pursue aquaculture opportunities[35]. Poorer households tend to use small brush park or hook and line near the commune.

In order to maximize livelihood opportunities, households often work together in pursuing their livelihood activities and in devising their livelihood strategies. Consider Hart's household (Figure 6). This household in Kompong Phluk illustrates the need for all members of the household to contribute towards the household livelihood. Fishing is the main livelihood activity in both the rainy and dry season for this household. Hart and his son are fishers, preparing their fishing gear and setting nets and traps daily. Hart's wife, Narin helps with fishing, fish processing and the marketing of products. Hart's recently married daughter stays with her parents, husband and new baby. She is responsible for household cooking and general housework.

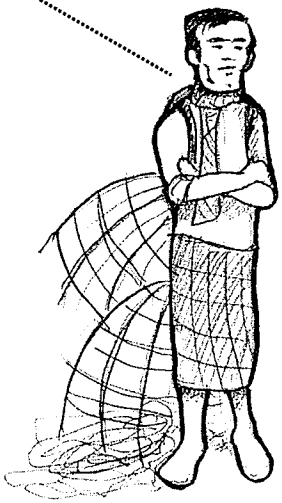
Like many villagers in Kompong Phluk, Hart's household moves with the flows of the Tonle Sap Lake (based in a permanent stilt house in the village during the flood/rainy season; building a small hut in the Tonle Sap Lake for the dry season). Hart's mother remains in Kompong Phluk, growing and selling vegetables, while the rest of the household moves to fish on the Tonle Sap for three or fourth months each dry season. In

[34] A handful of households control the small amount of farmland found in Koh Sralao. Cultivated crop species include: banana, pineapple, palm, sugarcane, jack fruit, potato, corn, rambutan, cashew, and custard apples (Marschke 2000). Water supply is controlled by these few households, thereby limiting the access to water for many households.

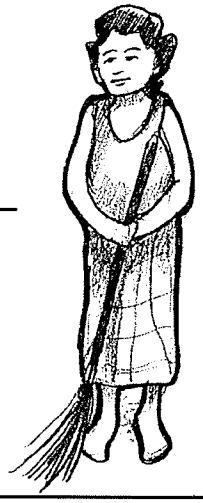
[35] Aquaculture practices are expanding around the Tonle Sap, including traditional pen and cage culture rearing native fish. While aquaculture may help respond to the problem of declining fish stocks, it may exacerbate this issue if fish pens are stocked through the indiscriminant capture of native juvenile fish. Poorer members in a community, without access to the finances and technology required to develop aquaculture systems, will suffer most by any interference with wild fish populations (Evans et al. 2004).

the dry season, when most villagers from Kompong Phluk move to the edge of the Tonle Sap, Hart and his household move even further away. By moving to the boundary area between two communes, where few other households live, Hart and his household are able to fish near their home and not compete with other fishers for scarce resources. They also access a different market. Hart and his wife drive their boat to the neighbouring commune to sell to their fresh product to a middleperson. During the rainy season, however, Narin processes these fish herself and then sells to a local middleperson (for less value). This is when, if possible, they pursue gill net fishing near Kompong Phluk.

**Hart's mother**, 72
Grows & sells vegetables (dry season). Takes care of home when household moves seasonally to Tonle Sap lake. Active in the pagoda.

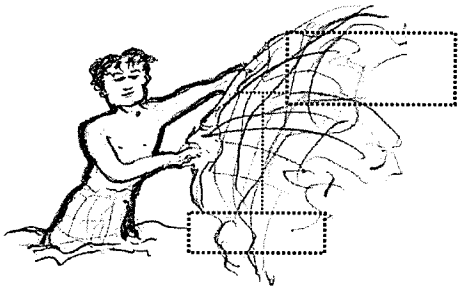


**Las Hart**, M, 53
*Fisher*, uses gill net and small brush parks (when gill nets are stolen). Makes small brush parks himself, collecting wood from forest (dry season). When possible, practices gill net fishing near village in rainy season. *Volunteer*, when in village participates in community activities.

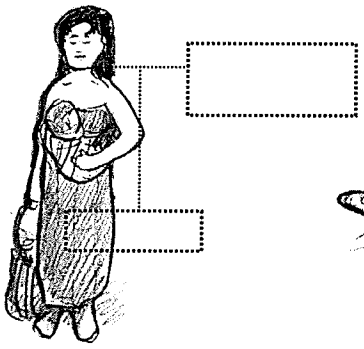


**So Narin**, F, 42
*Homemaker*, cooking, cleaning and child care. *Fisher*, helps her husband with fishing and sorts out fish for the market. *Seller*, sells shrimp to the neighbouring market (dry season) and to the small village middleperson in the rainy season.

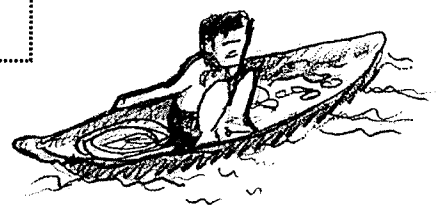
Sketches: M. Turgeson, 2005



**Ly Rady**, M, 24
Married, with one child. Stays with his wife and child in the village (also moves seasonally). Fishes, alone, using a gill net.



**Ly Ravy**, F, 20
Married a fisher (May 2002) and they have one child (April 2003). Stays with her parents, & cooks for the household. Her husband uses small brush parks in the rainy season and sends the shrimp product with her parents to the market.



**Ly Vuthy**, M, 18
Fishes daily with his parents.

Figure 6: Hart's household

Hart's household uses two types of gear -- small brush park and gill net -- to catch five low-value aquatic species (Table 16). Although Hart prefers to do gill net fishing, this depends on the amount of gill nets Hart has available (many of Hart's gill nets are stolen annually, an issue that will be elaborated upon further later in this chapter) and the mesh size of his nets. At certain times in the fishing season, it is more strategic to catch Fresh Water Shrimp with a small brush park. Although this gear (small brush park) is illegal, many small-scale fishers use this gear-type since it is relatively cheap (one can cut the wood from the flooded forest oneself) and easy to operate.

Table 16: Aquatic species and fishing gear used by Hart's household

| Khmer Name | Common English Name | Scientific Name | Fishing gear used |
|---|---|---|---|
| *Kompoeus* | Fresh Water Shrimp | *Macrobrachium lanchesteri* | Small brush park |
| *Chlonh* | Peacock Eel | *Macrognathus siamensis* | Small brush park/gill net |
| *Sraka Kdam* | | *Hemibagrus splilopterus* | Gill net |
| *Knong Veung* | | *Labiobarbus* spp. | Gill net |
| *Trey Kros* | Silver Shark Minnow | *Osteochilus hasselti* | Gill net |

Women are generally responsible for fish processing activities. Fish processing takes place in both areas, with peeling crab meat (91%) being most common in Koh Sralao. In Kompong Phluk more fish processing activities occur: fermenting fish (89%) into fish paste, with some smoking[36] (33%) and drying fish[37] (29%). In Koh Sralao, only a few households mentioned that they dried or fermented shrimp or processed oyster meat. Perhaps this is because newcomers to the area do not know how to process coastal fish into fish paste? Seven different types of fish processing activities were mentioned in Kompong Phluk, hinting at the rich tradition of fish preservation skills that Cambodians have developed. This is further discussed in Chapter Six.

[36] Small and medium fish are impaled onto wooden sticks for several hours over embers in a thatched hut. The finished product is hung up for sale in small shops throughout Kompong Phluk (Bailleux 2003).
[37] Fish are gutted, washed and salted before being placed onto bamboo racks to dry in the sun for several days. Dried fish is sold regionally, although tastes are changing and there is a growing preference for fresh fish (Bailleux 2003).

### *Boat ownerships and fishing areas*

More fishers identified themselves as medium-scale fishers (around 60%) than as small-scale fishers (around 40%). This response was consistent in each area. In Koh Sralao 80% of households owned a boat; in Kompong Phluk 97% of households owned a boat. Fishers tend to go to fishing grounds in their own boats (87% in Koh Sralao, 99% in Kompong Phluk) unless they do not have a boat (then the go with others, on their boat). Specific fishing grounds are chosen for different reasons (Table 17).

Table 17: How fishing grounds areas are decided

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| % HHs that said, *seasonality* | 45 | 48 |
| % HHs that said, *family tradition* | 4 | 39 |
| % HHs that said, *ease of harvesting* | 25 | 5 |
| % HHs that said, *advice from friends/neighbours* | 13 | 1 |

Households engaged in fishing only
Questions allowed for multiple responses

Although 'seasonality' is a common reason that fishers decide their fishing grounds in both Koh Sralao and Kompong Phluk, other reasons differed significantly. For example, deciding fishing grounds based on family tradition is much more important in Kompong Phluk (39% versus 4%). Another interesting difference is that 25% of households in Koh Sralao said 'ease of harvesting' and 13% said 'advice from friends/neighbours'. This suggests that there is different knowledge regarding the fishery in each area. In Koh Sralao, fishers are learning about the fishery whereas stronger traditions and fishing knowledge are held in Kompong Phluk.

### *Adopting a fishing lifestyle*

When villagers were asked why they began to fish, statements such as 'I don't know how to do anything else' and 'family tradition' were extremely prevalent in Kompong Phluk. In contrast, a range of comments were given in Koh Sralao from 'I don't know how to do anything else' to 'I saw many people catch a lot of fish' and 'if I do fishing, the middleperson can support'. This suggests that fishing is something most households in Kompong Phluk engage in, whereas a series of reasons brought many households into the fishery in Koh Sralao.

## SEASONALITY

Seasonality plays a particularly strong role in the lives of fishing households, determining which livelihood activities are pursued depending on seasonal perturbations (water levels and fish migration patterns) and a host of other factors (seasonal in-migration, illegal activities, illness, income earning opportunities). There are two main seasons in Cambodia, the dry season and the rainy or flood season. The dry season is when households fish with greater ease. For example, Carp species are common near Kompong Phluk in the dry season and Mangrove Mud Crab and Grouper fish species are common near Koh Sralao. The dry season lasts from November until May. In late May, at the end of an intense hot season, water levels begin to rise in the Tonle Sap[38] and the flooding begins; this is when the rains begin in the coastal areas.

In Koh Sralao, fishers have learned to fish with daily tidal fluctuations[39] and seasonal perturbations. The rains are particularly heavy in this part of Cambodia, and this is the time where it is hardest to fish since the top layer of the brackish water becomes fresh[40] (challenging for small-scale aquaculture activities, like green mussel culture). The important consequence of this seasonal change is fish migration patterns.

Kompong Phluk is located at the edge of the Tonle Sap Lake, an area rich in biodiversity. Figure 7 illustrates the seasonal flooding of the Tonle Sap, and indicates where Kompong Phluk lies. Permanent houses are built with tall stilts, illustrating how high water levels rise seasonally (at least four meters). At the peak of the flooding, water reaches the floor level of houses. Villagers use small rowboats during this season, paddling to buy goods at the local shop or to send children to school. As water recedes, the main street of

[38] The dry season in 2004 produced exceptionally low water: the Mekong River hit record low levels, causing the Tonle Sap to draw down between 40 to 50 cm depth throughout May. This left a poor environment for fish and, combined with how slowly the Tonle Sap rose in 2003 (in that year, the Tonle Sap rose 1.5 to 2 m less than the average high water mark), has resulted in a low fish harvest and a tripling in the price of fish on the local market (Evans 2004).

[39] There is no meteorological station in Koh Kong province to record sea tides; however, observations suggest that tide levels are low during the rainy season, fluctuating by around 0.70 m compared to December and January tides, which can fluctuate by around 2 meters (Marschke 2000).

[40] Salinity significantly changes between the wet and dry season, ranging from 10 parts per thousand to 35 parts per thousand (full sea water) respectively. Oxygen concentration changes little, averaging 4.8 mg/l (Marschke 2000).

Kompong Phluk reappears and becomes filled with people, motorcycles, oxcarts and bicycles (see photos of Kompong Phluk at the beginning of this chapter).

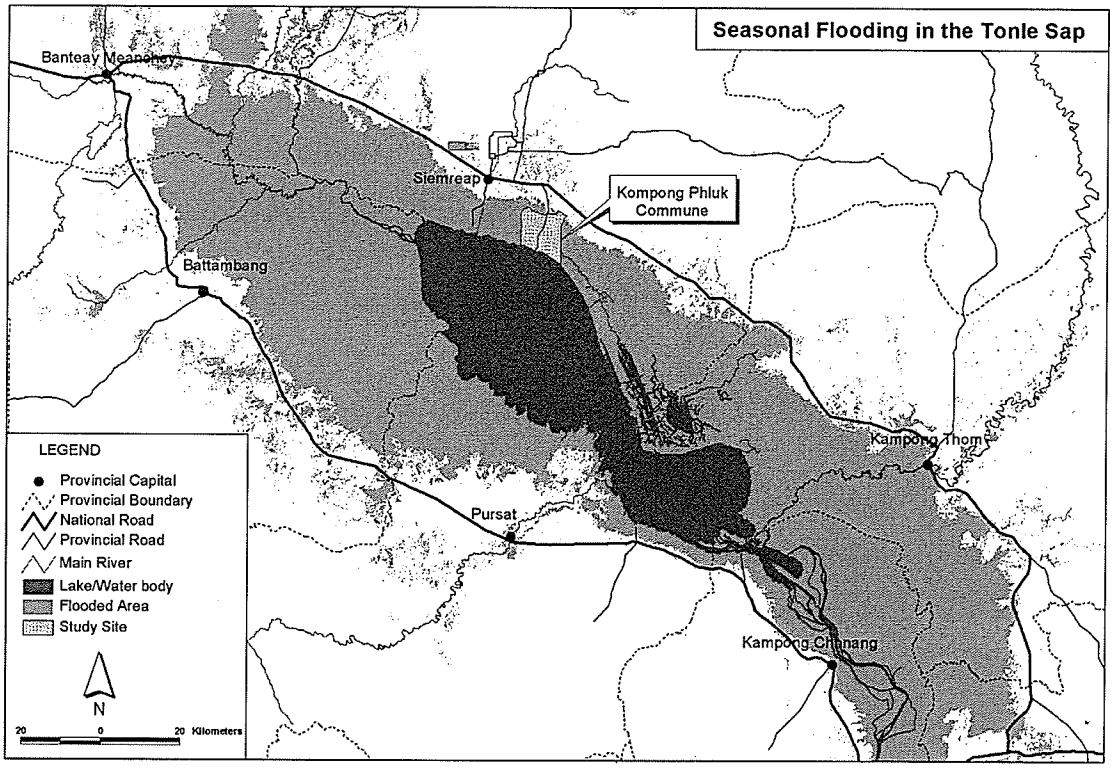



Figure 7: Seasonal flooding of the Tonle Sap

Fishers set their nets and traps near Kompong Phluk during the flood/rainy season, moving[41] to the edge of the receding Tonle Sap during the dry season. During the peak of the dry season, elders stay behind in Kompong Phluk to 'take care' of homes, and tend to animals and small gardens while other household members live at the edge of the Tonle Sap. Hart's household (Figure 6) illustrates this pattern. This seasonal migration occurs since fishers are "closer to the fish and it is easier to look at the sky to monitor fishing conditions" (Siet 2003). Households construct temporary shelter either at the

[41] For years the river channel between the commune and the Tonle Sap Lake has been silted: villagers moved temporarily to the Tonle Sap (2 km away from the Commune), building stilt huts at the edge or on the Tonle Sap. In 2001 a National Assembly member financed the dredging of the channel, and for the following dry season many villagers remained in the village. However, this dredged channel rapidly silted and villagers have since continued their seasonal migration patterns.

edge of the Tonle Sap or several hundred meters into the Tonle Sap, close to fishing grounds. Siet (July 2003) further explains,

> We have been here for two weeks [channel to the Tonle Sap], and brought all the other wood and materials from Kompong Phluk. All these housing materials were bought from the upland area. Before we could find housing materials in the flooded forest, but since the Community Fisheries Committee we are not allowed to cut this wood.

Seasonal in-migration also takes place in the dry season. In-migrants fish in the same waters as Kompong Phluk fishers, using these waters as part of a seasonal migration route (households from upland areas move to the Tonle Sap for several months a year (in the dry season) to pursue fishing activities)[42]. These in-migrants do not settle in the permanent village, rather also living at the edge of the Tonle Sap, using the same fishing grounds as Kompong Phluk fishers. Seasonal in-migration is also found in the coastal areas, although it is generally single men pursuing fishing opportunities rather than entire households moving seasonally. In some cases, these men know people in Koh Sralao and use this as their base to fish; in other cases, the men work and live on larger fishing boats, fishing in the same waters as Koh Sralao fishers.

During the dry season illegal activities are rife. Some in-migrants practice illegal activities (i.e. dynamite fishing or electric fishing) and some in-migrants do not. Although villagers always insist that it is outsiders practicing such illegal activities most likely villagers also engage in illegal activities[43]. Consider Wayne's comments:

> I catch a lot of fish by trap now, since I am a Park Ranger and need to do legal fishing. Actually I was the specialist in illegal fishing gear and I know very well how to do it. But the problem with grenade fishing is that while lots of fish are killed quickly the quality of the fish is not so good. When I use a trap the fish are of a better quality. And, middlepersons can recognize the quality, and pay more

[42] Seasonal migrants often travel in groups to fish in the Tonle Sap, arriving in February or March and fishing until the Tonle Sap begins to flood (late May/June). Such seasonal migration involves the entire household, following the wet season harvest of rice crops (UNDP 2001).

[43] In June 2004 a conflict between medium-scale fishers that refused to remove their gear in Anlong Samnour at the end of the commercial fishing season (31 May) and the community fisheries group arose. This group, with the district governor and provincial fisheries staff, removed the fishing gear of 68 offenders in mid-June. However, the local fisheries check point officer did not support this move, and supported the medium-scale fishers as they stormed the community fisheries office demanding that their gear be returned. They subsequently burned the community fisheries office and boat (Evans 2004).

> for better quality of fish. The grenade fish tend to be bought quite cheaply and you have to find your own market [Thai police] (January 2003).

In terms of illegal activities found in each area, there is a prevalence of u-shaped bag nets (dangerous to the fishery since it catches juveniles) and dynamite fishing in Kompong Phluk; in Koh Sralao dynamite and cyanide fishing are problematic.

Seasonality is also linked to income earning opportunities and expenditures, and peak times for household illness. With excess fish being caught (or crab in the case of Koh Sralao), less money is spent on food in the dry season. Although at the beginning of the dry season, fishers do spend a lot of money preparing their fishing gear (replacing mesh on nets or crab traps, replacing bamboo on fish traps) and in fixing their boats. This is when fishers tend to borrow money for the upcoming fishing season. Households try to save money during the dry season since during the rainy/flood season finding livelihood opportunities can be challenging: there are fewer income-earning opportunities related to fishing available, especially in Koh Sralao. At the peak of the dry season, more people fall ill (especially the elderly and children) in Koh Sralao. In contrast, the most illness occurs in Kompong Phluk during the rainy season. Seasonality issues illustrate the nuances found in each context.

Figure 8 is an example of how one focus group drew out their seasonality issues in Koh Sralao. This Seasonal Calendar illustrates how community members view seasonal patterns, and how these patterns are cyclical for people. The socio-economic indicators (illness, migration, earning and expenditure) illustrate the connections villagers make between the resource base and their daily life.

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER | | | | | | | | | | | | |
| EARNING | H | H | H | H | H | L | L | L | L | L | M | M |
| SPENDING | L | L | L | L | L | M | M | M | M | M | H | H |
| ILLNESS | M | M | M | H | M | L | H | M | L | | | |
| MIGRATION (OF PEOPLE) | → | → | → | → | → | ← | ← | ← | ← | ← | → | → |
| ILLEGAL FISHING | | | | L | M | M | | | | | | |
| MAIN CATCH (CRAB) | M | M | M | M | M | L | L | L | L | L | M | M |

hot
hotter
hottest

rain
more rain
heavy rain

L low
M medium
H high

→ in migration
← out migration

Figure 8: Seasonal calendar from Koh Sralao

## MARKETS, MIDDLEPERSONS AND OTHER LOCAL LEVEL INSTITUTIONS

### MARKETING

> I stopped buying Peacock Eel as I am busy repairing my nets. Many people are buying the Peacock Eel so by the time I get to buy this, after my own fishing, it is too late. Before I was selling to an upland middleperson. I would like to try being a middleperson again, but let's see. Every year it depends on what time you can get to the fishers to buy. If many people are buying, then it is hard for me as people do not wait (Siet, July 2003).

For the past several years Siet went to the fish landing site near Kompong Phluk to buy Peacock Eel, a kind of eel-like shallow water fish. She then sold this product to a district middleperson. Since Siet is the main income earner in her household, pursuing this activity allowed her to diversify: marketing is one arena that Siet can enter (Khmer women are involved in the selling and marketing of goods). However, because Siet and her sister are also responsible for gill net fishing for their household (which provides food for daily consumption, plus some extra cash) it depends on how many other people also buy Peacock Eel and the time that she is able to return from her own fishing activities. In 2003, for instance, too many others had a similar idea and other buyers arrived earlier than Siet. She could not return from her own fishing activities early enough to buy this product.

Access to markets, and marketing opportunities, can make or break a household. There needs to be a market for a product, which can make innovation challenging and risky for poorer villagers (i.e. if no market exists). There tends to be set times that fish products are sold, and if one misses that selling opportunity this can be challenging. In Kompong Phluk[44] fishers complained that when it is windy and takes longer to return from their fishing grounds, they miss the outside middleperson that buys fresh fish. This forces a household to process their catch (fermenting, drying or smoking): this is a labour-intensive process and the processed fish is sold for less value.

[44] Keskinen (2003), in a socio-economic survey of villages surrounding the Tonle Sap, found that for those villages located closest to the Tonle Sap (which would include Kompong Phluk) trade was particularly important since trade can only take place at specific passage points and market places.

Marketing processes are to a large extent driven by outsiders (national and international): local villagers have little control in what they sell and to whom. The boom, and rapid depletion, of mangrove mushrooms collected in Koh Sralao speaks to this. The sudden interest in mangrove mushrooms was spurred by Korean buyers whose connections in Phnom Penh had distant relatives in Koh Sralao. The mushrooms were rapidly depleted over a half-year period. Large mangrove mushrooms can no longer be found in the mangroves near the village.

Understanding marketing chains is not simple, a series of buyers and sellers work in the village and district[45]. Villagers can trace several layers of marketing. For example, in Koh Sralao there are two species of crab and one species of grouper fish that households sell to a village middleperson. There are six smaller middlepersons that households can sell their product to and one large middleperson. If a household does not owe money to anyone, then they are free to sell to whomever; however, if a household owes money to a particular middleperson, then they must sell their fish product to this middleperson. Even though Koh Sralao is close to the Thai border, villagers themselves nearly never sell directly to the Thai market. Figure 9 illustrates the perception that villagers in Koh Sralao have of marketing linkages. Several layers are gone through before the product ever reaches the market.

### MIDDLEPERSON

In Cambodia, a middleperson is assumed to be male. However, in the fishery (especially in the Tonle Sap) women are also involved in (a) buying and selling fishing and/or (b) lending money. Of the 11 households that were worked with for the duration of this research, three women talked about their role as middlepersons during various periods.

[45] McKenney and Tola (2003: 3) in a study that traced the flow of fish from a landing site in the Tonle Sap to the Thai border market found that 27 informal marketing fees (bribes) were paid to 16 institutions in 15 different places. "The high costs, uncertainty and risks associated with this informal fee system depress fish prices, which in turn reduces the income earned by small and medium-scale fishers and others working in the fisheries sector".

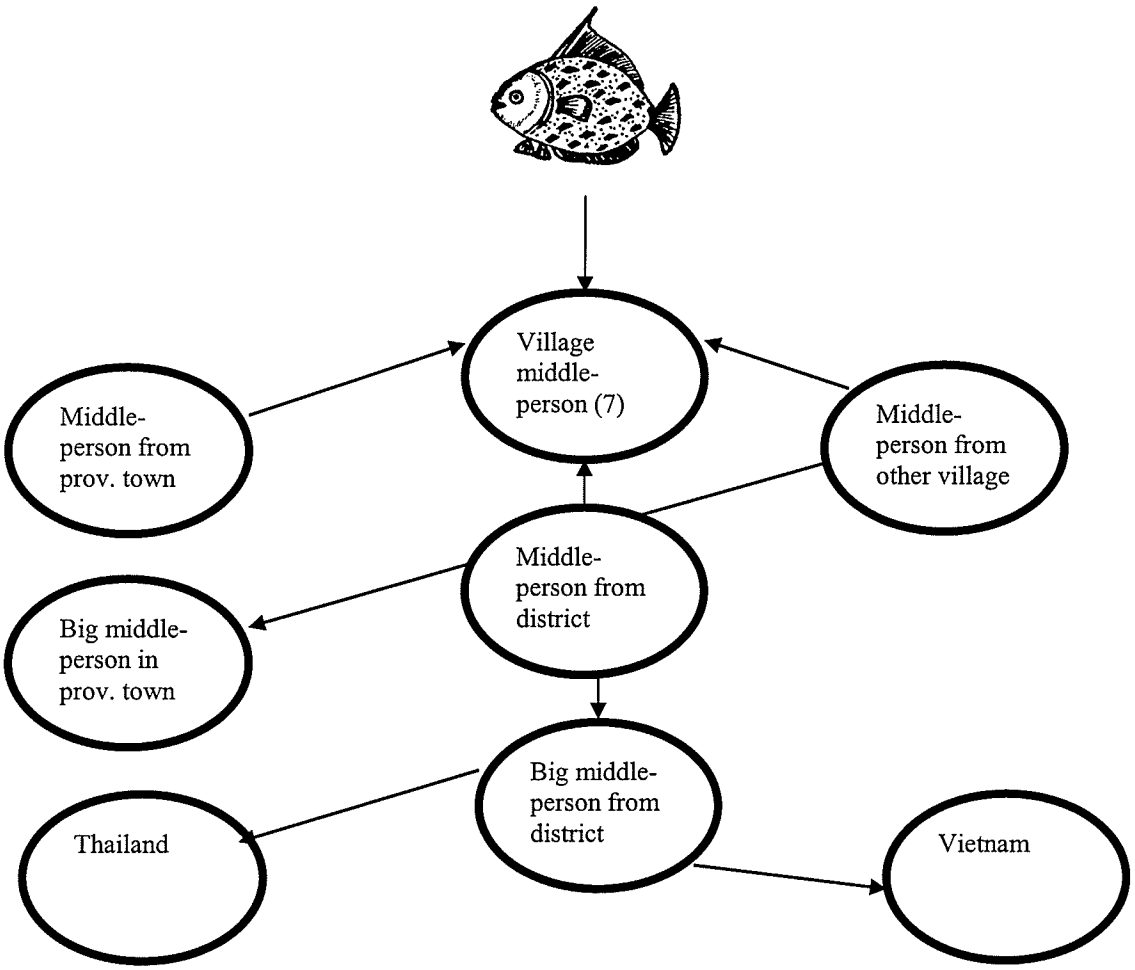



Figure 9: Analysis of trade flow of one crab species in Koh Sralao

Whereas in Koh Sralao a middleperson lends money and buys fish products directly from a household, there appeared to be more middlepersons operating in Kompong Phluk: some middlepersons operate in a village and some operate outside; some lend money and some only buy fresh fish.

> I borrowed 300 000 R [$75][46] from the outside middleperson because my child was sick. She trusts me. Many middlepersons from the provincial town are women. So far I have paid her back 100 000 R [$25] and owe her the rest. She knows I am very honest and work hard, so that is why she lends me the money (Norn, September 2002).

[46] An exchange rate of 1 US dollar = 4000 Cambodian Reil is used throughout this thesis.

Table 18 illustrates the different ways that households may interact with middlepersons depending upon which fish products are sold in Kompong Phluk. Unless a household has a special relationship with a middleperson, it appears difficult for households to access large amounts of capital.

Table 18: Types of middlepersons found in Kompong Phluk

| Type of Middleperson | Responsibilities |
|---|---|
| Middleperson for fish processing in village | A local person (around 15 in the commune) who (a) buys fish from people, processes it and sells this to a bigger middleperson (*moi*) and/or (b) (if richer) sometimes lends money to fishers to buy gear and then buys back the fish. |
| Middleperson for fresh fish | A local person (3 in the commune) who buys fresh fish and sells to another middleperson from outside; lends money for smaller fishing gear, i.e. small brush parks or gill nets. |
| Middleperson for processed fish, outside | An outsider, from another commune or district, who buys fish that is already processed (i.e. dried fish, fish paste, smoked fish, dried shrimp) from a local middleperson or goes directly to household in Kompong Phluk; doesn't generally lend money (although this depends on a household's relationship with this middleperson. |
| Middleperson for fresh fish, outside | An outsider, from another commune or district, who buys fresh fish products either from middleperson in Kompong Phluk or directly from households. Some sell within own district, some sell to provincial market. |

A series of interactions take place between households and middlepersons: middlepersons significantly affect a household's daily life. For example, 82% of villagers in Koh Sralao said they were in debt, with 88 % of this number being in debt to a middleperson. In Kompong Phluk, 72% of villagers said they were in debt, with 82% of this number also being in debt to a middleperson. A middleperson controls the amount of money lent, and the type of fishing gear supported (a critical factor for poorer fishers, who cannot borrow enough money to diversify gear). If a household is indebt to a middleperson, it is difficult to get market value for their product (with the middleperson buying, for example, fish at a lower price as a way of collecting on debt). Thus, a middleperson may help with household security but does not help a household to pay off debt. For a middleperson, their livelihood is based on lending credit: it may not be in the interest of a middleperson to have debts repaid (this varies).

Middlepersons outside the community affects villagers since they buy products from local middlepersons, which in turn sets the price for villagers. 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. Thus, village middlepersons are the closest with villagers since this relationship determines many livelihood opportunities. Figure 10 also considers this relationship. Consider Hart's thinking,

> I want to move back from the lake in June to Kompong Phluk because of the heavy winds and floods. We want to rebuild our home, in June. My house is old, and all the poles are broken. But, I am still in debt around USD 100, so I have to earn and save some money. I want to try to negotiate with the middleperson to pay back next year, and hope that the middleperson understands my real situation. (April 2003).

What is apparent, in both communities, is the dependence of poorer households on a middleperson. It is challenging for households to reduce their debt, given the low prices they receive from the sale of their fish and the high price of replacing fishing nets and mesh (which is required annually). The marketing and money lending system appears to be complicated and not designed to make poorer people's lives any easier! For a fisher, there are limited options.

What is not discussed here is the relationship of individual households with their middleperson: such relationships are on the continuum between exploitation and security. "The relationship with your supporter makes the difference of life being alright or not" (Lorn, May 2003). Villagers hinted at some middlepersons being more 'fair' than others, and Chapter Five considers how this relationship may be negotiated. A fisher who is not in an indebted relationship with someone, will most likely still not get a great price from a middleperson unless they have some way to transport their products to a district or provincial town. This is unlikely.

Interestingly, village middlepersons also felt that lending money was a risky business. Middlepersons recognized the challenges of fishers paying money back, and commented that lending money is a problematic livelihood activity. However, these middlepersons saw no other options since so much money was owed to them, and this was one of their

own household livelihood activities. Village middlepersons were squeezed by district middlepersons, and so up the marketing chain the challenges continued[47].

## OTHER VILLAGE INSTITUTIONS

A series of formal and informal institutions[48] exist in both Koh Sralao and Kompong Phluk. For each context, a similar list of institutions were generated including: middleperson, village chief, commune chief, women's committee, resource management committee, NGOs, religious institutions, fishers, health institutions (midwives, nurses), provincial government departments and the police. Figure 10 represents how one focus group of Koh Sralao women mapped out the impact of institutions in their daily lives. Larger circles indicate those institutions that have a greater impact on daily life. The distance of the circle from the center of the square indicates the importance of this institution on a daily basis. For example, both the Department of Environment and the small middleperson were felt to have a strong impact; however, villagers interact with the small middleperson on a daily basis whereas someone from the Department of Environment sometimes visits the village. The square represents the village boundary.

[47] "The power of the dominant party to exploit in an inter-linked market is much more than in markets taken as separately. This generates 'pauperising' participation in a commercialized output market through dependent relations in undeveloped, non-competitive, semi-feudal land, labour and credit markets. Although a market participant might appear to be making free choices in line with the neoclassical economics paradigm of equal, independent, market actions, in reality, the more markets are interlinked, the more constrained the set of choices s/he face" (Start and Johnson 2004: 38).

[48] Neoinstitutional analysis emphasizes the formation of institutions as constellations of social interactions where forms of behaviour (and organization) emerge from underlying social configurations, such as contested rules-in-use and conventions (Leach et al. 1999).

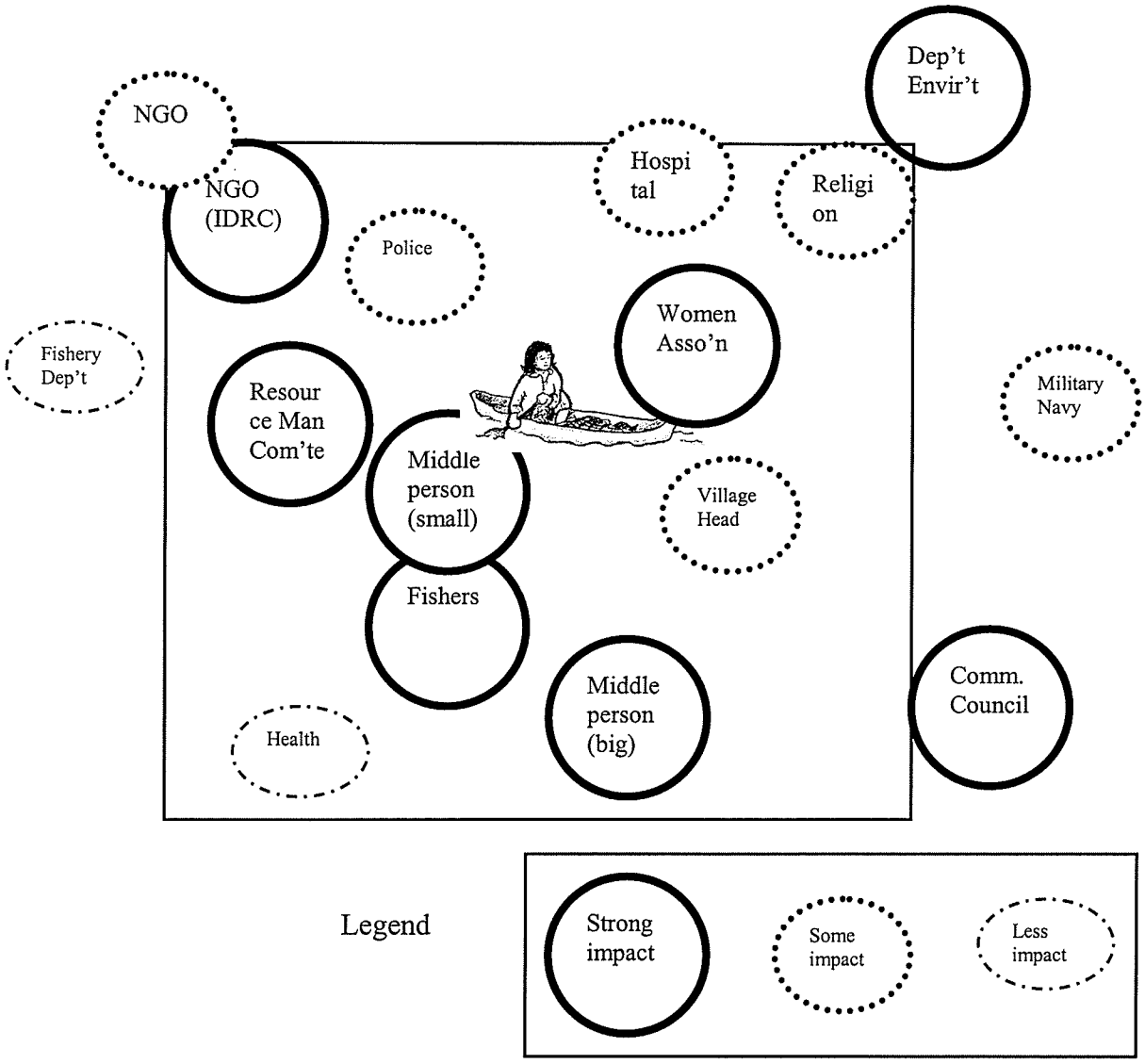



Figure 10: Perceived impact of institutions on daily life

Specifically, this women's group felt that the small middleperson played the strongest role in their daily lives, since this relationship was one that the entire household depended upon. "If you have a kind middleperson, then it is alright, but if you have one that is not understanding or unfair your life can be very difficult", commented Milorn (May 2003). Another important relationship was with the resource management committee (as discussed in Chapter Three), since this committee "help with all difficulties in the village and raise women's rights" (Sustainable Livelihood Workshop, August 2002). In Koh Sralao the resource management committee was seen to help villagers' daily lives more than the village headperson. This is in contrast to Kompong Phluk, where the

relationship with the village headperson and the commune chief was felt to be most important.

### ROLE OF GOVERNMENT INSTITUTIONS

In both Koh Sralao and in Kompong Phluk, provincial government departments did not play a particularly strong role in the community (sometimes they help enforce illegal activities; sometimes they support such activities). However, the commune council was felt to exert a large influence. The commune council is the institution that "coordinates everything that happens in the village". In general, villagers felt that government (provincial and national) was either neutral or made things a little easier rather than harder. For example, in Kompong Phluk an area impacted by the Fisheries Reform, nearly 75% of households felt this policy had a fairly great affect in helping their livelihood. In Kompong Phluk 69% of all respondents felt that the overall impact of government policy made their livelihood easier.

In contrast, results were mixed in Koh Sralao with 43% thinking that government made their life easier and 33% that government had little impact. The 2001 Fisheries Reform has not been significant in the coastal zone, and government has enforced a series of crackdowns on illegal charcoal production. For some households, this has had a negative impact on their livelihood opportunities. Koh Sralao, and Koh Kong province in general, is more isolated than Siem Reap province (where Kompong Phluk is located), and there is less national/provincial government presence here than in many other parts of Cambodia.

Households were asked how government could help make their lives easier. In Koh Sralao and Kompong Phluk over one quarter of the respondents (28%) answered that policy-makers from Phnom Penh should spend more time in rural areas. Other common answers included, "more laws to support poor people" and "enforce existing laws". When further probed, households also felt that government should encourage infrastructure development and give out aid directly to poorer households. There is a certain expectation that government will 'take care' of its people, especially the poor.

> Sometimes we wait for a long time for someone else to do something rather than to think about how to help ourselves. When someone is poor, it can be hard to think of ideas to make a situation better (Wayne, July 2003).

Comments such as Wayne's were heard consistently: there is an aversion to innovation and risk-taking, in part related to the hierarchical nature of Khmer society and in part linked to the legacy of the Khmer Rouge. In this sense, the resource management committee work discussed in Chapter Three is quite unique, and illustrates why leadership is an important aspect of local level governance initiatives.

## CHALLENGES FOR RURAL COMMUNITIES

> Not everyone struggles much with fishing, but this does not mean they earn a lot of money. It is hard to try new things if you cannot borrow money. One can be a good fisher with good ideas and still not enhance one's livelihood (crab trap fisher, August 2002).

Multiple factors affect people's livelihoods, including household membership, access to fishing gear, seasonality, institutions and marketing opportunities. However, when households were asked specifically about their problems, the most frequent answer in Koh Sralao and Kompong Phluk (75% and 50% respectively) was lack of money. Table 19 highlights common household problems.

Table 19: Household problems

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| % HHs that said, *lack of money* | 75 | 50 |
| % HHs that said, *decreasing natural resources* | 10 | 36 |
| % HHs that said, *lack of fishing equipment* | 12 | 20 |
| % HHs that said, *thief steals my fishing gear* | 12 | 15 |
| % HHs that said, *illness within my HH* | 7 | 14 |
| % HHs that said, *not enough people in HH* | 13 | 12 |
| % HHs that said, *too many people in HH* | 9 | 12 |
| % HHs that said, *trawlers destroy fishing gear* | 2 | 6 |

Questions allowed for multiple responses
Average number of problems listed per household = 2

When a household member says "*khnom ot mein loi*" (I have no money), it may be an easy answer to give to the outsider or it could be hinting at the range of options not available to a household. Although most households would like more money, the difference for poor households is that access to cash might enable them to meet their

basic needs (Chambers 2004). It is this lack of money, and accumulated debt, that inhibits many households from being able to consider other livelihood activities (over 90% of households in each context said they had 'no money to try other things'). A huge barrier for fishers is access to credit: middlepersons are not willing to lend out larger amounts of capital that is necessary for investing in specialized fishing gear (especially since resources are declining). A skilled fisher uses a variety of fishing gear depending upon the season and the fishery. Households that cannot access any capital are forced to fish for low-value species with gill nets or traps that are cheap to make.

Another problem includes loss of fishing equipment, either in the form of stolen fishing gear or destroyed fishing gear. When a household cannot save money, or cannot access capital, stolen fishing gear is particularly problematic. If a household has borrowed money from a middleperson, as is often the case, their debt immediately increases since they cannot pay back their current debt and they need to find more fishing gear to continue their livelihood activities. Sometimes households borrow from relatives or friends, sometimes they borrow more money from the middleperson (or find a second middleperson) and sometimes households 'escape' the village for a while to avoid selling their fish back to the middleperson.

Table 20: Gear loss experienced in Hart's household

| Year | Lost fishing gear | |
|---|---|---|
| | Gill net (m) | Sm. brush park (#) |
| 1999 | 240 | 10 – 20 |
| 2000 | None | 10 - 20 |
| 2001 | 240 | 20 |
| 2002 | 1 200 | 10 - 30 |
| 2003 | 960 | 80 |
| 2004 (½ ) | 240 | 40 |

Hart's household, in Kompong Phluk, highlights the challenge of gear loss. While fishers anticipate that their nets may be ruined by larger fishing boats and that smaller gear such as traps may get lost, fishing gear being stolen is a new phenomena. "I do not remember fishing gear being stolen like this in the past. Sometimes small-scale fishers are even stealing gear from each other. This makes things very uncomfortable," comments Hart (November 2003). Table 20 illustrates the frequency of gear lost (or stolen) from Hart and his household. Nearly 3000 meters of Hart's gill nets were destroyed or stolen, and at least 170 small brush parks have been lost or stolen since 1999. Particularly telling is how 1200 meters

of gill nets were stolen in 2002, which was the year following the 2001 Fisheries Reform (a transition time, when everyone was taken advantage of the common access situation prior to new rules and regulations being formed around the fishery). Loss of fishing gear is problematic in both coastal and freshwater areas.

The number of people living in a household may or may not be problematic. For example, if many people are living in a household and are not able to contribute financially (the elderly and young children, as an example) this can present a particular set of challenges. Conversely, not enough people living in a household may mean that there is not enough labour to support a household. Membership in a household is related to where a household is in their lifecycle (young households, multi-generational households etc).

The problem of declining resources is also mentioned. In Kompong Phluk, 36% of households commented that resources declines were a problem compared with 10% in Koh Sralao. Perhaps, in Koh Sralao, fewer households commented on resource decline as a problem since it depends upon where and what species a fisher is fishing. In Koh Sralao, as a result of an active patrolling and replanting campaign by village level institutions (as discussed in Chapter Three), fishers believe that some species (especially crab) have increased near the village where mangroves were replanted although the overall number of species has declined. Consider Wayne's comment:

> The grouper, mullet and mud crab in the estuary areas have increased. Fishers recognize that when the mangroves increase, the natural resources increase too. But, overall, I've never seen such low product as this year [2004]. Everything is getting smaller and smaller (April 2004).

In early 2005, fishers in Koh Sralao noted that they no longer caught grouper juvenile as a by-catch in their crab traps, another indicator of a declining resource base (and another secondary income source vanished). In the Tonle Sap, elders and other fishers mentioned that the large and migratory species they once caught have declined with fishing pressures and that small, low-value species now dominate the fishery.

## ACCESS TO LIVELIHOOD ACTIVITIES

A series of livelihood activities do take place in each context. In Koh Sralao non-fishing activities are diverse; in Kompong Phluk, fishing activities are diverse. However, simply reading a list of the livelihood activities that households may engage with is misleading, since this suggests that households have multiple livelihood options. In reality, poorer households can only access a few livelihood activities. Many livelihood activities can be broken down along class, gender and/or ethnic lines, an illuminating exercise for understanding local level realities. Table 21 shows who in the village can access to livelihood activities in Kompong Phluk, according to villagers' perceptions of class (rich, medium and poor).

Table 21: Livelihood activities that households may access in Kompong Phluk

| Rich people's activities | Medium people's activities | Poor people's activities |
|---|---|---|
| Access to fresh fish (have motor boat & expensive fishing gear i.e. bamboo fence net or trap) | Fishing far from village (have gear & some type of boat e.g. gill net) | Fishing with row boat i.e. hook & long line; Or forced to sell labour |
| Selling | Doctor | Water lily collection |
| Fish raising | Hair dresser | Make smoked fish |
| Crocodile raising | Teacher | Labourer (non/fishing) |
| Middle person | Government Official | Moi (to process fish) |
| Money lender | Clothes maker | |
| | Fuel wood collection | Fuel wood collection |
| Boat person | Boat person | |
| Animal raising/plant vegetables | Animal raising/plant vegetables | Animal raising/plant vegetables |

Villagers classified themselves[49] as (a) poor families having paddle boats and no motor boats; they tend to throw nets in the water and then collect them; (b) medium families having a motor boat, some fishing gear and owing less money, sometimes none; (c) rich villagers having nets (including surrounding nets), raising fish and crocodiles and having a big motorboat. Villagers commented that poorer people have less opportunities then medium or richer people. In Kompong Phluk, most families were medium.

[49] Ellis and Freeman (2004: 11) comment that, economists measure poverty "by failure to reach minimum acceptable consumption level of food and basic needs" whereas villagers define poverty by reference to attributes of social exclusion or activities that they may or may not access.

A 'breakdown' along similar economic lines also took place in Koh Sralao, and was surprisingly similar. What this exercise suggests is that richer households have a significant influence in the community, through taking on the role of a middleperson or seller and, thereby, controlling access to credit (fishing gear or other goods), interest rates and to some extent the price of goods. Raising crocodiles or aquaculture is a lucrative business opportunity: one needs to invest a significant amount of capital into such activities, and only those households that can access start-up capital and have the necessary skills undertake these activities. For poorer households, fishing activities are limited to near the village or to selling one's labour. It is poorer households that rely heavily on common property resources, such as water lily collection or fuel wood collection. Poor women act as '*moi*', processing fish in different ways (this is considered hard, time-consuming work). All households raise animals, if possible, and grow plants (herbs and/or vegetables) since Kompong Phluk is far from any market and this supplements daily fish catch in the dry or non-flooded season. In Koh Sralao, home gardening activities were less common in part because of the limited land available.

### FOCUSING ON CREATING OPPORTUNITIES

> It is difficult to think of the future. If the community [solidarity] is strong, then maybe there will be fish. If there are no fish than I think it will be really quite difficult for us. I want to help it be alright for us in the future (Wayne, April 2004).

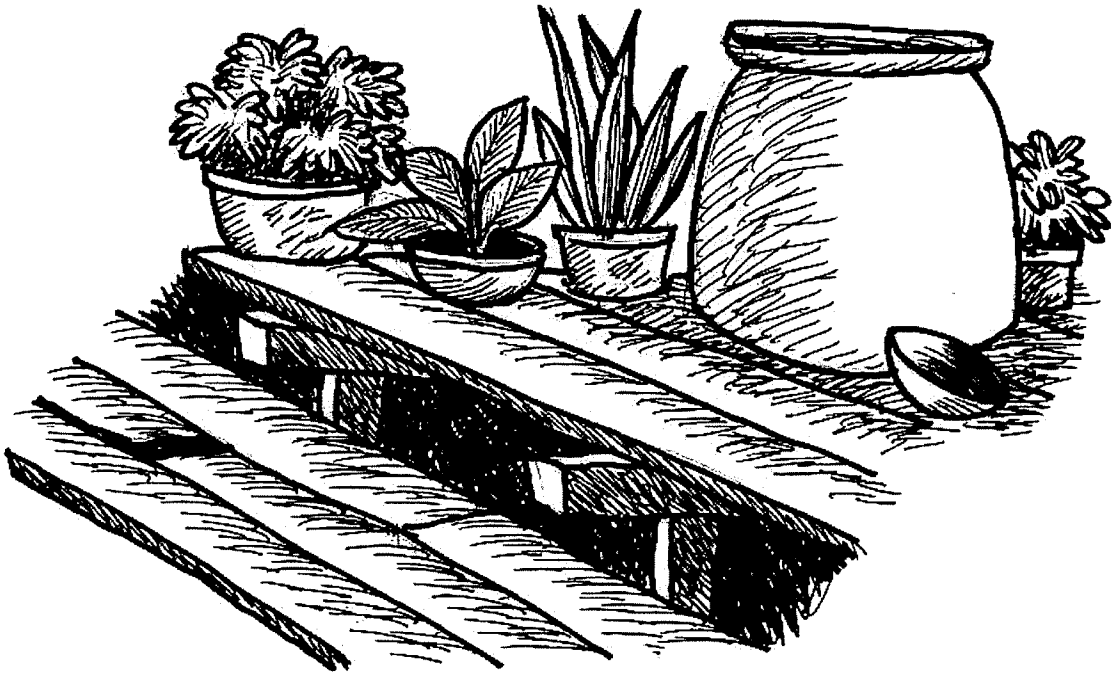
Wayne's household has specialized fishing skills, can access Cambodian and Thai fishing networks and has a lucrative selling business. There are multiple livelihood activities within this household, and members are able to move between these activities. However, Wayne also recognizes the immense challenges that his community faces: a rapid decline of fisheries resources, escalating conflicts and an increase in fishing gear theft, often by poor fishers desperate to not go deeper into debt. These concerns are real, and Wayne is able to see that the rural landscape is shifting.

Given this context, it is understandable why 'diversification of livelihood activities' is a personal aim for some rural households (35% in Koh Sralao, 42% in Kompong Phluk). Part of such diversification strategies can include adding fishing gear or finding non-

fishing opportunities. Education for children is also seen as critical, since this may enable a household other income-generating opportunities, either in the community or outside. Migration, for some households, is a chance to explore opportunities elsewhere or to have a specific household member possibly secure an opportunity and contribute to the overall household income. There are challenges in relying on a declining fishery for a households' livelihood.

Households would like to find other income-generating opportunities within and beyond the fishery. Stresses and shocks (seasonal perturbations, fluctuating market prices, loss of fishing gear, typhoons or fires, chronic illness or death within a household) affect which activities a household may be able to pursue. Creating such opportunities also depends upon a host of factors, including the skills within the household, the number of people in a household, if a household can access credit and what type of fishing gear a household already owns. Creating household livelihood opportunities requires a strategy for people to deal with such complexity. What livelihood strategies do households pursue? How do households negotiate their livelihood opportunities?

These questions will be explored in greater depth in Chapter Five. Particular attention will be paid to the literature on livelihood, starting with household assets and resulting livelihood strategies. How households negotiate livelihood opportunities is considered as a way to make this analysis dynamic. Chapter Six then continues this livelihood analysis, drawing upon the concept of resilience to consider the strategies that households, local level institutions and policy-makers may employ to deal with stresses and shocks.



Sketch: M. Renaldo, 2005

Home gardening on an open veranda

# Chapter Five:

# Striving to thrive, how households negotiate livelihood

Photo: Norn, 2003

This is a picture I took of my wife selling shrimp to the buyer. She sells the shrimp near the water since there is always a fish buyer there. She goes daily. Since we sell to the middleperson that we are in debt to, we lose money. If it is 500 [$0.13] R/kg we lose 300 R/kg [$0.08]. The middleperson gets angry if we do not sell to them so we cannot change this system.

Photo: Norn, 2003

This is a picture my wife took of me fixing our boat. In this picture, I am replacing some wood. I fix things by myself, bringing the things that I need and learning as I go. If I were to hire someone, it would cost 15 000 R [$3.75].

I wanted to take these pictures to show my livelihood activities and how hard we all work. I showed my sister in Phnom Penh these photos, as an example of what my life looks like. Some parts are really hard. My life is a drama, and that is just how it is. When my sister sees the photos she cannot help but cry and feel sad for me. I also wanted to show [other photos] my volunteer work and how I want to give and share with the community even though we are poor.

Norn, reflections on the photos he took to describe his daily life to me, July 2003

# Chapter 5: Striving to thrive, how households negotiate livelihood

**Heart, Shade and Flooded Forest**

Oh! Kompong Phluk is our homeland,
Beautiful plants and fresh forests.
I am a fisher, getting up daily to set nets,
When I think, I worry about my families' life.

Flooded forest brings us luck
Everybody, men and women, like the forests.
The Fisheries Community was developed by the NGOs,
Everybody says how beautiful the forest is, even the tourists.

All the hills are flooded in the rainy season.
Everywhere is flooded including the plants, and the forest areas.
Flooding over our poor cottages too,
Is this the fortune of fishers?

Forests provide lovely shade,
All forests (small and big) have leaves and fruit.
My love remains honest for my partner,
Honest flooded forest girl and I still love her.

Las Hart, fisher, 2002
Translated by Dyna Eam, 2003

Hart shared his poem with me after several household visits: he had written this for a Cambodian NGO putting together a book of poems and short stories by fishers who lived on the Tonle Sap Lake. As I learned more about Hart's life, I began to better understand the nuances found within Hart's poem such as his relationship with the flooded forest and the struggle that comes with being a fisher on the Tonle Sap. Like many villagers in Kompong Phluk, Hart's household moves seasonally to pursue fishing opportunities (Hart's household was featured in Figure 6). Daily life for fishers is constantly shifting, especially in a floodplain ecosystem and in a context of resource declines and more efficient gear use.

Hart's poem contrasts his concern for his livelihood, with his love for the natural environment that he lives within. Villagers have taken an active role in protecting flooded forest areas near their community. The pride and respect that Hart has for the environment is shown in his comment about outside NGOs coming to work in this isolated area and how tourists marvel at the flooded forests surrounding Kompong Phluk. Hart, who is in his 40's, was married for the first time five years ago. In concluding with his love for his wife, Hart expresses his deep appreciation for this deepening relationship. Or, Hart's final sentence might be referring to his love for the flooded forest where he spends much of his time fishing and collecting wood.

As Hart's poem illustrates, livelihood is multidimensional, covering economic, cultural, social and ecological aspects. Wallman 1984 *as cited in* De Haan and Zoomers (2003: 252) notes that,

> livelihood is never just a matter of finding or making shelter, transacting money, getting to put food on the family table or to exchange in the marketplace. It is equally a matter of ownership and circulation of information, the management of skills and relationships and the affirmation of personal significance ... and group identity.

How people make a livelihood is based on a number of assets, income opportunities and markets (product and labour) found in various places. This combination of assets, activities and access enables (or hinders) households in developing various livelihood strategies. It is in a dynamic, ever-changing world that decisions are made as individuals and/or households manage their resources or assets (De Haan and Zoomers 2003). Livelihood, therefore, is also about how people interact and deal with perturbations.

Chapter Five sets out to explore the livelihood of 11 rural fishing households. This chapter begins by presenting an analysis of what livelihood means to villagers in Koh Sralao and Kompong Phluk. Loosely drawing upon a sustainable livelihood framework, the discussion focuses on household characteristics and the assets (human, financial, physical, social, natural) that these 11 households may access. This combination of assets affects the livelihood strategies that a household may pursue, including intensification, diversification and/or migration. Sustainability is briefly considered before turning to an analysis of negotiation and problem-solving. Particular attention is

paid to negotiating access to cash, dealing with loss of fishing gear and solving land conflicts.

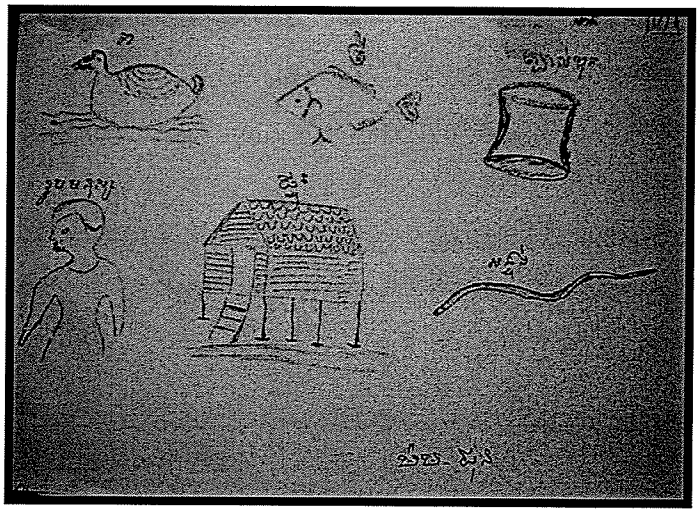
## LIVELIHOOD ANALYSIS: DIFFERENT PERSPECTIVES

### LOCAL LEVEL LIVELIHOOD ANALYSIS

#### *What is livelihood?*

There is no specific word for livelihood in Khmer (like many words used in development discourse such as sustainable development, participatory research or decentralisation), although this concept is often translated as "*tweeka*", to work. For those working in resource management, "*chi pvheab ros nouv*" (the way of life, to live) is used when meeting with donors and national agencies in the capital, Phnom Penh, although when this combination of words is used in a village, villagers tend to be confused. A more useful expression is "*ka chenh chem chiavit*" (life activities and living). This idea can also be problematic: it is often narrowly interpreted (only focusing on money-making activities) and needs to be clarified with villagers.

Since the holism behind livelihood thinking can be challenging to translate (and for some facilitators to grasp), I wanted to get a sense of what villagers felt their daily life encompassed. To do so, villagers were asked to draw six pictures that somehow represented their daily life. Figure 11 captures one sketch drawn by a male fisher in Kompong Phluk. The text box explains why he chose to sketch these pictures.



**PICTURES:** DUCK, FISH, TRAP, PERSON, HOUSE, SNAKE

*"I'm a fisher, so I drew a fish. I drew fishing gear since this is my main activity, but also ducks since our household raises animals. There are water snakes in the forests, which can supplement our income. The person represents the future and the house is for my family. I did not draw the forest or the water but I could have, since this is what we depend on for our life"* Yemm Phar 2002).

Figure 11: Sketches reflecting daily life

Sketches from villagers included trees (mangrove or flooded forest), the sea or river, stilt houses, fishing gear, boats and people. Other sketches included a kettle (to boil water when fishing), vegetables and herbs (home gardening to feed the family), the weather (linked to seasonality) and illegal fishing gear (factors affecting ones living). Animals were drawn, indicating other livelihood activities that some households pursue. In explaining their diagrams, villagers linked their homes, the environment, fishing gear and transportation together. This combination of ideas presents a rather dynamic picture of daily life in each area.

These sketch drawings enabled villagers to discuss and then capture the appropriate combination of words to describe their daily life. In each area, the saying was slightly different. In Koh Sralao **career for daily living** ("*rorbor brorcham chiavit*") was felt to be the best term for things that encompass ones life; in Kompong Phluk **living community** ("*sarhakkum chenh chem chiavit*") was selected. While it was beyond the scope of this thesis to adequately probe at the meaning behind words and expressions, my sense is that villagers chose this combination of words to express that daily life encompasses a series of aspects. It was these different life dimensions that this research sought to further understand.

## AN OUTSIDER FRAMEWORK

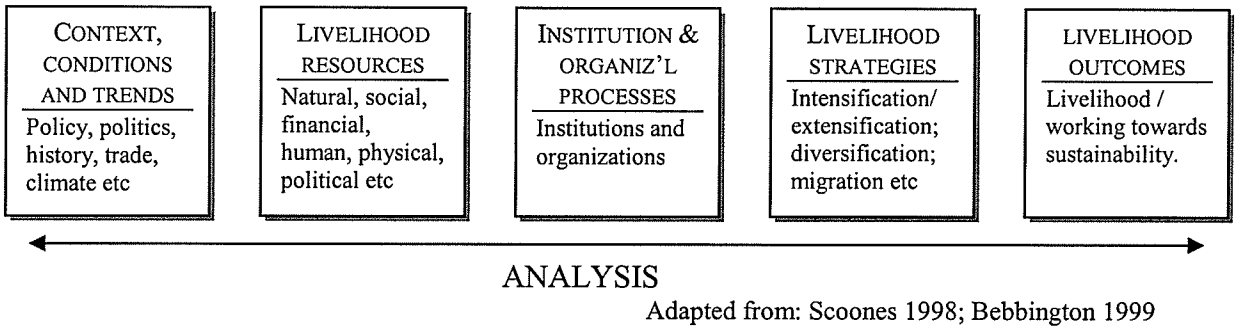
### *Sustainable livelihood (SL) analysis*

Encapsulating the diversity and complexity of how people may make a living is challenging. Livelihood cannot be captured fully by income accounting or consumption-based survey data (Sen 1999) or frameworks that analyze rural resource use with respect to access to resources. An entitlement analysis, for instance, suggests that rural people only secure their livelihood from natural resources (Bebbington 1999). However, livelihood is "...a highly complex, all-encompassing concept, which is not restricted to the ecological or to the economic or productive aspects of life" (De Haan and Zoomers 2003: 350).

One lens through which to consider the complex dimensions of rural daily life is the sustainable livelihood framework[50]. This framework is people-centred (actions and strategies of people), holistic, non-sectoral, grounded in the multiple factors that surround daily life (Scoones 1998; Ellis 2000) and expresses the following:

> Given a particular *context* (of policy setting, politics, history, agro ecology and socio-economic conditions), what combination of *livelihood resources* (different kinds of capital) result in the ability to follow what combination of *livelihood strategies* (agricultural intensification/extensification, livelihood diversification and migration) with what *outcomes*? Of particular interest in this framework are the *institutional processes* (embedded in a matrix of formal and informal institutions and organizations) which mediate the ability to carry out such strategies and achieve (or not) such outcomes (Scoones 1998: 3, italics in original).

This sustainable livelihood framework, therefore, highlights five interacting elements: context, resources, institutions, strategies and outcomes (see Figure 12).




Adapted from: Scoones 1998; Bebbington 1999

Figure 12: Sustainable livelihood - a framework for analysis

This framework emphasizes capacities, potential and competence rather than weakness and needs (Kirkby et al. 2001). In other words, what do households and institutions do to deal with the challenges they may face? What livelihood resources are available in a rural area, and how might these resources be mobilized (or not)? What combination of livelihood strategies may be pursued, and where does sustainability fit into such

[50] The Bruntland Commission Report of 1987 offered the first appearance in policy debate of what was later conceptualized as a Sustainable Livelihoods Approach. This concept was built upon by Conroy and Litvinoff (1988) who published a series of papers related to sustainable livelihoods; Chambers and Conway (1992) who offered a working definition of sustainable livelihoods; Scoones (1998) who provided an analytical framework for sustainable livelihoods; and Bebbington (1999) and Ellis (2000) who each furthered the analysis of this work (Solsebury 2003). Organizations, including OXFAM in the 1990's, and the United Kingdoms Department of Foreign Affairs and International Development (DFID) adopted, developed and disseminated sustainable livelihood approaches (i.e. DFID published a series of 'guide sheets') (DFID 1999).

strategies? The sustainable livelihood framework reminds researchers and practitioners to probe these challenging issues.

Sustainability within this framework is viewed as a direction to strive towards: it is a statement of intent rather than a reductionist, one-dimensional concentration on one factor (Lee 1993; Adams 2001). In a sustainable livelihood analysis, sustainability is seen as the successful management of multiple, enmeshed factors including the physical environment, economy, social environment and organizations (Kirkby et al. 2001). The notion of sustainability, in this framework, qualifies livelihood: this adds a livelihood security dimension (Chambers 2004).

There are critiques of this sustainable livelihood framework. From a user perspective, Chambers (2004: 19) points out that this framework is "...not used to point a critical finger at 'us' and the unsustainability of our livelihoods. It is used for 'them' and 'their' context, not for 'us' and 'ours'". The framework is also said to be too abstract for many practitioners (Carney et al. 1999), especially national staff with limited field experience. Perhaps this is because as with any framework, it takes time to operationalize abstract concepts 'on the ground'. Although numerous case studies have drawn upon this framework, the emphasis tends to be on specific communities rather than using the framework to draw broader conclusions about rural livelihoods (De Haan and Zoomers 2003).

Structural inequalities also require further attention. Although this framework focuses on agency, there is a growing recognition of "structural bottlenecks, or even barriers, and the necessary quest for a hinge between structure and actor" (De Haan 2000: 349). Another critique is the focus on types of capitals or assets. An economic metaphor does little justice to the nature of social relationships that are not entirely oriented towards material gain (Carney 1999); economic metaphors depoliticise development, evading questions of inequalities and power (Harriss 2002).

Keeping these critiques in mind, this framework is one lens by which to conceptualise the multiple factors that encompass livelihood and is loosely drawn upon for the purposes of this household level livelihood analysis. Since this framework is interdisciplinary, it offers a neutral ground where multiple disciplines can meet (Chambers 2004). In the following section, the sustainable livelihood framework is used to guide an analysis of livelihood for households in Koh Sralao and Kompong Phluk, paying particular attention to household assets, livelihood activities and livelihood strategies.

## DRAWING FROM THE SL FRAMEWORK: HOUSEHOLD DETAILS

Hart, whose poem was featured at the beginning of this chapter, was the main contact for his household. Within each of the 11 households, one household member served as the main contact: through nurturing this relationship, my perspective of the household was shaped. In other words, most household information was shared through the eyes of this main contact, although other household members contributed significantly to this picture. Each household was at a different stage in its lifecycle (households with young children; households with older children; households with grand-children; widows), pursued a unique combination of livelihood activities, were involved in different aspects of community life and held a particular livelihood history. Table 22 illustrates these characteristics of the 11 households, and builds upon Table 2 (in Chapter One) that presented the basic details for these households.

Table 22: Household details in Koh Sralao and Kompong Phluk, Spring 2004

| | HH head[1] | Age, household (HH) membership | Main livelihood activities | Other community work | Livelihood history |
|---|---|---|---|---|---|
| Koh Sralao | **Sovan** | 40, married w/ 9 children; 15 people living in household (HH) | Middleperson (crab & grouper); fisher (circle net); seller of luxury goods; farmer (10 ha) | Commune council (quit in 2004); RMC; school committee | Came in the late 80's to work in the narcotics plantation; learned to fish & ran a coffee shop; became a middleperson in '90s |
| | **Wayne** | 46, married w/ 3 children; 5 people living in HH | Fisher, deep-sea traps for high value species (grouper); seller of luxury goods; sells ice (2004); home garden | Park ranger; pagoda committee; school committee | Long-term fisher, moved into village in 2001; also pursued a range of illegal activities (charcoal & dynamite fishing) |
| | **Preun** | 57, married w/ 3 children; 4 people in HH | Crab fisher (traps); sells small groceries (2003) | Elder, involved in most community work | Came to area in 1984 to work at narcotics plantation, then switched to crab fishing |
| | **Milorn (f)** | 47, twice divorced w/ 4 children; generally lives alone | Makes cakes; raises pigs (2003); rents house to gamblers | | Came in 1984 to work at the narcotics plantation, became a middleperson (first charcoal now fish) |
| | **Dom** | 51, married w/ 1 child; 5 people living in HH | Crab fisher (traps); operates a Karaoke shop, sells dog soup (2003) | Patrol leader for RMC | Came to village in 1990 to fish. Has tried a variety of somewhat successful ventures |
| | **Sok** | 42, married with 5 children; 7 people living in HH | Gill net fisher; collects mangrove snails (rainy season); raises chickens | Religious leader in mosque | Came to village in 1989 to fish; always fished crabs |
| Kompong Phluk | **Norn** | 54, married w/ 8 children; 10 people living in HH | Fisher (gill nets); seller of sweets; raises pigs | Member of RMC; deputy village head | Came to the area in 1990 to fish |
| | **Siet (f)[2]** | 28, unmarried living with parents; 9 people living in HH | Fisher (gill net); *prohoc* maker; small middleperson; bamboo fish trap; fish cages | Health clinic; clerk for RMC (doesn't attend all meetings) | Always lived in this area, mix of fishing skills (traps and nets) |
| | **Samor** | 53, married w/ 11 children; 10 people living in HH | Fisher, gill nets and small brush park; fixer (electronics); home garden | Human rights advocate | In army, trained to fix things; came after KR when he married; began learning to fish |
| | **Hart** | 49, married with 3 children; 8 people living in HH | Fisher (gill nets, small brush park) | When in village, volunteers time | Always lived in this area, small-scale fishing skills |
| | **Ros (f, w[3])** | 52, widower w/ 9 children; 7 people living in HH | Makes cakes; older children working as labourers contribute to HH income | | Always lived in this area, deceased husband operated small-scale fish cages |

[1] households in each field site are listed in order of economic wealth (from the wealthiest to least wealthiest households).
[2] Siet was the only main contact who was not a household head. She still lived with her parents but was a key decision-maker in her household.
[3] w = widow.

Table 22 condenses household membership, main livelihood activities, involvement in community associations and livelihood history for the 11 households into one table. This table does not capture the depth or nuances found within each household: the following pages begin to tease out some of these variables. Thus, Table 22 is designed to help focus the following discussion on basic household characteristics and to illustrate the diversity of situations found among these 11 fishing households.

In terms of household membership, Table 22 shows that household heads were between the ages of 28 and 57. Each household was organized differently. For instance, between one and 15 people lived within a household dwelling. Households consisted of single dwellers, nuclear households and extended family arrangements, including workers. Some households were wealthy; other households were economically poor. Milorn, a twice divorced woman who makes cakes and raises pigs, lived by herself in her newly constructed home in Koh Sralao; Siet, a young unmarried woman who was the main income generator for her household, lived with her parents, grandparents, brother and sister in a wooden home in Kompong Phluk. Many households, such as Wayne's and Norn's, consisted of the nuclear family (parents and children, especially in cases where grandparents lived elsewhere or were deceased).

As Table 22 illustrates, most households pursued fishing as their main livelihood activity, using crab traps or nets in Koh Sralao and gill nets in Kompong Phluk. Several households, such as Wayne's and Siet's were able to specialize their fishing activities (setting traps in the sea; using bamboo traps and aquaculture, respectively). Those households that did not pursue fishing as a main livelihood activity were either economically wealthy or could not afford to access the fishery and were forced to pursue other options such as selling labour or making cakes. In Sovanna's case, by far the 'richest' household in the sample, the household held significant capital to invest in a series of lucrative livelihood activities, from growing fruits and vegetables to buying fish to operating a circle net. In Ros's case, the 'poorest' household in the sample, she struggled to meet her and her children's daily needs, especially since her husband died in

2001. They had operated fish cage culture in the past, but Ros now sells cakes to schoolchildren and relies on her children to contribute towards the household income.

Households all pursued a series of other activities that supplemented their livelihood. For instance, home gardening, chicken raising, drying fish for home consumption and having the skills to fix things are all activities that foster household self-reliance. On the other hand, activities such as fish processing, collecting shellfish, renting out home to gamblers, selling goods (sweets, specializing in ice or another luxury good, small fruits and vegetables), pig raising and drying or fermenting fish served to supplement household incomes. Whenever possible, households focused their energy on pursuing a series of activities.

With the exception of Milorn and Ros's household, households were involved in community work. In the case of Milorn and Ros, this lack of involvement in formal activities outside the home can be partially explained by their age (women in their 40's and 50's) and traditional gender roles (men are more often involved in work outside the home than women, with the exception of the health care profession). Milorn lived by herself; Ros's deceased husband had been quite active in local politics. Siet, on the other hand, is a younger woman (20's) who is active in health care activities, and sometimes is involved with the resource management committee. Siet is, in fact, more active than either of her parents in community life.

Table 22 also highlights how household members were involved in formal aspects of community life such as local institutions. These activities ranged from religious work (pagoda and mosque committees) to sitting on a school committee to more political work (elected officials at the commune level; village level leaders). Several households were involved with the resource management committee (as explored in Chapter Three) in each area or in promoting health care (a vaccination program, in the case of Siet). Samorn's household was involved in human rights work, serving as a 'watch dog' during 1998, 2002 and 2003 election periods for one human rights organization. Sovanna

(March 2003) sums up his reasons for community involvement, "when I do something I think of my children since I want them to have a good role model".

A noteworthy difference between Koh Sralao and Kompong Phluk, and between households in Koh Sralao, was a households' livelihood history. In Kompong Phluk, household livelihood history is primarily within the fishery. Most households switched from communal fishing with relatives (circle nets) in the 1980's to pursuing individual household fishing activities (gill nets, bamboo traps) in the 1990's, with some aquaculture activities for those households with more capital. In contrast, the 1980's and 1990's held lucrative livelihood opportunities in Koh Sralao (working at the narcotics plantation, dynamite fishing, logging, shrimp farms, charcoal production), activities that were seen as 'easier' than most fishing opportunities (especially for households with no fishing experience). However, between government enforcement, various boom-bust market cycles and an overall depletion of resources, households that remain in the area began and continue to pursue fishing activities. It appears that in Koh Sralao there has been a significant relationship with the Thai market in creating short-term livelihood opportunities.

For someone like Milorn, her livelihood took off during this resource exploitation phase found in Koh Sralao: she was able to save a lot of money as a charcoal middleperson. Even though all her kilns were destroyed in 1998 as part of a government crackdown, she continued for several years to act as a middleperson for these households as they switched to fishing activities. While cake making gives Milorn money for daily food, other activities like pig raising or renting her house to gamblers provides her with savings. She has lived in Koh Sralao for a long time, and is able to use her networks to access opportunities. For example, she recently bought distilling equipment to make white wine from Sovanna (an important villager to be connected with, in terms of knowledge, connections and finances), and is able to use the wine waste as food for her pigs.

Milorn's livelihood history is different from Dom, in the sense that she has been able to continually find new opportunities that benefited her whereas Dom has a boom-bust history. In the 1990's Dom caught the then abundant grouper fish, saving enough money to become a middleperson (crabs and logs). Dom became involved in transporting logs in the late 1990's from upland forest areas, through the mangrove estuaries, to Koh Kong provincial town. The police consistently fined him (a total of $1 825) or it could be argued that he consistently bribed the police to let him transport these logs. Either way, during one such trip through the mangrove estuaries, Dom's boat and the logs he was transporting were confiscated by the police. This confiscation, coupled with many villagers not repaying Dom the money that they had borrowed from him, sent his households livelihood into a downward spiral for several years.

Dom has a history of trying different activities, some that are extremely successful for short periods of time. Somehow, though, these successes are never sustained. His current strategy of operating a Karaoke shop from his home and making dog meat soup is another example of how Dom is willing to try things that are just on the edge. Although dog meat is considered a delicacy, traditional Khmer culture frowns upon someone killing or eating dog meat (this was a practice allegedly introduced with the Vietnamese occupation in the 1980's). Nonetheless, Dom is willing to risk this cultural taboo to become the first villager to sell dog meat soup. It is not clear how long this activity will be pursued.

## DRAWING FROM THE SL FRAMEWORK: HOUSEHOLD ASSETS AND LIVELIHOOD STRATEGIES

As illustrated from the discussion surrounding Table 22, each of the 11 households has a unique set of circumstances and pursues a series of livelihood activities, mostly related to the fishery. Comparing Milorn and Dom illuminates how history can shape people's current livelihood activities and choices. This next section takes the analysis further by considering what assets these households may access. Ellis (2000: 21) describes assets as "the stocks of capital that can be utilized directly, or indirectly, to generate the means of

survival of the household or to sustain its material well-being at differing levels above survival". As Giddens *as cited in* Bebbington (1999: 2022) further notes:

> Assets are not simply resources that people use in building livelihoods: they are assets that give them capability to be and act. Assets should not be understood only as "things" that allow survival, adaptation and poverty alleviation. They are also the basis of an agent's power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources.

Within each household, the livelihood portfolio varied, depending upon seasonality issues, division of household labour and available assets. Assets, broken down into a series of capitals, may include human, natural, physical, financial and social dimensions (Ellis 2000). For example, human capital includes skills, knowledge, and health; natural capital includes access to mangrove areas, the sea, the Tonle Sap and flooded forest areas. Physical capital can refer to fishing gear, back-up fishing gear, technology and jewellery whereas financial capital is about having savings or accessing credit. Finally social capital refers to the relationships a household cultivates within the community, networks and institutions (Bebbington 1999). This combination of capitals, or assets, largely determines the livelihood strategies that are available to a household.

Livelihood strategies are dynamic, responding to changing pressures and opportunities. Scoones (1998) identifies three strategies, with respect to which asset-mediating process-activities apply (Ellis 2000): intensification, diversification and migration. Intensification, in fishing communities, refers to increasing one's fishing effort. That is, households intensify strategies for generating income, using available resources as fully as possible (e.g. aquaculture development or intensifying gear use) (De Haan and Zoomers 2003). Diversification is a process "by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living" (Ellis 2000: 15). Diversification means relying on multiple income sources. Pursuing additional fishing or non-fishing activities are examples of diversification. Migration, which is sometimes a diversification strategy, suggests that one or more household members leave for varying periods of time, in an attempt to make new and different contributions to the households' welfare (Ellis 2000). This can be

seasonal migration of an entire household, as in Kompong Phluk, or can be a few (or individual) household members seeking opportunities elsewhere.

Table 23 describes the assets (broken down into five kinds of capital) that the 11 households can access and details the type of livelihood strategies that may then be pursued. This table paints a particularly static picture of livelihood. This is because in listing capitals, the table does little justice in explaining how one capital may be more important at a certain point in time than another. For example, access to financial capital can make the difference of being able to explore new livelihood activities. At other points, social relationships may make a huge difference in solving an issue. Nonetheless, Table 23 is included to illustrate that not all households have access to the same asset base. The text that follows Table 23 provides far greater depth to how assets may shape livelihood opportunities and strategies.

Table 23: The 'assets[1]' that the 11 households can access, and the resultant livelihood strategies pursued. See text.

| | HH head | Human | Natural | Physical | Financial | Social | Livelihood strategy[2] |
|---|---|---|---|---|---|---|---|
| Koh Sralao | **Sovanna** | Skills, knowledge, health | Sea, in-shore fishery, mangroves | Fishing & back-up gear, technology, jewellery | Savings | Networks, institutions | Migration; diversification; intensification |
| | **Wayne** | Skills, knowledge, health | Sea, in-shore fishery; mangroves | Fishing & back-up gear, technology, jewellery | Savings | Networks | Intensification; diversification |
| | **Preun** | Skills, knowledge | In-shore fishery, mangroves | Fishing and back-up gear, fishing gear | Savings | Networks, institutions | Diversification |
| | **Milorn (f)** | Knowledge, health | | Jewellery | Savings, Credit | Networks | Diversification |
| | **Dom** | Skills, health | In-shore fishery, mangroves | Fishing gear | Credit | Institutions | Migration, diversification |
| | **Sok** | Skills, knowledge, health | In-shore fishery, mangroves | Fishing & back-up gear | Credit | Networks | Intensification |
| Kompong Phluk | **Norn** | Skills, knowledge | Tonle Sap, flooded forest | Fishing & back-up gear, technology, jewellery | Savings | Networks, institutions | Diversification |
| | **Siet (f)** | Skills, knowledge, health | Tonle Sap (near home), flooded forest | Fishing & back-up gear, jewellery | Savings, credit | Institutions | Diversification; intensification |
| | **Samorn** | Skills, knowledge, health | Tonle Sap, flooded forest | Fishing & back-up gear | Credit | Networks | Diversification; intensification |
| | **Hart** | Skills, health | Tonle Sap, flooded forest (far from home) | Fishing gear, back-up fishing gear | Credit | Networks | Migration; intensification |
| | **Ros(f, w[3])** | Skills | | | Credit | | |

[1] Assets: **Human** = skills, knowledge, health; **Natural** = access to forest areas, access to specific fishing areas (in-shore, sea, open water); **Physical** = fishing gear, back-up fishing gear, technology, jewellery; **Financial** = savings, credit; **Social** = networks, institutions.
[2] **Livelihood strategy**: intensification; diversification; migration.
[3] w = widow.

## USING 'ASSETS' TO CREATE LIVELIHOOD OPPORTUNITIES

Of the 11 households, only Sovanna's household could easily explore new livelihood activities while continuing with on-going successful activities. As Table 23 illustrates, Sovanna has multiple assets, and is strong in all capitals. For instance, Sovanna's household holds enough human capital to use their insights and to learn new skills, enough financial and physical capital to invest in a series of new businesses, and strong social capital within the village and in other provinces. Although Sovanna cannot control the declining resource base (natural capital), he can access fishing opportunities in the sea unavailable to most Koh Sralao fishers and can expand his livelihood strategies to include activities that are less resource dependent (i.e. securing fertile farmland). Wayne, Norn and Siet's households were also strong in each of the capitals, and able to adapt to shifting social-ecological conditions although none with the same ease as Sovanna's household.

Accessing financial capital does play a significant role in determining which activities a household may pursue (the role of the middleperson was considered in Chapter Four). Consider that 75% of households in Koh Sralao and 50% of households in Kompong Phluk said lack of money was a major household problem, and most households (82% in Koh Sralao and 72% in Kompong Phluk) said that they held debt, it is hardly surprising that financial capital is difficult for many households to access. For many households, basic economic security which would ensure access to health care, education for their children and nourishing food, is lacking.

If one uses Table 23 to compare Wayne and Samorn's households across capitals, both are strong in human, natural and social capital. Both households are active members in their community, work together in their household in pursuing their livelihood and hold a variety of skills. However, Wayne's household has accumulated greater financial and physical capital than Samorn's household. This means that Wayne's household is able to invest in a greater range of livelihood activities than Samorn's. Through hard work,

Samorn and his family are able to combine activities to make ends meet (just -- during one visit, Samorn had killed his two chickens since there was not enough food to feed them). Wayne, in contrast, has enough financial and physical capital to specialize his fishing activities and to diversify his non-fishing activities. Wayne is in the fortunate position of being able to alternate between several livelihood activities, depending upon the season and how well a particular activity is working.

For households that are able to secure a small amount of financial capital in the form of savings and access to some credit, livelihood options may be enhanced or expanded upon. Preun, the oldest main income generator of the 11 households, is faced with limited labour (human capital) in his household (his one son is studying electronics in Phnom Penh, his two daughters are finishing their schooling in the village). Preun decided to expand beyond crab fishing to sell small groceries from his home, which also enables him to lend small amounts of credit to a select number of fishers. Preun recognizes that he soon will not have enough energy to fish, and wants to secure a livelihood strategy for his wife and daughters that is not only dependent upon the fishery.

Siet's household also draws upon their range of capitals or assets. Although her household is in debt, they have physical capital (bamboo traps, aquaculture cages) and social capital (can access credit and middlepersons for trade; with the help of relatives, can monitor their aquaculture cages). Siet, herself, has a range of skills to draw upon in spite of the limitations imposed upon her by gender roles. Her skills include accounting, basket weaving, fish processing, selling goods, marketing fish products and raising aquaculture in addition to her gill net fishing. Depending upon the season, Siet and her sister pursue the activity that makes the most sense for their household, practicing complementarity whenever possible (using trash fish for aquaculture activities; linking fishing activities with marketing opportunities). Elders living within this household serve as 'livelihood advisors' and help Siet and her sister with decision-making. What Siet is

unable to do is take the time to learn a new skill (i.e. sewing): therefore, she encourages her younger brother to continue with his studies.

Strong human and social capital can help households in negotiating and enhancing their livelihood strategies. Sok's household, the 'poorest' of the five Koh Sralao households, may be further challenged since he is a Muslim in a predominately Buddhist village. However, Sok's household holds strong networks, and has invested in relationships within the Muslim and Buddhist communities in Koh Sralao. As a result, Sok can access credit even though this is challenging for most households in a context of declining resources. Sok further draws upon these relationships in planning his livelihood strategies. Preun, the Buddhist elder, advised Sok when he purchased a new boat and fishing equipment and showed Sok how to use this new equipment. Preun's comments on the situation was, "Sok works hard and is trustworthy. People do not share their knowledge so easily here [Koh Sralao]. I wanted to help" (April 2004). In Sok's case, cultivating relationships provides opportunities for his household that others in a similar position may not have.

### *An example, drawing upon assets*

> Right now my livelihood is fine. But I know that I am lucky too. The ability to change activities relates to capital. If a household has no money, then they cannot get a new job. It is also about knowledge and skills. Do you have the skills or knowledge to go to the open sea or do you have the skills to teach? Yes, two factors affect a households ability to change livelihoods: financial and knowledge or experience. I mean formal and informal learning. Wayne, October 2003.

Wayne's comment that a combination of money, knowledge and skills is particularly important in pursuing livelihood activities is something echoed by other households. Learning new skills takes patience and persistence, and this is not an option always available to a household. In Sok's household, for example, he would like to specialize his fishing activities or consider non-fishing activities: Sok does not have the capital or labour within his household to do either (his children are in school, although his son will finish school and other fishing activities may be pursued in the coming years; his wife

takes care of younger children and processes crab meat). Wayne, on the other hand, has been able to learn diverse fishing skills and non-fishing skills, in part because he has lived in the area for a long time, in part because his livelihood is 'fine', and in part because he can afford to take risks in expanding his livelihood options. Wayne illustrates how he has used human and social capital in learning new fishing skills. Although the base of Wayne's skills come from fishing with his father, he continued to learn fishing skills from Thai fishers at different points in his life. See Table 24.

Table 24: Learning to fish, using human and social capital, Wayne Som Sak

| Fishing gear | How learned to use gear | Age and place learned |
|---|---|---|
| Fish trap | Labourer for Thai fishing boat | 27, near Koh Sralao |
| Gill net | Learned from father before KR | 14, near Koh Sralao |
| Hook long line | Learned from father before KR | 14, near Koh Sralao |
| Crab net | Escaped during KR to Thailand, learned as a fish worker | 19, Thailand |
| Shrimp net | Escaped during KR to Thailand, learned as a fish worker | 19, Thailand |
| Circle net | Escaped during KR to Thailand, learned as a fish worker | 19, Thailand |

Wayne's father, a respected elder and fisher in the Koh Sralao area, passed on his fishing skills to his son; Wayne supplemented these skills through learning with Thai fishers when working as a labourer on Thai boats. Since Wayne's family comes from an area near the Thai border, he speaks both Thai and Khmer and is able to access two sets of fishing networks. Although Wayne has not been successful with all his fishing ventures (he tried unsuccessfully to raise red snappers and to fatten crabs), this household's livelihood portfolio is robust enough that different fishing-related activities can be considered.

### *Another example, social-ecological linkages*

> It depends on how smart people are as to how well they fish. …the soil tells a lot. … different fishing gear is needed in different areas. I think you need to be smart and need to remember from past experiences.

> I have around ten different fishing locations that I rotate between. I rotate according to crab production. When my production begins to decrease I test out other areas and then choose where I should move my traps. I have used this system for the last few years, and am quite pleased with it.
>
> This experience I never share but other fishers have their own experience. I think people learn a lot without telling each other. They do not say that they catch more crabs but when people see that someone does then everyone follows (Preun, March 2003).

Fishers use their knowledge of the fishery to enhance their fishing practices. Preun's household began to fish in the late 1980's: with significant trial and error, Preun devised his current strategy. Sok also talks about the importance of observing the soil: "I look at the soil and see how it attaches to the nets. For the swimming crab this is my sign, that the fat crabs will come" (January 2003). Both Sok and Preun have strong local knowledge with regards to the crab fishery, a skill-set that they each honed and developed over time.

Relationships with the environment and fishery are also prevalent in Kompong Phluk, perhaps to an even greater extent given the time that many households have interacted within this environment. Siet (November 2003) observes that, "if the water goes down quickly, this can mean there is more fresh water which is good quality. This is good for catching fish in our bamboo trap". Norn talks of following rising and declining water levels (i.e. the flooding cycle) in the Tonle Sap: "With the small brush park, we follow the water, moving 3 to 4 times per year depending upon water levels. We check the brush parks in the early morning" (July 2003). Siet's father talks about why he moves his bamboo trap: "I move my trap three times a year near the forest area, during the low, medium and high water levels. The fish do not like the smell of the forest, so they always swim back into the trap" (July 2003). A diversity of fisheries-related knowledge (related to gear, species and season) may be utilized in Kompong Phluk households.

Not all households, however, are mobile enough to follow migrating fish populations and rising and falling water levels in Kompong Phluk. Hart, for example, commented that,

"the fish are always moving so it is hard to follow them in my rowboat. It is better to fish in the same area, since I know the fish will come sometimes here" (April 2003). Some households, such as Hart's, cannot utilize their knowledge whereas other households may simply not hold strong fisheries knowledge. In Koh Sralao, Sok (January 2003) reflects, "some people never take care how to find crabs even after ten years. Some people know after one or two years". This comment suggests that some fishers may hold far stronger skills and knowledge than others. Since there is strong competition for fishing grounds, some households may be able to observe where others place their nets and traps and follow suit. For specialized fishing gear, however, knowledge and a skill-set is needed within a household to successfully operate such a gear-type (bamboo traps, deep sea fishing, aquaculture).

Livelihood of households -- even within those households with similar class conditions -- are diverse. Each of the 11 households did pursue different activities, activities chosen for intentional and unintentional reasons. Past experiences influenced the choices that a household may make, along with the social-ecological perturbations a household may face. Accessing a range of capitals appears particularly important, although it depends upon a situation as to which capital is important. Thus, given the dynamic circumstances that fishers constantly face, adaptation of a continuous portfolio of activities is necessary. The following section considers three livelihood strategies that households may pursue, depending upon the asset-base that they can access and mobilize.

## THREE LIVELIHOOD STRATEGIES

### *Intensification*

Intensification as a livelihood strategy within these 11 households took place for two reasons: to corner the market on a lucrative opportunity (selling ice, aquaculture) or because of limited other options. Poverty, in the latter example, forces a household to intensify activities by making the most of available labour and resources. In Koh Sralao, many households wanted to expand their number of crab traps or gill nets to combat

declining fish stocks. Sok's household was trying to increase the amount of crab nets they operated. Samorn's household, in Kompong Phluk, was planning to increase the number of small brush park gear they used. For these two households, intensification was the only livelihood strategy available to them. At this point, there was not enough labour in Sok's household to pursue an alternative fishing strategy; for Samorn, he could not get the start-up capital necessary to diversify.

For other households, intensification involves focusing on a specific product or good. Wayne constructed a small hut to store ice in early 2004, cornering the market for ice selling. Wayne's children, and several local schoolteachers, drove their boat to the provincial town once a week to collect the ice (this trip takes an entire day). Sovanna's household also intensified specific products. "There are too many shopkeepers now, so I only sell rice and sell radios. No one else sells these things in the village" (April 2004). In Kompong Phluk Siet's household was considering intensifying their aquaculture activities since there was a lucrative market for Striped Cat Fish. For these households, intensification was a strategy pursued in combination with other livelihood strategies. Specialization, in the sense of only focusing on one activity, was not prevalent in any of the households.

### *Diversification*

Diversification, which was touched upon in Chapter Four and is further elaborated upon in Chapter Six, is perhaps the most common livelihood strategy that fishing households pursue. Diversification does not mean having an occasional earning besides a main activity: it means having multiple income sources (De Haan and Zoomers 2003). Diversification can be both a coping and an adaptive strategy or can be posed as the contrast between survival and choice (Davies 1996). In the migration literature, this is known as push versus pull reasons to migrate (Ellis 2000). Examples of diverse livelihood activities were seen in Table 5.1.

Koh Sralao households, in particular, are diversifying their activities to consider non-fishing opportunities as a means to supplement fishing incomes (see Figure 13). This diversification can be seen in the expansion of shops in Koh Sralao. Since 2002, 14 new house-front shops (mostly selling small goods) have sprung up (of 30 house-front shops found in Koh Sralao). Preun and Dom's household were amongst these 14 new shops.

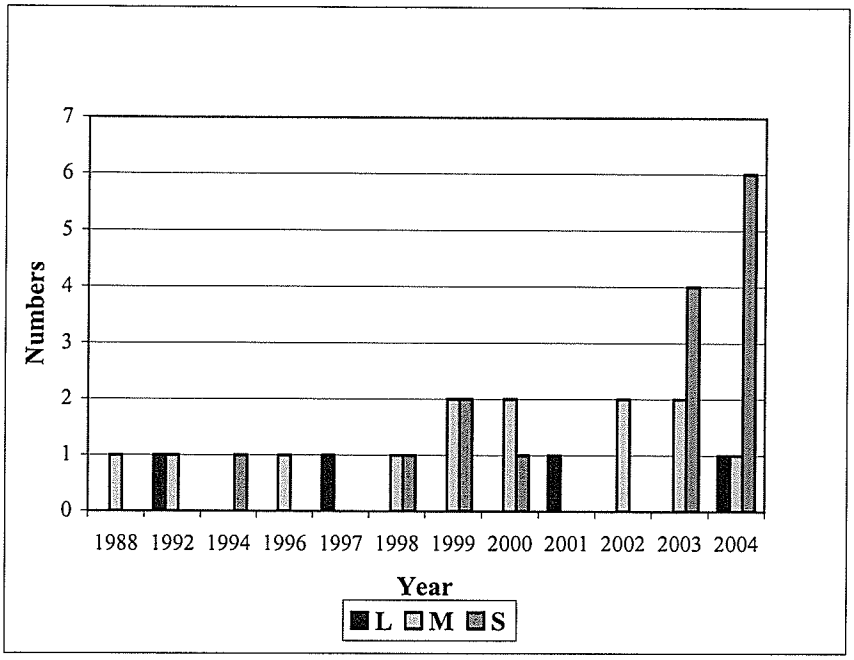



Figure 13: Stores in Koh Sralao

For those households with limited financial capital, diversification within the village may not be an option. Ros, in Kompong Phluk, is an example of this. Since her husband died, her fishing boat has rotted and her gill nets were stolen. Her latest income-earning pursuit is through selling her children's labour, when an appropriate opportunity presents itself (near the village fishing or in the provincial town).

> I sell my daughter's labour in Siem Reap for very cheap, 50 000 R/month [USD 12.5]. She is a waitress. I use this money to buy ingredients for my cakes to sell at the Tonle Sap (April 2004).

Ros's older children sell their labour as fish workers, and Ros herself sometimes relies upon the help of friends and relatives to lend her the sugar and flour she needs to make cakes. Cake selling is what feeds herself and her children, along with the income her children are able to generate as labourers. Ros is challenged to make ends meet,

especially to pay for school fees or medical expenses if someone is sick. Although Ros's household practiced several fishing activities when her husband was alive (cage culture, gill net fishing), this household illustrates how quickly households can shift in and out of living on the edge and how quickly livelihood portfolios may switch.

Diversification as a strategy may be more pervasive than is recognized, for example in response to resource declines and one-time marketing opportunities. Multiplicity, as in pursuing diverse, multiple activities is often a coping response to variable production factors e.g. casual labour markets and uncertain product markets (Maxwell 1984). When household livelihood systems have exhausted their main resources or they no longer have sufficient skills and labour, then a shuffling of a livelihood portfolio or the disposal of productive assets may not be enough to get a household out of a vicious cycle of increasing ill-being. The general picture of livelihood found in Koh Sralao and in Kompong Phluk suggests that households are constantly re-arranging their strategies using various assets: households are involved in diversification and multi-tasking. Although households actively cope with, and possibly adapt, to different stresses and shocks, many households are forced to diversify and possibly consider livelihood activities elsewhere (migration is an example of this).

### *Migration*

Migration is another livelihood strategy that several households pursued. For Hart and Dom's household, seasonal migration is a way to escape debt and to access different markets for their fish products; for Norn and Sovanna, migration is a way to explore and potentially increase non-fishing activities elsewhere. In Hart's case, this is a seasonal strategy; in Dom's case, it is a one-off move; in Norn's case, it is an exploratory strategy for his children, which only worked for his daughter; in Sovanna's case, this is a way of slowly investing in a non-fishing livelihood portfolio. Table 25 considers the characteristics of each household that chose migration, the drivers to leave the village and the benefits achieved in using such a strategy.

Table 25: Why households chose migration as a livelihood strategy

| | Characteristics | Drivers to leave village | Benefits |
|---|---|---|---|
| Hart | Very poor household, looking for ways to save money | Poverty;<br>Saves money when lives in a remote area;<br>Can fish near fishing lot (has permission from lot owner) | Spends less money by living far from any commune;<br>Gets a better price from lot owner or next commune;<br>Somewhat seasonal strategy |
| Dom | Poor household, willing to take risks | Fishing gear was stolen, debt increased;<br>Can avoid paying the village middleperson and sell product for a better price | Saved enough money to pay off some debt and saves money to invest in other livelihood strategies;<br>One-off move |
| Norn | Medium household, considering other opportunities | Fisheries decline, wants to find other opportunities; growth of tourism in provincial town | Daughter finds work in a photocopy shop, sends monthly remittances; two sons unable to find work, return to village |
| Sovanna | Rich household, looking for additional opportunities | As resources decline, difficult for fishers to pay back debt;<br>Wants to diversify outside the fishery, esp. for the rainy season | Buys farmland in another province; is able to grow soy beans and bring goods back to Koh Sralao to sell;<br>Plans to spend time in both areas |

Like many villagers in Kompong Phluk, Hart's household moves with the flows of the Tonle Sap (based in a permanent stilt house in the village during the flood/rainy season; building a small hut in the Tonle Sap Lake for the dry season). However, in the dry season, when most villagers from Kompong Phluk move to the edge of the Tonle Sap for three or four months, Hart and his household move even further away. By moving to the boundary area between two communes, where few other households live, Hart and his household are able to fish near their temporary home without competing with other fishers for scarce resources. At some points of the fishing season Hart is able to use his rowboat to glean fresh shrimp from the fence that demarcates the edges of the fishing lot boundary. At other points, he takes his boat to areas where there are more fish. Living in such an isolated area means that different markets can be accessed with slightly better prices for fresh fish being fetched. Hart and his household only began migrating to this isolated area in 2002, and did so in 2003 and in 2004. For now they feel this is a useful livelihood strategy.

Dom and his wife, on the other hand, chose to leave Koh Sralao for one fishing season as a way of avoiding payments to the village middleperson. By sleeping on their fishing boat, and accessing a different fishing ground, they fetched a better price for their crab product and were able to save some money.

> When I left for Smach Nam [new fishing ground] I didn't need to pay anyone. I didn't need permission. The fishers didn't get angry so long as I used legal gear and am a good person... I have a good relation with some fishers. I have some friends too, and they point to where the crabs are and where there is good security. At first no one believes that I am good, but with time they do. After many times they can understand that I am a good person so then they trust and believe me and begin to help (Dom, April 2003).

Dom drew upon his relationships to try this livelihood strategy, and slowly became accepted by other fishers in this area. Relationships help Dom in negotiating where to fish and where his traps will not get stolen. Towards the end of this season (April 2003), Dom and Parn had saved enough money to return to Koh Sralao to pay off some debt to the middleperson and to use their savings to diversify their livelihood activities. More details of Dom's story are explored in Chapter Six.

For Norn's three children, spending time in Siem Reap (the provincial town) was one way to try to secure non-fishing work. His daughter found a job in a photocopy shop, through connections of a distant relative, but his sons both struggled to find work. Both sons returned to Kompong Phluk, mostly because Norn became sick for several months and no one was fishing in their household. One son vowed he would pursue finding work once the dry season fishing had ended, while the other son felt that he would continue to pursue fishing as his main livelihood activity.

Sovanna's household was also searching for livelihood opportunities outside the village, specifically finding land in another area to pursue agricultural activities.

> The benefit of leaving Koh Sralao for Bou, Battambang is that I can increase my livelihood options during the rainy season. During the rainy season I do not do well with buying and selling fish products in Koh Sralao. If I stay in Koh Sralao I only have one job, and I am spending my money saved from the dry season to get through to the rainy season. When I go to Battambang, I am able to find other livelihood opportunities which enables me to support my children and make some money (Sovanna, January 2004).

Sovanna has relatives in Battambang province, and used this connection to help him secure farmland to grow soybeans and to transport goods between these two areas, perhaps 600 km apart (he bought a 2.5 Ton Korean truck to do so). Although the first season of soybean cultivation was not successful (which Sovanna attributes to not supervising the planting carefully, since he left this task to relatives), Sovanna plans to try soybean cultivation again. He also bought a soybean husker. Since no one else owns a soybean husker in Bou village, this is another business opportunity. Sovanna sells this product (he is the soybean middleperson) at the border area between Cambodia and Thailand. Sovanna's new strategy, to ensure that soybean cultivation will have a better success rate, is to leave his mother in Bou, Battambang running this business while his wife oversees the work in Koh Sralao. Sovanna, for now, plans to move seasonally between these two areas.

Insights -- from a household level and the entire community of Kompong Phluk -- illustrate that not all households remain rooted in a particular place, although households do maintain significant relations within their home community. For example, seasonal migration patterns in Kompong Phluk suggests that households arrange their homes in a similar pattern (near relatives or neighbours) to that found in Kompong Phluk during the flood season. For households that do choose to migrate (seasonally, as a one-off strategy, or in pursuit of other opportunities elsewhere), ties are maintained within their respective communities. In particular, fishing communities have porous, ever-shifting boundaries, accessing multiple fishing grounds depending largely on 'seasonality'. This movement is taking place within a context that has high internal migration rates -- rural to rural and increasingly rural to urban (NIS 2002).

## DRAWING FROM THE SL FRAMEWORK: THE CHALLENGE OF LIVELIHOOD SUSTAINABILITY

Scoones (1998) suggests that there are five key factors for assessing livelihood sustainability: working days; poverty reduction; well-being and capabilities; livelihood adaptation and resilience; and natural resource sustainability. The number of working days includes the ability of different livelihood options to create gainful employment for a certain part of the year; poverty reduction includes strategies that reduce poverty. Well-being and capabilities encompasses what people can do or be with their assets. Livelihood adaptation and resilience is about how people deal with on-goin stresses and shocks. Natural resource base sustainability is about a resource base not becoming too degraded. Livelihood sustainability is multidimensional and cannot be viewed from a single perspective. I will briefly exam each of these factors in turn.

Although this study does seek to understand rural livelihood sustainability, it did not set out to determine the number of days a household worked. Most likely, however, this number would be high. Fishing households generally had one household member fishing at least every second day with the exception of Buddhist holidays and lean times. Households were concerned about the implications of illness, since any longer-term illness seriously undermined a households' ability to sustain itself. Most households were consistently busy with a series of fishing and non-fishing activities, depending upon seasonality and opportunities that presented themselves. It is debatable, however, if this would be considered gainful employment or making ends meet.

From a poverty reduction perspective, Chapter Seven considers policy that relates to resource management and decentralisation, policies that fit in with any poverty reduction strategy. What is not carefully examined, however, is Cambodia's Poverty Reduction Strategy Plan (PRSP). This is, in part, because there is only general mention made to environmental issues in the 2002–2005 PRSP. The linkages between environment and poverty are complex, and most donors and national level actors with their sectoral focus struggle with how to integrate and consider such linkages. As an example, an 'enabling environment' for poverty reduction is alluded to in the PRSP, but little attention is given

to what this may mean nor to the changed behaviours that would be required to do so (Ellis and Freeman 2004). This landscape is beginning to shift with several studies set to study how to integrate poverty and resource issues.[51]

Nonetheless, there may be aspects of livelihood sustainability that can be worked towards. In spite of on-going resource declines (refer to Chapter Two), Chapter Three illustrates how local level institutions deal with resource base sustainability. Flooded forest protection, which involves many members of a community (if it is to be successful), is one example of enhancing resource sustainability. Creating fish sanctuaries is another. On the other hand, changing mesh size to conserve small crabs makes little sense for a household to pursue unless an entire community (including surrounding communities) makes such a switch. Chapter Six will further examine resource base sustainability, and livelihood sustainability more generally, with respect to how households and local level institutions deal with stresses and shocks. This analysis considers potential resilience-building strategies.

Are households capable of enhancing livelihood sustainability? In some cases, yes; in other cases, most likely not. Chapter Four highlights the range of activities that a household may pursue throughout the year; however, accessing such activities is another issue. Some households are forced into practices that they know are unsustainable. Using small mesh sizes or long nets are examples of this: households are limited in what fishing opportunities they can pursue and must 'fish harder' to make ends meet. Often small-scale fishers are squeezed into marginal fishing grounds, as the Department of Fisheries is unable to control large-scale fishing activities. Some households, such as Wayne, make a conscious choice to practice legal fishing practices; other households may not make the same choice (such as Dom, who has benefited from resource extraction activities for short periods of time). Short-term marketing opportunities such as

[51] The donor community has been slow to consider the linkage between natural resource sustainability and poverty reduction. In Cambodia, organizations such as the ADB and World Bank have recently (2004) commissioned studies to examine such linkages (prior to considering any programs). The one program that specifically links environmental and poverty issues is the Seila NREM mainstreaming program (this program has a local governance emphasis with the commune council), which will be discussed in greater detail in Chapter Seven.

mushroom foraging (this foraging opportunity was mentioned in Chapter Three: in one season these mushrooms were depleted) may be worth pursuing, especially in a context of resource extraction and declines. Often livelihood capability, and the choices a household then makes, depends to a certain extent upon a household's access to assets.

Households and village level institutions do make choices to enhance their livelihood and well-being (often for the short-term; sometimes for the long-term). This is further addressed in Chapter Six. Starting from a point of unsustainability may, in fact, motivate households to pursue some livelihood practices that work towards sustainability; in other cases, the challenges in achieving livelihood sustainability may be too great. In all this, an important part of livelihood enhancement is negotiation. Most likely, working towards more sustainable practices requires a certain amount of negotiation (as with other practices, which may or may not work towards sustainability!). That is, livelihood is influenced by how a household is able to negotiate opportunities for themselves: households with similar assets may not be able to negotiate the same opportunities. The following section, therefore, considers the role of negotiation in rural livelihood.

## GOING BEYOND FRAMEWORKS: NEGOTIATING OPPORTUNITIES IN THE FACE OF CHALLENGES

> I sell my daughter's labour in Siem Reap for very cheap... I thought my daughter could learn how to serve food and have the opportunity to learn English. But, she has no bicycle to study and therefore cannot study. If she knew a little English she would have a better chance to get a better job... The owner doesn't want my daughter to return to this village as she is a good, hard worker. The owner is a far relative, so I feel confident about it (Ros, April 2004).

Ros was hoping that sending her daughter to Siem Reap town (the provincial town), initially to a job with poor pay, would lead to better opportunities for her daughter, and in turn, for her household. However, after several months of working in Siem Reap it became apparent that her daughter was not getting a chance to learn English, a skill she needs if she is to break into the tourist-industry in Siem Reap. In fact, her daughter is being overly exploited for her labour at $12.50 per month – a garment factory worker makes $40 per month – although even the limited amount of income her daughter does make helps Ros's household.

As households negotiate livelihood opportunities for themselves in the face of challenges, the results may or may not be as anticipated. Sometimes problems can be negotiated in a way that leads to enhancement of a household's livelihood, sometimes not. Among different challenges that households discussed over the 21 months, access to credit or cash, loss of fishing gear and land conflict were pervasive. This section, therefore, examines these issues in more detail, considering how households may or may not deal with these complex problems. Negotiations between different actors appear to be a critical component in attempting to (re)solve issues.

## NEGOTIATING ACCESS TO CASH

> We keep aquaculture to pay off debt. When we sell the fish it is good ... Everyday fishing is not enough to pay debt back. So, we have to have a different strategy to pay off debt. We had to borrow money to pay for our bamboo trap (Siet, July 2003).

Siet's household is fortunate to have an activity specifically designated to help pay back debt. Small-scale aquaculture is relatively easy to do, as long as one has access to trash fish and can watch the cages (for security). Siet has a good relationship with a middleperson outside the village, and her household is able to access cash. Her family has always used bamboo traps which are expensive to build although lucrative in a good fishing season. Since the fishery has been decreasing, the combination of using a bamboo trap and raising aquaculture is needed to ensure that debt can be repaid. Not all households, however, are able to put a specific livelihood strategy in place to deal with debt. As mentioned in Chapter Four, a lack of money, or access to money, limits the choices and risks that a household can take.

Relationships, within the household and with others, may enhance or hinder a household's ability to access credit. Key Saron, a former village chief in Koh Sralao, left this position when relatives became ill in another province. He sold all his belongings (house, fishing gear) to finance his household's trip home. When Saron and his household returned to Koh Sralao in early 2003 (two years later), his livelihood situation significantly differed from before. Saron and his household were dependent upon friends

for food and shelter, and he no longer held a position of status in the village. This transition was challenging for the entire household. Saron comments,

> I do not have anyone that I can borrow money from. All the middlepersons are in debt because of the lack of resources here. They know I am old, and I do not have any sons old enough to help me. Luckily we are staying with friends, and I am going into the forest to gather materials to build my home. It is much harder than I thought to return here (May 2003).

Saron's analysis is correct in that his age and lack of male children makes it more challenging for him to access credit; however, other factors also come into play. Saron is Muslim and the middlepersons in Koh Sralao are Buddhist. This may affect his ability to access credit, although middlepersons are constrained by resource declines. For instance, Sovanna calculated that villagers owe him $25 000, and alleged that only half the people he had lent money to had paid him back[52]. Saron was once such person: Saron left Koh Sralao in early 2001 with significant unpaid debt.

Saron's case is interesting since during the same time period Sok was able to access credit. Sok is also Muslim, and has very young children. My sense, however, is that Sok is believed to be a hard worker within the village, whereas not everyone liked what Saron did when he was the village chief (rumours of him supporting illegal activities have been mentioned, although most likely Saron is no different than most village chiefs). While Sok's household is younger than Saron's (with male children), the perception that Sok is reliable and a hard worker may be the difference for his household in accessing credit opportunities.

Sok believes that, if need be, he can negotiate with his middleperson.

> I do feel like I could negotiate with the middleperson if I needed to take a week off to collect mushrooms but since I cannot do it [collect mushrooms] by myself and do not want to take my children out of school this is not an option for me (March 2003).

Sok had considered collecting mangrove mushrooms during peak mushroom season. However, like most fishers with debt, Sok must sell his crabmeat to a specific middleperson. If Sok were to pursue another option (one that did not involve crab

[52] The veracity of this claim was checked and is most likely credible.

fishing), he would need to discuss this with his middleperson. Although Sok has not yet pursued non-fishing livelihood opportunities, it is interesting that he is comfortable enough in his relationship with his middleperson to believe that he could negotiate other options. Relationships -- even if just creating small amounts of leverage for a household – may make a remarkable difference.

### FIGHTING LOSS OF FISHING GEAR

> I feel both sad and angry when people steal things. I think that people [the thieves] do not understand how people feel when something is stolen from them. Here in Koh Sralao people respect me because I am an elder so I do not think anyone from here steals from me. ...I will try to detect and watch the suspect myself. I can do this if they are fishing in the same area as me or if I run into them when they are in their boat (Preun, March 2003).

Preun was quite upset that someone had taken 20 of his crab traps (a relatively small amount). Although he is involved in many local level institutions, he felt that personal observation might be the best way to deal with this case of theft (rather than reporting it to the police or resource management committee). Regardless of how a household decides to deal with gear loss (their own methods, reporting to local level institutions, lobbying NGOs), solving gear theft presents a complicated challenge. Chapter Three discusses how the resource management committee in Koh Sralao attempts to negotiate gear theft through painting crab traps, and this strategy will be further touched upon in Chapter Six. In Kompong Phluk, the resource management committee is not involved in solving gear theft (they feel it is too difficult to solve). Perhaps comments from Hart (a Kompong Phluk fisher) over several episodes of gear loss best describe the frustration that fishers face in trying to solve this issue (Table 26).

Table 26: Hart's attempts to solve gear loss

| Date of loss | Hart's comments on the experience |
|---|---|
| Oct 2002 | "I told the commune chief and the police that my gill nets were stolen, but they said that they could not intervene in this problem. ...So many people use gill nets, so it is hard to know whose net is whose. I found it hard to go to tell the police, and then they had no way to help me. On the same night, five or six people stole gill nets from many different places". |
| April 2003 | "Some *siep* [large push nets] operate in the same area as me. Two days ago, 400 m of my gill nets were destroyed. I was quite upset, and was angry with the *siep* owner. But, I do not know how to solve this problem". |
| April 2004 | "My son's gear [small brush parks] were destroyed by a *siep* owner... My son and the *siep* owner are distant relatives so he negotiated with him to pay. So far my son has not gotten any money back". |

Although Hart reported his stolen fishing gear to the commune council and to the local police, it seems that no one is that willing (or interested?) to help him solve this problem. This is, in part, because this is a complex issue and it is hard to know whom is stealing from whom. In some cases, it is a genuine mistake that larger fishing gear destroys smaller gear, as is evident in the case of Hart's sons' gear being stolen. The fact that Hart's son could negotiate with the owner shows an awareness of the issue; however, since no money exchanged hands it remains questionable how effective such negotiation really is.

Preun further elaborates, in terms of the situation in Koh Sralao:

> ...people steal from each other. The problem is fish workers. They come from somewhere else, and are workers. The fishers' steal from each other and fish far away or in another area so cannot know who has stolen the gear. It is hard to solve, and the thief often knows the owner. ...sometimes the police do not want to help [solve gear theft] as they think of their own benefit (October 2003).

Preun's comment is succinct. Fish workers, members of households that have no choice but to sell their labour, may or may not steal gear. However, once the cycle of gear theft has begun in a village, it is tough for some households to not be involved in gear theft, especially once one's own gear has been stolen. "When I lose fishing gear I want to steal from someone else but I cannot do like this. If someone were to catch me then I would lose my pride" (Sok, July 2003). Having access to fishing gear, after all, is the difference

between making money in a given fishing season or ending a season further indebt. The police have a vested interest in gear theft continuing, since they can extract an informal profit from these illegal activities that in turn supplements their own livelihood. Even when a resource management committee can intervene, as in Koh Sralao, loss of gear can only be resolved for some cases.

While households can implement strategies to help mitigate against gear theft, such as sleeping on one's boat to monitor gear (sections of long gill nets are still stolen) or fishing together as a group, there is enough of a market for stolen fishing gear that it will take more than household strategies to solve this problem. Unless the middlepersons selling the fishing gear, often between villages, is eliminated this trade will flourish, with the police most likely quietly supporting this if they continue to profit. It would take an active campaign with multiple villages and the support of local authorities to really stop this lucrative trade. Unfortunately, the business of theft hits the poorest fishers the hardest, like many other things.

### SECURING LAND

> Before 1988, I lived on solid land near what is today Preun's house [Preun is on solid land; Sok's house is over the water]. Then, in 1988, the company needed that land to build their snakeskin factory. So, government officials negotiated with me to move my house to where I now live. They gave me nails for construction and built a new bridge to the area where my house was moved. I was not able to refuse the police ...
>
> When the factory stopped, I was not able to move back to this area since the former factory workers settled in that area.
>
> I have lived in the estuary area for 15 years now, but I do not have land title. Since my house is over water, the government cannot issue land title to me. I am allowed to live here, by government officials, but I am not able to sell this land to other people (Sok, March 2003).

Sok, like many poorer households in Koh Sralao, is not living in the best part of the village. Sok's stilt house is built over the sea, and he has no access to solid land. The center section of the village, where Wayne and Sovanna's homes are located (along with the village chief and key middlepersons) are built facing the ocean and backing onto land.

This combination allows these households to land their fishing boats in front of their homes, and sell goods from the back of their homes (see illustration at the beginning of Chapter Seven). Even in fishing villages where many activities are water-based, access to land can be a hotly contested issue (even though land title cannot be issued in either case, as discussed in Chapter Four).

Ros, for example, was challenging the commune chief in Kompong Phluk about his claim on the land that he had informally given to her when her husband died in 2001.

> I gave land to my daughter and son-in-law but the commune needed the land back. I didn't agree with this, and went to LICHADO [national human rights NGO, with provincial offices] to complain. LICHADO came to investigate.
>
> LICHADO told me that I could stay and garden on that land, and that if the commune wanted the land back that I should phone them. For now, the Commune Chief has kept quiet but I want to ask him about this land and get an official letter. You see this land was given to me [by the Commune Chief] in an informal agreement when my husband died. He was really active in the community, and this is why they gave me this land, to help me out (March 2004).

Ros provides us with an example of the challenges households have in accessing land, especially in fishing communities where land is limited. In Kompong Phluk, home gardening is a livelihood activity that households with access to small plots of fertile land tend to pursue (a household's location determines if herbs and/or vegetables can be grown). For Ros, being able to access this land means that her household can grow vegetables and fruits in the dry season (she only grows herbs where she currently lives). It was strategic for Ros to ask a human rights organization for help, since it was unlikely that she could have solved this conflict on her own (she does not have enough financial capital to negotiate anything). The emergence of civil society organizations in Cambodia is new, and villagers are just beginning to feel comfortable in trying to assert their claims and rights. With time, some of the informal approaches towards granting and re-shuffling of land by the village and commune chief may be somewhat curbed although not doubt some tendencies will pervade.

Sok in Koh Sralao and Ros in Kompong Phluk are two examples of households that have faced challenges with regards to small amounts of land, in one case being forced to

relocate and in the other case being given land and then having that land potentially taken away. For larger amounts of land, the stakes are higher. Sovanna's case illustrates how the combination of informal and formal systems of land tenure leads to confusion and adds layers of complexity for solving land conflicts.

Samang, a friend of Sovanna's, convinced Sovanna to invest in water pipes for Samang's farmland in the upland area of Koh Sralao. Sovanna put in the capital upfront, but the idea was that they would split this investment and potential profit from selling water to villagers. Samang, because of illness of relatives in another province, left Koh Sralao. Since he did not have enough financial capital to pay Sovanna for his part of the investment (he owed Sovanna $2 500) so he gave Sovanna the title for this land, rather than cash. This land title was dated prior to 1993 (when the area became a protected area under Ministry of Environment jurisdiction) and was legal.

Sovanna further explains the conflict that ensued:

> The power person came from Dong Tong, who was connected to the army, and claimed that the farmland was his. He said that his grandparents owned the land. But, according to the new land law, land title does not go back before the Khmer Rouge. So, he cannot claim this land.
>
> I did not want conflict, so I asked him to buy the land for $ 1250, and then he could have that land as his property. But, the power person did not agree, he wanted the land for free.
>
> This power person then got the village and commune chief to sign a paper agreeing that he could build a house on that land, and he began to construct a house.
>
> So, I went to the provincial court and won. But, according to the law, one can appeal. So, the power person went to the Supreme Court. Here, it was decided that neither of us could own the property, since the land title was in someone else's name [Samang] and therefore the court cannot judge who is right or wrong. That person [Samang] is the owner, according to the law. The Supreme Court refused both parties, and made a letter to the provincial court.

> Now, the power person is clever, and caught Samang and placed him in jail. I tried to search, and found that Samang was in prison so I connected with LICHADO to help me solve the problem. Villagers all thumb-printed the letter I wrote to let Samang out of prison. A few days later, Samang was released. But, before he was released Samang was pressured to transfer his land title to the power person. So, the power person became the owner because of Samang's thumbprint. And, Samang was not allowed to return to Koh Sralao so I have not been able to communicate with him. LICHADO tried to help but they could not find him either.
>
> I do not want any more conflict with the power person, as this can make problems for my household. I lost a lot of money going to court too, it cost us $7 500. And, we lost the land too (April 2004).

Sovanna's story highlights how negotiation between actors is a critical strategy, and that the creation of legislation such as the *Land Law* may be selectively interpretated. Even with the creation of formal legislation, informal negotiation strategies based on power and monetary exchange continue to pervade. Accessing the legal system is expensive to begin with, especially going to the Supreme Court of Cambodia. Very few Cambodian households could afford $7 500 in legal expenses. More than this, the story illustrates the fickle nature of the provincial court. A charge was trumped against Samang for passing his land title onto Sovanna, with release being conditional on Samang signing over land title to the power person. LICHADO, the human rights NGO, was not able to effectively intervene in this case. Given that the court system sometimes follows the *Land Law*, and sometimes follows the money trail, it is a significant challenge to find fair resolutions to land conflicts, or other conflicts for that matter.

For Sok, it was not worth protesting his forced relocation since he would have received no material support (nails, construction materials) had he done so. This was especially true in the 1980's and 1990's where villagers saw no recourse to negotiate such unfair treatment. For Ros, in 2004, it was worth pursuing her case outside of the village. Such 'formal' negotiations may just work in her favour, although she has yet to obtain recognition from the commune chief that this is her land. Although Sovanna felt confident to pursue his case, he eventually conceded his loss. The power person continued to use his connections to ensure that he would gain title to the contested parcel

of land, even if it meant forced signatures and multiple bribes. At a certain point, Sovanna decided to cut his losses since he felt increasingly threatened as this process continued and wanted to ensure the safety of his household.

## DISCUSSION

Chapter Five drew upon the sustainable livelihood framework to examine rural Cambodian livelihoods in two fishing communities. Livelihoods of the 11 households featured -- even within those households with similar class conditions -- were diverse. Each of these households pursued different activities, activities chosen for intentional and unintentional reasons. Not only is livelihood complex, livelihood is also multidimensional. For these reasons, attention was paid to the combination of assets that each household held. Perhaps even more telling was how households could mobilize these assets in pursuing their livelihood strategies. Diversification -- into fishing and non-fishing activities -- was pursued by most households, with some households also pursuing migration strategies.

Diversification, as a livelihood strategy, is something that households strive for. This can be seen as a coping strategy (pursuing multiple activities to survive) and as a thriving strategy (finding new opportunities to enhance livelihood). In many cases, diversification may be a blend of both (coping and adapting). Diversification will be further expanded upon in Chapter Six. Migration as a livelihood strategy can be considered in several ways: as diversification strategy (sending one household member in search of other livelihood opportunities); as a coping strategy (as a way to access different markets or avoid debt); and as a strategy in and of itself (pursuing activities in another area, to reduce risks associated with resource decline). Mobility is an aspect of rural fishing communities that requires further attention.

Livelihood sustainability may be difficult to grasp in a context of resource declines and limited economic opportunities. Households are embedded in larger systems, as such responding to pressures and incentives that more often than not encourage unsustainable practices. Nonetheless, households do make decisions that enhance the resource base

(taking part in tree replanting activities; choosing to use legal fishing gear), enhance their well-being (helping other villagers, volunteering in local committees) and enhance their ability to deal with on-going stresses. Rural livelihood sustainability is a process that needs to be carefully considered from multiple perspectives.

Establishing and maintaining good relationships with others is an integral component in enhancing and maintaining a living (Kaag et al. 2004). What the examples of gaining access to credit, loss of gear and land conflict illustrate is how sometimes a household is able to negotiate opportunities (relying on relationships, to a certain extent) and sometimes a household is not. While in many cases it depends upon households' assets as to which negotiation strategy might be pursued, in other cases an issue is complicated and impacted by multiple external factors making it to challenging to solve. Relationships -- even if just creating small amounts of leverage for a household -- make a remarkable difference in peoples' ability to cope with change and struggle.

Perhaps, for such reasons, the idea of a livelihood pathway is preferable to the notion of a livelihood strategy since a pathway,

> ...arises out of an iterative process in a step-by-step procedure in which goals, preferences, resources and means are constantly reassessed in view of new unstable conditions (De Bruijn and Van Dijk, *as cited in* De Haan and Zoomers 2003: 357).

A livelihood pathway hints at the dynamic, shifting nature of rural households in a way that the sustainable livelihood framework was not able to capture. Although this framework was useful for capturing a general sense of rural livelihood, it was difficult to paint a picture of the dynamic nature of rural livelihood. Thus, using a sustainable livelihood framework and combining this with an in-depth analysis of how rural households negotiate livelihood opportunities is insightful. How to pursue research into livelihood pathways also requires attention.

Livelihood in rural households is complex, with multiple drivers affecting the changes that households face. Households are continuously responding to social, political, economic and environmental influences, from multiple levels (local to global). A

resilience perspective considers change as inherent within all social-ecological systems. This suggests that a resilience analysis -- with its focus on scale and dealing with uncertainty in social-ecological systems -- would offer another lens through by which to deepen our understanding of livelihood. This will be the focus of Chapter Six.

# Chapter Six:

# Exploring strategies that may build resilience


Photo: M. Marschke, 2004

An environmental slogan, posted by the provincial Department of Environment

# Chapter 6: Exploring strategies that may build resilience

As Chapter Five illustrates, livelihood puts across the idea of individuals, households or groups making a living, attempting to meet their various consumption and economic necessities, coping with uncertainties and responding to new opportunities (De Haan and Zoomers 2003). Livelihood in rural Cambodia is complex and dynamic: perhaps the one constant for fishing households is uncertainty! Fluctuations in resource abundance, seasonal cycles of resource use and changes in access conditions each create conditions that may bring additional challenges for rural households. Similarly, economic and policy drivers also create stresses and shocks. Chapter Six, therefore, sets out to explore how households and community members attempt (or not) to mitigate against such challenges.

Chapter Six begins with a theoretical exploration of livelihood, resilience and well-being. Chapter Five explored livelihood through the lens of a sustainable livelihood framework; Chapter Six further contributes to this livelihood analysis through drawing upon aspects of resilience thinking and well-being. After a theoretical discussion, an overview and explanation of the stresses and shocks found in Koh Sralao and in Kompong Phluk is provided. This overview includes an examination of livelihood diversification as a coping strategy and potentially an adaptive strategy. Resilience-building strategies observed at several scales (household, community and provincial) are then explored, with specific attention being paid to learning to live with change and uncertainty, nurturing learning and adapting, and creating opportunities for self-organization. In turn, notions of livelihood well-being are examined from a community level perspective.

## LIVELIHOODS, RESILIENCE AND WELL-BEING

In the 1990's a new trend in household studies emerged: households were approached from a livelihoods perspective to reveal how people did things to survive. This trend was in stark contrast to the earlier tendency of household studies to conceive poor people as

passive victims (De Haan and Zoomers 2005). Significantly influenced by the work of Chambers and Conway (1992), who popularized the concept of sustainable livelihood (Solesbury 2003), particular attention was now paid to the world of lived experience, and to the micro-world of family, network and community (Johnston 1993 *as cited in* De Haan and Zoomers 2005). This approach to livelihood is actor-oriented, place-focused and context-specific (Kirkby et al. 2001).

This 'micro-world, place-focused' approach, though a variety of studies, has deepend our understanding of rural livelihoods. For instance, insights were gained from the study of environmental entitlements, focussing on access and institutions (Leach et al. 1999): this work, in turn, helped to conceptualize the sustainable livelihood framework (Scoones 1998). A range of studies have worked from a vulnerability and social security perspective; several livelihood studies have focussed on disturbances and local vulnerabilities (Blaikie 1995; Adger et al. 2001). Since livelihood strategies are rarely static, investigations into change processes and adaptation have included researching short-term responses (Davies 1996) and long-term responses (Singh and Gilman 1999). Although rich case studies have been produced, there has been a tendancy within livelihood studies to focus on assets and activities within a specific area (De Haan and Zoomers 2005).

In other words, most livelihood studies focus on a bounded household or community scale, considering internal drivers but rarely the complexities of multiple levels, external drivers and linkages (De Haan and Zoomers 2003). Yet, stresses and shocks that impinge upon livelihood are the result of interactions between global forces or flows and local contexts (De Haan 2000). These stresses and/or shocks are found in many forms: environmental degradation, natural disasters, world markets, ill-health, lack of infrastructure, social discrimination and stigma, unaffordable credit or misguided government policies (IFRC 2004). Stresses and shocks may unfold in diverse, nuanced ways that are context specific; nonetheless, multiple external factors impact rural life.

According to Turner et al. (2003), a stress is a continuous or slowly increasing pressure, commonly within the range of normal variability, whereas a perturbation (shock) is a major spike in pressure beyond the normal range of variability in which the system operates. Stresses tend to be ongoing (resource declines; seasonality issues, such as lean times; perturbations and fluctuations within the social-ecological system). Shocks tend to be intense and dramatic, such as the December 2004 tsunami that hit Asian coastal communities, economic devaluation (Thailand economic crash of 1997) or violent conflicts (Khmer Rouge, Cambodia, 1975-1979). Although stresses and shocks can fade -- so that life may return to 'normal' -- such "equilibrium thinking" (De Haan 2000: 348) does not enable an understanding of how households respond, and continually adjust.

Considering the rapid changes that many households face, strategies may be developed in response to new shocks and stresses before livelihood adaptation from a previous stress or shock has been reached (De Haan 2000). Although a literature exists about the kinds of responses that households and communities make in the face of perturbations such as extreme weather events, market collapses and wars, this analysis can be taken further. There is a need to analyze livelihood responses as attempts to add options, and build buffers to deal with perturbations. It may be instructive to examine responses in terms of building capacity to deal with future change (Folke et al. 2003); in other words, considering strategies that might foster or enhance resilience.

Diversification as an example may be a coping response and a risk mitigation strategy but the *ability* to diversify is related to resilience. Resilience, therefore, offers another lens by which to explore stresses and shocks and to understand livelihood dynamics. Defined as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (Walker et al. 2004: 1), resilience is future-oriented and is used to characterize a system's ability to deal with change. Whereas in a vulnerable system,

small changes may be devastating, within resilient social-ecological systems change potentially nurtures development, novelty and innovation. Thus, resilience supports policy that manages the capacity of social-ecological systems to deal with and shape change (Folke et al. 2002). In using the resilience concept to analyze the dynamics of livelihoods, the various characteristics of complex adaptive systems, including scale and uncertainty, are being dealt with.

Rural, resource-dependent people are experts at living with uncertainty, and in dealing with stresses and shocks. Nonetheless, at the community level it is difficult to capture what resilience means by simply asking people: in part this is a translation issue; in part this is a challenge found with explaining any theoretical concept. Well-being, as opposed to ill-being, is a concept that often resonates with rural people (Chambers 2004), and it is the concept used in this study to operationalize resilience. For example, the *Voices of the Poor* study considered the well-being of poor people in 23 countries through giving voice to their changing realities, ideas of a good life and a bad life, and aspirations (Narayan et al. 2000)[53]. Although well-being is a descriptive term that does not get at the underlying assumptions about the feasibility of achieving a desired outcome (Start and Johnson 2004), the concept of well-being is understood by villagers and national level facilitators. Well-being, as a descriptive term, enables interpreters to give their own meaning to the idea of a 'good life' and gives space for multiple dimensions. Notions surrounding well-being, therefore, may offer a culturally-relevant way to capture what might encompass livelihood resilience from a local perspective.

## DEALING WITH STRESSES AND SHOCKS

> Living is not easy; life is complicated. A tree is growing, and gets a little stronger. Then a branch gets cut, and it is hard to climb any higher (Sok, May 2003).

[53] Although Cambodia was not part of the original *Voices of the Poor* study, a follow-up study looking at how people are able to overcome poverty is planned, with research also taking place in Cambodia.

Sok's insights hint at the constant challenge households face in daily life. By saying 'gets a little stronger ... then ... gets cut', Sok is speaking about how just as one challenge is resolved another may be revealed. Perhaps in English the expression 'one step forward, two steps backwards' also hints at the frustration of dealing with challenges. Sok used this metaphor of 'being hard to climb a tree as branches are being cut' during one visit where we discussed the implications of illness upon his household.

Recently Sok's young daughter had hurt herself as she crossed the narrow bridge connecting the Muslim quarter with the rest of the village (households in this quarter face additional challenges from other villagers when narrow, slippery pathways are flooded). Sok's daughter was bleeding profusely from a deep gash near her eye. Sok sent her to the nearest hospital with his middleperson who had the fastest boat in Koh Sralao. She was hospitalized for several days, and suffered permanent visual loss from this accident. As a result, Sok's savings were depleted -- he had been saving to buy a fishing light, as a preventative measure, to alert other fishing boats when he was night fishing.

In the context of Koh Sralao and Kompong Phluk, stresses and shocks both occur. The line between stresses and shocks may be blurred, representing a continuum of adverse conditions that people may deal with. What may be a stress for one household may be a shock for another. For example, chronic poor health is an on-going stress for those households with multiple members pursuing livelihood activities whereas chronic poor health facing a household with few income generators may be a shock. Table 27 highlights stresses and shocks that households may face in Koh Sralao and Kompong Phluk. In some cases, there have been varying responses at some level -- household, community and/or provincial/national -- to these stresses and shocks; in other cases, not.

Table 27: Stresses and shocks experienced by the people of Koh Sralao (KS) and Kompong Phluk (KP)

| | Item | Explanation, including observed response to stress or shock (if any) |
|---|---|---|
| Stresses | Reduced access to common fishing grounds | With decreasing access to fishing grounds (larger fishers squeezing out smaller fishers), conflicts ensued. In 2001 areas in the Tonle Sap for were designated by PM for community fisheries management. A Community Fisheries Unit was created in the Department of Fisheries. Decentralisation programs, community-based management programs and draft legislation are policy responses to support the 'local'. |
| | Declining resources (fish and forest) | Progressive decline in wildlife and fish populations and habitat degradation. Over-harvesting, inappropriate 'quick-catch' fishing gear. Limited enforcement of existing laws. |
| | Loss of fishing gear | Stolen or destroyed fishing gear (traps and gill nets) presents a household challenge (paying off debt). Fisheries organizations grapple with this issue. Local authorities (police, commune council, technical staff) are hesitant to take this on. |
| | Being at the mercy of markets | Market demands and fluctuating commodity prices; Boom-bust marketing cycles. No one to buy a product (sell-while-you-can mentality). Fishers rely on layers of middlepersons to sell resources. |
| | Chronic poor health | A challenge if a main household income generator has 'little energy'. In 2002, nearly all households claimed that someone within their household was ill. |
| | Threat of violence during elections | Especially for those households that belong to opposition parties. Results in social exclusion, sometimes forcing households to switch their allegiance to the winning (dominating) party. General nervousness during any election period (uncertainty about what might happen). |
| Shocks | Forest fire in flooded forest: July 2003 KP | 62 ha burned near Kompong Phluk; took one week to douse. Elders directed the situation: young men fought the fire; women cooked; others packed up belongings to be placed near the river. Triggered an active fire prevention campaign in District. |
| | Thai border closing: Jan '03 KS | Limited supplies in Koh Sralao for 1 month; fish products fetched ½ the normal market value. |
| | Charcoal ban: 1999, KS | Forced more people into crab fishing or to leave the area. This shifted pressure from one resource (mangrove degradation for charcoal) to another (the fishery). |
| | Khmer Rouge, 1975 – 1979 | Left a generation suffering from post-traumatic stress disorder. Trust within communities may be limited. |

As Table 27 indicates, similar stresses were found in Koh Sralao and Kompong Phluk. Reduced access to commons (the use of larger fishing gear squeezing out small-scale fishers) and a declining resource base are on-going stresses for resource-dependent fishing communities. In early 2005, fishers in Koh Sralao noted that they no longer caught grouper juvenile as a by-catch in their crab traps, another indicator of a declining resource base (and another secondary income source vanished). The 2003-2004 fish catch was the lowest ever recorded in the Tonle Sap (Hortle et al. 2004). Seasonal perturbations (lower water levels in the Tonle Sap, increased rains in the coastal area and on-going wind and storms in each case), challenges in accessing capital to secure additional livelihood options and chronic poor health are other on-going stresses that many households face.

There is an ever-increasing fishing pressure along the Tonle Sap Lake and in coastal areas: more fishers are competing over declining resources in the same fishing grounds. Conflict ensues, manifested in gear loss. Trawlers and other boats operating larger-scale gears often (mistakenly?) destroy gill nets and traps when accessing the same fishing grounds as smaller-scale fishers. Even more problematic is the persistence of fishing gear theft in each area (fish traps and sections of gill nets). During the 21 months of research each fishing household reported some type of fishing gear theft. Siet, a female gill net fisher, reflects further:

> Our gill nets were stolen in February, 3 dai [180 m]. We only have 5 dai [300 m] now. I am not clear who stole them, but think that it was an upland fisher. The day before I lost my gear I got angry with a person who was cutting poles [illegal activity] to make their gill nets. The fishers got angry in return and I think they stole my gear (March 2004).

Siet, in stating the rules for flooded forest protection to outside fishers, took a risk in enforcing local resource management practices. Each time fishing gear is stolen, tension and mistrust heightens between community members and 'outside' fishers, and within a community itself. Households that experience gear loss face the additional pressure of

finding other livelihood activities to pay back the middleperson (moneylender) at the end of a fishing season. Often this is impossible, meaning that overall debt increases.

Shocks, such as forest fires or market closures, can have intense ramifications for a household or a community. The impacts of shocks, in this case, were quite specific to Koh Sralao and to Kompong Phluk. In July 2003 a 62 ha forest fire broke out near Kompong Phluk in a 'protection forest' area, a dense forest patch that helped to protect houses from wind and storms. The entire community prepared their belongings to evacuate, although the fire was doused after a week of fire fighting (a provincial fire truck came within a few days to help douse the fire). Not only was the fire in close proximity to Kompong Phluk, many animals were killed as a result. For example, many bagfuls of dead water snakes were found after the fire. The fire exasperated the long-standing tension between seasonal fishers who access local fishing grounds and long-term residents.

The fire also illustrated the role of elders and monks in dealing with a crisis. The monks at the pagoda used their drum and speaker system to organize villagers. "Prepare your belongings and take them to the river; all men to the forest to stop the fire," was repeatedly announced. In the months following the fire, an active fire prevention campaign was pursued which included signposting 'no cooking' signs and visits with neighbouring districts.

Another shock that particularly affected Koh Sralao villagers was the closing of the Thai-Cambodian border for one month in early 2003 (Koh Sralao is within 10 km of the border). Since fishers rely on Thai markets to sell their fish products, middlepersons had to find alternative markets for their product, or pay higher-than-normal bribes to get their product across the border. During this month, fishers fetched half the normal market price for mangrove mud crab and most other fish species. Just as middlepersons were exploring the feasibility of other marketing options, the border re-opened. One

middleperson, in reflecting upon the struggle to get fish across the border, wanted to diversify marketing options. This, however, is not an option available even for most middlepersons since they also on another middleperson to sell their collected product.

How, then, do households deal with on-going stresses and shocks? Fishing households in Koh Sralao and Kompong Phluk suggested that they tend to rely on personal savings, if possible, to deal with stresses and shocks (82% and 49%, respectively). In Kompong Phluk, the area with stronger family networks, one-quarter of households said the also borrowed money from relatives. Besides using savings to deal with stresses and shocks, other strategies included relying on social networks and diversification of livelihood activities. Several recent studies emphasise 'multiple livelihoods'[54] or 'occupational multiplicity' in which people access a diversity of economic options (Bailey and Pomeroy 1996). As Ellis (2000: 4) notes, "it is the maintenance and continuous adaptation of a highly diverse portfolio of activities that is a distinguishing feature" of rural households.

### DIVERSITY AS ONE LIVELIHOOD STRATEGY

> It is better that we do more than fish in my household. My one daughter cuts clothes and my wife sells goods from our home. My other daughter helps with fishing and marketing our fish products. Since there are not so many fish this year and we catch less fish during this season, I sent my two sons to the city to try to find other work. If they find work, this could help our future. For now, I continue fishing (Norn, November 2003).

In Norn's case, diversification of this household's livelihood activities is a strategy that is both reactive and opportunistic. Seasonal perturbations are part of the fishery, hence Norn continues to fish as the households' main livelihood activity while his sons pursue potential non-fishing activities. As Norn's comments illustrate, livelihood strategies are the product of the interaction between choice and constraint. Norn's choice to diversify is a coping strategy -- to deal with less resources -- and a (potentially) thriving

[54] Start and Johnson (2004) point to this literature.

mechanism -- if his sons can access growing economic opportunities in the provincial capital (Start and Johnson 2004).

Diversification is part of household life in Koh Sralao and Kompong Phluk: this may or may not help in mitigating against stresses and shocks. On average, there are three main income generators in each household. As mentioned in Chapter Four and Chapter Five, a diversity of fishing-related and non-fishing activities are pursued[55]: When possible, households do not derive their entire income from one source. One way that diversification happens is by putting time and effort into a series of unrelated livelihood activities, as a way of reducing overall risk (Ellis 2000; Turner et al. 2003).

Another way of achieving diversification is to build on existing livelihood activities. In Kompong Phluk, diversification appears to be linked directly to the fishery, building on the complementarity of fishing related activities. Consider fish processing in Kompong Phluk (Table 28). Most households in Kompong Phluk ferment fish, and some also smoke or dry fish. Fish processing complements home-based part-time domestic chores; catching fish complements processing and trade. This is in stark contrast to Koh Sralao where people 'peel' crabmeat to sell to the middleperson but very rarely dry, ferment or process other types of fish. Part of the difference in the two communities may be related to greater knowledge of fish and fishing processing in Kompong Phluk as opposed to Koh Sralao. Complementarity enables skills to build onto each other.

[55] To reiterate the findings on diversification, in Koh Sralao most people either use crab traps or crab nets (73% and 29%); in contrast, Kompong Phluk fishers use gill nets (95%) along with hook and long line (31%) and/or small brush parks (28%). Households also pursue other livelihood activities such as home gardening, animal-raising or hands-on work (i.e. hair dresser, carpenter, operating coffee shops). In Koh Sralao, households have begun to sell small-scale goods from their homes (14 of these 30 shops started in 2002 or later) as a way to diversify into non-fishing activities.

Table 28: Diversity of fish processing strategies

| | Koh Sralao | Kompong Phluk |
|---|---|---|
| % HHs that engage in, *fermenting fish for fish paste* | 0 | 89 |
| % HHs that engage in, *'peel' crab meat* | 92 | 0 |
| % HHs that engage in, *smoking fish* | 0 | 33 |
| % HHs that engage in, *drying fish* | 2 | 29 |
| % HHs that engage in, *drying shrimp* | 0 | 11 |
| % HHs that engage in, *other (fish sauce production, fish fertilizer, processing oyster meat)* | 6 | 12 |

Questions allowed for multiple responses

Those households that can pursue diverse activities, drawing upon assets, a variety of skill sets and knowledge, may be in a better position to deal with shocks and stresses that come their way. While such diversification may enhance livelihood security for rural households, not all households are in a position to access these opportunities (as illustrated in Chapter Five). Nonetheless, households and village level institutions are able to deal with and learn from on-going stresses and shocks. Livelihood diversification is just one example of a household coping and potentially adaptive strategy. Within each community context a series of strategies are in place that support livelihood well-being, at least for one level of the social-ecological system. The next section examines some of these strategies, which are analyzed in terms as resilience-building strategies.

## BUILDING LIVELIHOOD RESILIENCE AT DIFFERENT SCALES

Change in the form of renewal and reorganization is an important aspect in dealing with the sustainability of social-ecological systems (Folke et al. 2002). Resilient communities can handle surprises (Levin 1999), are able to learn from disturbance and stress, and find opportunities for renewal. It may be useful, therefore, to consider livelihood strategies as attempts to deal with some perturbations. Although some livelihood strategies may be considered short-term coping mechanisms, other strategies may in fact lead to enhanced options or other forward-looking strategies that help a household or community survive

in the face of unpredictable changes. This raises the question of whether resilience can be enhanced or built towards producing more robust livelihood strategies.

Table 29 compiles observed responses to what can be called *building livelihood resilience*. This analysis is based on a cluster of resilience factors framework of Folke et al. (2003), as used by Berkes and Sexias (*in press*). The categories used in Table 29 collapse the two middle categories of the four in Folke et al. (2003). There are a number of items or sub-categories, with specific examples from the two study communities. The various ways in which resilience can be built are not confined to any one level of organization. Hence, Table 29 analyzes responses at three levels: the household, the community and the province. The first category of responses has to do with learning to live with change and uncertainty. This is the cluster that includes the diversification strategy identified here in its broader conceptualization: building a portfolio of livelihood activities. The second category of responses have to do with nurturing learning and adapting. This is the cluster that includes nurturing diverse institutions and creating the political space for experimentation, as will be further discussed in Chapter 7. The third category of responses has to do with creating opportunity for self-organization.

Table 29: Observed resilience-building strategies at different scales in Koh Sralao and Kompong Phluk.

| Observed resilience-building strategy | Observed examples for each strategy in Koh Sralao (KS) and in Kompong Phluk (KP) | Scale[1] | | |
|---|---|---|---|---|
| | | HH | Community | Provincial |
| **Learning to live with change and uncertainty** | | | | |
| ▪ Learning from crisis | Rapid mangrove depletion encouraged conservation KS | X | XX | X |
| | Fishery decline led to re-thinking local actions KS/KP | X | XX | X |
| ▪ Building rapid feedback capacity | Moving seasonally with changes in water levels KP | XX | X | -- |
| | Monitoring weather KP | XX | -- | -- |
| | Monitoring general environment KS/KP | X | XX | -- |
| ▪ Building a portfolio of livelihood options | Back-up gear KP | XX | -- | -- |
| | Using social networks KP | XX | X | -- |
| | Exchange labour KP | XX | -- | -- |
| | Diversification into non-fishing activities KS | XX | X | -- |
| ▪ Developing coping strategies | Mobility KS | XX | -- | -- |
| | Money lenders KP/KS | XX | -- | -- |
| | Dried fish KP | X | -- | -- |
| **Nurturing learning and adapting** | | | | |
| ▪ Nurturing ecological memory as a source of innovation and novelty | Protecting forests near community KS | X | XX | X |
| | Growing fingerlings for aquaculture KS | XX | -- | -- |
| | Creating fish sanctuary KS/KP | X | XX | -- |
| ▪ Nurturing social memory as a source of innovation and novelty | 'Dragon floods' every 12 y KP | X | -- | X |
| | Recalling impact of fewer trees KS | X | XX | -- |
| ▪ Nurturing a diversity of institutions to respond to an ever-changing environment | Local resource management committees KS/KP | X | XX | -- |
| | Involving commune councils KS/KP | -- | X | XX |
| ▪ Creating political space for experimentation | Decentralisation mandate KS/KP | -- | -- | X |
| | Draft community-fisheries sub-decree KS/KP | -- | X | X |
| **Creating opportunity for self-organization** | | -- | -- | -- |
| ▪ Building capacity for user self-organization | NGOs working with communities KS/KP | -- | X | XX |
| ▪ Building conflict management mechanisms | Solving gear theft KS | -- | X | XX |
| | Patrolling illegal activities KS/KP | -- | X | X |
| ▪ Self-organizing in response to external drivers | Taking advantage of market opportunities KS/KP | XX | -- | -- |

[1]XX = strongly observed; X = observed; -- = not observed or N/A

The first cluster of responses found in Table 29 focus on learning to live with change and uncertainty. Included in this cluster are: (a) learning from crisis; (b) building rapid feedback capacity; (c) building a portfolio of livelihood options; and (d) developing coping strategies. In both Koh Sralao and Kompong Phluk change and uncertainties are created by biophysical changes as well as by the socio-political environment. Change and uncertainty are characterized by changing government policies (influenced by donor agencies and a national agenda), ever-shifting marketing opportunities and continuous resource degradation. Less well understood are the long-term affects of the Khmer Rouge genocide, in terms of nurturing trust at a local level (trust at any level, for that matter).

Within such change and uncertainty, households and communities do illustrate examples of learning and adapting. For instance, intense mangrove degradation, in the case of Koh Sralao, forced villagers to consider a conservation ethic and to re-think their strategies for resource extraction and management. In Kompong Phluk households ensure rapid feedback mechanisms by moving seasonally with the changing water levels of the Tonle Sap. Most households move seasonally, or for at least part of the season, enabling fishers ease in monitoring, scanning the environment and sharing information. In contrast, Koh Sralao fishers who speak Thai monitor the weather by listening to Thai coastal radio reports; those who do not speak Thai appear to rely on word of mouth and personal observations of the weather and sea conditions.

Building a portfolio of livelihood options (Allison and Ellis 2000) is another way that households, in particular, learn to live with change and uncertainty. In Kompong Phluk, using social networks and labour exchange are additional ways that households build onto their portfolio of livelihood options. Dried fish may be kept for household consumption, or traded for rice. Diversifying household livelihood activities, as discussed earlier, include diversifying fishing activities (including specialization by individual members) and non-fishing activities (operating small businesses from one's home is popular in Koh Sralao). In periods of resource decline, for example, fishing

households might send one income generator to the city to try and secure an alternative income source.

Such diversification can also be seen as an example of coping. Coping strategies, in response to change and uncertainty, can include social mobility (leaving the village for 'strategic' periods of time, or permanently) and resorting to moneylenders (it depends upon a households relationship with a moneylender if resilience in this case is helpful -- negotiation is an important aspect of such a relationship). What are perceived to be coping strategies may become the main livelihood strategies of disadvantaged groups in the village (Davies 1996). Coping strategies that are pursued because of a lack of any alternative tend to be high cost. Such strategies often involve running down productive assets, often in unsustainable ways, and leave people poorer and more vulnerable than they were before, especially if they have to be used over longer periods (Start and Johnson 2004). Coping strategies, therefore, can potentially build or reduce resilience.

The second cluster of responses described in Table 29 has to do with nurturing learning and adapting. Change and disturbance can foster learning opportunities (Levin 1999). For example, new adaptive strategies such as habitat protection for key resources are part of such learning. Memory within the social-ecological system is another way to foster learning opportunities. This includes nurturing ecological memory (using local knowledge to protect fisheries habitat; continuing forest monitoring systems, driven at the local level in the case of Kompong Phluk) and nurturing social memory ('Dragon floods', as an example of cyclical changes in flood levels; remembering the consequences of deforestation upon the village). Nurturing a diversity of institutions to learn to deal with change is another critical resilience-building strategy. Local level resource management institutions, supported by NGOs working in each area since the late 1990's, have helped in creating opportunities for households and villagers to solve resource management issues.

Interestingly, the donor-driven decentralisation mandate that is somewhat encouraged by the national government has helped to foster the political space for local level

experimentation. For instance, the commune council, as of 2002, was mandated a role in resource management. In both Koh Sralao and Kompong Phluk, this institution supports the work of local resource management committees (in Koh Sralao, a former commune councillor sits on the resource management committee; in Kompong Phluk, a commune councillor acts as an advisor to the resource management committee). Local level work, through provincial level connections and NGO support, has pushed for 'legal' rights for community fisheries management, currently in the form of a draft Community Fisheries Sub-decree. Chapter Seven explores policy creation in greater depth.

The third cluster of responses discussed in Table 29 has to do with creating opportunity for self-organization. Resilience requires tight feedback loops in response to change, to ensure the ability to monitor and perceive an emerging problem (Levin 1999). Elders in Kompong Phluk organized a rapid response for the entire community in the 2003 fire; members from Koh Sralao's resource management committee stopped local fishers from burning confiscated fishing gear, encouraging non-violent conflict-resolution strategies (namely forms of negotiation, including painting crab traps to curb gear theft). A resilience approach recognizes that local social systems can and do self-organize, and that local decision-making is sometimes more effective than decision-making at a national level.

Local resource management institutions grapple with sustainability issues (as explored in Chapter Three), and are aware of emerging problems. The purpose of these committees is not to solve all uncertainties, rather to create an institutional context that encourages and responds to learning. The key, perhaps, in building social-ecological resilience is for individuals, local level institutions and other actors to learn from experiences, and to accept that some uncertainties are inevitable.

Resilience at one scale is not always 'positive' when viewed from another scale. External drivers, especially in relation to marketing opportunities, may enhance the income-generating ability of a household while rapidly degrading the ecological system and wider community resilience. Therefore, the scale of analysis (individual, household,

community, provincial, national, international) coupled with the temporal analysis (day, week season, life-time) is critical to any livelihood analysis. Such an analysis can help to capture the dynamics of livelihoods at multiple scales; this is instructive, given the varied impacts livelihood strategies may have upon a social-ecological system.

## STUDYING RESILIENCE ON THE GROUND: WELL-BEING

What resilience building may look like at the level of village or household has not been explored to any extent. Although the term resilience does not translate into Khmer[56] (or most other languages for that matter), the people in the study communities do use strategies that can be interpreted as building resilience. Households and village level institutions are continuously facing stresses and shocks, and villagers display a remarkable ability to persist and to learn from such challenges, as resilience theory would predict. Significant thought goes into pursuing a range of livelihood activities. Consider Dom's (a coastal fisher) story:

> I have thought about my livelihood. I need to reduce my debt and pay back the middleperson and I need to support my family. I do this so that I can have freedom, which is why I sell my fish in another place [temporarily moved out of the village]. Now that I have some money saved, I want to return to Koh Sralao and do chicken or pig raising. Maybe in the rainy season my wife will raise pigs as I continue to fish (April 2003).

Dom's comment illustrates some of the thinking that went into his current livelihood well-being. Dom is an active member of Koh Sralao's resource management committee, specifically in charge of organizing weekly monitoring patrols for illegal activities. When most of Dom's own crab traps were stolen during one such patrol (December 2002), Dom was left with limited fishing gear. He faced the additional challenge of how to pay his current debt to the middleperson. Dom and Parn, his wife, needed to somehow save money. Perhaps since Dom's household has a history of undertaking boom-bust livelihood activities (as mentioned in Chapter Five), they were willing to be creative in

[56] Further exploration is required to understand the 'cultural fit' of the concept of resilience. For instance, Buddhism emphasizes good and bad luck. When villagers see a difficult situation, this may be interpreted as bad luck related to actions in past lives. If you accept your fate in life then you might believe that your current actions will only affect your next life (hence focusing on activities surrounding the pagoda). The thinking behind resilience (learning, adapting, self-organization) may not resonate within a Buddhist belief system.

considering opportunities that might lead towards enhancing their well-being. For these reasons, they decided to leave the village for one season.

By living on their boat, altering fishing grounds and being able to fetch a better market price for crab, Dom and Parn saved enough money during this fishing season to pay back most of their debt. Moreover, they saved extra cash to invest in pig raising. Six months later, Dom and Parn were crab fishing, raising pigs and had opened a small coffee shop that specialized dog meat soup. At this point Dom's daughter, who had recently divorced her husband, came to live with Dom and Parn. His daughter was helping to run their newly established coffee shop. Dom continues to patrol with the resource management committee (as of April 2004, no more of Dom's gear had been stolen). Dom's reflection (April 2004) on this experience was "we had to struggle but by thinking about what we had to do and with some luck we made our situation better".

Dom's insights foster a sense of what local well-being entails. Well-being encompasses a range of experiences: human, social, mental, spiritual, cultural and monetary (Chambers 2004). Dom also provides us with concrete examples of building rapid feedback capacity (moving closer to the fish and markets), building a portfolio of livelihood options (expanding into non-fishing activities) and developing coping strategies (seasonal migration) that are related to the resilience-building strategies observed at household, community and provincial levels.

Rather than analyze a community's or household's resilience from an outsider perspective, I wanted to explore how community members viewed their own resilience. Since I could not ask the question of resilience directly, I queried about what constituted livelihood well-being and then analyzed the responses for evidence of resilience building.

Several representative (gender, socio-economic group, religious) focus groups (community level) were asked what contributed towards their livelihood well-being (Table 30), building upon the approach of Narayan et al. (2000). This table is a synthesis of focus group findings. The results are not quantitative, nor are they in the order of

importance. The table clusters responses into three categories: economics related; resource related; and knowledge and relationship related. The responses in the first two categories represent a consensus of the participants. Responses in the third category are not a consensus but a compendium of selected comments, since learning and knowledge are difficult concepts to verbalize.

Table 30: Perceptions of resilience on the ground

| What contributes towards your livelihood well-being? |
|---|
| Access to fishing gear (traps, nets) |
| Skills for multiple types of fishing |
| Other livelihood skills (animal raising, fixing, sewing) |
| Have capital and/or a supporter (*neak thom*) |
| Knowing how to save money |
| Abundant trees and fish |
| Community can sustain its resources |
| Knowledge and wisdom |
| Good relationships/can communicate |
| Luck |
| Can adapt and solve problems |
| Willing to struggle and make an effort |

Villagers emphasized that one indicator of well-being is when household members can access and use diverse types of fishing gear, ensuring flexibility to switch fishing gear depending upon the season and abundance of a specific resource. Other livelihood skills, such as fixing radios or raising animals, also help a household. Access to 'capital' (money or equipment) or a middleperson to support one's livelihood choices is important. A middleperson, if the relationship is positive, can act as a buffer when dealing with challenges (on-going stresses and shocks). Ultimately, being able to save money within a household is a critical component of any successful livelihood. Although a livelihood is definitely enhanced by having money and having diverse income-generating choices, households did not limit notions of livelihood well-being to economic opportunities.

The value of local resources for livelihood and future generations was expressed. Pride in replanting mangroves near Koh Sralao and in sustaining an abundant flooded forest in Kompong Phluk was evident. Several villagers also hinted at the spiritual connection of

having natural resources close by: Hart's poem in the beginning of Chapter Five hints at the meaning of nature in daily life.

Villagers also felt that knowledge and wisdom contributes towards livelihood well-being. For instance, when elders live within a household, their experiences can contribute to household, and community, decision-making. Households involved in local level institutions mentioned the value of sharing knowledge and ideas to deal with complicated situations. Granted, many households are not in a position, or interested, to partake in these institutions.

Relationships play an important role in enhancing rural livelihoods. "If you are popular with other's, this will help your livelihood since you will feel good," comments Wayne (October 2003). This suggests that a household's relationships with others can influence how they feel. Adaptation was mentioned, in the sense of a household being able to adapt to fluctuating conditions could be successful. Households recognize the skills it takes to deal with seasonal fluctuations and rather unpredictable stresses and shocks.

Problem-solving skills are another important aspect of well-being. "People think differently. 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", as a person commented in the focus group (November 2003). This comment suggests that households need to be resourceful with what they have, thinking about different angles before making a livelihood choice. Villagers also emphasized the need to take advantage of opportunities, and what was explained as luck (a concept that Buddhism emphasizes). "Luck helps. Sometimes a rich and a poor fisher both put their nets into the water but only one will find fish. This is based on luck" (Niet 2002).

What is clear, from the villagers' perspective, is that a combination of livelihood skills and a household's adaptability contribute immensely towards successful well-being. Livelihood skills include diversity and economic means for experimentation) and a

household's adaptability includes elements of knowledge, building good relationships and having problem-solving skills. Luck is another aspect of well-being. This combination, coupled with access to natural resources, are important components of local well-being.

## DISCUSSION

Resilience analysis illuminates the dynamics of livelihoods. Findings from the study areas indicate that there is always a great deal of experimentation of livelihood activities (and strategies), when possible in the direction of increasing options and flexibility. Much of this increase in options and flexibility is reflected in diversification, which is the universal strategy for risk mitigation (Turner et al. 2003). Multiple motives prompt people to diversify their assets, incomes and activities, as also observed by De Haan and Zoomers (2003). Diversification may be a coping response and a risk mitigation strategy but the *ability* to diversify is related to resilience. Increasing the capability of a household to diversify, or building the capacity to be flexible, would therefore be a resilience-building measure. A more resilient system implies more flexibility, but resilient systems are also defined as those able to maintain their integrity (Redman and Kinzig 2003).

People cannot adapt to all shocks and stresses, given the constant change communities do face. Virtually any community will face a series of challenges such as in-migration of permanent and transient residents, natural resource exploitation, infrastructure development and protection of strategic interests (Gardner et al. 2002). Nonetheless, people are continuously 'doing something' in response to these stresses and shocks, perhaps in proportion to the assets to which a household or community may have access.

Some of the strategies to respond to stresses and shocks tend to be both proactive and reactive, as in mangrove replanting or sending one household member in search of other livelihood activities outside the village area. Table 29 shows a number of other examples in which people have been rethinking local management actions with respect to resource declines (as discussed in Chapter Three). Note that some of these responses are at

multiple levels, including environmental monitoring, forest protection and creating community-based management committees.

Looking at recent crisis events is particularly instructive in evaluating how households and communities respond to shocks. For example, in Kompong Phluk it was elders, rather than the commune council, who took the initiative in organizing villagers to respond to the forest fire of 2003. This example illustrates the importance of informal institutions in crisis situations, and this can be instructive for outside NGOs or government institutions working to support communities in responding to such events. A focus on crisis events enables an analysis of what has been done and can probe the livelihood history that enabled the community or household response.

The concept of livelihood well-being is a useful way to operationalise resilience on the ground. The notion of well-being, as elucidated by the two communities, includes many elements that can be interpreted as resilience building such as learning from crises, building a portfolio of livelihood options, use of social memory and building capacity for self-organization. An analysis of well-being complements the resilience analysis, illuminating local level livelihood realities in a way that can be easily explained, and gets at additional variables, such as relationships and luck.

One area that requires further discussion is nurturing learning and adapting, specifically with respect to policy experimentation and supporting diverse institutions. Significant policy experimentation is found in Cambodia: decentralisation processes are found across all sectors, including natural resource management. Government departments, especially at the national level, are creating rules and regulations for natural resource governance. Chapter Seven, therefore, pays specific attention to Cambodia's evolving policy framework, and considers how this may or may not support rural livelihoods.

Sketch: M. Renaldo, 2005

Fishing in the flooded forest

# Chapter Seven:

# Policy and plans, not the only step necessary to support the 'local'

Sketch: M. Renaldo, 2005

View of homes, large boats and the ocean

# Chapter 7: Policy and plans, not the only step necessary to support the 'local'[57]

The previous chapters focused on livelihood and resource management issues, mostly from the perspective of the household and local level. Chapter Three provided two examples of how community-based management can unfold 'on the ground'; in the previous chapter I argued that policy experimentation (decentralisation mandate[58]; appropriate sub-decrees) may create the political space for local decision-making opportunities, if enabled, to enhance livelihood resilience. This chapter seeks to build upon the analysis presented thus far, exploring Cambodia's policy context.

The purpose of Chapter Seven is to consider how current policy may (or may not) support rural livelihoods. Chapter Seven begins by highlighting early experiences with community-based management in Cambodia, followed by a synthesis of three selected approaches to community-based management: (a) community fisheries, (b) participatory land use planning (PLUP) and (c) an emphasis on mainstreaming resource management and livelihood issues into commune council plans. These approaches will be compared and briefly analyzed, before turning to a more detailed analysis of incorporating resource management into commune level planning and field experiences related to enforcement activities. Throughout this chapter, experiences from the resource management committees in Koh Sralao and in Kompong Phluk -- featured in Chapter Three -- are drawn upon. Specific consideration is given to where livelihood issues fit within community-based management processes.

[57] Adapted from: Marschke 2004b. A special thanks to Nhem Sovanna for providing tremendous insights into decentralisation processes, and how resource management is integrated into commune-level planning.
[58] Decentralisation and other processes that emphasize bottom-up forms of decision-making are found in Cambodia. The newly elected 2002 commune councils, for example, is Cambodia's most significant decentralisation development (Blunt 2003). Although preliminary analysis suggests that the creation of commune councils has contributed to political stability and economic development (Biddulph 2003), a careful analysis of the implications of an elected commune council for rural livelihoods has not yet happened.

## THE INFORMAL BECOMES FORMAL: PROLIFERATION OF COMMUNITY-BASED MANAGEMENT

Much of the integration of resource management and livelihood concerns into formal legislation (*Law on Management and Administration of the Commune; Community Forestry Sub-decree*) or policy (2001 Fisheries Reform; PLUP) was informed by early experiences with community-based management in Cambodia. Several projects, such as those funded by FAO, GTZ and IDRC, began working on community-based management in the 1990's. The two resource management committees discussed in Chapter Three benefited from such project support. This initial community-based management work was experimental: community members, NGOs and/or government facilitators worked on understanding what resource management could look like 'on the ground.' In these cases, village level institutions were created in a policy vacuum, with maps and management plans being recognized informally through appropriate signatures (from village headperson to the provincial governor) and in some cases by technical departments at a provincial or national level. Indeed, these initial experiences contributed to the proliferation of community-based management processes (or parts of processes) now found across Cambodia, for example, through government decentralisation programs, land management programs and community forestry and fisheries programs.

More specifically, the community-based management work within Indigenous Peoples in Ratanakkiri province (supported by IDRC/UNDP/SIDA) has informed much of the approach towards incorporating natural resource management and livelihood issues into Cambodia's decentralisation program. Efforts to mainstream resource management into commune development plans began in 2003 within 40 communes, and covered 75 communes in 2004. Other community-based management experiences have fed into policy creation, supporting community forestry and community fisheries processes. For example, the FAO-Siem Reap project (including those insights gained from Kompong Phluk's resource management committee experiences) perhaps helped to spark Cambodia's 2001 Fisheries Reform (refer to Chapter Two); in turn, a community fisheries sub-decree was drafted.

Another example of how earlier 'on the ground' experiences influenced policy is the PLUP process. Linking land management and natural resource management together, PLUP guidelines emerged from a series of workshops with community forestry and fisheries facilitators and government officials that took place between 1999 and 2001 (a process facilitated by GTZ). The PLUP process is now officially endorsed within the Ministry of Land Management, Urban Planning and Reconstruction.

While initial community-based management pilots may have been successful (for a number of reasons including donor support, long-term commitment to a process and working in isolated areas), replicating and institutionalizing such processes across Cambodia presents another challenge. For instance, the Department of Fisheries deals only with fisheries issues, the Forest Administration only with forestry issues. Villagers, by contrast, see the connections between land and water, trees and fish (Marschke and Nong 2003). Importantly, many villagers recognize that it takes multiple strategies to deal with resource-related problems, some of which were commented upon in Chapter Six. The following section considers the formal (i.e. legal instruments) context for resource management, and explores some challenges with these policies.

## THE FORMAL

> I know about the law. The high law and local laws are opposite. The local law wants to protect the community, but the top levels do not support this. They say it is illegal for us to stop and catch the thieves. We can monitor and inform technical staff. [But] by the time we do this, it is always too late. ...The government law does not allow any rights to local people (Salut, March 2004).

Several government institutions have responsibilities related to natural resource management (see Table 31). Each government institution is working with its own policy makers to draft legislation. In some cases there is a strongly centralized planning emphasis, such as within the Forest Administration; in other cases there is a strongly decentralized planning emphasis, such as within the Ministry of Interior. Institutions are not always aware of, or connected with, other institutions doing similar things.

Table 31: Institutions, resource-related responsibilities and legal instruments

| Institution | Responsibilities related to natural resource management | Legal instrument related to resource management |
|---|---|---|
| Ministry of Agriculture, Fishery & Forestry (MAFF) | Agricultural development and fishery activities in the fishery domain | Draft Community Fisheries Sub-decree |
| Forest Administration (FA) | All forestry activities in the forest domain | *Community Forestry Sub-decree* |
| Ministry of Environment (MoE) | Protected areas, wildlife & environmental protection | Draft Protected Areas Sub-decree |
| Ministry of Interior | Decentralisation activities and supervising commune councils | *Law on Management and Admin of the Commune* |
| Ministry of Land Management, Urban Planning & Construction | Land use planning, land adjudication, land management | *Social Land Concession Sub-decree*; Participatory Land Use Planning (a policy) |

As Table 31 illustrates, a number of government institutions are mandated responsibilities related to resource management. In some cases, a legal instrument (law or sub-decree) supports community involvement in resource management; in other cases, policy supports such involvement. There are contradictions between different legal instruments. For example, within the 2001 *Law on Management and Administration of Communes*, a broad clause allows commune councils to manage and protect natural resources (articles 41 and 43). According to the 2003 *Community Forestry Sub-decree*, however, community forestry can only take place with approval from the Forest Administration. Considering that these policies were created in 2001 and 2003 respectively -- with significant donor funds -- the lack of harmonisation is particularly problematic and hints at the territorial tensions found between different Ministries. Other legislation is pending: it is unclear how additional legal instruments will fit in with existing policies on resource management.

Decentralisation policy, in the Cambodian context, supports the notion that the recently elected commune councils play a facilitative role in land use planning and natural resource management. Actual decision-making authority, however, rests with the line ministries (such as the Department of Fisheries or Forest Administration) that have jurisdictional competence within a specific area (Obendorf 2003). This may be

problematic, given the influence that the commune council plays with regards to village level decision-making (Chapter Three comments on the informal role that commune councillors take regarding resource management decisions in Koh Sralao and in Kompong Phluk). Unless line departments are willing to share power[59], current policy may not enhance the ability of the commune council to act with regards to resource management issues.

Moreover, as Table 32 illustrates, the feasibility and likelihood of commune council functions, as currently legislated, actually working in support of natural resource management or livelihood enhancement is limited.

Table 32: Commune council functions related to resource management

| Legislated Function | Feasibility | Likelihood |
|---|---|---|
| "Protection & conservation of the environment, natural resources & national cultural heritage". | **Low feasibility:** formal control unlikely to be delegated to commune councils in the short to med term; limited capacity. | **Low to medium likelihood:** Power & control unlikely to be delegated over most of these functions. |
| "Promotion & facilitation of the development of the C/S by invoking assistance & mobilising capacities". | **Medium feasibility:** if defined in terms of raising voluntary community contributions or encouraging self-help initiatives. | **Med likelihood:** self-help & voluntary contributions are part of commune life; this development can be fostered with appropriate leadership. |
| "Promotion of social and economic development and upgrading the living standards of the citizens" | **Medium feasibility:** in narrowly defined areas for representation of community needs; dev't planning may help. | **High likelihood:** representational functions in specific areas would not threaten distribution of power and control. |

Adapted from: Blunt 2003

Table 32 suggests that it will take time before specific articles are feasible or are likely to be implemented, partly because most legislated functions of the commune council are general and ambitious (Blunt 2003). For example, the commune council's mandate

[59] Power was briefly discussed in Chapter Two. Cambodian government departments tend to be run in an autocratic, top-down fashion; this manner of interaction conditions how a director and staff interact (O'Leary and Meas 2001). Therefore, critical for devolution of responsibilities and authority is the openness of a director, both within a department and in interacting with provincial, district and commune levels.

related to natural resource management is the "protection and conservation of the environment, natural resources and national cultural heritage". Although this mandate suggests that the commune council could be involved in resource planning or management and land allocations, it is highly unlikely that centralized state agencies such as the Department of Fisheries would be willing to hand over much power or control to the local level. On the other hand, a function such as the "promotion of social and economic development and upgrading the living standards of the citizens" may, in fact, be used to support the work of the commune council in a range of livelihood enhancement projects (agro-forestry, small-scale aquaculture, tree planting). At this point, however, there is not the technical or financial support for commune councils to even begin tackling their mandated functions regardless of whether or not these functions are feasible.

## COMPARING PLANS

> We plan and then make more plans. But, while we sit and plan, our forests get cut down and people grab our land. People do dynamite fishing in the Tonle Sap: there are fewer and fewer fish. We want to find a way to solve these problems, not just talk about them (a villager, March 2004).

For Cambodian villagers interested in dealing with land encroachment, solving conflicts in their fishery or protecting a forest, it is not that easy. Villagers may work through existing conflict resolution mechanisms, which might include enlisting the support of village or commune chiefs and/or working with a pagoda or mosque leader. However, it is more likely (especially if villagers are working with a government institution or NGO) that some type of resource management committee will be formed to deal with the issue. Its name will largely depend on which government institution or NGO is involved. It is entirely possible for a community fisheries committee, a community forestry committee, a land use management committee, or a subcommittee of the commune council, each working on different aspects of natural resource management, to exist in the same village. Such committees may or may not include the village chief, who will also have ideas about natural resource management. This gives insight into why community members express frustration with the number of planning sessions they are involved in.

With the proliferation of legal mechanisms and resource management processes comes an emphasis on planning. Planning is an integral part of working within the commune council structure or, for that matter, of working on resource management. Whether it is preparing the five-year commune development plan (CDP) and the subsequent annual commune investment plans (CIP) or preparing a community fishery (as in Kompong Phluk, discussed in Chapter Three) or forestry plan, villagers in every commune do have planning experiences. In 2002 there were an estimated 162 community fishery sites in Cambodia (McKenney and Prom 2002); in January 2004, according to the Department of Fisheries, there were 329 community fishery sites. Closer analysis of community fisheries, PLUP and integrating resource management into commune plans illustrate how these processes overlap (see Table 33) and considers the amount of planning that is required within each process.

Table 33: A comparison of three resource management processes

| | Community fisheries | Participatory land use planning (PLUP) | Integrating resource management into commune plans |
|---|---|---|---|
| Objective | To enable villagers, with enforcement support from Department of Fisheries staff, to protect and manage the fishery. | To solve resource management and land tenure issues (with an emphasis on land use and resource mapping, past, present and future). | To build resource management issues into commune level planning processes (and to get the commune to think about how to deal with these complex issues). |
| How many (May '04)? | 329 Community Fisheries sites. | 11 communes completed; 9 communes on-going. | 40 communes in 2003; expanding. |
| Planning process | Depends on who is facilitating: a week to months | 21 days (in theory); on the ground time is longer (limited experience to date but mapping requirements take time). | An extra two days of planning with each commune council. |
| Challenge | Villagers cannot do enforcement of regulations without fisheries staff (not enough fisheries staff; area too remote).<br><br>Fish are mobile: requires many communities working on fisheries if protection measures are to be effective. | Complex problem-solving approach that requires excellent facilitation skills.<br><br>Land grabbing is complicated; not easy to map out land issues given the informal nature of much land exchange. | Integrating into a pre-defined, infrastructure focused planning process. This presents a challenge: resource issues require longer-term solutions.<br><br>Integrating resource and livelihood concerns into plans not yet driven by local level. |

As Table 33 illustrates these three processes emphasizes in-depth planning in the village or commune as a first step. For example, ensuring that resource management issues are incorporated into commune plans add an additional two days into commune level planning. The entire commune planning process demands a significant amount of the commune councils' time. Facilitating a PLUP process at the village level is estimated to take 21 days per village (although there is limited implementation experience to date, and this process most likely will take longer). Creating a community fisheries management plan can take days or months depending upon whether fisheries or NGO staff are facilitating (this planning approach will become more formalized when the community fisheries sub-decree is passed). In the case of Kompong Phluk, the FAO-Siem Reap team and villagers met consistently several times a week for much of 2003 (this included planning, zoning and demarcation work) to create a fisheries plan. In the case of Koh Sralao, seven or eight focus group sessions were needed with key villagers to create a resource management plan. In all three processes, facilitators (often from the provincial level and sometimes the national level) helped villages or communes in planning, including taking information back to a provincial capital to create detailed technical maps. Participating in such processes does raise expectations from villagers; expectations that may be dashed when there is limited follow-through.

What often happens is that villagers are facilitated to make plans and get approvals for such plans, and are then left on their own to carry them out. There is little time for facilitators to work with villagers on solving actual problems, since they need to go to the next village or commune to continue the planning process. Another issue is that many of these plans are driven by outside facilitators (NGO or government) who may or may not understand what it is they are meant to be facilitating. There is often an assumption that local people lack the capacity to carry out such plans on their own; hence the plethora of training and capacity building exercises villagers may be exposed to. A critical question arises whether such elaborate planning mechanisms are appropriate.

There are a lot of policies on paper, but in many cases the 'doing' appears to lag behind the planning. Blunt (2003: 57) also questions the need for such complicated processes regarding infrastructure development:

> the question is whether high production costs are adding sufficient value. Do the complex planning procedures that are employed lead to different and better decisions by commune councils concerning development needs and priorities? Or would the same roads, bridges and wells have been built in the same places if much simpler and cheaper planning procedures had been employed?

Considering that planning infrastructure development is often far simpler than solving resource management or livelihood issues, and that the complexity of planning for infrastructure is questioned, a lesson can be learned. Planning processes need to be made both simpler and less time-consuming. What is also important is to understand how villagers can be better supported to carry out their plans and to find solutions to their own problems. For instance, actually carrying out community-based management activities often requires continuous facilitation and support as villagers grapple with complex issues. Equally importantly, a 'buy-in' is required from local authorities and a few key officials to ensure that villagers feel comfortable (and are supported, not hindered) in carrying through with their plans. My sense is that such a 'buy-in' may require more work for an NGO facilitating a community-based management process: NGOs often do not pay enough attention to local governance -- formal and informal -- structures.

Currently, community-based management processes overlap. Often facilitation teams may come into the village without considering the information in a commune database, therefore repeating participatory rural appraisal exercises with villagers. Institutions working on resource management issues are not connecting, let alone considering the linkages between environmental and poverty issues. Greater coordination between government institutions and programs (including the MDGs and PRSP) are required to reduce the time villagers spend planning activities and the number of committees related to community-based management found in each village or commune.

## THE NUTS-AND-BOLTS OF INCORPORATING RESOURCE CONCERNS INTO COMMUNE COUNCIL PLANNING

Commune plans, from a governance perspective, is an entry point for commune councils to integrate resource management and livelihood activities into their work. Commune councils are responsible for planning within their commune boundaries: the CIP plan is prepared annually. This process is designed to enable commune problems to be raised, along with solutions and a prioritized list of needs. Each commune plan is then presented at an annual District Integration Workshop whereby government departments and NGOs can potentially respond to the self-identified needs of each commune. At this point, the commune level needs identified within commune plans tend to largely be infrastructure oriented such as roads, schools or wells.

How, then, are resource and livelihood concerns included into commune level planning? This may happen informally, or may happen through a piloting project (75 communes were piloted for in 2004 through the Seila program)[60]. Facilitators (in theory) use a series of participatory planning activities that enable villagers to analyze resource and livelihood issues within their commune boundaries. As already mentioned, this process is an 'add on': two extra days are spent incorporating resource management issues into the annual planning process for those communes that are part of this pilot. Specifically, villagers draw gendered daily activity diagrams, build on existing commune maps, create problem trees to consider the causes, affects and potential solutions for problems and list livelihood concerns. This iterative process is designed to elicit a list of issues, solutions and priorities around resource management and livelihood issues within each commune that is combined with other commune level priorities such as health, infrastructure and other forms of development.

While this 'sensitizing' process enables resource management issues to be integrated within local governance, there are challenges. The commune level planning process, as is, is designed to be output oriented (filling in lists, listing a series of projects) whereas resource management planning requires holistic thinking. Provincial facilitation teams

[60] The over-arching program that is supporting Cambodia's decentralisation process is known as Seila.

who, for a myriad of reasons, combine these two approaches together when working in a commune are left to balance a series of very different objectives. The classic tension between short-term needs versus long-term needs plays out for facilitators working on both processes: environmental issues require longer-term solutions whereas infrastructure development is a more immediate, achievable output. That is, while commune level procedures require filling in a series of matrixes, resource management concerns require the facilitator to assist communities in coming up with a 'considered' decision.

More holistic approaches do require more effort from facilitators (it takes time to learn how to facilitate any participatory approach), and if such an effort is not undertaken, this will affect the quality of any plan.

> We were not clear about how to use the tools until we go to the village and practice several times. At first it is challenging to facilitate this process. We need to practice, then reflect and then practice again (provincial resource management facilitator, March 2004).

Some facilitators are not comfortable with participatory planning approaches, whereas others are open to new ways of doing things[61]. Facilitation teams struggle between those that want to follow rigid guidelines (i.e. follow steps one to ten) with those that want to experiment and consider which combination of approaches make the most sense in each commune (Marschke 2004a). In addition to lacking facilitation skills, not all government officers are committed to providing the support that they are mandated to provide. In the absence of a donor facilitating this process, it can be challenging to encourage government departments to follow their mandate.

The amount of time spent to gather the information found in a commune plan is worth pondering. Planning is an important step in resource management and livelihood work; however it is not the only step. Since illegal activities surrounding resources tends to be rife, a prevention focus is often found in commune level plans (protection of forests, land or fish). At this point, those communes involved in this piloting phase do not appear to

[61] Practioners need to understand the dynamics and structures of social relationships in rural Cambodian society vis a vis hierarchy, patron-client relationships and local power relations. This takes time to grasp, and even more time to facilitate potentially less exploitative relations within communities (O'Leary and Meas 2001).

be prioritizing a diverse number of projects. General ideas, such as creating a community fishery and forestry or environmental education are quite common whereas specific livelihood-related projects (especially those that might generate income from local resources) are less common. Given the general nature of such plans, should facilitators focus their energy elsewhere since only vague protection-like measures -- measures that often require technical support from line departments -- seem to emerge?

In Koh Kapic commune, where Koh Sralao village is located, the commune council undertook a planning process without any input from the Seila program (that is, this commune was not part of the pilot). As mentioned in Chapter Three, the leader of Koh Sralao's resource management committee is also a member of the commune council. Additionally, this commune has had the benefit of working on resource management issues for several years, with support from an NGO. It was hardly surprising, therefore, that resource management issues were prioritized in their 2003 annual CIP plan. Specifically, the commune council advocated for village level education on environmental policies, replanting mangroves and establishing resource management committees in every village within the commune. On the other hand, in Stung Veng commune (an area without project or facilitation support) protecting mangrove resources also were listed in the CIP. What this suggests is that resource issues may find their way into commune level planning without extensive facilitation and time-consuming planning: perhaps this elaborate emphasis on planning may not be the best use of everyone's time.

## THE INFORMAL: WHAT IT TAKES ON THE GROUND

> We need more than legal rights and management plans. The Community Fisheries Committee needs to think of how to learn and how to do. Knowledge is the key ... (Plan, March 2004).

As this community fisheries leader comments, learning and experience is a critical part of fisheries management. Chapter Three discussed resource management strategies and considered how learning can take place at the local level. Local leadership (which includes an ability to network) was a key factor in determining what activities a

committee is willing (and able) to tackle. Chapter Six further argued that the creation of local level institutions can be considered a resilience-building strategy when local level institutions are active in attempting to problem-solve issues. Learning-by-doing is something that cannot be mandated: villagers themselves need to be willing to try different options.

Nonetheless, there may be ways that such learning processes can be fostered. No doubt one way is to ensure an appropriate policy context; however, more than this can be done. For example, facilitation support from an outside organization (provincial line department, a provincial governor, NGO or other actors) is one way to support villagers in trying to carry out some of their planned resource management activities. Insights from the resource management committee in Koh Sralao and their connections with the PMMR team (this connection was hinted at in Chapter Three) illustrate how networks can be used, and may indeed be required, to support local level work.

To further draw upon this example, in the 1990's many villagers began producing charcoal for Thai markets in the mangrove areas near Koh Sralao and other fishing communities (mangrove wood produces a high quality charcoal). Middlepersons reaped most of the benefits from this charcoal production: poorer households cut down mangrove trees, built charcoal kilns and produced charcoal on behalf of these middlepersons. Various government-supported crackdowns began in the mid-1990's, the most significant occurring in 1999. By this point, it was clear to villagers that producing charcoal was not a secure option for them, and those that remained in the area switched mainly to crab fishing.[62]

When the village level resource management committees in this area (including Koh Sralao) began producing their resource management plans, activities such as stopping charcoal production and large-scale logging were included. This is, in part, because of the dramatic devastation of mangrove resources that took place during the 1998 election

[62] This 'switch' was both reactive (loss of resources) and proactive (realization that fishing was a more secure livelihood option).

period in the area (Marschke 1999) and the realization that such activities significantly affected resources found near Koh Sralao. The provincial governor approved the village level management plans in late 2000. By 2001, several villages had begun regular patrols within their community area to prevent illegal fishing, charcoal production, hunting of birds and logging. In May 2002, during one such patrol, the Koh Sralao resource management committee stopped a boat carrying a large number of mangrove logs. According to Koh Sralao's resource management regulations, mangrove trees could only be cut for house construction. Mangrove trees could not be cut for sale; therefore, the resource management committee confiscated the logs from the boat owner.

The boat owner, however, did not agree with the confiscation of his mangrove logs. Using his connections with the provincial police, he called the chief of police to complain. In response, the police chief called PMMR (since PMMR was the NGO working closely with Koh Sralao's resource management committee) to 'negotiate' a deal. PMMR reminded the police officer that the provincial governor had signed off on this management plan, and that the Koh Sralao committee was within its rights to stop illegal activities. And, PMMR suggested that the police should work directly with the resource management committee in Koh Sralao to resolve this issue. At the same time, PMMR went to Koh Sralao to reassure the resource management committee that they had every right to solve this conflict, so long as they followed their resource management regulations. Several provincial police officers, the boat owner, and a member from PMMR went to Koh Sralao to meet with the committee. Koh Sralao's resource management committee was able to negotiate with the boat owner to pay a fine and to sign an agreement that he would no longer cut down mangrove trees in this area (Nong and Marschke, *in press*).

Although the committee needed the support of PMMR at the provincial level, especially to be reminded that they were within their rights to stop this activity, the committee negotiated a solution to this problem. Without the governor signing off on the resource management plan, and the facilitation support from PMMR, it is debatable if this could have worked. Community-based management requires the support of multiple players at

local, provincial and national levels. Successful mangrove protection, in this case, comes from cooperation among those who support community-based management both directly and indirectly. As noted by Sick (2002), successful resource management occurs not because of an absence of conflict and power struggles, but through mechanisms for negotiation and resolution. The mechanisms in this case are somewhat formal (the policy context, written plans, a signature of the governor) and informal (the networks that enable negotiation to take place; those in higher places supporting local level work).

## ANALYSIS OF RESOURCE MANAGEMENT TRENDS

> I am very sorry that the power men benefit from the destruction of our natural resources. You see, by destroying the resources in the forest and in the Great Lake, they gain more and more money, which brings them more power (Plan, March 2004).

Although community-based management has expanded across Cambodia, little research exists to indicate if livelihoods are improving with resource management practices. Rock (2004) comments that the community-based management approach of government institutions generally leaves little initiative with a village, undermines the role of the commune council and provides limited management responsibilities and tenure security to communities. The trend in community forestry, for example, is to give degraded or disturbed forests to communities with the aim of protecting and regenerating resources. Valuable forest or fishery resources are rarely allocated: poor resource allocations make it very challenging to enhance local livelihoods. Conversely, even poor resource allocations for local communities is seen by some as better than the current trend of allocating large land areas or water areas to concession companies.

As mentioned in Chapter Four, households in Koh Sralao and in Kompong Phluk felt that government could make their lives easier if "people from Phnom Penh spend more time in rural areas", create "more laws to support poor people" and "enforce existing laws". Enforcement of existing policies remains problematic: villagers and local level resource management committees recognize the disconnect between government policies and what happens 'on the ground'. As the example of preventing illegal logging illustrates, it takes more than legislation or a management plan to ensure that a policy is followed at a

national level or at a commune level -- although supportive policies one important step in tackling resource management and livelihood issues.

While villagers should be assigned a voice in resource management (i.e. legal instruments), appropriate institutional support (i.e. real 'buy-in') must be fostered to ensure that this approach can work. Blunt (2003: 62) comments,

> [T]he best prospect for improving levels of participation lies in strong and unequivocal (authentic) direction from above that the local government system should engage with communities in this way, combined with incentives that are directly tied to this form of engagement.

Perhaps it takes a combination of bottom-up and top-down decision-making to really tackle natural resource management issues. Including resource management into commune level plans is one opportunity to legitimize community-based management activities through governance structures. In particular, it appears helpful to have the support of the commune council (and other power figures) to implement community-based management at the local level[63]. Although this may be stating the obvious, NGOs and others working directly with communities (hence multiple committees do exist 'on the ground'), often ignore (or get frustrated, leading to the dismissal of) local governance structures thereby disregarding local realities. If longer-term sustainability is an issue, then support needs to be fostered at multiple levels to ensure that such work may continue.

Although policy creation with the intention to support resource management and livelihood issues is critical, far greater attention needs to be paid to ensuring such processes can work. Less emphasis needs to be placed on creating plans, so that the 'action' part of these processes can happen.

[63] Decentralisation represents particular challenges for the effectiveness of resource management. Decentralisation, for example, creates political and bureaucratic entities that are able to pass and enforce by-laws and collect taxes in order to contribute to local budgets and running costs (Ellis and Freeman 2004). In Cambodia, fiscal decentralisation has yet to happen (it could be argued that very few powers of any sort have been devolved). Thus, it will be important to consider the role that the commune council does take with regards to resource issues and how this affects rural livelihoods.

## AND LIVELIHOODS?

Community-based management is meant to support resource management and livelihood concerns yet what often happens is that the livelihood angle gets missed. This is because finding markets for products is tricky, given the reliance on and influence of global markets, but also because it is easier to create a fish sanctuary or community forest area than to consider experimenting with a range of small-scale livelihood enhancement projects that may or may not work. Donors and government departments could do a better job in working with villagers and commune councils in considering a range of such options. There needs to be a better 'connect' between resource management and rural livelihoods, considering that natural resources are one of a variety of factors that can help in securing and sustaining rural livelihoods.

Considering that the past decade has seen a significant depletion of resources (forests, fish and land grabbing, as discussed in Chapter Two) and lawlessness associated with such pilfering, villagers and national level actors are all particularly aware of illegal activities that take place in relation to natural resource extraction. When discussing resource management issues, the first thing that often comes to a villagers mind, especially if living in a resource-dependent area, is how to protect local resources from such activities. Certainly, in terms of long-term planning, prevention of illegal activities and land encroachment will enhance rural livelihoods (the mere fact that there will be resources left in rural areas, not to mention all the other additional benefits access to resources brings). An immediate challenge facing rural Cambodians is access and tenure over local resources: this issue tends to be the focus of donors and policy-makers. However, there are also pressing livelihood concerns that households and village level institutions face.

Livelihood aspects need to become a much more recognized component of community-based management. While ensuring access to resources is critical, pursuing a range of strategies that support land tenure, protection of resources and small-scale enterprise development would make greater sense. In part, this is because a policy-context alone will not ensure access to resources: it takes 'buy-in' from key officials to ensure that a

policy may work as intended on the ground, and therefore makes sense to consider a range of activities that can be supported by different levels. And, villagers need to see the benefit to pursuing their protection strategies: access to these resources, including marketing opportunities, is critical.

Community management plans and maps alone will do little to enhance local situations or engage critical provincial and national actors. A shared framework amongst institutions and practitioners, more accountable to local livelihood needs and more culturally appropriate, is required. Planning may be meaningless if people do not believe that their plans are supported by a *neak thom* (big person)[64], regardless of the quality of the plan or what the law says. The protection angle found in many resource management plans is not enough: short-term and longer-term livelihood concerns are pressing, requiring greater consideration. Implementing community-based management takes a team (this can be government-driven or include other actors) committed to solving problems and working consistently on resource management issues as opposed to finding one-off solutions. Most importantly, it takes villagers who are willing to take risks and dedicate their time to resource management and livelihood enhancement.

[64] The values underlying many 'good governance' and 'participatory development' approaches may be considerably different than traditional Cambodian values. For instance, patronage encourages dependence, gratitude and maintenance of unequal relations, whereas participation assumes interdependence and equality (O'Leary and Meas 2001). The Asia Foundation (2003: 10) found that Cambodians participate in elections to "fulfill their civic duty. Almost none think that elections offer an opportunity to provide input into government policy and composition or to change the direction of their country". How foreign development influences (capacity building and trainings, donor expectations) are working to enhance rural livelihoods with a consideration of Cambodian culture requires far greater attention.

# Chapter Eight:

# Conclusions

Sketch: M. Renaldo, 2005

Livelihood activities, selling goods and fishing

# Chapter 8: Conclusions

Now many fishers use traps and can catch many crabs from the open seas and in the forest and the estuary, both big and small. ...Before this [crab fishing] was an alternative livelihood as there were not so many fishers since people were doing charcoal or shrimp or logging. It was easy to find crabs but now it is really hard and I must use many, many gear. It is hard to say if the crabs will keep coming. They are small now.

It depends on a family situation as to what type of fishing gear you decide to use. I need to fish by myself since my children are in school. You need two people to do crab traps, and I want my children to study. This year [2004] I used my push nets and gill nets but I plan to use crab traps next year [2005] as now my son will have finished school and can then help me.

60 m of gill net were stolen from me in March [2004]. Now I have to always guard my nets at night but I do not sleep so well on my fishing boat. If no one steals than a fishers' livelihood would not be so hard. Since the internal law [village level regulations] was set up two years ago, less fishing gear is stolen than before. I think theft has been reduced by 40% or so. People are scared of these rules.

With our neighbours we make relationships together like siblings. Relationships help me and my family. This is good, since I cannot get much benefit from fishing. But I don't know what career I could get benefit from. If I had a piece of land, I could do rice field or farming and then would give up fishing.

~ excerpts from several interviews with Mat Sok
Muslim fisher, Koh Kong province, Cambodia
July, October 2003; April 2004

Sok's comments offer insights into the challenges that rural Cambodian fishers may face. Although multiple factors have affected Sok's current situation, several stresses do stand out. There is an ever-increasing fishing pressure in coastal areas and along the Tonle Sap Lake: more fishers are competing over scarce resources within the same fishing grounds. Conflict ensues, for instance, manifested in gear loss. Natural resources are waning, as emphasized in Chapter Two. In early 2005, fishers in Koh Sralao noted that they no longer caught grouper juvenile as a by-catch in their crab traps; the 2003-2004 catch was the lowest ever recorded in the Tonle Sap (Hortle et al. 2004). This declining resource base places a significant stress upon households (although the impact of such stresses differs, as touched upon in Chapter Five, depending upon a household's assets and negotiation strategies), and an entire community.

In response to such stresses, Sok would like to change his livelihood strategy, through diversification (if possible, into non-fishing activities). However, major livelihood changes have not been a realistic option: Sok's children attend school and are young. Rather, Sok has been creative in pursuing his livelihood. He has intensified his gill net

fishing (increasing the number of nets), and his wife fixes their own nets -- along with their neighbours -- while Sok charges a small gasoline fee for those fishers who do not own a boat. Sok's *ability* to diversify is a resilience-building measure, as discussed in Chapter Six.

Sok can now consider diversifying his actual fishing activities since his son will graduate from Grade 6, the highest level of education found in Koh Sralao. On the other hand, Sok feels it would be better if his son could study elsewhere, so that he could eventually pursue non-fishing activities outside the village. Sok's household does not have enough assets (money, labour within the household, land) to enable these ideas to be pursued. Where a household is in its lifecycle, and who resides within a household, also affects what activities -- and the resulting strategies -- households may choose.

In Koh Sralao, Sok's village, the community level response to fishing gear loss has been to produce internal regulations that prohibit such actions and to introduce a fining system. Local leadership (which includes an ability to network) is a key factor in determining what activities a committee is willing (and able) to tackle. This was explored in Chapter Three. In Koh Sralao, there is strong local level leadership. Sok also guards his nets at night: between his own protection methods and community level regulations, gear loss has decreased. As Sok comments, fishers are significantly afraid of these regulations and this is helping (somewhat) with compliance!

Sok himself also acknowledges the importance of relationships in sustaining his household's well-being. Relationships are often negotiated -- securing access to credit or to fishing gear during times of gear loss. For households and local level institutions in Koh Sralao and in Kompong Phluk personal relationships with people at various locations (inside and outside a community) are a key element in dealing with change, and in establishing a secure livelihood.

Sok's comments touch upon the main areas that this research examined: livelihood strategies and resource management practices in two rural Cambodian fishing

communities. To pursue this examination, a series of questions were asked: Can local level resource management committees pursue strategies that address resource declines? What insights may be gained from these experiences? What complexities are found in rural livelihood? What assets (human, natural, physical, financial, social) do households have at their disposal and how does access to such assets shape livelihood strategies? Can livelihood and resource management strategies help to build resilience at a household, community or provincial level? And, how can resource-related policy better support rural livelihoods? These questions shaped the analysis found in Chapters Three to Seven.

## PRINCIPAL FINDINGS AND CONCLUSIONS

Below I provide an overview of the main findings of this thesis. Principal findings are provided, along with a description of how these results have implications for sustaining rural livelihood -- in particular fishing communities -- in Cambodia.

The study's **first objective** was "*to examine the types of management strategies undertaken by local resource users*" and **second objective** was "*to determine how sustainability issues are addressed by local resource users and managers*". Chapter 3 addresses these two objectives. Key Finding 1 -- as follows -- stems from Chapter 3.

**Key Finding 1: With the development of local level institutions -- specifically those that foster experimentation and learning -- unsustainable resource practices may evolve to become more sustainable.**

Research undertaken with two local level resource management committees highlights how community-based management can evolve over a period of time in response to concerns about forests, fishing areas and other village level problems. Community-based management requires an approach towards resource use that is more sustainable than what was taking place (significant resource declines have taken place in each area, in particular the last decade). The establishment of a fish sanctuary in grouper nursery areas by the Koh Sralao resource management committee is illustrative of evolving sustainability thinking. A few years ago, grouper fingerlings would have been 'fished

hard' as long as a market existed for them because there was no individual incentive to conserve – what one fisher left behind today would have been harvested by another. The development of community-based management made it possible to consider sustainability issues (households would have been challenged to develop more sustainable practices on their own).

Tangible results from the work of local level resource management committees include fewer stolen crab traps and an attempt to address social conflict, forest protection near the village (in the case of Kompong Phluk), mangrove replanting, and increased cooperation among villagers. This is not to suggest that all resource management strategies may work, as is illustrated by the challenge of controlling illegal activities in Kompong Phluk and in over-fishing of small crabs in Koh Sralao. Nonetheless, significant attempts are being made by local level institutions to maintain, and if possible enhance, local resources.

The evidence from the cases suggests that learning is most often taking place at the level of local resource management committees, and not necessary at the level of household or community. Households participating in local level institutions, such as resource management committees or commune councils, benefit most from this association through enhancement of their problem-solving abilities. Further thought might be given to whether resource management committees can realistically pursue a path that leads toward livelihood sustainability. What will it take to ensure the longer-term sustainability of rural communities, given the context of resource declines and rural to urban migration?

As has been shown by the experience in Kompong Phluk and Koh Sralao, community-based management can unfold in many ways. Through the development of commons institutions, some experimentation and learning, unsustainable practices can be made more sustainable. In this sense, sustainability remains a direction to strive towards (Lee 1993). Sustainability has no set end-point since social-ecological systems are constantly changing, renewing and are cyclical: flips do occur. Thus, developing an ability to learn

and adapt may be more important than solving particular problems. A challenge for local resource management and for developing sustainable rural livelihoods is finding flexible approaches that support creative learning-by-doing and problem-solving opportunities.

The study's **third objective** was to "*to explore rural Cambodian livelihoods, within a sustainable livelihood framework*". Chapters 4 and 5 addressed this objective. Key Finding 2 and Key Finding 3 stem from Chapters 4 and 5.

**Key Finding 2: Livelihood in rural fishing households is multidimensional, involving diversification and migration as key livelihood strategies.**

From a local perspective, a combination of livelihood skills and a household's adaptability contribute immensely towards a successful livelihood. Livelihood skills encompass diverse skill sets and the means for experimentation (including access to capital); a household's adaptability includes elements of knowledge, building good relationships (with middlepersons or patrons) and having problem-solving skills. Livelihood is far more than income generation. For rural fishing communities largely reliant on their resources, livelihood also includes access to natural resources. This multidimensionality of livelihood is hinted at in the term that Koh Sralao and Kompong Phluk households chose to indicate what encompasses daily life; **career for daily living** and **living community** respectively.

The general picture of livelihood in Koh Sralao and in Kompong Phluk suggests that households are constantly rearranging their livelihood activities using various assets. Fishing households tend to diversify their activities, including pursuing non-fishing activities and pursuing livelihood activities in multiple places. Seasonal migration or sending a household member elsewhere is an example of this. Seasonality (flooding and non-flooding season; hot season and rainy season) also factors into the livelihood activities that households and local level resource management institutions may pursue at a given time. As such, household activities may be one-time attempts to enhance livelihood, or may be pursued over several years, thereby enhancing learning that comes with such trial-and-error.

Households are reacting to fluctuating market prices, seasonal variations, declining fish stocks and daily challenges such as the loss of fishing gear. How household's react varies. One household might focus on complementarity of activities while another might have individuals pursuing unrelated activities. Livelihood of households -- even within those households with similar class conditions -- are diverse. Nonetheless, the capabilities, assets (material and social resources) and activities required for a means of living (Carney 1999) are not equitably distributed between households. Households require access to information (knowledge) and capital (in the form of a middleperson, or a patron) to diversify their activities. Much also depends upon what type of fishing gear a household already owns, since this influences what activities a household may pursue (including other livelihood options).

Part of creating potential opportunities (or surviving) includes migration. This is particularly true for fishing households who are highly mobile. Households that choose to migrate may do so seasonally, as a one-time strategy, or in pursuit of other opportunities elsewhere. Relationships, in most cases, are often maintained with their respective households. At the same time, new relationships are negotiated sometimes drawing upon social networks. In some cases individuals and households are no longer concentrated in space but are connected to larger social networks (at different spatial scales) (De Haan and Zoomers 2003). The findings from these two study sites suggest that livelihood for rural Cambodia fishing households is often multi-local.

**Key Finding 3: Negotiation is an integral part of daily life to solve problems in access to cash, gear loss and land conflicts.**

Relationships -- even if just creating small amounts of leverage for a household – may make a remarkable difference in people's ability to deal with change. Individuals, households and local level institutions play active roles in shaping their livelihood. Sometimes a household is able to negotiate opportunities (relying on relationships to a certain extent) and sometimes a household is not. In many cases it depends upon a household's assets as to which negotiation strategy might be pursued; in other cases an

issue is complicated and impacted by multiple external factors making it too challenging to solve. Regardless, negotiations between different actors appear to be a critical component in attempting to (re)solve issues. For the majority of households, having a personal relationship with people at various locations has become a key element for establishing a (secure) livelihood.

As an example, land conflict is an emerging arena of negotiation; an area where there is growing support from provincial level organizations. Although there is never a guarantee that an issue is resolved, or even if it is resolved that a resolution is adhered to at the local level, it is one way to ensure that both parties are discussing the issue with a facilitator. Using a facilitator (especially if a facilitator cannot be bribed) is different from customary negotiation strategies that rely on households knowing someone with '*knong*' (having someone to back you) or '*tuyo*' (someone with higher level connections). The multiple ways by which problems may be negotiated (from patron-client relations to forms that have sprung up with governance and decentralisation movements in Cambodia) requires further consideration.

The study's **fourth objective** was to "*to consider examples of resilient-building strategies, at multiple scales, for rural livelihoods*". Chapter 6 sets out to explore this objective. Key Finding 4 stems from Chapter 6.

**Key Finding 4: While households and community level institutions cannot deal with all stresses and shocks, they do develop strategies at various scales that may enhance livelihood resilience.**

Resilience analysis illuminates the dynamics of livelihood. Findings from the study areas indicate that there is a great deal of experimentation of livelihood activities (and strategies), where possible to increase options and flexibility. Much of this increase in options and flexibility is reflected in diversification, which is the universal strategy for risk mitigation (Turner et al. 2003). Multiple motives prompt people to diversify their assets, incomes and activities, as also observed by De Haan and Zoomers (2003). Diversification may be a coping response and a risk mitigation strategy but the *ability* to

diversify is related to resilience; increasing the capability of a household to diversify, or building the capacity to be flexible, is a resilience-building measure.

People cannot adapt to all shocks and stresses, given the constant change communities do face. Virtually any community will face a series of challenges such as in-migration of permanent and transient residents, natural resource exploitation, infrastructure development and protection of strategic interests (Gardner et al. 2002). Nonetheless, people are continuously 'doing something' in response to these stresses and shocks, perhaps in proportion to the assets to which a household or community may have access.

Looking at recent crisis events is particularly instructive in evaluating how households and communities respond to shocks. For example, in Kompong Phluk it was elders, rather than the commune council, who took the initiative in organizing villagers to respond to the forest fire of 2003. This example illustrates the importance of informal institutions in crisis situations, and can be instructive for outside NGOs or government institutions working to support communities in responding to such events. A focus on crisis events enables an analysis of what has been done and can probe the livelihood history that enabled the community or household response. A resilience analysis also enables a consideration of livelihood connectivity at different levels of scale.

The concept of well-being is a useful way to operationalise resilience on the ground. The notion of well-being, as elucidated by the two communities, includes many elements that can be interpreted as resilience building such as learning from crises, building a portfolio of livelihood options, use of social memory and building capacity for self-organization. An analysis of well-being complements a resilience analysis, illuminating local level livelihood realities in a way that can be easily explained, and explores additional variables, such as relationships and luck.

Chapter 7 brings us full circle by answering this study's **fifth** and final **objective** "*to reflect upon the current policy framework that has been created around resource management in Cambodia in relation to rural livelihood sustainability*". While it may

make sense to endorse community-based management programs (such processes, theoretically, enable villagers to take action), it is more challenging to understand what it really takes to enhance livelihoods, solve conflicts or increase access to resources for rural Cambodians. Key Finding 5 and Key Finding 6 stem from Chapter 7.

**Key Finding 5: Creating resource-related policy is not a guarantee that the ensuing policy will be implemented at the local level; it also requires 'buy-in' from key actors at several levels.**

> In Cambodia the law is no match for power, and people do not envision legal reform as the way to fix this. If they cannot find a powerful person to intervene they take matters into their own hands ...[violence] ... or they remain powerless (Goldring 2000: 3).

Considering that the past decade has seen a significant depletion of resources (forests, fish, land grabbing) and lawlessness associated with such pilfering, villagers and national level actors are particularly aware of activities that take place in relation to natural resource extraction. One challenge in sustaining rural Cambodian livelihood is access and tenure over local resources: this issue tends to be the focus of donors and policy-makers. While creating an appropriate policy framework is a critical step in securing resource and decision-making rights for rural Cambodians, this is not the only strategy that should be pursued in terms of sustaining rural livelihoods.

Consider that the assumptions underlying much development theory and decentralisation processes may be quite 'foreign' to the Cambodian context. While such theories assume that (a) decision-making power should belong to villagers, (b) decisions are made democratically, (c) and that leadership is civic minded and dedicated to the community, the extent to which these conditions exist in rural areas, especially with regards to decision-making power and democracy may be limited (O'Leary and Meas 2001). On the other hand, leadership at a local level may be dedicated to the greater community good as found in Koh Sralao (leader of the resource management committee) and in Kompong Phluk (pro-active role of monks in crisis situation). When a leader is 'good', s/he may work for the common good; when a leader is 'bad', corruption and mafia rule (Pye 1999).

In Khmer culture, the expectations of people who have knowledge, resources and power is that they should give advice, manage and control (Marston 1997). This means that for most government departments handing over control and decision-making to villagers (those seen with less power) runs contradictory to traditional Khmer norms and values. Even the Ministry of Interior who has the mandate to carry out Cambodia's decentralisation policy struggles with how to do so (Blunt 2003). Since local level governance is at the heart of most development policy, including that related to community-based management, it is no wonder that policies are often not adhered to 'on the ground'. It might more appropriate for donors to contribute to building some political momentum that encourages national departments to support and nurture provincial and local level work.

A policy-context driven by national actors and 'foreign' development values that does not include other actors will not ensure greater access of local people to their resources. What is also needed is 'buy-in' from local and provincial officials. That is, those actors who hold positions of power need to also be included to support local resource management and livelihood initiatives. This may include shifting attitudes of provincial and district officials seeking resource rents, or including the navy or police in village resource management practices. Findings from this work suggest that it appears particularly helpful to have the support of the commune council in implementing community-based management and livelihood activities within villages. Further analysis of local level decision-making processes is necessary to better understand how policies and plans may, in fact, become effectively implemented to work in support of rural villagers.

**Key Finding 6: Development policy may be better understood by focusing on the way that individual households respond to change, as opposed to assuming that all households will respond similarly to generic development policies.**

Fishing communities have porous, ever-shifting boundaries. Settlement patterns are fluid; fish migration is fluid. These social-ecological systems are in constant flux,

involving perturbations and shifts in people and the resource base. As currently designed, resource management policy in Cambodia fails to take into account seasonal fluctuations or diverse livelihood activities (that often cannot be anticipated) and opportunities. Small-scale enterprise development, as an example, is not seen as viable with community fisheries management. The trend within resource management policy (community forestry, community fisheries, PLUP and mainstreaming environment and livelihood issues into commune council planning) is to focus policy as bounded interventions that require intensive approval mechanisms and planning procedures. Livelihood is more than resource protection. Rural livelihoods are impacted by many external drivers: a multi-level, rather than micro-level, analysis is needed to gain an understanding of livelihood trends.

Many institutions are asking villagers similar questions and appear to be taking a rather prescriptive, narrowly-focused approach to development. As found elsewhere, resource management policies that are standardized into predefined, repeatable packages cannot deal with a local context (Mosse 2001) nor result in a critical examination of the complicated relationships that produce particular outcomes (Ellis and Freeman 2004). A question worth pondering is if there scope within current policies to implement a range of activities that might enhance rural livelihood and resource base sustainability. Perhaps local development is best understood by paying more attention to the way that households respond and deal with continuous change.

## SOME IMPLICATIONS OF THESE FINDINGS

A variety of approaches have been used to study livelihoods (e.g. Chambers and Conway 1992; Scoones 1998; Leach et al. 1999; Bebbington 1999; Ellis 2000; De Haan and Zoomers 2005). An area that researchers have grappled with and that this research further investigates is livelihood dynamics and scale. This study drew upon two approaches: (1) a sustainable livelihood framework, with an emphasis on household level negotiation strategies; and (2) a multi-scaled resilience analysis. This combination of approaches fostered an exploration into livelihood activities (and strategies) that

households and community level groups developed, often in response to opportunities, stresses and shocks.

The literature on livelihood (c.f. Scoones 1998; Ellis 2000) considers the complexity of livelihood, including the importance of sustaining the natural resource base. The holism found in livelihood studies makes this conceptualisation all encompassing: the danger is that "this concept becomes 'the container' for everything that goes on in human life and loses its analytical strength" (De Haan and Zoomers 2003: 353). On the other hand, much of the literature on community-based management stems from common property theory (c.f. Johnson 2004): here an emphasis is placed on access to resources and mitigating institutions. It is this latter notion, which emphasizes bounded territories, rules and regulations, that becomes the focus of resource management practices 'on the ground'. Such interpretations are too narrow. A livelihood analysis is useful in helping to grasp rural livelihoods, including (but not limited to) the relationship of rural people and the resource base. Donor policy is often risk-averse: rural livelihood is complex, increasingly multi-local and requires constant (re)negotiation.

This research draws upon a resilience analysis to illustrate how livelihood strategies are pursued at various levels. Since resilience is about promoting the ability to absorb stresses and shocks at multiple levels while maintaining the function of society and the integrity of an ecological system (Adger 2003), a resilience analysis sheds additional insights into rural livelihood. Working towards enhancing resilience requires societies to have the capacity to adapt to unforeseen circumstances and risks (Adger 2003), which is what this livelihood research detailed.

Results from national level Cambodian studies are limited in their understanding about the dependency of rural Cambodian households on different income sources (Helmers et al. 2004). Policy-makers use a small set of primary research results to base policy development -- related to poverty alleviation, the environment, economic development and agriculture -- in relation to Cambodian livelihoods. This research illustrates how diverse rural Cambodian livelihoods are, relying on a combination of income sources

(from the natural resource base and elsewhere). Diversification and migration are two important livelihood strategies. These findings are in contrast to the somewhat pervasive notion that suggests Cambodian households earn their entire income from one income source in one location (Helmers et al. 2004).

## REFLECTIONS ON THE THESIS

This final section presents some reflections related to this thesis. Specifically, I (a) reflect upon my research methods, (b) examine several limitations within this study, (c) consider the similarities and differences between Koh Sralao and Kompong Phluk and (d) contemplate the views that this research represents. I briefly think about each of these aspects.

### *Research methods*

This research was designed to be practical: I was interested in using research methods that could facilitate a robust analysis of livelihood issues in the Cambodian context. Facilitators that worked on environmental and/or livelihood issues, comfortable with rural life, were chosen to help facilitate community workshops and focus group discussions. This was done so that we could experiment and reflect upon different research tools (if someone is unfamiliar with participatory research approaches it is far harder to reflect upon the use of different tools). Time was spent rejigging and refocusing different activities, based upon feedback from facilitators and participants (in workshops, focus groups and household sessions).

In particular, the participatory livelihood workshops designed for this research have been used in other parts of Cambodia (by researchers and NGO teams). Lesson plans were created for each research activity (an aspect of livelihood), and these are being included into a training manual for livelihood research in Cambodia. Regional partners in the Philippines and Vietnam have also learned about this work, as I was able to share this research approach with partners involved in a sustainable livelihood project supported by IDRC.

### *Limitations of this study*

This thesis would have greater depth had I considered how Khmer worldview shapes livelihood choices and constraints. The quotes that I presented could have been analyzed more carefully to consider the reasons behind an actor making a statement about their livelihood. As Sahlins (2004: xi) notes, "rationality operates within a relative cultural order for which its part has its own reasons". Returning to a country that I was familiar with may have resulted in less probing and analysis on my behalf with regards to the cultural context since discussions often 'made sense' and fit within my own interpretation of Cambodian culture. Again, a better articulation of Cambodian culture would have strengthened this work.

I did not bring in an economic analysis, in part because of my observations that households consistently altered the numbers that they shared with researchers (for many reasons, including fluctuating prices and a 'pressure' to remember numbers). Nonetheless, an economic analysis would compliment the qualitative approach found within this work. Although debt and gear loss are explored, greater exploration into the cycle of debt for fishers facing annual start-up costs and stolen fishing gear is necessary. Another area worth further probing is the influence of global markets and middleperson relationships.

My background is as a social scientist, and I sometimes found myself focusing less on the ecological aspects of this work. Had I spent more time in the field, perhaps I would have better understood the social-ecological linkages. While I visited households and villages on multiple occasions over the 21 months, I did not immerse myself in community life in a way that I might have had I lived in one or both of these research areas.

### *Similarities and differences between Koh Sralao and Kompong Phluk*

Similarities and differences between the two communities are woven throughout this thesis. This was done, in part, to draw out livelihood trends of rural Cambodian fishers. I was struck by the similarities in how households dealt with uncertainty and change, and

how remarkably similar the stresses were that these fishing communities faced (many from external drivers).

In spite of the similarities, there were some intriguing differences between Koh Sralao and Kompong Phluk. These differences were noted in terms of household length of stay in an area, history of fishing activities and (possibly) exchange relationships. Households in Kompong Phluk generally hold more diverse fishing knowledge than in Koh Sralao (e.g. the variety of fish processing activities; use of back-up gear in households). Nonetheless, access to capital to enter the fishery is an issue in both communities. In terms of exchange, relationships among relatives appeared to be helpful in creating opportunities or in times of crisis in Kompong Phluk. On the other hand, villagers in Koh Sralao appeared more willing to consider livelihood options outside the fishery, and even outside Koh Sralao. This highlights the importance of context in rural livelihood. Another line of analysis could compare and contrast the similarities and differences between these two places. This has yet to be done.

### *Whose views does this research represent?*

Who, then, participated in this research? A range of people were involved in this research, from the village 'movers and shakers' to households that were struggling to make ends meet. Nevertheless, meetings with the commune council and work with the resource management committee most likely represented the views of those that held power in the local context. Legerwood and Vijghen (2002) identify five domains of power that may exist in rural Cambodian communities (knowledge, political-economic, administration, religious and spiritual). In this research, resource management committee members most likely represented the knowledge domain, the political domain and/or administrative domain (elected commune council members; appointed village chiefs, in the case of Kompong Phluk) and the development assistance domain (actors aligning themselves with NGOs). Only in Koh Sralao were wealthy business people worked closely with; and in neither community did I spend much time with monks, nuns (the religious domain) or traditional healers (the spiritual domain).

My sense is that how power is used depends more on personality (in doing 'good' or 'bad') than one's position of power. That is, there is a degree of morality involved in intra-village exchanges (local leaders leading by example, doing the 'right' thing) (Legerwood and Vijghen 2002). In this sense, many of the views represented in this thesis are from those who believe in doing the 'right' thing. This combination of actors may bias this research in terms of which views of livelihood and resource management are represented.

Also worth pondering is the distinction between local leaders and villagers. At one end of the spectrum are those with power; on the other end are those who are bound into patron-client relationships as a means to access resources. Nevertheless, this distinction is not as extreme as might be imagined in rural fishing communities. As Legerwood and Vijghen (2002: 146) note with regard to agricultural communities, "local leaders are still farmers amoung farmers, tied to their own villages by networks of kinship and personal loyalty". A village patron is not excluded from ordinary lifestyles or obligations. My own observations from working with leaders (patrons) and villagers (clients) in Koh Sralao and in Kompong Phluk are consistent with this analysis.

Sketch: M. Renaldo, 2005

Household traveling through the flooded forest, near Kompong Phluk

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# Appendix A: Sustainable livelihood workshop

Fall 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;
- 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.

## Workshop Design

| | Day 1 | Day 2 | Day 3 |
|---|---|---|---|
| Morning | Introductions; Expectations; Workshop Objectives; What is Livelihood?<br>- what is it that makes up your life? | Looking in-depth at livelihoods:<br>- Seasonal calendars: illustrating how seasonality affects livelihoods in multiple ways.<br>- Commodity flows and their link to livelihoods. | In-depth discussion on personal livelihood stories. Sustainability discussion; Wrap-up. |
| Afternoon | Factors affecting livelihoods; Influences, positive and negative. | - Institutions affecting livelihoods.<br>- Getting specific about livelihood activities. | Individual discussions; RMC meeting. |

| Day | Time | Objectives | Activity | Methods | Needs |
|---|---|---|---|---|---|
| 1 | AM | Introductions<br>Objectives and schedule | Drawing<br>Plenary Session | Think of 6 words or symbols about yourself<br>Ask the participants to draw on a white sheet of paper 6 words or symbols about themselves.<br>Ask participants to share their drawings and tape these drawings onto the white board. | Flip chart; Coloured markers; Tape. |
| | | What is a Livelihood?<br>❑ Define their own livelihood;<br>❑ Reflection on livelihood i.e. what is part of your daily activities?<br>❑ Arrive at a common understanding - definition of livelihood; | Drawing; Group Work; Plenary. | Make a collective card on livelihoods<br>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. | White paper; Coloured markers; Tape; Flip chart paper; Scissors. |
| | PM | What affects your livelihood? | Group work; plenary. | What affects your livelihood? Group brainstorming activity with presentation (3 groups, including a 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?* | |
| | | + and - influence on your livelihood | Writing on paper. | List, on cards, 2 things that help your livelihood and two things that hinder your livelihood. | Paper, pens. |
| | | Wrap-Up<br>❑ 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.<br>At the end of each day, ask participants to fill in the mood meter. | Flip chart; Markers. |

| Day | Time | Objectives | Activity | Methods | Needs |
|---|---|---|---|---|---|
| 2 | AM | Review of Day 1 | 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 Day 1. Ask participants to identify/review factors that might influence their livelihood conditions. As a group decide on multiple factors and symbols (may include fishing cycles; weather patterns; division of labour; diet and food consumption; illnesses; prices of animal fodder/fish bait; migration; debt). Then break into two groups to fill out seasonal calendars. When finished, have each group share their ideas with the other group. In the plenary discuss the trends, similarities and differences. | Flipchart; markers; tape. |
| | | Linking livelihoods to the market | Commodity Flow Diagram | Ask participants to identify key commodities they produce and/or 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).<br>Return to the plenary to synthesize results from groups, highlighting similarities and differences. | Flipchart; markers; tape. |
| | PM | Who (formal/informal) affects livelihoods in coastal Cambodia?<br>❑ Identify/describe different institutions affecting rural livelihoods;<br>❑ Identify/describe r/ships of these institutions. | Facilitators' list with description<br><br>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.<br><br>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; Coloured paper; Scissors; Markers; Tape. |
| | | Clarification on livelihoods | Listing activity | Discuss all the potential activities that someone can do in your village. Go into specifics. *How many people might participate in the general categories?* 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 | Methods | Needs |
|---|---|---|---|---|---|
| 3 | AM | Review of Day 2 | Plenary | Note takers - facilitators present feedback from day one. | |
| | | In-depth participant interviews. | Initial brainstorming; 2 participants with one facilitator | Start the morning by reviewing all the livelihood activities mentioned the day before. Discuss, in a plenary, *what does a poor, medium and rich person do? How does one learn?* Break into small groups (2 participants per facilitator), asking the 'guiding question' *How has your livelihood changed over time?* | Paper; pens. |
| | | Sustainable: what does this mean? | Listing exercise, plenary; brainstorming. | In the plenary, ask participants to write down on paper *what they dream of for their children*? List in the plenary and discuss. Then ask, *where does environment fit into this? Who in the community is able to think about this?* Let this discussion lead into a discussion on the Khmer concept of sustainability (if relevant). | Individual paper; pens; tape. |
| | PM | Household level work | | Individual HH discussions (with potential key informants) | |
| | | Village level work | | Initial meeting with the local village resource management committee | |

# Appendix B: Household livelihood questionnaire

Winter 2003

*Note: whenever possible, the interview shall be conducted with the entire household, including both women and men.*

Date: _____ Village: _____

Household ID#: _____ Name : _____

Respondents(s) (sex and age): _____

## HOUSEHOLD INFORMATION

1. How many people are there living in your household?
2. Is the household head male or female? (Circle) Male Female
3. How many people in your household regularly generate income?
4. How long have you and your family lived in this village?
5. How long do you intend to stay here?
6. Total number of children attending school?
7. Where are they attending school?
8. If one or more children are not attending school, what is the main reason?

## LIVELIHOOD RELATED

9. Please circle all the activities that take place within your household.

1. Fishing
    1. Gill nets
    2. Crab traps
    3. Crab nets
    4. Trawling
    5. Hook and line
    6. Seine net (circle net)
    7. Small brush park
    8. Small vertical scit trap
    9. Other fish traps
    10. Spear
    11. Light fishing
    12. Dynamite fishing
    13. Electro fishing
    14. Cyanide fishing
    15. Other (specify)……
2. Fish processing
    1. Fish sauce production
    2. *Kapic*
    3. Smoked fish
    4. Dried fish
    5. Dried shrimp
    6. Oyster meat
    7. Crab meat
    8. Mangrove snail
    9. Other (specify)……..
3. Gathering and collecting
    1. Mollusc collection
    2. Water lilies
    3. Fuel wood
    4. Other (specify)……
4. Raising (aquaculture and animals)
    1. Chicken
    2. Pig
    3. Duck
    4. Fish culture
    5. Crocodile
    6. Other (specify)……
5. Fish buyer and seller
6. Money lender
7. Middleperson (fish buyer/seller & money lender)
8. Hired labourer (*for what*, specify)……
9. Hands-on person
    1. Fix radios and television
    2. Hairdresser
    3. Boat driver
    4. Carpenter
    5. Clothes maker
    6. Charge battery for electricity
10. Stay at home
    1. Retired
    2. Care for children
    3. Illness
    4. Other (specify) ……
11. Government employee
    1. Teacher
    2. Doctor
    3. Commune official
    4. Village official
    5. Other (specify) ……
12. Local care
    1. Local doctor
    2. Dentist
    3. Midwife
    4. Traditional medicine
13. Farming
14. Selling small goods
15. Karaoke shop
16. Making and selling rice wine
17. Pagoda
18. Other (please specify) ……

10. Besides making money, how else does your household support itself?

FISHING HOUSEHOLDS

To be answered by those households engaged in fishing activities

11. How long have you been a fisher?

12. Why did you begin fishing?

13. How did you learn to fish?

14. Do you consider yourself to be a small-scale or medium-scale fisher?

Circle small-scale medium-scale

15. Who do you go with to fish with?

16. How do you get there? Circle

1. Own boat, travelling by self
2. Own boat, travelling with others
3. With others, on their boat
4. Other (specify)_____

17. On what basis do you decide where and why you fish a particular species? Circle

1. Family tradition
2. Seasonality
3. Advice from friends / neighbours
4. Personal experience and knowledge of the fish and water
5. Market demands / profitability
6. Ease of harvesting
7. Other (specify) _____

18. How do you distribute your fish catch?

| DISTRIBUTION OF CATCH | RAINY SEASON (PERCENTAGE) | DRY SEASON (PERCENTAGE) |
|---|---|---|
| Consumed by family | | |
| Share with relatives | | |
| Share with neighbours and friends | | |
| Sell to middle person or moi | | |
| Someone comes to buy | | |
| Other (specify) | | |

### *Boat Ownership*

19. Do you own a boat?

Circle Yes No

20. If yes, how many boats do you have and what type?

| TYPE OF BOAT | NUMBER OF BOATS |
|---|---|
| Row boat | |
| Small wooden boat with engine | |
| Speed boat | |
| Big boat with engine | |
| Other (specify) | |

## *Problem-solving*

21. What do you consider your household problems to be?

22. What role do the following institutions play in helping you to solve your livelihood problems? Circle: one being a strong role; three being neutral; five having a negative impact

| Institution | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| National government | 1 | 2 | 3 | 4 | 5 |
| Provincial government | 1 | 2 | 3 | 4 | 5 |
| Commune Council | 1 | 2 | 3 | 4 | 5 |
| Village head | 1 | 2 | 3 | 4 | 5 |
| Middle person | 1 | 2 | 3 | 4 | 5 |
| Village Resource Management Committee | 1 | 2 | 3 | 4 | 5 |
| Women's Committee | 1 | 2 | 3 | 4 | 5 |
| Military / Navy | 1 | 2 | 3 | 4 | 5 |
| Relatives | 1 | 2 | 3 | 4 | 5 |
| Own household | 1 | 2 | 3 | 4 | 5 |

23. Are there any ways you think your livelihood could be improved?

24. If you had other opportunities, would you accept a job elsewhere?
Circle Yes No

25. If so, what type of job, where and why?

## *Government Policy*

26. In general, do you think that government policy helps to make your livelihood easier, more difficult or has no impact? Circle
Easier More difficult No impact

27. How do you think government policy could better help rural livelihoods?
1. Have people from Phnom Penh spend more time in the village to understand the local situation
2. Less corruption
3. More laws that support poor people
4. Help to enforce existing laws
5. Give more power to local people (decentralisation policy)
6. Other (specify) _____

### *Water supply, Fuel and home consumption*

28. Do you collect rain water (Circle) Yes No

29. What is your primary source of water for drinking?
Rainy Season ☐ Dry Season ☐

30. Which sources of cooking fuel do you use and how do you obtain it?

31. Which products do you produce for home consumption i.e. that you use within your family or give away?

| VEGETABLE | HERBS | FRUIT | MEAT | FISH |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

## ACCESS TO CREDIT AND ASSISTANCE

### *Credit*

32. Information on existing loans (only the ones which are not yet repaid)

| LOAN SOURCE | MONTH/YR LOAN WAS TAKEN | INITIAL AMOUNT | INTEREST RATE | WHEN YOU NEED TO REPAY BY (MONTH/YR) | HOW MUCH YOU STILL OWE | WHY YOU TOOK THE LOAN |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

Note:.....

33. If you have already repaid loans, from which sources and for which purposes?

SOURCES

1. Family member
2. Friend or neighbour
3. NGO
4. Government program
5. Middle person
6. Moi
7. Other _____

Source ☐ ☐ ☐
Purpose ☐ ☐ ☐

PURPOSES

1. Fishing
2. Aquaculture
3. Animal Husbandry
4. Emergency (illness, accident)
5. Subsistence (food, clothing, house)
6. Education
7. Social Occasion
8. Repay Existing Loan
9. Other _____

34. If you intend to apply for credit, from which sources and for which purposes? (*see above list*)

Source ☐ ☐ ☐

Purpose ☐ ☐ ☐

***Assistance***

35. Do you have family or friends in this village that help your household?

Circle Yes No

36. If yes, what type of assistance do they provide and how often do you get this support?

1. Cash
2. Food
3. Kind
4. Other (specify) .....

☐

1. Daily
2. Once/week
3. Once/month
4. Other (specify) .....

☐

37. Do you have family and friends in other places that assist your household?

Circle Yes No

38. If yes, from within Cambodia or abroad? Circle

Cambodia Abroad

39. What type of assistance do they provide and how often do you get this support?

1. Cash
2. Food
3. Kind
4. Other (specify) .....

☐

1. Daily
2. Once/week
3. Once/month
4. Other (specify) .....

☐

40. Do you help family or friends in this village?

Circle Yes No

41. What type of assistance do you provide and how often do you give this support?

1. Cash
2. Food
3. Kind
4. Other (specify) .....

☐

1. Daily
2. Once/week
3. Once/month
4. Other (specify) .....

☐

WELL-BEING

42. If you were to lose everything, how would you be able to get back onto your feet?

Circle

Self (saving)
Gift from government
Loan from relatives (local)
Loan from relatives (overseas)
Gift from relatives (local)
Gift from relatives (overseas)
Other (specify) _____

43. What prevents you from switching livelihoods?

44. How important are each of the following goals to you? Circle: 1 being most important; five being least important

| Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Ensuring a stable future for my family | 1 | 2 | 3 | 4 | 5 |
| Improving my living standards | 1 | 2 | 3 | 4 | 5 |
| Learning how to make resources last longer | 1 | 2 | 3 | 4 | 5 |
| Increasing cooperation to manage resources | 1 | 2 | 3 | 4 | 5 |
| Having more control over resource management | 1 | 2 | 3 | 4 | 5 |

45. What is your personal aim in life?

46. Have you or any members of your household had any illness over the past 12 months?

Circle Yes No

If yes, please complete table below.

47. Members of household ill in the last 12 months.

| Who was ill? | What was the nature of the complaint? | How many days were you unable to work? | Where/who did you go for financial assistance? |
|---|---|---|---|
| | | | |

Who did you see: [1] Local clinic [2] Hospital [3] Home remedy [4] Traditional doctor [5] Other (specify) _____

48. If someone in your household is ill for a long time, how do you deal with this?

Circle

1. Sell possessions
2. Borrow money from relatives
3. Use savings
4. Send away
5. Take care at home
6. Rely on relationships for support
7. Take medicine
8. Do not know what to do
9. Other _____

49. What can make you sick? Circle

1. Hot weather
2. Heavy rains
3. Water
4. Mosquitoes
5. Contaminated food
6. Not sure
7. Other (specify) _____

50. What precautions do you take to avoid illness? Circle

1. Use mosquito nets
2. Use water filter
3. Boil water for drinking
4. Clean vegetables / fruit w/ boiled H2O
5. Use soap to wash hands before cooking
6. Wash hands after going to the toilet
7. Keep house clean
8. Take medicine
9. Other (specify) _____

## THE FUTURE

52. If you had more money, what would be your priority for spending?

1. Buy food
2. Improve housing structure
3. Decorate house
4. Gambling
5. Drinking
6. Construct water containers
7. Construct private toilet
8. Invest in fishing activities
9. Invest in fishing gear
10. Invest in aquaculture
11. Invest in agriculture
12. Education
13. Repay loan
14. Move
15. Save money
16. Travel
17. Health care
18. Does not know
19. Other (specify).....

Top three priorities ⟶ ☐ ☐ ☐

53. If fishing is not a priority, why?

54. What would you like your children to do in the future?

1. Fisher
2. Factory worker
3. Government employee
4. NGO worker
5. Job in city
6. Learning a skill / trade to practice in the village
7. Other_____

55. What do you consider to be important for your children's future?

1. Respecting Khmer culture and traditions
2. Being a good person
3. Knowing laws and regulations
4. Having access to a higher education
5. Protecting resources near the village
6. Having strong management in the village
7. Other _____

## FINAL NOTES

How long did this interview take? _____hours / minutes

# Appendix C: Resource management committees, questions

May – June 2003

The purpose of this survey is to determine the activities of Resource Management Committees (RMC) with regards to individual roles and responsibilities, RMC communication, decision-making processes and learning opportunities.

The focus of this survey is RMC members, Advisory Members and Group Leaders in two villages, coastal and freshwater. The survey is divided into four theme areas, including:

1. Roles and Responsibilities: what are the roles and responsibilities of different RMC members;
2. Communication: how does the RMC communicate their work to other RMC members and to the broader community?
3. Decision-making: how does the RMC make decisions, and around what issues?
4. Learning: what do RMC members learn from their participation in this work?

## Roles, Responsibilities and Recognition

1. What is your role in the RMC?

2. What do your responsibilities include?

3. Do recognized community leaders support the RMC? If so, how?

## Communication

4. Do you talk to community members to:
    a. Hear their ideas related to natural resources? If so, how?
    b. To share results of RMC meetings? If so, how?

5. Can community members join your meetings? If so, do they provide input into decisions?

6.
    a. Do you communicate with other committees in the village?
    Yes No
    b. If so, how do you communicate with these committees i.e. share in meetings, written reports, notice boards, making presentations, informally through relationships?
    c. If not, which committees do you think are important in the village?
    d. Do you communicate with other committees or groups outside the village?
    Yes No
    e. If so, how do you communicate with these committees i.e. share in meetings, written reports, notice boards, making presentations, informally through relationships?

## Decision-Making Processes

7. Who makes the final decision in your meetings?

8.
   a. Are certain RMC members more influential than others?
      Yes No
   b. If so, why are certain members more influential?

9.
   a. Are broader RMC members involved i.e. Group Leaders, elders in decision-making?
      Yes No
   b. If yes, please elaborate.

10. What issues does your RMC make decisions around?

11. Do you feel that decisions have already been made before you come to RMC meetings or that you come to a decision, as a group, during meeting times? Please elaborate.

## Learning Opportunities

12. What have you learned about natural resources through your participation in the RMC?

13. What types of activities did you learn the most from i.e. group discussions, workshops, field trips, village level activities?

14.
   a. Identify a significant project carried out by your RMC that you regard as a success? According to you, why was this project a success?
   b. What did you learn from doing this project?
   c. Identify a significant project carried out by your RMC that you regard as a failure. According to you, why was this project a failure?
   d. What did you learn from doing this project?

15.
   a. Thinking about the history of your RMC, please describe the most important conflict that has arisen over the course of your work.
   b. What do you feel was the source of this conflict?
   c. How have you attempted to resolve this conflict?
   d. What did you learn from trying to resolve this conflict?

# Appendix D: Livelihood resilience workshop

October - November 2003

## OVERALL GOAL:

A community-generated livelihood analysis, using participatory research tools, to (a) understand coping and adapting strategies at a household and a community level and (b) indicators of resilience.

## SPECIFIC OBJECTIVES:

a) To understand what coping means to community members;
b) To understand the different coping and/or adapting mechanisms that households and the community engage in;
c) To understand what resilience means to community members;
d) To examine indicators of resilience.

## WORKSHOP DESIGN

| | **Day One** |
|---|---|
| Morning | Introductions / Expectations / Objectives<br>Brainstorming livelihood successes and challenges<br>Livelihood challenges, strategies and learning (group work) |
| Afternoon | Monitoring daily life<br>Resilience indicator discussion |

| Time | Objectives | Activity | Methods | Needs |
|---|---|---|---|---|
| AM | Intro objectives | Plenary session | Emphasize role of participants in this training, helping Melissa to 'get it'. | Flipchart w/ objectives |
| | Livelihood successes and challenges | Drawing Plenary session | Start by brainstorming on the multiple livelihoods that people have tried … list down these activities. Next, ask participants to draw themselves in the middle of a piece of flipchart paper. On the left side of the paper, ask them to write down three things that are successful within their livelihood (family situation, learning to fish etc). Have participants then tape this flipchart onto themselves, and walk around the room sharing this information with other participants. Then ask them to write on the other side of the flipchart their three biggest livelihood challenges. Share this with the plenary. | Flip chart; Coloured markers; Tape. |
| | Discuss coping and problem-solving | Group work; Plenary | Have each person look at their three livelihood challenges. How do they deal with such challenges? Work in groups of two to brainstorm how such challenges can be dealt with and present back to the plenary.<br>Form small groups, writing down a problem that they have had and have attempted to solve (individual or a community problem). Ask the group to consider how they dealt with the problem and if this has changed their actions (or what they have learned). | Markers; Tape; Flip chart paper. |
| | Monitoring our daily life | Plenary | Ask group members: *what do you check or assess on a regular basis during your day to day life? Why they do this? How do you go about monitoring these?* Discuss this in the plenary. | Flip chart; Markers; Tape. |
| PM | Ability to anticipate | Plenary | Ask *how do you know that you'll be alright next year i.e. new nets, access to fishing grounds?* Discuss in the plenary. | Flip chart; Markers; Tape. |
| | Signs and signals exercise | Group work | Ask participants what signs and signals make for healthy communities. Pose such questions: *What would indicate a good life for you and your children? If a resource fails, how do you know your household will be alright? How would you deal with a crab / shrimp stock collapse?* Group work on each question, plenary discussion. | Flip chart; Markers; Tape. |
| | +ve and –ve signs & signals | Individ'l | List, on cards, 2 things that indicate that your livelihood is o.k. and two things that indicate that your livelihood is in trouble. | Strips of paper; mark |
| | Wrap-up | Circle | Throw ball to participants, reflecting on what they learned during the day. | Ball. |