Life, Fish and Mangroves

Resource governance in coastal Cambodia

Melissa Marschke

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Acknowledgements

I have never had the words to explain adequately my experiences of living, working and conducting research in the mangrove-estuary villages of southwestern Cambodia. I was introduced to the area as a graduate student, continued on as a practitioner facilitating natural resource management activities, became interested in commons dilemmas and rural livelihoods, and am now an academic reflecting upon the entire experience. In this process I have been a long-term witness, and, in a few instances, facilitator, to the ebbs and flows of a twelve-year resource governance experiment. This has served as a catalyst to dig through my field notes and reflect upon this process, do follow-up research and complete this book.

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Prologue

I first visited Koh Sralao village in June 1998. The area surrounding the village had recently (1996) obtained Ramsar site status because of the health and abundance of mangrove trees in this part of the Gulf of Thailand. Being Canadian and new to mangrove ecology, I was awestruck as we boated through the extensive stands of mangroves. Birds flew through the trees, monkeys swung between branches, and I saw expanses of white sand in places. The landscape was truly magnificent. I could see why people were migrating from other parts of Cambodia to live in this resource-rich area.

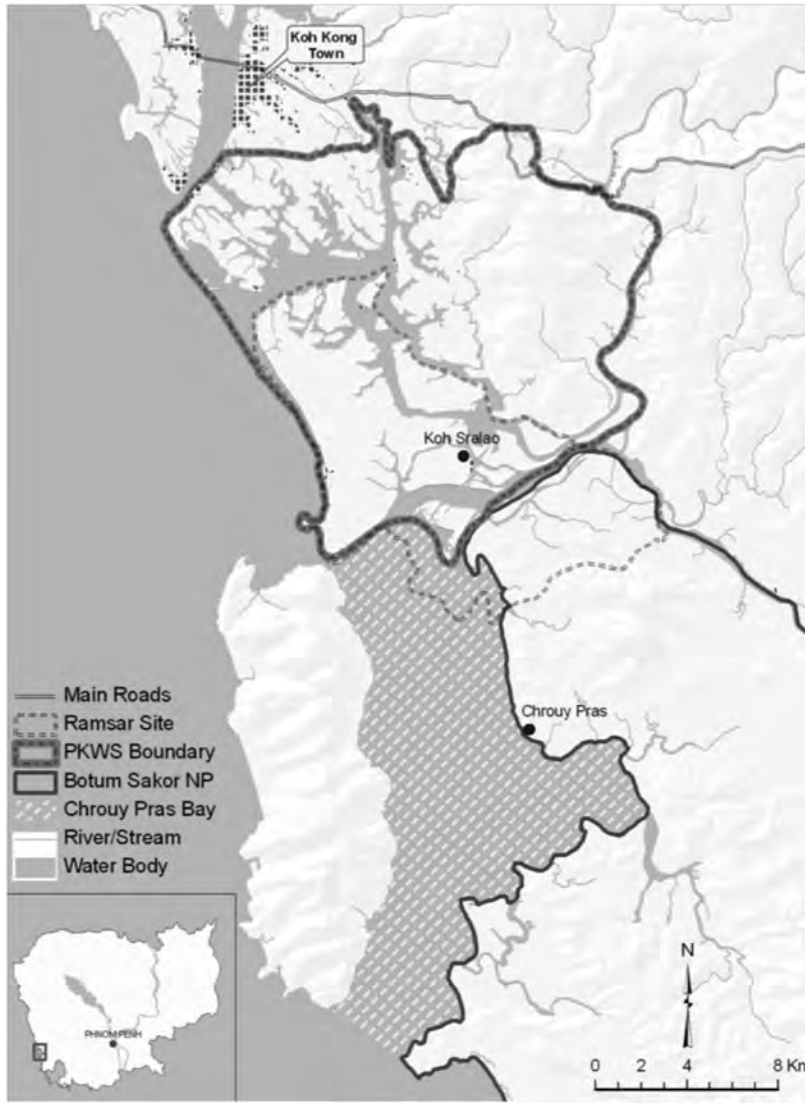
Six weeks later, however, much of the lush mangrove canopy surrounding the village was gone, particularly at the estuary edges where only trunks of trees remained. Villagers had an opportunity to earn decent money from the sale of mangrove logs in the final days prior to the 1998 national election. This episode of small-scale logging was a product of a particular point in time: officials turning a blind eye toward resource extraction during a chaotic pre-election campaigning period. I was witnessing what I took to be a classic tragedy of the commons scenario, where multiple individual actions were resulting in serious deforestation.

In the years that followed, I continued to visit this village on a near annual basis. With time, villagers halted the mangrove decline and initiated an active mangrove replanting campaign (500 ha), an environmental education campaign, and monitoring and patrolling activities. These local-level experiences fed into national resource governance reforms. Against great odds, villagers had persisted and found a way to maintain their livelihood while also perusing a resource management mandate.

My second shock came in 2010, twelve years after first arriving to this area. On our boat ride towards Koh Sralao village

we passed a dozen or so large barges filled with either sand or a serious amount of sand extraction equipment. Then, as we arrived at the village, I saw a dozen or so abandoned stilt-framed houses dotting the shoreline. By way of explanation, I was told that around a sixth of the households had left the village in the past year. People were leaving because of serious declines in the swimming crab population and high debt levels thought to be linked to the sand mining operations that had been taking place near local fishing grounds since 2008. Needless to say, this situation angered and saddened me immensely.

—M. Marschke, field research reflections, June 2010



Source: Ministry of Environment, Cambodia, August 2010.

FIGURE I: Cambodia and the Research Area

Introduction

> I have always found a way to earn money, and as my children got older I have been able to help my village, too. I fished with my father, went into the army, became a dynamite fisher and charcoal kiln owner, returned to dive fishing, started selling goods from home, began work with the village resource management committee and recently was elected onto the commune council.
>
> In general, everything is going well. But I am not sure if the village is such a good place for my children. There are fewer fish, everything is expensive since goods are brought in by boat, and it is hard to protect and manage our natural resources as more people become interested in them. Some people are starting to leave the village, which makes us all think about our future.
>
> —Excerpts from an interview with Wayne Som Sak, Cambodia, 2010

Wayne Som Sak's reflection upon his livelihood speaks volumes about the changes taking place in the Cambodian countryside. Wayne lives in a mangrove-estuary village surrounded by trees, water and fish. For many years Wayne has been able to make his living from the natural resources found in this area, through selling fish—caught in various ways—and by producing charcoal, among other things. At a certain point,

perhaps a decade ago, Wayne became involved in resource management and other village work and diversified into non-fishing activities. Wayne's comment about it being "hard" to protect natural resources hints at the tension between balancing resource extraction with resource protection, and the challenges of enforcing rules when outsiders (other fishers, or those interested in coastal resources) come into the area. Meanwhile, fisheries continue to decline. For these reasons, Wayne is hesitant about the future of life in this village, being unsure if his children will be able to sustain themselves or, given the distance from other services, if they will even want to.

This book is about people, livelihoods and resource governance strategies in coastal Cambodia. I am curious as to how people who are dependent upon the natural resources in and around their village handle the schism between livelihood opportunities that involve some degree of resource extraction and resource governance, particularly in areas where multiple interests compete for the same resources. Cambodia, as a society weighed down by violence and poverty, provides for a particularly illuminating case. Governance reforms due to donor programs and the creation of new policies have set out to improve the condition of the population (Li 2007) through an active democratization process, including emphasizing local resource governance. Although these processes have created formal rules, Cambodia remains a place where formal rules can easily be replaced by the personal and the informal, particularly by those with power (Hughes 2009). This begs the question of how resource governance intersects with rural livelihoods in the Cambodian context.

My focus in this book is on resource governance rather than resource management.[1] I do this because resource manage-

[1] Another reason that I focus on resource governance is that classic notions of resource management are associated with, among other things, a separation of humans from the environment, the commodification of nature, a division between resource users and

ment focuses on the operational decisions necessary to achieve a specific resource outcome, whereas resource governance incorporates politics, the broader processes and institutions through which a policy agenda is set, along with specific rights and responsibilities (Kooiman et al. 2005; Jentoft and Chuenpagdee 2009). Scholars are interested in how relationships between actors can facilitate or hinder how a society transforms the way natural resources are governed (Crona and Hubacek 2010). Therefore, an emphasis on resource governance enables me to consider how decision-making occurs between state and nonstate actors, and how power is exercised over natural resources more generally (Béné 2005; Sneddon and Fox 2007). In doing so, I can pay careful attention to who profits and loses from such processes (Béné and Neiland 2006), the system of rules that are put into place, and what guides these processes (Rosenau 2003). Since resource governance is broader in scope than resource management, I generally use this term except when writing about specific resource or fisheries management activities.

I define resources broadly, to acknowledge the utilitarian and the ecosystem functions provided by natural resources. Traditionally, natural resources have been viewed as assets for human satisfaction or utility, being only of value to the extent that they can also be used to create goods and services (Berkes 2010c). Land, forests and fish were seen as commodities for the market, and industrial, colonial and post-colonial development

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managers, and the rise of a managerial class (cf. Berkes 2010a for a careful review). Resource management has implications of the "domination of nature, efficiency, social and ecological simplification, and expert-knows-best, command-and-control approaches" (Berkes 2010a: 33). Moreover, to my mind, management and governance are not synonymous. Whereas management involves operational decisions to achieve specific resource outcomes, governance refers to the broader processes and institutions through which societies make decisions that affect the environment. For these reasons, resource and environmental management continues to be reframed, repositioned and connected with governance (Armitage 2010 pers. communication).

has been predicated to a certain extent on the exploitation of such natural resources (Bernstein 2010). Natural resources, however, encompass far more than this. Natural resources may provide economic opportunities, health benefits and aesthetic pleasures or add to welfare (Béné et al. 2010) and well-being, and contribute toward regulating and sustaining ecosystems (Biermann and Boas 2010). As such, natural resources are more than a commodity for human use, although this component is important, since they also maintain diversity and contribute toward social-ecological sustainability (Berkes 2010c).

I ground my analysis of resource governance by focusing on livelihood trajectories in one resource-dependent village.[2] Livelihoods are dynamic, complex and often unpredictable, since "goals, preferences, resources and means are constantly reassessed in view of new unstable conditions" (De Haan and Zoomers 2003: 357). A livelihood is more than "having to make a living to get by" (Bebbington 1999: 33), rather encompassing a complex web of activities and interactions.[3] Accessing livelihood opportunities, which are governed by social relations, institutions and organizations, with power being an important explanatory variable, remains a challenge (De Haan and Zoomers 2005). Livelihood activities are not neutral: they engender processes of inclusion and exclusion. As such, the classic agrarian questions *à la* Bernstein (2010) of

[2] There is no specific word for "livelihood" in Khmer (like many words used in development discourse such as "sustainable development" or "decentralization"), although this concept is often translated as *tweeka*, to work. This is a narrow interpretation, only focusing on money-making activities. A more useful expression is *ka chenh chem chiavit* (life activities and living).

[3] Livelihood studies date back to the French concept of *genre de vie*, although the most widely used livelihood framework points to a series of capitals—natural, social, physical, financial, among others—interacting via institutions to produce specific livelihood outcomes (De Haan and Zoomers 2005). This framework has since been adopted by many development practitioners, although it has lost traction in recent years because of the complexity of implementing this framework (Scoones 2009).

who owns what, who does what, who gets what and what do they do with it are of central importance to a livelihood analysis. For these reasons, livelihood perspectives offer an important lens for looking at complex governance questions (cf. De Haan and Zoomers 2005 and Scoones 2009 for a succinct overview of livelihood studies and its contributions).

My research is framed by an interest in three things: (a) how livelihoods shift, evolve and adapt in villages where numerous actors are vying for access to the same natural resources; (b) the role of decentralized resource governance in situations with high levels of poverty, resource-dependence and social-ecological change; and (c) the potential for other forms of resource governance in such situations. To develop my analysis I pay careful attention to coastal livelihoods and resource-related challenges over a twelve-year period, including how people actually try to achieve specific outcomes. Several texts have been helpful in enabling me to advance my arguments. Key to my thinking has been the work of Brent Flyvbjerg, *Making Social Science Matter*, who points to the need for deeply grounded, context-specific research. In the area of decentralized resource governance, research by Christopher Béné, Fikret Berkes, Elinor Ostrom and Krister Andersson have been particularly insightful and informative.

First, in terms of paying attention to how livelihoods shift, evolve and adapt, the case material is thick both in description and in attention to the nuances found within the social-ecological system of southwestern Cambodia. I aim to identify the basic connections and general patterns that are characteristic of the context I am researching. As Nietzsche notes, "one should not wish to divest existence of its *rich ambiguity*" (emphasis in original, as cited in Flyvbjerg 2001: 84). I explore the ever-changing details of everyday life in one resource-dependent coastal village and the fishing grounds that this village, along with a handful of other villages, use. This enables me to

examine struggles over access to natural resources (Scoones 2009). I then reflect upon how local resource governance processes have been formed in light of the multiple influences and agendas of internal and external actors found within the Cambodian context. Flyvbjerg (2001) notes that a thick and hard-to-summarize narrative may be a sign that the study has uncovered a rich problematic; such thinking has helped me to persevere in exploring and analyzing this rather complicated, dynamic story.

Second, since I am interested in local resource governance, I pay attention to decentralization reforms and processes. Decentralization, as a policy project, implies the changing of power structures and relations (Raik et al. 2008), and may be more ideologically driven than is practical in some contexts (Gellman 2010). Decentralized resource governance projects are "simultaneously political-economic projects" and vice versa, and the interaction between politics and ecology requires careful attention (Harvey 1993: 25). Without an in-depth understanding of power relations, in terms of which actors hold power, to whom actors are accountable, etc., it is difficult to understand what resource governance may actually mean at the village level (Agrawal and Ribot 1999). This is why it is important to pay explicit attention to relationships and, where possible, power dynamics between the state and subnational units, civil society and the private sector. Moreover, it is important to investigate the relations that have been, or are being, established within the natural resources sector and those institutional actors who emerge in newly created local resource governance institutions (Béné et al. 2009). In particular, how is policy supporting decentralized resource governance created, enacted (or not) and then, sometimes, manipulated in practice? The creative use of policies may be rather telling in terms of understanding how policies are understood and/or privileged by various actors.

Third, I consider what else might compliment local resource governance to mitigate against ecological disturbance, vulnerability and unsustainable path dependencies. Sustainability will not be realized unless current resource management regimes undergo a transition toward more adaptive and integrated resource governance (Pahl-Wostl 2009). For these reasons, governance scholars are exploring the need for multi-level institutions and partnerships among state and nonstate actors (Kooiman et al. 2005). While this includes an emphasis on local governance, scholars call attention to governance at multiple levels (Ostrom and Anderson 2008). This concept has two basic characteristics: interdependence across governance levels and showing the interaction among different actors (Berkes 2010c). However, there are numerous challenges with multi-level arrangements including accountability concerns, coordination issues, and being relevant in an ever-changing world (Cash et al. 2006; Biermann and Boas 2010). For these reasons, I am interested to explore the potential for such arrangements in a place where decentralization processes are only just emerging and power has typically remained at the centre.

THE CAMBODIAN CONTEXT

I situate my study in Cambodia, a country that is characterized by struggle and change. Cambodia has been subject to six different ideological regimes, including several forms of socialism, since independence from France in 1953 (Slocomb 2006). Violence has plagued Cambodia, in particular during the Cold War era, and governance was shaky for decades (Slocomb 2002). The genocidal Khmer Rouge regime (1975–1979) resulted in a drastically reduced civil service (Slocomb 2002) and a population reeling from an intense trauma: the Khmer Rouge resistance army only defected to the government in 1999 after

Pol Pot's death. Nonetheless, with the lifting of international embargos on credit and trade for Cambodia and Vietnam, liberal economic reforms were introduced in the late 1980s. This period also marked the beginning of political reforms: Cambodia signed the Paris Peace Agreement in 1991 and a multi-party political system was introduced in 1993. These extensive economic and political reforms are in line with neo-liberal prescriptions tied to a world view and theories about the economy, state or education that are Western-centric (Slocomb 2006; Gellman 2010).

Nonetheless, the "means of governing" Cambodia has consistently included elements of nepotism, corruption and suppressing opposition (Thion 1986; Slocomb 2006). This is an example of a state where formal rules can be replaced by informal rules. Hun Sen has been Cambodia's prime minister since 1984, and remains popular with the business elite and senior bureaucrats, along with people in the countryside. In a sense, citizens see Hun Sen as a *fait accompli* rather than an elected and responsive leader (Chandler 2010). Such acceptance speaks to aspects of Khmer culture, which include elements of deference, obedience to authority and patronage networks (Ebihara 1968; Marston 1997; Legerwood and Vijhen 2002).[4] The elite do have far greater material resources than most; at the same time, they require popular consent to legitimize their rule that awards a kind of residual power to the poor (Hughes and Ojendal 2006). Gift-giving, as seen in the distribution of rice, fish sauce, t-shirts and scarves (kramas) during election campaigns, speaks to this. At the same time, Khmer culture is evolving and adapting in part linked to a large demographic born post-1979 and the infusion of development aid since the early 1990s. Thus, patronage structures overlap

[4] For a nuanced reflection on how Khmer culture is evolving, see the special 2006 issue of *The Journal of Southeast Asian Studies*.

with evolving political and institutional development in a context of social, economic and political change that is sponsored by powerful internal and external actors (Hughes and Ojendal 2006).

There is no doubt that Cambodia is a complex place. On the one hand, there is corruption, nepotism, authoritarian one-party rule, a culture of impunity, ecological degradation, poor social services and a widening gap between the rich and the poor (Chandler 2010). Political consolidation has been strengthened by governance reforms emphasizing decentralization, with the ruling party having a firm grasp on rural politics (Hughes 2008). The prime minister is portrayed as an authoritarian strongman, strengthening his support through strategic inter-family networks (Slocomb 2006), and Cambodia's political elite has generated much of its wealth through seizing public assets, particularly forest and land resources (Un and So 2009). On the other hand, infrastructure has greatly improved, a large number of primary and junior high schools have been built, political stability has been conducive to development and investment and tourist dollars continue to flow. Multi-party elections have been held both nationally and locally, and the introduction of local-level democratic elections is seen as a major gain for democratization in Cambodia (Turner 2006). Finally, Cambodia is a full member of the United Nations, the Association of Southeast Asian Nations and the World Trade Organization. These changes have brought benefits, and Cambodia is now a safer, more secure place than it has been for decades.

THE FIELD CONTEXT

The area where my field research takes place (see Figure 1 in the Prologue)—southwestern, coastal Cambodia—was, until recently, referred to as Cambodia's "wild west." The area served

as a frontier for much of the 1980s and 1990s. Resource rights were ill defined and state regulations were weak, an attractive combination for those who had lost their land during the Khmer Rouge era or wanted to try their luck in another part of the country. This area was isolated from other parts of Cambodia and remained a Khmer Rouge stronghold until well into the 1990s, two factors that contributed toward the variety of resource-related livelihood activities (logging, charcoal production, working on shrimp farms) available to those migrating into the area. The 1998 election period was particularly concentrated in terms of logging activities, which led to a dramatic decline of mangrove trees in the mangrove-estuary villages on which this research focuses. Intense deforestation over a short period of time, coupled with an increase in charcoal production, was wreaking visible havoc on the ecosystem.

By 2000 the state was slowly permeating this frontier-like area; in doing so, most illegal resource extraction activities became too risky, particularly for villagers, and shrimp farming collapsed due to poor site selection (Mastaller 1999). Some households left the area; those that stayed were forced to rely mainly on the crab fishery or to diversify into non-resource-based livelihoods. At this point in time (2000), southwestern Cambodia was seen as holding significant potential in terms of local resource governance (for fisheries, forestry and protected areas), and this is when I first learned of the resource governance experiment that I carefully examine in this book.

Fast-forward a decade later (2010), forms of village-run resource governance do exist, in addition to many national policies supporting this governance approach. At the same time, this area has continued to serve as a frontier for business interests, particularly for well-connected entrepreneurs. My conclusions are drawn from the particularities of this case.

THE WRITING APPROACH

My writing moves back and forth between examining the emergence of local resource governance in Cambodia and exploring how local resource governance processes intersect with other forces in a specific place. I have been a frequent visitor to various government ministries in Phnom Penh, and privy to a series of donor meetings and policy reform workshops. I have also been a frequent visitor to several remote mangrove-estuary fishing villages since the late 1990s. This study became longitudinal, in part because every time I returned to the area something had shifted. Although these were often minor events—the chance to sell mushrooms growing on mangrove trees to a Korean buyer or the appointment of a new village chief—these shifts impact and help to shape rural livelihoods and the choices made around levels of resource extraction. I realized that only through consistent conversations with a handful of households over a period of time would I begin to understand the complexities of daily life and the potential for resource governance in this context. Thus, multiple discussions over the years, combined with further reflections and readings, have enabled me to begin to untangle some of the intricacies of rural life in southwestern Cambodia.[5]

I begin in Chapter 1 with an exploration into why decentralization became privileged as the way to govern natural resources in and around villages, and then explore how this idea is playing out in Cambodia. In Chapter 2, I focus on fisheries resources,

[5] The main sources for this research investigation were interviews, workshops, surveys, participant observation and talking with key informants over the past twelve years. My field research has generally taken place with a research assistant, often a university student or young graduate, or with members of the Participatory Management of Coastal Resources (PMCR) team, the Canadian-funded, intergovernmental research team led by the Ministry of Environment (cf. PMCR 2008 for more details on their work). For more details on the research methods, see Marschke 1999; Marschke 2005; Marschke and Sincliar 2009; Marschke, forthcoming.

reflecting on Cambodia's current fisheries governance challenges and past fisheries governance practices. In Chapter 3, I describe life in one coastal village, tracking the stresses that people endure in relation to livelihood extraction opportunities and emerging resource governance policies over a twelve-year period (1998–2010). Chapter 4 is where I begin my analysis of resource governance implementation, again spanning twelve years, and reflect upon the local-level strategies that villagers engage to deal with various resource challenges. I also explore the issues that villagers are not able to address. In Chapter 5, I move across administrative units to examine resource governance challenges within local fishing grounds. Here I pay attention to when policy is implemented, creatively adapted or ignored. In Chapter 6, I interrogate failures in resource governance that occur in and around the village, within local fishing grounds and at the national level. I conclude by reflecting on the broader resource governance issues that are brought up from this extensive field investigation and consider the desirability of this particular situation.

1

Desiring Local Resource Governance

Twenty years of war excluded Cambodia's natural resources—forests, coastal and inland fisheries, waterways and minerals—from the acute resource depletion associated with agricultural expansion and economic growth throughout much of Southeast Asia in the 1970s and 1980s (Le Billon 2000). Cambodia was subject to major bombing during the Vietnam War (1959–1975), experienced the genocidal Khmer Rouge regime (1975–1979) that left an estimated one million Cambodians dead, followed by the Vietnamese liberation from the Khmer Rouge in 1979 and a subsequent trade embargo enforced by the West (1980s). These events helped to ensure that Cambodia's natural resources remained relatively unexploited during the 1970s and 1980s (Tyner 2008). Had Cambodia's geopolitical history been different, deforestation and overfishing would likely have begun at an earlier point. As it was, as soon as it was viable to do so, resource entrepreneurs targeted the forestry sector (Le Billon 2000) and increased trade in aquatic species (Degan et al. 2000).

Deforestation practices began in heavily forested areas, those that remained as Khmer Rouge army strongholds and those that were secured by the military. The Cambodian government

permitted the military to access forest areas during the late 1980s and into the 1990s in exchange for its allegiance and as a way to diminish the strength of the Khmer Rouge opposition forces (Le Billon 2002). "With this permission, the army, working through networks of businesspeople, forestry officials, and provincial authorities sold timber for personal gain and to raise funds for the civil war" (Un and So 2009: 128). Within certain regions of Cambodia, particularly in areas that were further from state penetration, there have been serious money-making opportunities from natural resources both for business entrepreneurs and, in some cases, local villagers. High levels of resource extraction began with deforestation and overfishing but have since moved to include other natural resources including land-claiming, oil and gas exploration and mineral extraction activities (Le Billon 2000; Un and So 2009; Cock 2010).

As resource extraction (or perhaps exploitation is a better term) practices have continued, Cambodia's natural resource base has declined. Over the past fifteen years, nearly 45 percent of Cambodia's land has been purchased by private interests (Global Witness 2009) and Cambodia now faces one of the highest deforestation rates in the world. The last global forest cover survey by the Food and Agriculture Organization (FAO) found that Cambodia had lost 29 percent of its primary tropical forest between 2000 and 2005 (FAO 2008); other estimates suggest that Cambodia's primary forest cover has gone from 70 percent in 1970 to 3.1 percent in 2005 (Global Witness 2007). Even if these numbers are too high, all indicators suggest that significant deforestation has taken place in Cambodia in recent years. There is even less precise information for Cambodia's fisheries although overfishing (Salayo et al. 2008), declining shrimp stocks (FAO 2009) and smaller catch sizes are reported throughout the Tonle Sap and the coast (Bush 2008; PMCR 2008). This trend is in line with the general depletion of coastal stocks found throughout the Gulf of Thailand, where resources

have been fished down to between 5 and 30 percent of their unexploited levels (Salayo et al. 2008).

Cambodia's population remains predominately rural—around 80 percent of Cambodians live in rural areas—and resource-dependent (World Bank 2009; NIS 2008). In spite of shifting migration patterns, rural people rely on agriculture, small home businesses and/or a mix of natural resource activities to sustain their livelihoods (Diepart 2010). In the short term, many people will continue to stay in the countryside since there are not enough jobs to absorb migrant labour even with Cambodia's five-hundred-plus factories employing some 300,000 workers (in 2009) (Chandler 2010). Resource extraction activities do offer employment opportunities (i.e., for rural residents and business entrepreneurs) and can generate substantial economic growth. Households, therefore, engage in a range of resource-based livelihood activities, including small-scale fishing or charcoal production and more technical business enterprises (i.e., operating machinery for sand dredging, electronic equipment for larger fishing boats), and may also engage in other forms of wage labour (Marschke, forthcoming).

Cambodia has experienced economic growth averaging 7 percent per annum since the mid-1990s (Un and So 2009), with agriculture (i.e., rice, timber, fish and rubber), trade and manufacturing playing a major role in this growth. Poverty rates have also decreased, from 34.8 percent in 2004 to 30.1 percent in 2007, although this period of falling poverty has also been associated with rising levels of inequality (World Bank 2009). While some households benefit from resource extraction opportunities, it is likely that poorer households do not (cf. Resurreccion 2006; Sneddon 2007). Recognizing this situation, the Cambodian state has taken steps toward creating a policy environment that encourages local forms of natural resource protection and management (Van Acker 2010). A wide range of policies have been drafted and passed since the late

1990s. These policies and programs are seen to be timely and potentially important for securing and sustaining rural livelihoods given the overall situation of resource dependence coupled with persistent resource declines (Van Acker 2010).

This being said, there are no studies that trace how rural people have been involved in resource extraction in the past fifteen years and how these types of opportunities have shifted. Moreover, it is not clear if newly developed policies actually help to ensure resource access or sustain rural livelihoods. This is a gap that this book seeks to fill.

To do so, this chapter provides an overview of decentralization processes and specific policy reforms designed to give local people a voice in key decisions related to natural resources in and around villages. I begin with a discussion about the pros and cons of involving local people in resource governance. This discussion offers insights into the prevalence, in both the scholarly and donor communities, of justifying and promoting the involvement of local people in forms of community-based management. From here I look at the forces shaping local resource governance in Cambodia, including the interests of the donor community, the Cambodian government including the Fisheries Administration, and, to a certain extent, local villages.

DECENTRALIZATION OF NATURAL RESOURCES

Most public policy is delivered in some sort of hierarchy. Decentralization processes, therefore, are about "reversing the concentration of administration at a single centre" and delegating power to subnational territories (Smith 1985: 1). There are now a significant number of books and articles that discuss the positive effects of such local governance. A strand within the public administration literature, for example, suggests that life should be better under decentralized, democratic rule (Ayres 2001; Blunt and Turner 2005; Turner 2006). The idea

is that empowered and resourced local governments are better positioned to respond effectively to the specific needs of a subnational territory's population. In theory, local governments can address the particular needs of their jurisdiction and be more efficient in service delivery, in the belief that closeness with local residents will ensure greater accountability (Rondinelli 1981; Smith 1985).

This is in line with the development thinking of donors and multilateral lending agencies that now fund a plethora of programs and projects that include decentralization as part of their goals (Andersson and Ostrom 2008). The arguments for decentralization reforms go beyond those based on economic and administrative efficiency, although such arguments remain pervasive (and persuasive); decentralization is also associated with the idea of progress in public accountability, environmental sustainability and empowerment of poor and vulnerable groups (Béné et al. 2009). Villagers are encouraged to be involved in planning for, and in parallel, carrying out their own development. As an example of how pervasive this thinking has become, one need only examine prominent development policies like the Poverty Reduction Strategy Papers or the Millennium Development Goals: both emphasize including local people within national planning processes and ensuring local needs are met vis-à-vis national plans (Chambers 2004). In Southeast Asia, decentralized governance models have been widely promoted over the past decade (Turner 2006).

Specific arguments for decentralized resource governance include helping decision-makers to notice significant environmental changes, and that such involvement can mobilize affected local interests to address environmental change. Because local conditions and ecosystems vary widely, decentralization is also argued to provide a way to implement policy more flexibly to ensure effectiveness and to foster adaptation to such change (Tyler 2009). Users who live within a

resource system will often develop relatively accurate mental models of how their biophysical system operates, since their harvesting efforts depend on these mental models (Andersson and Ostrom 2008). Feedback is also an advantage for local governance regimes since direct, rapid feedback about how the resource system responds to harvesting or climate variation is easily provided. Fishers, for example, are often able to identify changes in the size of species caught and in species distribution over a significant period of time (Marschke and Berkes 2006). Finally, "because local users have to bear the cost of monitoring in a decentralized system, they are apt to craft rules and make infractions highly obvious so monitoring costs are lower" (Andersson and Ostrom 2008: 75). Resource governance intersects the literature on public administration (good governance and democracy), as well political economy, development and resource management (Larson and Soto 2008).

In many respects, the emphasis on natural resource decentralization is a reaction to earlier efforts to centralize the governance of natural resources. In the 1970s and 1980s a widely shared presumption was that the most effective way to manage natural resources was at a national level, since it was then believed that only a strong central government was capable of constraining citizens' demand for resources (Andersson and Ostrom 2008). There was a serious attempt to "control nature in order to harvest its products, reduce its threats and establish highly predictable outcomes for the short-term benefit of humanity" (Holling and Meffe 1996: 329). This was known as the era of top-down, "command and control" resource management. This approach to resource management often resulted in unforeseen consequences such as collapsing resources, social and economic conflict, and the loss of biodiversity (Holling and Meffe 1996). Managers did not incorporate politics or relationships into their thinking. The collapse of the Canadian

cod fishery, where scientists privileged their maximum sustainable yield calculations over local observations of the pending decline, serves as an example of the potential ineffectiveness of this approach (Berkes 2010c). Moreover, this centralized management often privileged the interests of the resource industry (Berkes 2010b).

Arguments for processes or tools that promote decentralized resource governance drew on commons scholarship, following from the extensive research done by Elinor Ostrom (cf. Ostrom 1990) and others (cf. McCay and Acheson 1987; Slager and Ostrom 1992; Cox 2008) to illustrate the potential of collective rights. There are numerous cases of commons governance, with research demonstrating how community forestry or fisheries can work both for natural resource conservation and, in certain cases, to produce local economic benefits (cf. Barsimantov et al. 2011 for a review). The emphasis on rules of access, exclusion and subtractability, and the identification of design principles or enabling conditions for the management of common pool resources are major contributions in terms of how to enact and support commons governance (Ostrom 1990). Commons research has shown how community groups are capable of managing resources given appropriate incentives, although most examples of common pool governance tend to be small-scale and single-case. Such management may happen without government support, in cases of high capacity or relative isolation, although it is recognized more and more that government involvement is an essential component of commons management (Khumsri et al. 2009). Theories for commons governance have continued to evolve (cf. Armitage et al. 2009), including in the area of co-management (e.g., Pinkerton 1989; Borrini-Feyerabend et al. 2007; Clement 2010).

Co-management involves some configuration of the state, resource users and civil society (Pinkerton 1989). Common across definitions of co-management are the notions of

shared responsibility and authority for decision-making in the management of natural resources (Armitage et al. 2009). Co-management arrangements vary across settings including the subject of management, the existing institutional arrangements and the way in which co-management is implemented or introduced (e.g., Borrini-Feyerabend et al. 2007). For example, within fisheries co-management arrangements could include a single resource, such as a catfish stock or sea grass, or multiple resources, such as those found within a marine protected area. Co-management offers a governance approach that can be potentially viable under a variety of conditions, and enables a more flexible, reflexive approach toward resource governance than did past, top-down, "command and control" approaches (Arthur et al. 2011).

From a policy and practice perspective, this type of approach for resource governance has gained popularity over the past decade, referred to by different names including co-management, community-based management, adaptive co-management or community fisheries/forestry/watershed management and, more recently, adaptive governance, multi-stakeholder governance or transformative governance (cf. Armitage et al. 2009; Ostrom 2009; Berkes 2010a; Gelcich et al. 2010). While each of these approaches emphasizes different aspects of resource governance partnerships, each acknowledges the importance of local involvement. Besides, numerous scholars have demonstrated how the users of many resources can develop effective governance mechanisms that increase the likelihood of sustainability (Ostrom et al. 2002; Berkes and Folke 1998; Berkes 2009), and the privileging of this type of approach within academia and the donor community speaks to its potential.

What is happening within the resource sector is seen within social policy more generally, linked to a global decentralization agenda. Although decentralization processes initially took

place in Western countries, such as Denmark and Canada, these ideas spread rapidly to the global South (Béné et al. 2009), likely influenced by the donor agenda and the growing need for accountability in the donor home countries. Most countries in the global South have some type of policy that includes the participation of end-users in many of their social policies for health, education and the environment (Béné et al. 2009), which involve some form of multi-stakeholder collaboration.

Even so, local resource governance is not always successful and can lead to a tragedy of the commons situation (Hardin 1968). Self-organizing can result in a loss of short-term economic gains (Ostrom 2009) or may be too costly for local users to implement (Meinzen-Dick 2007), and local groups may not be able to reduce their dependency on a resource. Selecting appropriate rules for resource management is not easy: some groups will select rules that do not work well together and will consequently generate failure (Berkes 2007). In other cases there may be a lack of leadership that is necessary to create a change in existing practices (Marschke and Sinclair 2009). Other scholars still argue that "the track record of co-management is weak in poverty reduction and empowerment of the marginalized" (Berkes 2009: 169), and that decentralized governance systems may be dominated by local elites who create rules for their own advancement (Platteau 2004). Finally, conflicts among user groups may happen in decentralized systems, with conflicts being difficult to manage when there is limited external buy-in or support for conflict-resolution mechanisms (Alston et al. 1999).

Resource governance processes may also stagnate. For instance, where local ecological systems are characterized by considerable variance and complexity, experimentation can produce unexpected results leading users (or government managers) to adhere to systems that have worked well in the past. The issue here is that resource systems do not remain

static, and users need to innovate continuously to ensure the best rules are in place to lead to better outcomes (Andersson and Ostrom 2008). The policy community cannot always handle such flexibility, since rules may need to be continuously revisited and updated (Arthur et al. 2011). Complexity may be difficult for users to handle, especially where there is limited access to scientific information. Even when stakeholders work well together, it is a challenge to ensure that local knowledge and scientific knowledge are understood by all actors. Yet scientific information serves as a complement to place-based information, and this can be particularly pertinent when it comes to assessing the health and viability of a given resource (Ostrom 2009).

As such, one can appreciate the advantages and disadvantages of decentralized resource governance arrangements. Decentralization is a political and economic process that implies, fundamentally, a redistribution of power and resources. Not everything should necessarily be decentralized, however, and a balance needs to be struck within every context. The academic community is starting to move toward theorizing and promoting multi-governance solutions, since there is never a unitary state or a homogeneous community (Berkes 2009; Ostrom 2009). What this means for resource governance in practice is less clear. No doubt the pendulum has swung from a strongly centralist perspective toward governing resources in the 1970s and 1980s to a strongly decentralist perspective in the 1990s and 2000s, and is possibly recalibrating toward some middle ground perspective as I write. Ultimately there are inherent imperfections in all human governance arrangements for dealing with complex resource problems (Andersson and Ostrom 2008). This is worth keeping in mind as we consider the forces that have shaped the shift toward decentralized resource governance in Cambodia.

CAMBODIA'S EXPERIENCE WITH LOCAL RESOURCE GOVERNANCE

Not only have various literatures over the past twenty years placed a strong emphasis on promoting local involvement in the governance of diverse social-ecological systems (cf. public administration, resource management), governance arrangements have also been on the agenda of multilateral and bilateral donors during this time. There has been a convergence of various bodies of thinking that emphasize the need to include local people (Andersson and Ostrom 2008). This push toward decentralization is also seen within the Cambodian context: decentralization has been prioritized as a mechanism by which to facilitate good governance (Godfrey et al. 2000; Hubbard 2005; Slocomb 2006). In the World Bank's publication *Cambodia at the Crossroads: Strengthening Accountability to Reduce Poverty*, decentralization is promoted as "shortening the route of accountability bringing government closer to the people" (2004: 17). Donor agencies have spent time and money on pilot projects that illustrate the potential of decentralization in terms of good governance and local empowerment. From exposure to and involvement in such pilot testing, the Cambodian government has passed several pieces of legislation with a strong decentralization mandate, particularly at the municipal level (Turner 2006). This is where donors now focus a significant amount of effort and funding (Knowles Morrison 2010).

Proponents suggest that these new modes of governance are nothing short of radical, transforming Khmer society from adhering to highly centralized, hierarchical forms of governance to supporting local governance and the rule of law (EIC 2005). Decentralization is a major governance reform, in the sense that this is a mechanism that is designed to bring citizens, local groups and organizations into the policy and decision-making

process (Berkes et al. 2010a). The introduction of local-level democratic elections in Cambodia is a real accomplishment. Critics, meanwhile, suggest that the Cambodian government has adopted a public transcript of state transformation, largely dictated by donor experts (Le Billon 2000) or that nepotism, corruption and top-down rule remain central features of the current regime (Slocomb 2006; Hughes 2008). As such, some scholars question the extent to which democratic decentralization is really occurring (cf. Hughes 2008; Chandler 2010).

All the same, a significant amount of policy has been passed. Table I illustrates a variety of policies that now (2010) support decentralized resource governance in Cambodia.

As Table I illustrates, there are a suite of policies that support decentralized resource governance. The *Law on Commune Administration*, passed in 2001, sent a strong signal for the need to support local governance through creating municipal elections and a platform through which local citizens are meant to be able to express their demands and dissatisfaction. Specific policies followed in the resource governance arena, enabling citizens to enter into co-management arrangements with technical departments such as the Forestry Administration, the Fisheries Administration and the Ministry of Environment. Hence, forms of "community" or "co" management processes were established in the 2000s. Many such linkages are between state departments that enter into a contract with a specific village or group of villages to govern their natural resources, with much of the day-to-day management activity being left in the hands of villagers. National Poverty Reduction Plans and Strategic Development plans also emphasize local governance of natural resources; these are the documents that donors rely on to guide them in their choices relating to aid programming and delivery in Cambodia. From a policy perspective, there is a serious amount of policy and legislation that supports local democratization and participation.

TABLE I: Cambodia's Policy Framework for Resource Governance

Resource Area	Specific Policy to Support Resource Governance
Protected Areas Policy	Royal Decree on the Creation and Designation of Protected Areas: 1993 Environmental Protection and Natural Resources Law: 1996 National Environmental Action Plan: 1998–2002 Protected Areas Law: 2008 Guidelines on Community Protected Areas Management: In Progress
Land Policy	Land Law September: 2001 Sub-decree on Procedure for Commune Land Use Planning: 2008 Draft Declaration on Land Policy: In Progress Sub-decree Procedures of Registration of Land of Indigenous Communities: 2009
Fisheries Policy	Fisheries Policy Reforms: 2000–2001 National Fisheries Policy Statement: 2005 Fisheries Law: 2006 Sub-decree on Community Fisheries Management: 2005; 2007 Guidelines for Community Fisheries: 2007 The Strategic Planning Framework for Fisheries: 2010–2019
Forestry Policy	National Forest Policy: 2002 Forest Law: 2002 Community Forestry Sub-decree: 2003 Guidelines for Community Forestry: 2006 National Forestry Program: 2010 National Community Forestry Plan: In Progress
Local Governance Policies	Law on Commune Administration: 2001 Organic Law on Sub-national Administration: 2008
Other Supportive policies	National Poverty Reduction Strategy: 2003–2005 National Strategic Development Plan: 2006–2010 National Strategic Development Plan: 2009–2013

Adapted from: CBNRM LI 2009.

In Cambodia, as is likely true elsewhere, there are nuances in terms of what decentralization really means. Some policy devolves power to local branches of the same ministry of the central state; commune (or municipal) councils reporting to the national Ministry of Interior are an example of this. This is referred to as administrative decentralization (Larson and Soto 2008). The Ministry of Interior has mandated the commune council to be responsible for many things at a municipal level, including resource planning, management and land allocation. However, decentralization of natural resource governance can also take other forms. For instance, the central government can formally cede power to institutions and actors at lower levels (non-government actors), which is often referred to as democratic decentralization (Berkes 2010a). The Fisheries and Forestry Administration and the Ministry of Environment each have policies that support forms of democratic decentralization: some power is ceded to locally elected resource management committees, although each central state ministry retains the ultimate decision-making power. This is not exactly what scholars are arguing for when it comes to democratic decentralization. Regardless of the exact nuances involved in Cambodia's decentralization processes, such policies appear to be the only way that local people can have a say in the control and management of natural resources in and around their villages.

In the Cambodian context, with its hierarchical, authoritarian roots, this effort is definitely encouraging a process different from what has taken place over the years. On the one hand, Cambodian society continues to rely on patron-client relations (Legerwood and Vijghen 2002), while, on the other, also being heavily influenced by donor agendas of good governance (Slocomb 2006). This begs the question why different actors have bought into this agenda of promoting good governance and local governance, particularly given how different it is from

the strongly centralized governance regimes that the state has generally promoted and followed (Slocomb 2006). The following section examines the interest in decentralization from three often intertwined perspectives: (a) national interests, generally; (b) fisheries interests, specifically; and (c) other actors promoting the need for local voice in the governance of natural resources in and around villages. This analysis illustrates some of the reasons why government actors, and others, have created decentralized policies and, at the same time, why the uptake of certain policies will remain a challenge for some time to come.

National Interests Promoting Decentralization

Turner (2006: 260) comments that Cambodia's "impetus for decentralization came from relative stability rather than crisis." This is different than in other democratizing Southeast Asian countries. For example, the Philippines (1986), Thailand (1992) and Indonesia (1998) saw authoritarian states challenged by new parties, comprising elite alliances with newly empowered economic classes and/or social movements. By contrast, Cambodia's resistance parties entered into a multi-party governance arena, disempowered by the dissolution of their administrative structures and the closure of border refugee camps (Hughes 2003). This hints at the "uniqueness of the exogenously promoted Cambodian democratization project" (Hughes 2001: 301).

Hun Sen's ruling Cambodia People Party (CPP) has identified decentralization as a priority for its government, and there is an active donor effort to support this (funds from the World Bank, United Nations Development Program [UNDP], the Danish International Development Agency [DANIDA], among others). The first phase of Cambodia's decentralization program was the institution of elections for commune chiefs and councils, held in 2002 and then again in 2007. The ruling CPP party,

for example, now holds power in all but thirty of Cambodia's 1,621 commune-level authorities (Hughes 2009). Moreover, it was these CPP-dominated commune councils that "appointed or reappointed Cambodia's 13,000 village chiefs in a new system that cements the party's dominance to the lowest levels of administration" in 2006 (Hughes 2009: 207). One result of the decentralization project appears to be political consolidation. More bluntly put, decentralization strategies have likely served to strengthen the main parties' monopoly of the administrative apparatus (Hughes 2009).

The next phase of the decentralization project may reproduce this control at district and provincial levels (Hughes 2009). The Organic Law was passed in 2008, and this piece of legislation is expected to involve a significant devolution of power from the centre to the provincial and district levels further to improve subnational democratic development, the delivery of basic services (health, education, roads, water, sanitation, etc.) and the state's regulatory functions (land, forestry and fisheries). Moreover, this policy may exacerbate existing challenges between ministries with different mandates. Already decentralization policies are widely promoted both within the Ministry of Interior and across other ministries, and there may be multiple committees working on resource-related issues within a village or a commune, since the elected commune councils have a mandated role in resource management activities, as do the specific committees elected at a village level to address fisheries, forestry or protected areas issues. This causes tension, duplication and confusion (Marschke and Berkes 2005). This is also an issue between technical departments that see resource management issues as the domain of centralized state agencies (i.e., fisheries, forestry and land management) and the Ministry of Interior, which argues that it is tasked to deal with all local governance issues. Greater collaboration is necessary if decentralization is to work in practice.

While the introduction of democratic elections at the commune level may represent a major gain for democratization in Cambodia, and there has been large voter turnout for these commune elections (Turner 2006), questions do remain. An Asia Foundation survey (2003) found that most Cambodians vote to fulfill their civic duty rather than to make inputs to policy. This may change. Voter turnout, over time, appears to be down (Hughes 2009). Another study suggests that citizens may embrace democracy while also supporting the military and rule by strong leaders (Carlson and Turner 2008). Perhaps the bigger issue is that the process focuses on a highly restricted range of political parties among which the dominant political party has control in terms of resources (Hughes 2006; Turner 2006). It is possible that the Cambodian government has taken on decentralization for pragmatic reasons rather than the largely ideologically driven interests of donors in the establishment of strong forms of popular participation and political pluralism (Blunt and Turner 2005). What is likely happening is that some government bureaucrats see decentralization as a way to extend control to the grassroots level, others see decentralization as a threat to their central control, and others still buy into the decentralization agenda that is promoted by donors believing that people need to have greater say and control of their lives.

Decentralization within the Fisheries Sector

Much of Cambodia's approach to fisheries management has been rather hands-off, other than to ensure a consistent source of revenue for the state (cf. Bush 2008; Arthur et al. 2011). For specific aquatic species, the management approach was based on policy and legislation that placed restrictions on gear through licences and prohibitions, combined with establishing blanket closed seasons that broadly correspond with breeding and spawning seasons (Arthur et al. 2011). Enforcement of such

policies has been highly variable, and in most cases ineffective, causing tensions between state agents and local fishers. Within this system there appears to be significant space for political influence to determine access and control over resources (Sneddon 2007). Thus, in the past ten to fifteen years there has been a growing recognition that state-led approaches, represented in their simplest form as a combination of conservation objectives with policing approaches, have failed in either protecting fishery resources or in generating a shared interest in fisheries management among fishers and the state (Naasuchon and Charles 2010; Arthur et al. 2011).

The late 1990s was not the worst time to reconsider how to administer this resource. Significant fieldwork in the area of community forestry had been promoted since the mid-1990s, and there were early signs of success (Un and So 2009). The timing was also right in terms of promoting local involvement in the management of a resource within another resource sector, namely fisheries, particularly since fishers were beginning to mention stock declines and conflicts over access to the fishery were flaring up (Evans 2002). Thus, forms of local-government partnership (i.e., fisheries co-management) became attractive to a number of actors.

Prime Minister Hun Sen initiated a reform of Cambodia's fisheries sector in 2000, when the central government scaled back the extent of individual fishing lots by releasing 56 percent of Cambodia's commercially zoned fishing area (around 5,000 ha) and placed a nationwide call to establish community fisheries (Sneddon 2007; Evans 2002). This administrative reform led to significant changes, not only in terms of institutional changes such as the creation of a Community Fisheries Office or the promotion of community fisheries in Cambodia's Millennium Development Goals but also changes at the village level too, enabling local committees to form and work on local fisheries governance. A handful of community fisheries

committees existed in the 1990s, whereas by 2010 there were 468 community fisheries sites (433 inland, 35 coastal) (NSDP 2010). At this point only 173 sites have been officially registered, even though the Community Fisheries Sub-decree was passed in 2005 (to be recognized, communities need to work with fisheries staff to create maps, rules and regulations for a specific area) (CBNRM LI 2009; NSDP 2010). Regardless, the idea of village involvement in fisheries governance has caught on.

Consider the following quote from Cambodia's prime minster in 2007 with reference to the role of villagers in Cambodia's fisheries.

> We must strengthen the established communities to be at a high standard rather than to increase the quantity and continue to protect the conservation area and to constantly prevent illegal fishing by cooperating with relevant stakeholders country wide, especially to eliminate the illegal fishing equipments with strict and unforgivingness. . . . this will lead our country to that of *mein tik*, *mein trie* (having water, having fish) again (Cambodian Prime Minister Hun Sen, April 9, 2007).

As the prime minister's speech suggests, community fisheries and aquaculture development are at the core of Cambodia's current fishing policy, summed up in the 2005 Community Fisheries Sub-decree, which gives a right to villagers to manage their fishery, and the 2006 Fisheries Law, which provides an overarching framework for fisheries governance including specific fisheries management activities at a local level. Within these policies, the Fisheries Administration is meant to take a strong role in preventing illegal fishing activities. The prime minister is advocating for the strengthening of community-based groups for fisheries management. This approach to resource governance is a cornerstone of Cambodia's fisheries policy.

Even with the number of community fisheries sites (formal and informal), the strength of this reform is somewhat tenuous in the sense that it is not clear how many actors have really bought into it. Although in line with other sectoral reforms that emphasize decentralized governance, this reform emerged as a directive from Hun Sen, Cambodia's leader. That is, changes in the fisheries sector were not a result of policy dialogues within the Fisheries Administration or between state officials and fishers (Sokhem and Sunada 2006). Some Fisheries Administration officials do not endorse the community emphasis found within this policy shift. On the other hand, once this reform was set in motion, significant donor, NGO (non-governmental organization) and government effort was placed in policy dialogue. Between 2001 and 2005, the Community Fisheries Sub-decree was subjected to extensive revision, beginning in 2001 and then entering another series of consultations in 2003 before final approval in 2005 (Marschke 2005). Fishers and local fisheries management committees were called upon to attend policy dialogues or to host study tours of senior government officials learning about what community fisheries might entail (PMCR 2008). Getting the policy right was seen as a first step to supporting rural fishers, and much of the donor effort went in this direction.

Donors Supporting Local Involvement

Foreign aid is justified as an integral component for development under incomplete market conditions with limited investment (Ear 2007). Over half of Cambodia's national budget is funded by foreign sources (Hubbard 2005); between 1993 and 2003, five billion dollars of overseas development assistance accounted for 13 percent of Cambodia's GDP (Ear 2007). There are more than thirty major donors, along with hundreds of NGOs, working in Cambodia (Ear 2007). For 2009, the Royal

Government of Cambodia mobilized approximately one billion dollars in Overseas Development Aid (ODA), which was the highest in the last ten years (http://www.investincambodia.com/PM/primeminister.htm). Many donors have placed their aid efforts at the national level, working to support the creation of policies designed to ensure that mechanisms are in place to enhance democratic governance and to alleviate poverty. These policies are all organized around similar design principles that support local-level governance and ensure state-local partnerships.

Donor agencies such as the Food and Agriculture Organization (FAO), the United Nations Development Program (UNDP), the Swedish International Development Agency (SIDA), the German International Development Agency (GTZ, now GIZ) and Canada's International Development Research Centre (IDRC) all began their work on community-based resource management in the 1990s (Marschke 2005). Some projects focused on fisheries, some on forestry and some on both. Initial community-based management approaches were experimental: community members, NGOs and/or government facilitators worked on understanding what resource management could look like on a village-by-village basis. In these areas, village-level institutions were created in a policy vacuum, with maps and management plans recognized informally through appropriate signatures (from village headpersons to the provincial governor) and in some cases by technical departments at the provincial or national level (Marschke 2005). Pilot projects tended to address a mix of resource issues, from the illegal cutting of trees, to stopping the use of explosives in fishing, to addressing water supply issues.

Initial community-based management or co-management pilots did appear to be successful. Reasons for their success included intensive donor support, a long-term commitment to an approach (at least five years), working in relatively iso-

lated regions of the country (sometimes being the only project in an area, meaning that the area was not oversaturated with "development options") and perhaps the newness of the approach—everyone was keen for it to work (Ear 2007). Local institutions and provincial governments were often extensively engaged by project teams to gain their support for specific activities. Undoubtedly these experiences of the late 1990s and early 2000s contributed to the reform of Cambodia's fisheries sector and greatly influenced the design of local institutions and programs (Evans 2002; Marschke 2008). A series of actors, particularly government staff who worked closely on such pilots, became change agents within their own departments, really advocating within government for this type of approach and, in some cases, continuing to work on rolling out programs to ensure that a greater number of municipalities could be involved (Knowles Morrison 2010).

Villagers get involved in resource management activities for various reasons, too. A newly elected resource management committee, for example, may enable actors to find a new patron (Legerwood and Vijghen 2002) and serve as a way to alter village power relations. This may also serve as a mechanism to ensure that those who have been historically excluded from natural resources near their villages (vis-à-vis fishing lots, forest concessions) can now gain access. A committee may also be organized as a way to garner resources to stop encroachment from outsiders onto local resources. There may be strong leaders who are interested in protecting resources near the village, or villagers may feel that it makes sense to work on these issues. It may also be that the area has experienced significant declines, and an opportunity through a technical department or through an NGO pilot project enables the establishment of a community-based natural resource management site (Marschke and Sinclair 2009). Or, it may be that community members are interested in remaining in rural areas and recognize that part of their

livelihood is linked to natural resources. Although Cambodian communities are no longer particularly isolated, and household members are now moving in and out of the village, rural livelihoods remain linked to healthy ecosystems.

Snapshots of what community involvement in resource management may entail do exist. A 2009 edited volume of case studies, titled *Emerging Trends, Challenges and Innovations: Community Based Natural Resource Management (CBNRM) in Cambodia*, highlights cases of successful local resource management in Cambodia. For example, while initial resource management initiatives emphasized resource protection, this volume of cases demonstrates how people can move beyond conservation to manage and harvest their resources, such as honey bees and pole cultivation (CBNRM LI 2009). Cases also deconstruct ideas around common property, participation and who gains from an involvement in resource management. However, none of these cases provides any longitudinal perspective to demonstrate how resource governance processes may unfold over time. What are the ebbs and flows of this type of work? Can it realistically be sustained in a context such as Cambodia, particularly when donors pull back and the government remains largely responsible for supporting this type of effort?

CONCLUSION

Supporting local involvement in resource governance (fisheries and other natural resources) is an approach that holds appeal within the resource governance, scientific and research communities (Armitage et al. 2009) and arises as a response to the complexity and diversity of the systems, uncertainties about the effectiveness of current management arrangements, the diverse range of stakeholders and the often unexpected outcomes from previous policies and practices. Policy processes

supporting decentralized resource management emerged for multiple reasons: donor interests with public participation and empowerment, state attention to forms of political consolidation and/or grassroots participation, the need for technical departments to share the responsibility for resource management, and a curiosity in resource management from a local perspective (or, at the very least, an interest to work with an NGO at the local level). Such support is also tied to agendas of natural resource conservation, as well as wider goals of poverty alleviation and sustainable development and resonates with the regional agenda of democracy, decentralization and devolution.

Initial pilot testing was successful enough to serve as a model from which government authorities and donors could design their decentralization policies. Forms of community-based natural resource management or "co" management promoted within fisheries, forestry and environment agencies demonstrate the intersection of decentralization processes across multiple sectors, particularly that of public administration and that of resource governance. This results in a policy commitment to community and co-management of natural resources (fisheries, forestry, etc.), endorsed and promoted by the state, intergovernmental organizations, local NGOs and academic practitioners. Some programs emphasize a strong governmental presence and others advocate for mostly community involvement. In practice, this presents some challenges as the less prescriptive nature of the approach means that the terms "co-management" and "community-based management" can be unclear, and their application vague (Arthur et al. 2011).

Moreover, these policy reforms are occurring within an authoritarian, hierarchical power structure where social stratification remains an important cultural value (Ebihara 1968; Marston 1997; Gellman 2010). In concrete terms, people continue to pay respect and are loyal to those with a higher political

rank and economic status. At the same time, these societal values are interacting with evolving political and institutional development: notions of fairness, justice and local empowerment are entering into people's ways of thinking (Ojendal and Sedara 2006). This results in a "hybridization," whereby participatory democracy is overlapping with persistent patronage structures (Ojendal and Sedara 2006). In the resource sector, for instance, many of the Cambodian government's formal and informal policies are about exploiting timber and fish, or converting forests for agriculture production and converting fishing grounds into exclusive "fishing lots" (Sunderlin 2006; Ratner 2006). Meanwhile, as I have illustrated in this chapter, there are a series of recently designed policies to encourage decision-making and resource governance at a local level. The Cambodian context serves as an excellent example of how different world views intersect, at some points blending together and at other points clashing. Before turning to an in-depth examination of how these resource governance processes unfold in the coastal areas of southwestern Cambodia, Chapter 2 explores fisheries resources and specific fisheries governance challenges in greater detail.

II

Governing a Coveted Resource

Fisheries resources contribute significantly toward nutrition, livelihoods and GDP in Cambodia. At the same time, most of the near-shore fisheries are overfished (Pomeroy et al. 2007), both in coastal areas within the Gulf of Thailand (Salayo et al. 2008) and within freshwater areas such as the Tonle Sap lake. These declines have profound implications for tens of thousands of Cambodian households, particularly poorer households, in terms of livelihood opportunities and poverty alleviation. Fisheries governance in this situation is necessary, yet challenging to implement. Policy-makers are aware of persistent fisheries declines, although narratives around the role of small-scale fisheries in terms of poverty alleviation are contested. Some argue that small-scale fisheries are doomed (Bush and Hirsch 2005), that "fishing rhymes with poverty" (Béné 2003) or merely serves as a coping strategy (Allison and Ellis 2001). Others argue that fisheries provide a range of livelihood and developmental values that cannot be replaced (Arthur and Friend 2010), provide an important source of wild food (Greenburg 2010) and serve as a buffer during hard times (Béné et al. 2010). Regardless, diversification beyond fishing

or into aquaculture (fish farming) is frequently promoted as a pathway out of poverty (Arthur and Friend 2010).

Aquaculture, in comparison to capture fisheries, does offer the potential of high returns, even at a household-producer level (Bush et al. 2010), and other countries in Southeast Asia have seen significant rates of aquaculture growth (six percent per year) over the past decade (FAO 2009). Vietnam, for example, is the third-largest aquaculture producer globally (FAO 2009). Aquaculture, however, poses its own set of risks, including boom-bust cycles (Hall 2009), environmental contamination and complicated feed regimes (Phillips and Subasinghe 2008). Rapid aquaculture expansion causes further dilemmas of access, land allocation and coastal management. Households need a certain amount of start-up capital to begin aquaculture, along with a steady stream of buyers wanting their products. Cambodia's commodity chain for fisheries products is complex, involving multiple fish buyers or middlepersons (Yim and McKenney 2003). These are some of the reasons why aquaculture production remains low in Cambodia for now (six percent of its food fish production stems from aquaculture, mainly in the form of grow-out or small-producer aquaculture in the Tonle Sap lake and Mekong River). As such, shifting toward small-producer aquaculture in many fishing communities may not be a realistic option at this point.

This begs the question of how to govern the declining fisheries resources that many rural Cambodians continue to depend upon (I focus on fisheries resources, since aquaculture production remains low in Cambodia). This chapter begins by demonstrating the significance of fisheries within the Cambodian context and sketching out several of the key governance challenges for fisheries. I then turn to an exploration of the history of fisheries management, from the French colonial administration through Cambodian independence to the post-Khmer Rouge era. Particular attention is paid to the role of local people in

fisheries management, to consider if and how people have been involved in managing their fisheries. This is worth examining in light of recent reforms encouraging local resource governance, including fisheries governance, which were discussed in Chapter 1.

THE FISHERIES AS A RESOURCE IN DECLINE[6]

In general, fish and other aquatic species are in decline. For example, in the Gulf of Thailand the total biomass in 1995 had declined to less than eight percent of the 1965 estimates (Salayo et al. 2008). In the last fifteen years, biomass has likely further declined, given the amount of activity found in coastal and inland areas. Cambodian fishers themselves report a decline in catch per unit effort (Long et al. 2008) and note that the size and diversity of fish species have significantly decreased in the last fifteen years (Nao and Lieng 2008). As catch per unit effort across Southeast Asia has been declining, the exploitation ratio has increased (Stobutzki et al. 2006). Based on current trends, production from capture fisheries in the Asia-Pacific region is estimated to continue to decline over the next ten to twenty years unless excess capacity is greatly reduced (Sugiyama et al. 2004); this statistic likely holds true for Cambodia as well.

Fisheries are far easier to exploit than they are to manage for many reasons, including limited scientific knowledge about the resource, the hidden nature of the resource and the economic opportunities that fishing can afford (Berkes et al. 2010b). Fisheries ecosystems are highly variable, and include many species with different life cycles and seasons, often migrating over large distances. From a purely biological perspective, it is difficult to understand natural productivity, and there is much

[6] This section on fisheries decline is adapted from an article co-written by myself, Robert Arthur and Richard Friend. See Arthur et al. 2011 for more details.

to learn about aquatic life (Arthur et al. 2011). Added to the variability of natural systems are the diverse ways in which people interact with the natural system. People employ different kinds of gear targeting a variety of habitats, with different levels of intensity at different times of the year (Deap et al. 2003). Furthermore, households may rely on the fishery as a buffer, in the sense of family members moving in and out of the fishery, or as a livelihood strategy that enables the accumulation of capital and perhaps modest wealth (Béné et al. 2010). As such, fisheries represent "complex" systems of dynamic, interlinked social and bio-physical elements across a range of scales, characterized by contested values and interests, in which policy decisions are based on limited information (cf. Arthur et al. 2011).

Yet in spite of this biological complexity and general state of decline, the fisheries sector, along with agriculture (rice, timber and rubber), trade and manufacturing, plays a major role in contributing to Cambodia's economic growth. The fisheries sector contributes significantly to Cambodia's GDP, although the numbers do vary (anywhere from 7 to 12 percent); the fisheries sector is Cambodia's fourth-largest employer, accounting for almost 5 percent of the workforce (FAO 2009; MRC 2009). Fishers are likely fishing down the food web, i.e., shifting landings from longer-living bottom fish to shorter-living invertebrates and planktivorous pelagic fish (Pauly et al. 1998). In other words, fishers increasingly target large quantities of smaller fish. This situation is hypothesized to lead to an initial increase in catch, before transitioning into a phase that is associated with stagnation and decline (Pauly et al. 1998). This cycle helps to explain why money has continued to be made from fisheries resources, even though fishers themselves talk about smaller catch sizes. In this type of scenario, it is possible for production to grow even in the face of oncoming declines.

In 2008, based on consumption data, Cambodia's total production of fish grew to 471,000 tonnes, with increases coming from

rice field capture and freshwater aquaculture (NSDP 2010). From a regional perspective, the overall production of the Mekong capture fisheries—shared between Cambodia, Vietnam, Lao PDR and Thailand—is said to constitute 2 percent of total global fish production and 17 percent of total global inland fisheries production (Baran et al. 2006; MRC 2009). Fish, whether dried, smoked or eaten fresh, provides an estimated 75 percent of animal protein for rural Cambodians (NSDP 2010). Citizens in other Southeast Asian countries, in comparison, derive an average of 21 percent of their protein from fish (with the exception of Indonesia, where fish is also a main source of protein) (FAO 2009).

The Mekong River and Tonle Sap lake are the larger, more visible examples of Cambodian water bodies that are (or were, depending on one's perspective) rich in aquatic resources. Tonle Sap is Southeast Asia's largest freshwater, floodplain lake (the lake shrinks in the dry season and greatly expands during the rainy season) and gained UNESCO Biosphere Reserve status in 1997. There is also a great diversity and diffusion of small-scale fisheries in ponds, streams and rice fields (Gregory and Guttman 1996), small-scale yet productive upland fisheries (e.g., Degen et al. 2005) and a productive coastal fishery along Cambodia's 435 km coastal zone (Sugiyama et al. 2004). At this point statistics are only collected on the fishing effort for taxable gear. As such, there are no statistics for either the offshore fishery, which is heavily fished by international fleets, or for those using small-scale gear. Many households are small-scale producers or perhaps may even use what is classified as taxable fishing gear, but are not paying any official taxes (Marschke 2005). Households generally tend to fish in shallow waters that are less than twenty metres deep with boats of less than 33 horsepower.

Competing claims over land and biotic resources have increased in recent years, as new, often regional industries

have sought access and control for aquaculture production, mineral extraction and tourism. At the same time, there has been a depletion of aquatic stocks throughout the Gulf of Thailand and in freshwater areas, an increase in international fleets in Cambodian waters (fishers perceive this, although there are no exact numbers to back these claims) and a squeezing of coastal fishers into near and inshore water areas. For many rural dwellers relying on aquatic resources for their livelihoods, these new patterns of ownership have proven exclusive and inequitable. Yet fisheries are of particular importance to Cambodia's poor partly due to their nature as common property resources, acting as a component of diversified livelihood strategies and also as a safety net and coping strategy (Béné et al. 2010).

THE FISHERIES AS A GOVERNANCE CHALLENGE[7]

There are a series of challenges that fishers face: overfishing, biological complexity, and competing claims over land and biotic resources, to name a few. Although fishers can manage some of these challenges themselves, particularly with appropriate policies, many of these challenges do require state or regional intervention. Throughout Southeast Asia fisheries governance is poor, particularly in terms of managing excess capacity and in terms of solving fisheries-related conflicts. In most cases, excess capacity is ignored (large trawlers operating in local waters) and conflicts are not easily resolved. Cambodia, as one of the poorest countries in the region, is no different. To get a better handle on what these two issues mean for small-scale fishers, I examine excess capacity and fisheries-related conflicts each in turn.

[7] This section on fisheries governance challenges is adapted from a working paper co-authored by Dr. Simon Bush and myself. For more details, see Academic Acknowledgements.

Excess Capacity

Excess capacity has two dimensions: (a) the total quantity of effort being exerted in the fishery, and (b) the ability or effectiveness of fishing vessels and gear to catch fish (Pomeroy et al. 2007; Salayo et al. 2008). In terms of quantity of effort, people migrate and/or live along river areas and coasts relying on fisheries resources as a source of daily sustenance and livelihood. The fishery also serves as a buffer for hard times, enabling people to enter the fishery temporarily (Béné et al. 2010). With current stock declines, small-scale fishers are forced to increase the number of nets or traps that they set and the number of hours they fish. While small-scale fishers do place pressure on the fisheries, perhaps a far greater challenge is offshore trawls and larger-scale vessels. In both cases, a key challenge is how to reduce pressure through the "demodernization" of fishing technologies and through regulating access to fishing resources.

Management of excess capacity is difficult, partially because of the common pool nature of the fisheries resource in the inshore, near-shore and offshore water areas. While the open access nature of the fishery does have some benefits, in the sense of being a livelihood option that poorer households can move in and out of (Béné et al. 2010), unclear ownership also aggravates competition among fishers. Moreover, the general absence of enforcement of existing fisheries laws and policies has created a situation whereby no one is taking responsibility to do anything but harvest the resource (Siriaksophon et al. 2009). Compounding this situation is the neo-Malthusian narrative around resource decline (Henley 2005), which focuses on population growth and overfishing. This is an example of a "blame the poor" mentality that over-simplifies a complex situation influenced by multiple factors.

Although small-scale fisheries remain largely unregulated, regional and government authorities are increasingly focused

on extending management approaches to the small-scale sector (as touched upon in Chapter 1). Not all management measures, however, are accepted by small-scale fishers. In a study of fishing in Thailand, Cambodia and the Philippines, Salayo et al. (2008) showed that area-based protection and banning the use of some gear types were generally accepted management strategies because they are seen as affecting larger-scale fishers. In comparison, seasonal (temporal) restrictions and effort reduction were not accepted largely because they are perceived disproportionately to restrict small-scale fisher' income generation. Coastal fishers see regulation as being far more pertinent for larger fishing vessels, hinting at the poverty dimension facing many small-scale fishers (Salayo et al. 2008).

The number of large-scale national and foreign trawls that fish in particularly efficient ways is a major issue. For most Southeast Asian countries, including Cambodia, capacity appears to be increasing (Stobutzki et al. 2006). As with small-scale fishing, the incentive leading to overcapacity is the open access nature of the fishery. National fleets face an open access situation not because of inadequate policies, but rather because boat licencing is poorly enforced and landings, due to the large number of ports, are poorly monitored. A concerted effort at the regional level to consider options for fisheries management is desperately needed, particularly in light of national plans and policies that promote exportation of fisheries products as a way to alleviate poverty.

For these reasons, Stobutzki et al. (2006) argue that a two-tiered system of instituting or strengthening output controls for industrial fisheries, such as quota and licencing, and strengthening area-based user-group rights for small-scale fisheries may well provide the most promising set of fisheries management solutions. A two-tiered management approach would not absolve small-scale fishers from sustainable use of aquatic resources nor reify any claims that local fishers "know better"

(Johnson 2006). The success of output-based management will depend not only on how poverty and alternative livelihoods can be used to reduce fishing capacity but also on the specific importance of fisheries to these communities. Without broader understanding of the meaning and importance of fisheries to fishing communities, policy aimed at steering fisheries to sustainable use will remain ineffective at best and antagonistic at worst.

Conflicts

Multiple interests compete for the resources that small producers depend upon, including extractive industries (oil and gas exploration, mining of sand), international and national fishing fleets, tourism and dive resorts, and aquaculture development. Most of these activities result in territorial claims, leaving less and less coastline and aquatic space accessible. Although competition for marine resources has existed for decades (Chou 1994; Valencia and Marsh 1986), it is the intensity of competition for marine and aquatic resources that is at the crux of recent tensions. Conflicts may occur within the two-hundred-mile Economic Exclusive Zone (EEZ) over access to territorial waters (e.g., between Cambodia and Vietnam) or between users of different fishing technologies (Pomeroy et al. 2007). One reason that competition has intensified is the use of industrial fleets that possess a level of power and technology that can "'vacuum' or monopolize available fishery resources, taking all living organisms . . . and leaving nothing behind for resident and other smaller-scale fishers" (Pomeroy et al. 2007: 646). Such efficient gear contributes to a general decline in fishing stocks, which in turn exacerbates conflicts for local resource users.

Rapid transformations can also exacerbate conflicts: Cambodia's coasts and river bodies are now in the midst of

such a rapid transformation. Although conflicts play out at a local level, they occur often as a result of broader-level political economy policies and practices. In the case of extensive sand exploration and extraction found throughout Cambodia's coasts and rivers, much of this is driven by Singapore's choice to construct buildings reliant on cheap, resource-intensive concrete structures rather than using other (more expensive) construction techniques involving steel or glass. Market opportunities, rather than a lack of government policy (when enforced, Cambodia has decent policies that limit sand mining) have influenced where sand is dredged (*The Economist*, 2009). Fishers are affected by sand mining since it disrupts local aquatic habitat and affects catch levels. Other informal policies, such as rapid tourist development in the absence of an environmental impact assessment or other social assessments, can also increase conflicts.

Access is another issue facing local populations. As claims are made in and around shorelines (i.e., lagoons, mangrove estuaries, rivers, bays, inshore and near-shore areas)—whether from large-scale industry (oil and gas, sand mining), through national agencies creating protected areas and marine protected areas, or by individuals staking claims through the use of particular fixed fishing gear—fewer water areas remain accessible to poorer households. This creates conflicts, which play out in numerous ways, including through the stealing of fishing gear, anger toward those practicing illegal fishing (i.e., electric or blast fishing) and friction between those using different gear types. Social unrest between fishers is real; this unrest is enhanced by general fishing declines, aquatic and coastal exploration and exploitation. Adequate conflict-resolution mechanisms do not exist, and many conflicts cannot be handled at the village level alone (Pomeroy et al. 2007; Nasuchon and Charles 2010). It appears that those with the most "might" are often rather likely to win (i.e., those well-connected individuals and those with bigger boats and more efficient gear).

THE FISHERIES AS MANAGED IN THE PAST

What, then, has been the response to these fisheries-related challenges at the national level and within fishing villages? As was mentioned in Chapter 1, fisheries policies have generally focused on policy and legislation that placed restrictions on gear through licences and prohibitions, combined with establishing blanket closed seasons that broadly correspond with breeding and spawning seasons (Arthur et al. 2011). Enforcement of such policies has been highly variable and in most cases ineffective, often causing tensions between state agents and local fishers. This is what helped spark the fisheries reform in 2000, leading to the creation of a unit within the Fisheries Administration to focus on community-based fisheries management and the passing of legislation to support such an approach. Interestingly, this approach appears to be in marked contrast to past fisheries management practices. For this reason, I turn to a historical examination of how Cambodia's fisheries resources were managed as a way better to assess the potential for community fisheries processes.

Few scholarly articles examine Cambodian fisheries from a historical perspective (cf. Degen et al. 2000; Sneddon 2007; Bush 2008). Although the French colonial archives for Cambodia, which are partially housed in Aix-en-Province, France (the other section is housed in Hanoi, Vietnam), do contain archival documents from the colonial period (1863–1953), information on fish or fisheries management is limited. In comparison to other sectors such as forestry or agriculture, the fishery is not often referred to except in terms of establishing the parceling and auctioning system found within the Tonle Sap. Most post-colonial documentation from the 1950s and 1960s was destroyed during the Khmer Rouge era (1975–1979) and little was written in relation to fisheries resources during the Vietnamese occupation of the 1980s. What has since been

researched and written about this period (1975–1990) tends to focus on the Khmer Rouge genocide or the Vietnamese occupation (Slocomb 2002; Tyner 2008). For these reasons, I do my best at drawing together what is historically known about Cambodia's fisheries sector, paying particular attention to what was written about local fishers and forms of local management. It may be that I have missed something within the French scholarly tradition, although I have read several works (cf. Chevey and Poulain 1940; Martin 1997).

The once-abundant aquatic resources found in the Tonle Sap flood-plain lake generated significant revenues for Cambodian royalty, the French Protectorate, and more recently the Fisheries Administration and high-level officials. Cambodian royalty fundraised revenue through issuing fisheries concession leases (Petillot 1911, as cited in Degen et al. 2000). At the same time, French colonizers (1863–1953) recognized the revenue potential of Cambodia's rich inland fishery. A taxation system was, in part, modelled on Cambodia's traditional practices: the French Protectorate formalized the fisheries concession arrangements to generate revenue for the colonial administration. By 1910, for example, taxes from the fishery made up one-ninth of the French Protectorate's annual budget (Degen et al. 2000).

French colonial policy enabled local leaders to claim common land, land that was once available for all villagers. It appears that what may have been common property was gradually taken over by local or other elites, including land adjacent to critical fishing grounds. Moreover, prime fishing grounds in the Tonle Sap were parceled off for the exclusive use of elites 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. Exclusive concessions for larger-scale fisheries were thereby granted throughout the flood plain for two- to four-year periods. Medium- and small-scale fisheries were essentially

open access licences, allowing fishing gear of a certain size to be used in all areas except fishing lots (Bush 2008).

A significant amount of trade was already taking place within the region by this time (early 1900s). An estimated fifty thousand tonnes per year of fish were exported in the form of dried, salted and fresh fish, along with fish oil and fish paste (Degen et al. 2000). A Fisheries Law was established in 1908. At this point only a few restrictions in terms of fisheries practices were set in place. Documents kept by colonial administrators indicate that stock declines in relation to specific species had already been noted during this period. Regardless, conservation measures were not put in place and fish continued to be a major source of revenue for the colony. This persisted into Cambodia's independence era (i.e., post-1953). The Cambodian government continued the system of parceling off the Tonle Sap to the highest bidder for exploitation purposes, as written into the 1956 Fisheries Law (Degen et al. 2000). It appears the auctioning of fishing lots in the Tonle Sap remained a major policy thrust of the government throughout the 1960s and into the early 1970s.

Coastal resources, in contrast to the Tonle Sap were never parceled off to generate revenues for the colonial administration or for any post-independence government. This was partly because the majority of Cambodia's population lived in the flood plains of the Tonle Sap and this was where the state could generate the most revenue. Archival documents mention the trading of marine products throughout the Gulf of Thailand and the South China Sea during colonial times. During post-colonial times, oral histories relating to fisheries in the 1950s and 1960s suggest that those Cambodians fishing in the coastal areas were small-scale producers. During this period, villagers could sell their catches to buyers from Thailand, Vietnam and Singapore who came into the area to purchase local marine products (Marschke 1999). Unfortunately, little is written about coastal resources during the colonial or post-colonial periods.

The Khmer Rouge era (1975–1979) is recent enough to piece together a few more aspects in relation to the fisheries sector. Trade, both in the coastal area and in the Tonle Sap floodplain, stopped for the most part by the mid-1970s. Fishing resources were neglected in favour of rice production under the Khmer Rouge. This was, after all, a socialist project gone horribly wrong, where the cities were emptied out and the population was forced into an agrarian existence (Tyner 2008). Fishing that did take place was to supply leading Khmer Rouge cadres in Phnom Penh (Degen et al. 2000) or was caught illegally to augment meagre household food supplies. A few aquatic resources were specifically targeted. For example, there was a high demand for the Irrawaddy dolphin, as the oil contained in the dolphin's flesh could be used for engine lubricant.

In the early 1980s the Vietnamese-backed government issued a series of central directives, including organizing villagers into solidarity groups, known in Khmer as *krom samaki*, for farming and fishing villages. This type of collectivization was rather liberal by Vietnamese standards and adapted to suit the post-Khmer Rouge context (Frings 1997). It was the municipality or commune that "was responsible for the proper functioning of the solidarity teams for increasing the harvest, the core element of the agricultural-based revolutionary society" (Slocomb 2004: 453). However, the state could not enforce compulsory returns, and it appears that solidarity groups also sold to local business people if this is where the advantage lay (Slocomb 2002). Although by the mid-1980s agricultural offices that covered fisheries were found at the provincial level, the Ministry of Agriculture never achieved firm control of resource exploitation in part because of the ongoing war and weak administration (Le Billon 2000; Slocomb 2002). That being said, fish was viewed as a resource that could be further developed for trade with Vietnam, Cambodia's main trading partner throughout the 1980s (Slocomb 2002).

By the late 1980s, the government had introduced pragmatic reforms, discarding socialist economic practices in favour of liberal market reforms (Slocomb 2006). At this point, solidarity groups were abandoned and villagers returned to fishing with other household members, or sometimes shared a boat with neighbours. Formerly parceled fishing areas in the Tonle Sap were redemarcated: the government re-established this concession system to raise revenues (this system had only been loosely used to generate state revenues during most of the 1980s). The 1987 Fisheries Law recognized large-scale fishing operations—initiated under French colonial rule—as a major state revenue source and tool to control the fishery. By 1992 the concessions were being auctioned at values ranging from US$ 2,000 to US$ 20,000, depending on the area's size and location (Bush 2008). Once again, fishing lots in the Tonle Sap were auctioned to the highest bidder, thereby excluding villagers from nearby fishing grounds; once again the coastal area was relatively ignored. As a result, a first-come-first-serve mentality ensued.

During this period of market liberalization, the fisheries represented a good that the state relied upon for export. Fishing lot owners, in particular, guarded their fishing grounds, and fishers were often unable to cross fishing lot boundaries to access their fishing grounds, or any open water area for that matter. That being said, local people relied on the fishery as a source of protein and, for those living in and around rivers, lakes or the ocean, as a source of income. By the late 1990s, a few fishing lot owners controlled much of the Tonle Sap fishery. This resulted in an enclosure, limiting many people from entering the fishery. In the coastal area, fishers were facing their own challenges: an increasing presence of large, foreign trawls and ever-efficient fishing gear that was affecting aquatic stocks. Since aquatic stocks were decreasing throughout the Gulf of Thailand, it made sense to target Cambodia, with its relatively intact mangrove ecosystem. This was a time when

conflicts between fishers using different gear began to increase dramatically (Marschke 1999; 2005).

As this narrative suggests, not much is known about the fisheries sector in general. Even less is known about if or how Cambodian communities managed their fish and flood forest resources prior to the devastating Khmer Rouge regime, or, for that matter, at any point leading up to the rise in community-based management practices in the late 1990s (that coincides with the proliferation of NGOs and donor interest). Historians like David Chandler argue that little management took place at a local level in any sector (cf. Chandler 1996). This certainly seems consistent with a society that is hierarchical and authoritarian (Bit 1991). The counter-argument to this is to consider the speed at which villages rebuilt their temples post-Khmer Rouge; no doubt this effort took a significant amount of local initiative and control (Legerwood and Vijghen 2002), although some monetary support did come from overseas Khmer.

A few authors, specifically examining natural resources and local agency, found that local resource practices were likely led by village and higher-level government officials (cf. Martin 1997; Marschke 1999). In the coastal areas of south-western Cambodia, for example, there appears to have been a system in place for charcoal production whereby charcoal was produced in designated spaces with a recovery period being recognized as necessary to ensure the longer-term sustainability of the mangrove ecosystem (Marschke 1999). This effort was supervised by local government officials. Martin (1997) describes a state-controlled marketing system in the 1960s whereby villagers could do what they liked with their resources so long as they sold their product to a centrally appointed government official. In this system, household harvests were recorded and then money was distributed after the district chief sold the harvest on behalf of households. To draw from another example, monks recall villagers protesting as parts of the flood

forest near the village were cleared for watermelon cultivation in the 1940s. Such cutting affected aquatic habitat during the flood season, and after complaining to the district level, watermelon cultivation stopped and reforestation was encouraged. Since then, villagers follow an informal system of forest management, reporting to authorities any illegal cutting or hunting activities (cf. Evans et al. 2004; Marschke 2008).

As such, it may be fair to suggest that while forms of local resource management can be found in Cambodia, these cases may be far and few between. It does not appear that specific fisheries management activities took place in and around villages, in the sense of limiting gear types, protecting specific breeding habitats or limiting the number of people who could access these areas, with the exception of one case where monks protected fish species in the river near their pagoda (CBNRM LI 2009). Thus, while it is possible that more examples of local fisheries management existed, it also may well have been that protecting forest areas for aquatic habitat was what happened most often. What all this suggests is that there has never been an active interest in fisheries management at the village level per se, rather a general interest in habitat protection and in ensuring access to the fishery.

CONCLUSION

Reflecting upon Cambodia's history is useful for understanding what a novel local resource governance approach has been recently introduced to the fisheries sector, one that is in many ways counter-intuitive to leadership structures (local and national). The emphasis on a form of fisheries management that included local people only came to fruition in the late 1990s. What this historical analysis suggests is that local fishers never took a particularly strong role in fisheries management, and that the state has consistently looked toward the fishery for revenue generation. Equipped with this information, it becomes

clear that shifting fisheries management to local levels is not necessarily just, given that there is not a strong precedent for local fisheries management and that multiple actors are vying for aquatic and coastal resources. This chapter, therefore, offers insights into why local resource governance programs may take time to be established, and how fisheries governance remains contested, as will be seen in the chapters that follow.

Even with significant reforms, fisheries are hard to manage in the best of circumstances; multiple drivers coalesce in and around fishing villages, producing highly complex, uncertain consequences (Pitcher and Lam 2010; Underdal 2010). Governance arrangements need to respond to an ever-changing resource base and "roving bandit" traders (Berkes et al. 2006), in addition to adapting to both the common-pool nature of capture fisheries and the owner-operated nature of small-scale aquaculture (Chuenpagdee et al. 2008). High poverty rates, limited tenure rights for fisheries resources and the general economic growth derived from natural resources (including fish) pose additional challenges for fisheries governance in Cambodia (Cox 2008; Un and So 2009). Finally, dealing with excess capacity and fisheries conflicts is proving to be particularly hard, even with major policy reforms and donor support on these issues.

There is limited analysis of Cambodian fisheries governance (Sneddon 2007; Bush 2008) and the concrete challenges that fishers are facing in part because of the slow pace of change within the fisheries sector and in Cambodia more generally. What does exist generally fails to account for the socio-political context in which policy experiments are designed (Clement 2010) or to consider the longer-term sustainability of such policy experiments. The subsequent chapters explore fishers' livelihoods and management and fisheries governance more broadly, drawing on my detailed research from one village and the local fishing grounds that a handful of villages depend upon in southwestern Cambodia.

III

Life in a Resource-Dependent Village, 1998–2010

I came to Koh Sralao in 1988 because I did not want to be a soldier anymore. People told me about the opportunity to work for a businessperson who was growing marijuana. I came to the village thinking that I would be a worker but the plantation was shut down shortly after I arrived. So I had to learn to fish. I learned to fish from people nearby, asking them questions about their nets and about the water. I built a house on the water and used candles at night to catch crabs with my hands.

I decided to stay. I did not know anyone, so I had to find a middleperson who could help me in harder times. After a year, I had 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 crabs, but I now use nets and go deeper in the water since I know where to look.

Although my life is better now than it was, since my children can help me earn money for our family, I do worry about the future. There are now more people interested in our fishing grounds . . . bigger fishing boats and barges that carry sand . . . and sections of my nets are destroyed each year. It is harder to catch a consistent amount of fish, even when I fish further from home. My children need to do something else, but I do not know what else they can do here. I like this area, and would prefer to stay if possible.

—Excerpts from interviews with
Mat Sok, Cambodia, 2002, 2003, 2008, 2010[8]

[8] Although I met with many individuals and groups throughout this field research, the most consistent, in-depth work took place with key informants in six households that

Multiple factors have affected Mat Sok's livelihood situation: enforcing government policies such as the government crackdown on growing marijuana, declining fish stocks, limited educational opportunities in the village and a general lack of money. The above excerpts illustrate the ongoing challenges that this fishing household deals with. Sok considers his household to be economically poor, although he feels that it is tight-knit and well supported within the Muslim community (around ten percent of all households in Koh Sralao are Muslim; the rest are Buddhist) and within the village more generally. Several times when Sok's fishing gear has been stolen, for instance, neighbours lent him old gill nets that enabled him to save enough money for new gill nets rather than having to borrow money. Sok is also involved in community activities, working within Koh Sralao's Mosque Association and, at various points, working with the local resource management institution (which will be discussed in greater detail in Chapter 4).

Sok has been able to send his children to the village school (with classes until grade nine) by using gill nets, a fishing gear that he can handle by himself to catch crabs. Sok's wife Narin extracts the meat from the crabs he catches and sells the crab meat to a local buyer. She sometimes peels extra crabs as a way to generate additional income for their household. Recently, Sok's two oldest sons finished grade nine at the village. One son started to fish with him, which increases the amount of gill nets that Sok can set, and the other son found work in a factory near Phnom Penh. Unfortunately, sending either son to high school in the provincial town was out of the question for

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I began carefully working with in 2002. For each of these households, I explained this book project and discussed the pros and cons of using names or pseudonyms. We agreed that I would quote people directly to give credit to local experts unless a topic was too sensitive (relating to politics or issues of power, for example). In these cases the name of the person and the year of the discussion is placed after the quote. For all other sources, information is presented in such a manner to ensure confidentiality.

Sok, which is the case for most villagers. A concern for Sok's household has been the continuous decline in fish catch over the past years, coupled with fishing gear getting consistently stolen or destroyed. Sok's livelihood is enmeshed within a complex social-ecological system that is in continuous flux.

This chapter attempts better to understand such fluctuation. My goal in writing this chapter is to account for the social-ecological changes that have taken place within this mangrove-estuary village over a twelve-year period, 1998–2010, paying particular attention to the livelihood trajectories of a handful of households and the ongoing stresses endured by these villagers. I am curious to understand the local opportunities that may arise when living in an area where resource extraction is the norm and if this has enhanced or diminished general development opportunities for villagers. This analysis sheds insights into why villagers started working toward resource governance and specific management activities, which are explored in the subsequent chapters.

INTRODUCING KOH SRALAO VILLAGE

Koh Sralao village, the village where much of the detailed field research has taken place, is located within the mangrove-estuary forests that populate the shorelines of southwestern Cambodia, 25 km from the provincial capital of Koh Kong town (located in the province of the same name, Koh Kong province) (see Figure I in Prologue). Until 2009 the population was steady at around 1,900 people, with three hundred or so households. Only in the past year, or maybe two, has Koh Sralao experienced a rapid out-migration (which will be discussed later in this chapter and again in Chapters 5 and 6). Koh Sralao village is accessible only by boat, which can take anywhere between forty-five minutes to three hours from the provincial capital. The village also lies within 30 km of the Thai border. People in

the area rely on trade with Thailand, although this has changed since the early 2000s when a road was reconstructed to connect the provincial capital with the rest of the country. Traders, from within the village and from outside, continue to buy local fish that is then either sold to Thai buyers or buyers from Phnom Penh. The main changes that have come with the reconstructed road—increased access of outsiders into the province, land-grabbing, business opportunities—have recently been felt in the village. Nonetheless, Koh Sralao village continues to be considered as a remote (since it is boat-access only), relatively poor village by Cambodian standards. Koh Sralao is one of a handful of mangrove-estuary fishing villages in this area.

Basic services in Koh Sralao village were minimal for many years, although this started to change in the early 2000s. Schoolteachers were willing to stay in the area and a new primary school and a new junior high school were built in 2005. That being said, children who want to go to high school need to leave the village for the provincial town of Koh Kong. Health services remain minimal, although a doctor now comes into the village once a month. Electricity vis-à-vis a generator is now offered in all parts of the village with half of Koh Sralao's households being able to afford this service. Water can be pumped into richer people's homes, for a monthly fee. Since 2007 cell phone coverage has reached the village, which has made communication far easier. Before then, only a few households owned a walkie-talkie radio system that connected to villages within a 20 km radius. Table II contrasts the differences in services between 1998 and 2010. Worth noting, poorer households cannot afford electricity or to have water piped into their homes; at the same time, most children now attend school, especially primary school.

TABLE II: Services in Koh Sralao, 1998–2010

Services	Koh Sralao 1998	Koh Sralao 2010
Health	No health centre; 2 midwives; 2 traditional doctors.	Basic clinic, doctor comes once a month; 2 midwifes; 2 traditional doctors.
Water	Two wells, one that works in the dry season. Sell water to other villages. Households collect rainwater.	Three wells—open for all to use. Four spring wells, 3 that are piped into households (for a fee), the fourth is sold to other villages. Households collect rainwater.
School	Old, wooden school (grades 1–4).	New concrete primary school built in 2001 (grades 1–5); new concrete junior school built in 2005 (grades 6–8).
Electricity	Battery, oil lamps (poorest).	Battery, oil lamps (poorest), generator (richest).
Phone	No phone system; two-way radio.	Two-way radio; cell service in 2007.
Trade	Most villagers indebted to a village middleperson; most fish products sold to Thailand.	Debt to a village middleperson or bank (in 2004 villagers were able to get loans from a bank); most fish products sold to Thailand.
Travel	Villagers rely on their own boats for travel, or join boats taking goods (fish) to town.	There are four taxi boats, each running daily.

THE HOUSEHOLD PERSPECTIVE: SOVANNA, WAYNE, PREUN, MILORN, DOM AND SOK

Having briefly introduced the village, I now turn my attention to the lives of six key informants and their families. I began meeting formally with these key informants in 2002 as part of my dissertation research to gain further insights into daily life in Koh Sralao. Although most household information was shared through the eyes of my main contact, other household members frequently contributed to this picture mainly as time

went on. Table III illustrates the diversity of situations found among households in Koh Sralao and highlights the variation in livelihood activities between their initial arrival, what they did in 2002 and what they did in 2010. As Table III illustrates, many people moved to the area to pursue nonfishing-related resource extraction activities (working at the marijuana plantation, then turning to other activities including logging and charcoal making) and only came to depend on fishing at a later point.

When I first began working with these households in 2002, five out of the six households pursued some form of fishing as their main livelihood activity.[9] Wealthy households specialized their fishing activities, setting large traps 5–6 m below the surface of the sea or using a large circle net to gather fish. Less wealthy households fished using gill nets or crab traps. Milorn, the only female-headed household in this sample, was not involved in fishing activities in part because of gender constraints and in part because of her history as a business woman. Although most households pursued fishing activities as their main livelihood activity, many took advantage of nonfishing activities when they arose. For example, one year households were able to sell freshly picked mushrooms found in the mangrove back-swamps to a Korean buyer, but the mushrooms were over-harvested within one season. Another year a few

[9] There are two main places that people from Koh Sralao village fish: (a) in the mangrove-estuary areas near the village and (b) in a productive shallow-water bay area known as Chrouy Pros Bay. The mangrove-estuary areas, surrounding the village, provide an excellent habitat for a variety of aquatic species such as shrimp and mangrove mud crabs that use the muddy bottom for their home and feed on mangrove leaves. Koh Sralao fishers fish in the mangrove estuaries or may go further afield to join other fishers in Chrouy Pros Bay. Here fishers set their nets and traps for swimming crab and grouper species. These fishing grounds begin around 5 km from the village; as such, one requires a motor boat to access this area (about half of Koh Sralao's fishers fish here). There are no exact numbers in terms of who is accessing either of these fishing grounds, although far more people in the area are dependent upon Chrouy Pros Bay, since it is a particularly productive ecosystem and several villages are located at the edge of this vast bay.

households tried to cultivate green mussels, but this foundered because Thai buyers were not interested in buying from Cambodian fishers that year. These types of nonfishing activities tended to be one-off, short-term opportunities, although there are also cases of households being able to open and sustain small food shops in front of their homes.

By the mid-2000s, however, households began discussing livelihood strategies that would enable them to exit the fishery completely, either through migration or by developing a suite of livelihood activities that did not depend on the fishery. Milorn and Dom are examples of two households that left the village in the mid-2000s to pursue nonfishing livelihoods, whereas Wayne and Sovanna are examples of two households that abandoned their fishing activities but have been able to pursue other livelihood activities within the village. This is particularly telling in Wayne's case, since Wayne was born into a fishing household: Wayne's grandparents, parents and Wayne himself were fishers, and Wayne earned a significant portion of his income from specialized fishing activities. Yet by 2008, Wayne no longer used fish traps nor practiced any type of fishing:

> I no longer fish since it is less predictable than in the past. Although I did not find large groupers in my fish traps for several years, I did catch some in 2007. So I could do this again if I had to, but it is risky and I would catch less than I used to since there are more trawls in the sea. Also, I want to protect my health and not work too hard, and I now have competition from several other fishers who recently learned to dive (2009).

Wayne's reasons for diversifying beyond the fishery are linked with age, competition, risk and working with a resource that is becoming increasingly scarce. He has not encouraged his sons or daughter to enter fishing as a livelihood activity. Wayne's household operates one of four taxi boats, controls much of the

TABLE III: Household Livelihood Details, 1998–2010

Household (HH) Details (2010)[1]	Livelihood History	Main Livelihood Activities 2002	Main Livelihood Activities (2010)
Name: Sovanna Age: 47 Marital Status: married Children: 11; 20 living in HH	Arrived in the late 1980s to work in the narcotics plantation; learned to fish and ran a coffee shop; became a fishing middleperson in 1990s.	Middleperson (crab and grouper—lending fishing gear with clients selling product at reduced price); fisher (circle net); sells luxury goods (beauty products); exploring farming options in another province.	Moneylender; farmer (10 ha—sells fruit in village); no longer fishes or tries farming elsewhere; considering growing rubber.
Name: Wayne Age: 51 Marital Status: married Children: 3; 4 living in HH	Long-term resident of area. Pursued a range of activities: some illegal (charcoal production and dynamite fishing); some legal (trap fishing).	Fisher, sets deep-sea traps for high value species (grouper); sells basic goods from home; also sells ice (only person in village to do so).	Stopped fishing in 2008; controls water supply for village; son is a taxi boat driver; claimed 2 ha of land in village; active in politics.
Name: Preun Age: 62 Martial Status: married Children: 3; 5 living in HH	Came to area in 1984 to work at narcotics plantation, switched to crab fishing.	Crab fisher (150 traps).	Hires labourer to operate his crab traps (150 crab traps); runs a section of the village electricity supply (operating a generator that supplies 1/3 of the village); small home shop.

Name: Milorn (f) Age: 51 Marital Status: twice divorced Children: 4; lives alone	Came in 1984 to work at the narcotics plantation, became a middleperson for charcoal.	Makes cakes; rents newly constructed home to gamblers; raises pigs (2003).	Left village to farm (2008).
Name: Dom Age: 55 Marital Status: married Children: 1; 2 living in HH	Came to village in 1990 to fish, then became involved in transporting logs until he was caught in 1999.	Crab fisher (200 traps); operates a karaoke shop; sells dog soup (2002–2003).	Left village to farm (2005).
Name: Sok Age: 46 Marital Status: married Children: 5; 6 living in HH	Came to village in 1988 to work at narcotics plantation that closed down shortly after. Learned to fish.	Crab fisher (gill nets, 2,000 m); raises chickens.	Continues crab fishing (gill nets, 3,000 m); first son working at a factory near Phnom Penh; second son helps with fishing; raises chickens and ducks.

[1] Households are listed in order of economic wealth (from the wealthiest to the least wealthy). Note that no one in this sample belongs to the ultra-poor category (i.e., landless and struggling more than most).

household water supply business, and recently obtained two hectares of farmland in the village (although this land is contested and it is unclear if he will be able to keep it). Meanwhile, his daughter married the local schoolteacher in 2007 and recently moved with her husband to the provincial town. She is the first family member to leave the village in at least three generations.

Sovanna, too, has chosen to pursue nonfishing-related livelihood activities. In 2002, when I first met Sovanna, he talked about wanting to do farming. At that point, Sovanna was negotiating a land claim in the village (for 10 ha of land that was contested by another villager) and had bought land in another province. Between 2003 and 2005 Sovanna divided his time between Koh Sralao and his new farm, around 500 km from Koh Sralao, where he planted mung beans. This, however, proved too difficult to manage and once his land claim was settled in Koh Sralao he decided to focus his farming effort in the village. Sovanna began planting fruit trees in the mid-2000s and now sells his fruit in the village. He plans to expand into rubber. Farming is a real switch for Sovanna and his household since for many years Sovanna was a middleperson[10] (providing

[10] In the late 1990s and early 2000s, villagers borrowed money from a local moneylender/fish buyer, and were then required to sell their catch to that particular moneylender/fish buyer at a reduced price. In exchange, fishers could delay loan payments, when necessary, and could sometimes get a cash advance. Such relationships, classified as patron-client relations, did play a role in village life, although there were limits to this relationship (the idea of a generous patron, *à la* James Scott, does not appear to obtain in Cambodia) (Legerwood and Vijghen 2002). By the mid-2000s, however, most moneylenders stopped buying fish products, rather switching to lending out money at high interest rates. This was at the same time that a few fishers began to access credit from the bank located in the provincial capital, Koh Kong town. Although interest payments are generally lower with the bank than through a moneylender, the bank offers no leniency for those that cannot meet their payments. This is problematic if the fishing season is poor, or if a fisher becomes ill and cannot fish. Even so, fishers are increasingly reliant on the banks since moneylenders are being more demanding in terms of repayments and are less willing to lend out money, often citing fisheries declines as the reason.

fishing gear to households in exchange for them selling their aquatic products to them at a reduced price) and a specialized fisher (operating a circle net).

It is rather telling that in a coastal village, only two of the six households in my sample continued to be involved in fisheries in any significant way by 2010. In the short period of time between 2002 and 2010, many households' main livelihood strategies had shifted. Sok and Preun were the two key informants whose households continued to rely on the crab fishery, mostly because they felt they had no other options available to them. As Preun explained, "There is no future in fishing here, since the fish are smaller and less abundant. I hope that my children can be creative and find a new opportunity for themselves, but I do worry. For poor people it is not so easy to improve one's situation" (2008). There is the recognition that fishing is unlikely to deliver a sustainable livelihood, yet most households who remain in the village continue to fish because of a perceived lack of alternatives.

This is not to suggest that Preun and Sok's households have not tried to diversify into nonfishing activities. Preun owns a small shop that sells fruits and vegetables, and runs a generator that supplies electricity for one-third of the village. He spent most of his savings on sending his son to college in Phnom Penh in the hopes that his son would then begin to send back remittances once he started working. To Preun's disappointment, this did not happen. In 2009 Preun's household cleared 1 ha of land 10 km from the village in the hope that someone would want to buy the land. This is highly unlikely, however, since business interests rarely recognize these types of small-scale land claims. By contrast, Sok and his household have struggled to diversify into nonfishing activities within the village. The good news, for this household, is that it is now in a phase of benefitting from two children having completed their schooling (grade nine in this case). Sok's eldest son is working in a factory near Phnom

Penh and is able to send back some money each month; the other son now fishes with Sok.

The livelihood trajectories of the two households that no longer live in the village also warrant further discussion. Milorn's livelihood took off during the resource exploitation phase of Koh Sralao: she owned several charcoal kilns and employed labourers to run these kilns. All her charcoal kilns were destroyed in 1999 as part of a government crackdown on illegal production. She tried to become a moneylender for those switching to crab fishing, but found that it was too difficult to ensure loan repayment once there were hints of fisheries declines. She then turned to making small sweets that she sold door-to-door, and other activities like raising pigs and renting out the basement of her house to gamblers. As she has lived in the area for a relatively long time, she is able to use her networks to access opportunities. For example, in 2004 a local business-person sold her equipment for distilling rice wine. Milorn's idea was to sell the rice wine and use the waste from this process as food for her pigs. This worked for several years until she decided that it was too much work for her to do this on her own. At that point she sold off the business to another villager.

Overall, Milorn's livelihood activities became increasingly less lucrative over the years. This may have been one of the factors that pushed her toward finding options outside the village. In 2006 Milorn left Koh Sralao for the first time in pursuit of other opportunities. She initially went to Thailand, where her son was employed as a fish worker. She kept house for him, but found it hard to sell goods from his home. She returned to Koh Sralao in 2007 where she tried selling water. The well that she had access to, however, was the muddiest well in the village, so villagers did not want this water pumped into their homes. Thus, when she heard about a land distribution project that the government was supporting in another province, she seized the opportunity. According to her daughter, she was given a

piece of land that she farms with one of her grandchildren. Her daughter still lives in the village, using her mother's home and continuing to rent out the basement for gamblers to play cards.

Milorn's livelihood history is different from Dom's, in the sense that she has been able continually to find new opportunities and make some money whereas Dom has had more of a boom-bust livelihood history. In the 1990s Dom fished for the then abundant and valuable grouper fish, saving enough money to become a middleperson for both crab fishers in the village and for those harvesting and selling logs. Dom became involved in transporting logs in the late 1990s from the upland forest areas through the mangrove estuaries to Koh Kong provincial town. To do so, Dom estimates he was forced to bribe the police a total of US$ 1,800 over a five-year period. At a certain point, however, there was a crackdown on this type of activity and Dom's logs were confiscated by the police. This confiscation, coupled with many villagers not repaying Dom the money that they had borrowed from him, sent his household into a downward livelihood spiral starting in 1999.

Dom then turned to crab fishing as his main livelihood activity, but sought to supplement this with other activities; some of these initially appeared to be successful, although none were ever sustained. For example, Dom began operating a karaoke shop from his home and sold homemade dog-meat soup. Although dog meat is considered a delicacy, Khmer culture frowns upon the killing of dogs. After the novelty wore off and people stopped coming to sample his soup, the business petered out and Dom was forced to reconsider his options. A few years later, Dom decided he was too old to fish. In 2005 he left the village to help a businessperson secure a claim on a piece of land he was planning to develop near the provincial town. Dom and his wife pieced together a thatched hut with a small garden area. This semi-rural existence lasted for nearly two years until the owner began developing the land and Dom

was forced to move. In my last visit to Koh Sralao in 2010, villagers reported that Dom had obtained 2 ha of farmland in one of Cambodia's border provinces, that his daughter had followed him there and that he had recently become the village chief. Dom's house in Koh Sralao has long since been reclaimed, since he owed a significant amount of money to several moneylenders.

THE VILLAGE PERSPECTIVE

What the foregoing account suggests is that life for villagers is in constant flux. Although household wealth does shape the choice of livelihood activities that are pursued, as is seen between Sovanna's livelihood choices (moving between activities, settling on nonfishing activities) as compared with Sok's choices (remaining reliant on fishing), and can serve as a buffer against everyday stresses, life nonetheless remains challenging for most villagers in Koh Sralao. The following section provides an analysis of general stresses endured by Koh Sralao villagers over the past twelve years, and then considers the livelihood activities that villagers have pursued, based on wealth category, during this period. This analysis demonstrates how most villagers have been switching between livelihood activities at a furious pace and how few villagers can really "make it" in a situation of ever-continuing resource declines.

Ongoing Stresses

Livelihood stress has been rather constant for Koh Sralao villagers. Table IV illustrates the continuous instabilities facing villagers throughout the twelve years from 1998 to 2010.

As Table IV illustrates, people have endured a lot over this period. Koh Sralao households have been impacted by overfishing and a lack of livelihood options for years. Resource

TABLE IV: Stresses Experienced by Villagers, 1998–2010

Stress	Explanation
Sand Mining, 2008–	Significant sand is being mined from river mouths. Affects crab populations and people's ability to fish in the area; by mid-2010 nearly 60 (of 300) households had left the village.
Food Crisis/Economic Crisis, 2008–	Price of rice, fruit and vegetables doubled; price of gas increased.
Competition within Main Fishing Grounds, 2000s	Fishers squeezed into one area, meaning fishers using traps and nets are competing with fishers using trawls. Conflict ensues.
Loss of Fishing Gear, 2000s	Stolen or destroyed fishing gear (traps and gill nets) presents a challenge for households. Authorities hesitant to get involved.
Declining Resources, 2000s	Progressive decline in wildlife and fish populations, along with habitat degradation. Limited enforcement of existing laws.
Being at the Mercy of Markets, 2000s	Market demands and fluctuating commodity prices; boom-bust marketing cycles. No one to buy a product (sell-while-you-can mentality).
Charcoal Ban, 1999	Forced more people into crab fishing or to leave the area. This shifted pressure from one resource to another (mangroves to fish).
Open Access Regime for Resources, late 1980s–1990s	Lawlessness pervades—fend for yourself and take advantage of resource extraction opportunities. In spite of major legislative reforms supporting community-based resource management, this attitude stemming from this era, to a large extent, remains.

extraction opportunities for the local population ended, for the most part, by the late 1990s. As land-based livelihood activities such as forest exploitation were significantly curtailed, villagers were forced to concentrate their livelihood activities in the fisheries sector.[11] Meanwhile, the increase in foreign fleets has forced fishers using trawls to move into the inshore areas. It is

[11] Throughout the 2000s, over three-quarters of Koh Sralao's three hundred or so households have practiced fishing or some form of fishing-related activity, catching mainly shrimp and two crab species (the swimming crab and the mangrove mud crab). Debt levels tend

no wonder that conflicts have escalated in recent years between those using different gear types in the same fishing grounds. Those that are able to combine fishing with nonfishing activities do so to ensure a suite of livelihood options. Compounding this situation is minimal access to land and the distance between villages: villages are between five to ten kilometres apart, meaning that boat travel is costly and not particularly time-efficient.

The most recent challenge facing fishers comes from sand mining activities that began in early 2008, when a few companies began dredging operations near one of the main fishing grounds used by Koh Sralao villagers. Within weeks, villagers noticed a decline in the main crab species caught in the area, the swimming crab. Fishers suspected a link between the rapid stock declines and the sand dredging. Although Koh Sralao's resource management committee sent an official letter of complaint to the provincial government and the Ministry of Environment, no government authority has been willing to address this. This is likely linked to who is pursuing sand mining: the two main operators are two of Cambodia's richest business entrepreneurs, both of whom happen to hold seats in the National Assembly and are rumoured to have strong connections with the prime minister (Global Witness 2009; 2010).

Sand mining is linked to regional markets, regulations and interests. Although Cambodia is developing its extractive industries sector, the recent interest in coastal sand from southwestern Cambodia is linked with Singapore's land reclamation and construction projects and the Indonesian ban on sand exportation in 2007. Following the Indonesian ban, Cambodia—with its loose regulatory framework and relatively pristine coastal environment—became an area of interest for foreign dredging

to be high, which is the case in many fishing villages, since fishers often need to borrow money at the beginning of a fishing season to cover their start-up costs (replacing mesh, fixing nets, boat repairs). For example, in 2003, eighty-two percent of households said they held debt; in a 2008 follow-up survey, ninety percent of households said they held debt.

companies (Sokha and Strangio 2009). Although it is difficult to assess the exact ecological impact of the sand mining, since there is no scientific baseline from which to measure, villagers believe that fishing has become even more difficult in the past two years. Empty homes are now seen throughout the village. This is the first time that I have seen this in the entire time that I have been working in this area. Villagers estimate that at least one-sixth of all households left the village between 2009 and 2010. Considering that the total population of Koh Sralao remained stable for the past decade at around three hundred households, this out-migration is significant. It appears that some households left to pursue farming opportunities elsewhere, while others fled particularly high debt loads and were unable to handle the shock of considerable crab declines. Sand extraction is not the only activity to place a strain on local livelihoods; it may just have been the tipping point for some households.

To survive in Koh Sralao, households need continuously to take advantage of the livelihood opportunities that present themselves. That being said, not all households can take advantage of the same opportunities, especially poorer households. How, then, do livelihood opportunities break down over the past decade vis-à-vis wealth categories in a place like Koh Sralao? Wealth, of course, is a relative concept in a village such as Koh Sralao, with few households being able to save much money and few households being able to move between wealth categories. The broad categories of rich, medium and poor did not look particularly different between 1998 and 2010, with most Koh Sralao households continuing to identify themselves in the medium category.[12] What did differ, however, was the type of livelihood activities that people could pursue.

[12] According to local perceptions, poor families have limited fishing gear or are forced to sell their labour, medium families have a boat, several types of fishing gear and can access credit (a range of debt occurs in this category) and rich villagers appear to have specialized business opportunities.

Table V breaks down livelihood activities by wealth category. Livelihood activities that are stroked out no longer exist, activities written in normal font have been continuous throughout the years and activities that have emerged in the past few years are italicized.

Table V draws attention to just how dynamic life is in Koh Sralao, and the multiple livelihood activities that households have pursued, continue to pursue or may try to pursue over time. At first glance it appears that poorer households, or those at the bottom end of the medium scale, are really struggling. This is likely true. They definitely have less livelihood options available to them. However, when thinking about fishing activities and livelihood security, another interesting point emerges. Poorer households tend to fish in the mangrove-estuary areas in and around the village, whereas medium households fish further

TABLE V: Suite of Livelihood Activities, 1998–2010

Rich HH Activities	Medium HH Activities	Poor HH Activities
~~Specialized fishing activities~~	~~Charcoal producer~~	~~Collect mangrove wood~~
Access land (in village; *in other areas*)	~~Green mussel culture~~	Fish in estuary areas (traps)
Large HH shops	~~Collecting mushrooms from mangroves~~	Peel crabs
Control services (water, electricity)	Fish in Chrous Pros Bay (gill nets)	Sell sweets/cakes
Farm intensively	Skilled trade (hair dresser, carpenter)	Sell labour (*fishing*, nonfishing)
Control a service (*water supply, electricity, water taxi*)	Teacher	*Collect molluscs*
~~Lend money actively~~	Animal-raising	
Lend a little money	*Specialized fishing activities*	
~~Transport goods/people to provincial town~~	*Small HH shops*	
	Have a share in a key service (*water, electricity, water taxi*)	
	Claim small amount of land far from village	

Italics: 2007–2010 activities; ~~stroked out~~: activities that no longer exist; regular font: activities that have been constant.

away from the village (accumulating debt to do so). Sand mining appears to be impacting fishers fishing in open waters to a greater extent than those fishing in and around the mangrove estuaries. Thus, given the significant debt loads that medium fishers carry, they are quite stressed and stretched. I do not want to suggest that poorer households are not struggling, for they are, but merely to point out that life for medium households is not easy either. Whereas middle-income earners are facing unanticipated risks and struggles in relation to intensifying their fishing effort, rich households have been able to switch their livelihood activities with relatively little risk. They have been able to diversify into nonfishing-related activities, and for many years did a mix of fishing and nonfishing activities. The difference is that in 2010 they are relatively uninvolved in fishing activities.

LIVELIHOOD PATHWAYS AND RESOURCE DECLINE

In spite of wealth differences, a striking feature of this study is how marginalization and immiseration is the norm for villagers in Koh Sralao. Only a few villagers have really "made it": those that switched to nonfishing activities prior to the beginning of sand dredging activities. Villagers have constantly struggled to improve their situation and to find ways to sustain their livelihood. Yet sustaining local livelihoods has become a near impossible task since villagers have been increasingly marginalized in terms of access to the most productive resources in the area. Outside interests in local resources serves to further enhance people's marginalization. Villagers are no longer involved in the small-scale extraction of the more lucrative resources: logging, charcoal production, sand mining or catching larger fish. If all these natural resources were truly protected (the village lies in one of Cambodia's twenty-three protected areas) and outside entrepreneurs were not coming into the area, then

villagers might have had the benefit of an increased supply of fish, wildlife and non-timber forest products. This, however, has not been the case.

Moreover, this mangrove-estuary area does not have the means of production that would provide villagers with a more stable livelihood such as access to farmland, a well-regulated fishery or reliable wage labour opportunities in the area. The lack of road access combined with high gas prices and a declining fishery may prove to be a serious issue in the future. Although a few wealthy households can invest in their children's education, this is not an option available for most households. Extra household labour enables a household to increase their fishing effort; this also means that children are faced with difficult decisions in terms of continuing their education, looking for work outside the village or helping their parents with fishing activities. By all accounts, those households that left in the past year did so because they could not sustain their lives in the area. Migration may in fact become the exit strategy for many fishing households. The question is where do people go and are they able to "make it," whether in Cambodia or elsewhere? Meanwhile, those that stay are the wealthy few, those uninterested in moving and those who do not see any other options available to them. This is a village that seems to be reaching a breaking point.

CONCLUSION

Business entrepreneurs have always found ways to exploit the natural resources found in southwestern Cambodia—through growing marijuana, logging, charcoal production or dynamite fishing. However, the relative isolation and access challenges to this region meant that for many years local people were employed as labourers in such extraction activities or sometimes owned small businesses themselves. Even though

resource extraction did affect the ecosystem in a negative way, particularly the significant amounts of deforestation that took place, there were a range of livelihood options for local people to consider. As resource extraction opportunities began to diminish and as the government began enforcing certain rules and regulations, villagers who stayed in this area recognized that forms of resource governance were likely necessary if they were to sustain their livelihoods, and the livelihoods of their children (Marschke 2005). In a sense, the chaos and resource declines experienced in the 1990s are part of why people bought into the idea of pursuing forms of resource governance. In the late 1990s, fish stocks were already in decline, but there was a belief that aquatic stocks could be better managed at a local level along with implementing an active reforestation program (PMCR 2008). Large-scale resource extraction that excluded all villagers and seriously affected aquatic stocks was not fathomable back then. Perhaps this was a good thing.

Hindsight might lead one to question the benefits of putting a large amount of effort into local resource governance, particularly since villagers and technical departments have not been able to halt sand mining practices. In spite of this setback, Chapter 4 will illustrate how Koh Sralao villagers have not been passive actors in this story. Resource governance work in Koh Sralao began at a particular point in time, one where people thought that their work could make a difference—and for certain issues it has. Villagers were interested in "doing something," particularly when it came to protecting mangrove forests, wildlife and aquatic habitats, and preventing illegal trawling or blast fishing. This willingness, combined with a donor agenda that promoted the idea of involving local people in all types of governance issues, created a platform for experimentation. Chapter 4 explores the results of such experimentation, examining the ebbs and flows of the work of Koh Sralao's resource management committee between 1998 and 2010.

IV

Villagers Pursuing Local Resource Governance, 1998–2010

Cambodia's emphasis on local governance can be seen as a timely embodiment of the global trend encouraging decentralized resource governance, as a donor and government response to the poverty and marginalization found in many rural areas, or as a foolhardy idea with little chance of success given the reality of rural livelihoods in resource-dependent villages. Nonetheless, hopes became somehow pinned on novel governance arrangements that involve local people living closest to a given resource. When resource governance experiments first began in Cambodia in the 1990s, the focus was on the most pressing resource issues (i.e., land encroachment, logging, aquatic stock declines, poaching of wildlife) facing a given village or commune. Villagers were encouraged to create a resource management plan and elect a resource management committee. Much of this initial effort was financed by the international community and supported by NGO or government-led project teams (Un and So 2009). Prior to the establishment of formal policy, it was only through the support of a provincial governor that forms of local resource governance were likely to be sustained or be successful (Marschke 2005).

While a dozen or so community-based management experiments took place during the late 1990s (Marschke 2005; Un and So 2009), a serious effort went into creating a policy environment to ensure such involvement was legal, particularly among donors and activists who wanted citizens to gain sufficient rights. Policy mechanisms to enable local resource governance now exist in Cambodia. These policies were mostly designed in a sectoral manner, following the vertical lines of a technical department. For example, the Fisheries Administration, the Forestry Administration and the Ministry of Environment each have legislation that endorses local-level resource management (for fisheries, forestry and natural resources, respectively). Once formal policy was approved, the official endorsement by a provincial governor was no longer required, although a significant amount of "soft" power still exists in this office. There are now over three hundred communities working on forestry issues, 468 on fisheries issues and over fifty on issues within protected areas (CBNRM LI 2009; NSDP 2010). Multiple donors, national NGOs, academics and government departments have supported aspects of this effort.

The purpose of this chapter is to explore what resource governance can mean at a local level. In a sense, creating a management plan or having a locally elected committee does not say much in terms of how resource governance is being addressed "on the ground," particularly in a context of general natural resource decline. For these reasons, the experiences found in Koh Sralao are worth paying attention to. Koh Sralao's resource management committee has been working on resource governance since the late 1990s; this is an area where resource extraction has been rife and where governance reforms are not easy to pursue. This chapter examines the specific activities undertaken by Koh Sralao's resource management committee and explores if and how these activities are sustained over time. Equally telling are the issues that one might imagine a

local resource management committee could handle but does not chose to pursue, such as gear theft and excess capacity. The chapter illustrates how resource governance has been successful in dealing with activities that easily demonstrate success and provides an analysis of why other issues remain a challenge.

RESOURCE GOVERNANCE IN THE VILLAGE

Koh Sralao's resource management committee was established partially in response to the rapid deforestation that took place near Koh Sralao during the 1998 election period (Marschke and Nong 2003) and partially because there was a donor-funded, government-led research team[13] interested and willing to work with villagers on resource management issues and a national policy framework that supported this type of approach. This was a logical fit, given that there were no other projects working in the area and people relied on the forest and fish resources for their livelihood (PMCR 2008; Marschke and Sinclair 2009). As discussed in Chapter 3, villagers draw on the natural resources

[13] This research team, which has consisted of staff from Cambodia's Ministry of Environment, along with staff from other national and provincial departments (including fisheries, women's affairs and rural development) was supported by Canada's IDRC between 1997 and 2010. Over time, the project team and project funds diminished, from CA$ 345,000 for the first phase of the project, then known as the Participatory Management of Mangrove Resources (PMMR, 1997–2001), to CA$ 100,000 between 2007 and 2010 for the last phase of the project, known as the Participatory Management of Coastal Resources (PMCR). In the early years, the team focused on capacity-building and supporting community organizing for resource management initiatives, while in later years the team focused on finding additional sources of funding for village groups, producing research reports and sharing lessons learned from the work of several resource management committees in the area. The team has done a serious amount of backstopping over the years to support village-level initiatives and convince national policy-makers of the relevance of local work. This is closely linked to the leadership shown by PMMR/PMCR's project team leader, who has consistently supported and worked on resource management issues over the years. For more details on the PMMR/PMCR team and their work, see PMCR 2008.

found in this mangrove-estuary community in multiple ways. The Cambodian government, for the most part, has had limited "hands-on" involvement in this area with the exception of enforcing a ban on logging activities (e.g., cutting logs, exporting logs or making charcoal) in the late 1990s and then supporting commune planning processes in the mid-2000s. As such, if villagers wanted to see the governance of their resources improved, they needed to engage in this issue and decide on activities that they could implement.

Koh Sralao's resource management committee, first elected in 2000, consists of seven "movers and shakers." Strong leadership and local support for this leadership are definitely enabling factors contributing to the committee's success (Marschke and Sinclair 2009), something that is found in other studies examining when community-based or co-management of fisheries resources may be successful (Gutierrez et al. 2011). This is an important aspect, since there is a growing critique that many resource committees exist on paper but not in practice (Resurreccion 2006). The head of the committee is Sovanna (whom I introduced in Chapter 3), a well-respected businessperson in Koh Sralao who sits on a series of village committees and has been elected to sit on the commune council in both sets of elections (2002 and 2007, respectively, although he has since resigned from this role). Moreover, many of the committee were re-elected (five of the seven members in the 2004 re-election; with four original members re-elected in the 2009 election) and have been working on resource management issues for a relatively long period of time. Another important aspect may be the relationships committee members have built over time with technical staff at the provincial and national levels; these are often drawn upon when more serious resource management problems arise in the area.

This committee serves as an example of what is possible in the arena of local resource governance, even in areas where

persistent resource declines exist and daily life can be a challenge. This committee is not likely to be reflective of most resource management committees in Cambodia (Blunt and Turner 2005; Ratner 2006), given the long-term technical support, strong local leadership and decent village-commune relations. The ecological system also may contribute to aspects of the committee's success; compared with upland areas where trees may take decades to grow, the benefits of mangrove replanting are demonstrated relatively quickly. The main mangrove species, *Rizophora spp.*, mature relatively quickly (in less than a decade) and provide habitat for many different aquatic species within its roots. Ownership at the committee level, and to a certain degree the village level, of the resource governance activities is strong. Over seventy percent of villagers said that they were aware of the work of the resource management committee in a 2008 village survey.

SPECIFIC RESOURCE MANAGEMENT ACTIVITIES

> We have done a lot over the years. We have done mangrove replanting, formed internal regulations and shared these with villagers, solved some problems in the village, patrolled to catch and fine illegal fishers, forest cutters and hunters, held monthly meetings, provided environmental education in the primary and junior schools and held village garbage clean-up days.
>
> We are less busy now than we were in the past, although we do meet regularly to discuss any resource-related problems and meet with other villages when there is a big problem in the area. We have re-planted over 500 ha of mangrove trees and continue to re-plant mangroves and work on waste management. We have now transferred some of our other work to the commune council, since we can access a small amount of funds for commune-related resource activities.
>
> In the past two years [2008–2010] I have facilitated several meetings between our three local resource management committees, since we have a problem with sand mining near our fishing grounds. Each

> committee organized for villagers to thumb-print a petition that we sent to the local authorities asking them to investigate this situation.
>
> —Excerpts from interviews with Sovanna, head of Koh Sralao's resource management committee, in 2004, 2006 and 2010

Sovanna is reflecting on what he feels the main activities of the committee have been. His comments illustrate how Koh Sralao's resource management committee has been involved in various types of activities since the committee was elected in 2000. Such activities include mangrove replanting, dealing with fishing conflicts, patrolling the village area to prevent illegal hunting or fishing practices, setting up a waste management system in the village, working with schoolteachers to develop curriculum related to local ecology and thinking about how to handle sand mining activities. These activities are illustrative of the issues that villagers may be able handle at a local level. Some activities have been more successful than others; certain activities have continued consistently, whereas other activities only took place for a short period of time. Table VI illustrates the range of resource-related activities that committee members have been engaged in between 1998 and 2010. This table also provides an explanation of what an activity actually entails and notes if the activity is still happening.

As Table VI illustrates, Koh Sralao's resource management committee has been involved in a series of activities since it began including creating a management plan, signposting protected areas, inputting into policy and being filmed while replanting mangroves to promote Environment Day within Cambodia. Mangrove replanting is at the core of Koh Sralao's annual resource management work, along with waste management and, at various times, patrolling. This committee has been able to sustain its work over the years, albeit intensifying its activities at certain times and scaling back its activities at other times. There is significant buy-in for resource management in

this area; moreover, the committee has been able to modify and integrate a few of its activities into emerging governance mechanisms such as Commune Development Plans, which all communes are required to do annually.

After a series of workshops in the late 1990s facilitated by the government-led research team interested in garnering support for local resource management, a number of villagers ran for election with seven villagers being elected (Marschke 2000). This committee only began their work in earnest after participating in a series of study tours looking at what resource management meant, particularly in other villages dealing with fishing and flood forest issues (Marschke 2000).[14] Once the committee bought into the idea of "doing something" at a local level, they began with an extensive environmental education campaign and with patrolling activities to prevent hunting, trawling and dynamite fishing (all illegal activities). With time, the committee expanded its activities to include conservation-type activities, livelihood activities and other village development activities (Marschke and Berkes 2005).

Over time, committee members have also become more confident and vocal. On several occasions committee members have had a chance to explain their challenges to Koh Kong's provincial governor and the Minister of Environment, such as discussing the illegal trawling activities that take place in the mangrove estuaries (Marschke and Kim 2003) or by drawing attention to the implications of sand mining on the fishery. In late 2006 members from Koh Sralao's committee were asked

[14] Through such study tours and local knowledge exchanges, relationships are built between villages. Koh Sralao's response to the devastating 2005 fire that burned one-third of all homes in another community working on resource management issues 900 km away is illustrative of this. When news of the fire reached Koh Sralao, they, along with two other resource management committees in the area, raised CA$ 100 to donate to the resource management committee of the fire-ravaged community. This type of village-to-village help in the resource management sector, which has often been donor-driven, is generally unheard of.

TABLE VI: Resource Management Activities, 1998–2010

Resource Management Activities, 1998–2010		What This Process Entails	Is the Activity Still Happening?
Committee Level	Study Tours, Initial Planning	Project staff facilitates study tours to other communities dealing with resource issues to "jump start" ideas for engagement.	An active learning phase took place between 1998 and 2002. This continues, in terms of hosting study tours and committee members being invited to events (less than in the past). This committee has hosted over 800 visitors since 2001, according to the community logbook in 2010.
	Activities in Village		
	Patrolling	Committee members rotate on patrols, in combination with police and technical staff (when available).	Formal patrolling ceased around 2006, in part because of artificial seagrass reefs placed in fishing grounds and a conservation NGO initiating patrols for wildlife poaching in the area.
	Signposting	Several committee members signpost mangrove replanting areas.	Continues.
	Waste Management	Project team and committee start with awareness-building prior to implementing a system.	Established in 2004; continues.
	Ecotourism	Committee head acts as an advisor on ecotourism development in another village (began in 2005).	Continues—the committee hopes to start such a project in Koh Sralao.

	Monthly Meetings	Committee discusses and reflects on issues; leader ultimately decides course of action after discussion.	Continues, although less consistent than in the past.
	Non-village Activities		
	Input into Policy	Several committee members attend national policy meetings.	Less so—high-level government decision-makers have visited this area three times (2001, 2002, 2006) and key policies have now been passed.
	Fisheries Federation	Established in 2005. Koh Sralao takes a "big brother" role in helping two other resource management committees in the area establish themselves, and is working toward common goals in addressing resource issues facing all committees.	Ongoing, although less consistent when there are no funds to support such meetings (high fuel prices make it challenging to hold meetings between villages).
Village Level	Mangrove Replanting	Committee organizes. Long-term residents coach others in mangrove replanting; each year becomes more organized.	On an annual basis from 2000 to 2008, not in last two years. Started with project funding, and was then integrated into commune planning. Over 500 ha replanted.
	Public Participation	Because of links to various government departments, committee members asked to participate in various public dialogues.	Occasionally. Meet with reporters, filmed while replanting mangroves for National Environment Day (2002, 2007), participate in televised debates on environment (2006), key villagers took part in a video focusing on their resource governance work (2009).

to debate with university students about the pros and cons of shrimp farming. This debate was televised nationally, and committee members shared their experiences with unsustainable shrimp aquaculture and argued in favour of developing small-scale aquaculture as one of a series of fishing strategies that would ensure longer-term survival of the fishery and local livelihoods (N. Kim Dec. 2006 pers. communication).

This committee now acts in a kind of advisory role for other resource management committees in the area. For example, when a nearby village started its ecotourism activities a few years back, the head of Koh Sralao's committee was asked to act as an advisor to its resource management committee. Since 2005 this committee has been working with two other resource management committees in the area to facilitate a "bay wide" approach to fisheries management (three villages in this area rely on the same fishing grounds known as Chrouy Pros Bay, further discussed in Chapter 5). The committee has been instrumental in leading the drive toward a fisheries federation. In this role, the committee has led the group toward agreeing upon common regulations and approaches to fisheries management for this fishing ground, and to take similar stances when it comes to petitioning against sand mining or large-scale trawling sometimes found in and around local fishing grounds (PMCR 2008). Although enforcement of community-based regulations can be problematic because of the size of the fishing grounds and the general lack of patrolling support from technical departments, this federation still serves as a useful platform for discussing pertinent resource issues in the area.

To get a better sense of what it means to be working on a specific activity, the following section examines a few of the activities the Koh Sralao committee has been involved with in greater depth. Patrolling, waste management and mangrove replanting are each examined in turn. Careful attention illustrates

how these activities have had ebbs and flows in terms of interest and effectiveness. The most sustained activity, by far, appears to be the mangrove replanting campaign.

Patrolling

Patrolling for illegal resource extraction activities is one area in which Koh Sralao's committee has been relatively active, particularly in the early years near the village. During peak times, the committee patrolled the waters surrounding the village eight times per month. These patrols were done to monitor forest-cutting, wildlife-harvesting, fishing with dynamite and trawling in the shallow mangrove estuary waters. When the committee was able to stop offenders, they would issue a fine and, in some cases, confiscate fishing gear or illegally extracted resources such as logs or charcoal.

The resource management committee can only carry out patrols with a member of a technical department or with the local police. This "forced marriage" can be problematic since technical staff, local police and a management committee may have differing interests in resource management. For example, technical staff either follow the law to the letter or they ignore it, police often ignore the law since money can be made from resource exploitation and a committee is often trying to find solutions to resource challenges through enforcing its own rules, albeit with a certain degree of flexibility. Koh Sralao's advantage, in terms of patrolling at least, is that it lies within a protected area since the Ministry of Environment supports local park rangers and considers them to be technical staff of the Ministry of Environment within all protected areas. Thus, the committee can patrol with either of the two park rangers that live in Koh Sralao, rather than needing to involve the local police or ask for technical support from the provincial Department of Environment. This is an example of where protection-related

interests align, which serves the resource management committee and the park rangers well. With time, the local police also overcame their resistance to patrolling efforts.

Even with the advantages that committee members have in Koh Sralao, patrolling is not that easy to implement. It requires some serious thought and decision-making. Fishers themselves are constantly monitoring the waterways, reporting on illegal activities to the committee. Illegal activities may not necessarily fall within a patrolling schedule; the committee then needs to decide if they should investigate the claim and mobilize themselves. To do so, committee members need to be available, a boat needs to be found, the police need to be informed and park rangers need to be gathered. More than this, committee members must brace themselves for potential conflicts with those they are trying to stop and apprehend.

For patrolling to work, repercussions have been established for those that fish illegally. There is a system of fines in place, depending on the gravity of the act. However, imposing a fine is not always that easy since not all situations are predictable. Consider the following quote:

> A fisher lost traps on the other side of the estuary [across from the village]. We tried to solve this with the police. The person who stole the traps lived outside the community. We wanted to fine this person but they did not have any money. So, we went to their home and brought back some luggage and some cups since he is a thief. Everyone agreed that this was fair (Dom 2003).

When poor fishers are caught, extracting a monetary fine can be harsh and unrealistic. As such, creative solutions may be found to ensure that a fine is imposed but in a way that is deemed fair to the situation. Fairness, in such cases, is subjective to the whims of the committee.

Sometimes it is simply too risky to patrol. It makes little sense (and is nearly impossible) to try to stop someone doing dynamite fishing in a high-powered boat. The committee itself does not have a speedboat to patrol with (initially they used the boat donated to the park rangers, which lasted a few years, and they then turned to using each other's boats). Gasoline prices also affect the number of patrols that can take place in any given month. As in other places, gasoline prices have been steadily rising. While fines do supplement gasoline prices, there is no guarantee that someone will be apprehended on a patrol and, even if someone is apprehended, that they can necessarily pay the fine. Thus, it has proven difficult to self-finance this system continuously over the years. Although the committee has relied on random inputs from various projects (NGO- and IO-funded/or -supported), collected fees from villagers and chipped in committee members' own money, this is one activity that has been difficult to sustain.

Securing funding is one reason the committee stopped actively patrolling, although several other factors are also at play. As will be discussed in the following chapter, concrete artificial reefs were placed in the fishing grounds used by many Koh Sralao fishers in 2006, which led to a significant reduction of illegal trawling in the area. Another factor is that a conservation NGO began actively patrolling the area for wildlife poaching. This, combined with the belief that the committee has a reputation for having strict resource management practices, is part of the justification for stopping consistent patrols. Perhaps, too, committee members were tired of patrolling and felt that this really should be the work of the government rather than themselves. This may be a step toward demanding resource governance from elected commune officials, or perhaps it is a signal that local people have had enough.

Waste Management

Island-estuary communities do face a significant challenge when it comes to waste management, as there is little land in which to burn or bury waste and these areas are far from government services. Until recently, the "norm" was to throw waste into the water for those houses built over the sea. This is no different than in freshwater fishing communities, where over ninety-five percent of villagers dispose their waste into the river or lake (Isreal et al. 2005). The committee in Koh Sralao has been working to change this. A series of waste management trainings and workshops—initially facilitated by the government-led research team working in the area, then continued by Koh Sralao committee members—have been held since 2000. Both committee members and project staff working in the area have struggled with how to approach this issue. For the first several years, linked into a general environmental education campaign, workshops introduced the importance of waste management for the committee and selected community members. However, people were not dealing with their waste in a consistent manner.

Only in late 2004 was the committee ready to implement a system of waste management for Koh Sralao, and an NGO was willing to pay for individual garbage bins for each household.[15] At this point, committee members had spent enough time educating villagers about the cause and effect of poor waste management. Operationalizing a waste management system involved small user fees, distributing waste bins, widening several bridges over the waterways so that the cart used to collect waste could go over them, agreeing on an area of land by

[15] The Mangrove Action Project (MAP), based in Thailand, has provided CA$ 8,000 per year since 2005 to the Ministry of Environment to support waste management activities in several coastal villages in Koh Kong province. Although this was tried in several villages, Koh Sralao appears to have been most successful (for more details, see PMCR 2008). This is an example of the fundraising the PMCR team was able to do in its later years.

which common waste could be buried and a weekly system of garbage collection. As Sovanna notes:

> We have had to learn how to encourage and push community members to pay their monthly waste collection fee. I've also noticed that when some households start keeping their household area clean, other households who live around them begin to do so too (Sovanna 2007).

As a means of encouraging greater participation of community members, quarterly waste management awards are given out for those households that have the cleanest area surrounding their house. Although the system is not perfect (sometimes waste is not collected on time as the waste collector is busy with other livelihood activities), committee members felt that this practice was contributing to a cleaner, healthier village environment. Over time, the committee has helped to create new "norms" in relation to acceptable levels of waste in Koh Sralao. In 2008 the committee was in the process of reviewing the monthly fees that households paid as they planned to increase the fees that small businesses pay for garbage collection and planned to hire another person to collect the waste. By 2010 the committee had a system in place by which businesses paid a different rate than households for waste collection.

Mangrove Replanting

Mangrove replanting is the most consistent activity that the committee in Koh Sralao supervises: mangrove replanting was done on an annual basis between 2000 and 2008. In the late 1990s, this area experienced a significant decline in mangrove forest cover, fuelled by the growing market for mangrove wood and mangrove charcoal in neighbouring Thailand and lax enforcement by government officials (Marschke 1999). This was curbed when the national Forest Administration clamped

down on illegal logging activities, which halted the extensive trade of logs and charcoal with Thailand. Perhaps as a result of this experience (serious tree-cutting and an enforced ban on logging), the committee decided that forest protection and enhancement was an important aspect of their resource management work. This is also an activity that is doable, in the sense that collecting mangrove propagules for replanting can be done in the areas surrounding the village, propagules do not cost anything and the results of this activity can be seen within a year or so (i.e., young mangroves can be seen growing in former shrimp ponds or filling in areas that had been overharvested). In recent years this has been undertaken as a food-for-work project, with an outside individual or organization donating the rice to ensure that everyone in the village immediately benefits from their labour.

Although there was a low survival rate of mangrove propagules in the first year, in subsequent years better planting techniques and monitoring of seedlings took place. The committee coordinates this annual replanting event and is supported by several long-time residents holding significant local environmental knowledge. This process has fostered an enhanced understanding of the value of mangroves for villagers in Koh Sralao. As one villager commented, "people know not to cut the mangroves as this will destroy our life. Now there are more mangroves, and we can find more snails and crabs" (Koh Sralao villager 2007). Moreover, replanted mangroves provide a buffer against storms and an increased nursery ground for crabs and other aquatic species. As of mid-2008, over 500 ha of mangroves were replanted in the area surrounding Koh Sralao.

Preliminary analysis of Radarstat satellite imagery suggests that the prevalent decline in mangrove resources that the area faced in the 1990s has been halted with significant regrowth taking place. Most likely this regrowth can be attributed to an active environmental education campaign at the village

level, patrolling efforts to ensure natural regeneration and the mangrove replanting effort. It helps that villagers have been recognized provincially and nationally for their work, being televised several times for replanting mangroves on National Environment Day. It is a big deal for a remote mangrove-estuary community to make it onto national television! There is a general sense of pride in mangrove replanting activities, and a significant amount of buy-in to continue this from a social and ecological perspective. For the first time in over a decade, mangrove trees surround the village and mangrove replanting no longer needs to take place on an annual basis.

WHAT IS MISSING?

As the cases of patrolling near the village, mangrove replanting and designing a waste management system illustrate, certain resource governance issues can be handled at a local level even with limited, patchy funds. Koh Sralao's committee and community members are involved in specific resource management activities, having taken steps to enhance community life. In many other contexts, municipal governments would take on these issues (i.e., dealing with waste or policing efforts). Koh Sralao's committee also demonstrates the ability to come together on issues, including being able to discuss challenges with other committees and being able to organize petitions to bring awareness to issues such as illegal trawling or the impacts of sand mining.

Activities that are cost-effective, demonstrate results and are nonpolitical in nature are easiest to pursue, as demonstrated by the mangrove replanting effort. Mangrove propagules, as an example, can be easily collected and replanted so long as people draw on local knowledge to ensure appropriate siting for the replanted propagules. This activity can be relatively easily organized at a local level. Less cost-effective, more

contentious activities will ebb and flow more. While the patrolling committee has had success in apprehending illegal fishing boats near the village, it has proven far riskier to take on larger boats, particularly those from outside the village. There is also a fiscal sustainability issue. Gasoline costs are high: if no one is apprehended, people are out of pocket for patrolling since there is no consistent budget to ensure this activity can take place on a regular basis. Koh Sralao is unique in that it sits within a protected area that grants the committee access to park rangers to help in patrolling. This has spurred things on and patrolling works decently in comparison to other villages (Chapter 5 touches on this). Even so, mechanisms for resolving serious conflicts that arise with patrolling remain weak and financing remains an issue.

Certainly what has been accomplished by this committee is impressive and well worth applauding. Examples of sustained resource management efforts are few and far between (CBNRM LI 2009) and much can be learned from this experience. However, one also senses the challenges of sustaining this effort and realizes that the governance structures that have been put in place are fragile at best. Conflict resolution mechanisms are weak, linked to a culture that traditionally strives for social harmony (disrupting such harmony is seen as a transgression), a weak judiciary and a system that favours flexible rules to solve conflicts (Un and So 2009; Gellman 2010). While flexibility can sometimes be a good thing, in the sense of encouraging creative problem-solving, it is very problematic in a context whereby those solving the conflict will often favour the actor with the biggest connections and resources. It is tough to encourage conservation and small-scale, managed, resource extraction activities in a context with multiple people vying for natural resources as a means to earn their living and where power dynamics come into play.

Further, if I reflect upon the stresses affecting villages as were outlined in Chapter 3, I see that there are serious issues that are not addressed by this committee. Some of these issues are simply too big—deals made in the capital city that permit the extraction of significant amounts of sea sand, for example. Yet there are other issues that the committee is not interested to touch or not successful in dealing with. Examples of such challenges include gear theft and dealing with excess capacity, as will be further explored in this chapter.

Gear Theft

> My crab traps were stolen two nights ago and I am really upset. I asked the Resource Management Committee and the local police to help me but they refuse to get involved since I have no idea who stole my traps. Now what am I supposed to do? I already owe the middleperson a lot of money and do not want to go further into debt (Preun 2006).

Gear loss was mentioned not only by Preun but by many other households as a major issue. While fishers have always anticipated that their nets may be ruined by larger fishing boats and that smaller gear such as crab traps may get lost, the theft of fishing gear appears to be increasing. In a 2003 livelihood survey that I conducted (n = 61), only a few households in Koh Sralao (twelve percent) discussed stolen fishing gear as a livelihood problem, although individual discussions suggested that stolen fishing gear might be more significant than the survey numbers suggested (Marschke 2005). Three years later, in December 2006, after thinking more about what Preun had said and in talking with more fishers, I conducted a random survey of ten percent of Koh Sralao households (n = 32). Here, I asked about stolen or destroyed crab traps in the 2004–2005, 2005–2006 and the beginning of the 2006–2007 fishing seasons

(in 2003, seventy-four percent of fishers used crab traps, and this number is likely similar today). What surprised me was the number of stolen or destroyed traps that were reported. In 2004–2005 the average number of stolen or destroyed traps was 120, in 2005–2006 this number increased to 187 and in the first two months of the 2006–2007 crab season this number was a staggering 231 traps per household. Even if gear theft is over-reported, these numbers suggest a striking amount of gear theft does take place.

Many fishers are affected by gear theft and it is likely that some households are involved in gear theft themselves. Once the cycle of gear theft has begun in a village it is tough for households to not become involved, especially if one's own gear has been stolen. Having access to fishing gear, after all, is the difference between making money in a given fishing season or ending the season further in debt. Some police officers likely have a vested interest in gear theft continuing since it is alleged that they can extract an informal profit from such an illegal activity, which, in turn, helps to supplement their own livelihood. Even when a village-elected resource management committee can intervene, gear loss is only resolved in a few cases.

Several factors may be impacting the increase in gear theft in the past few years. An overall decrease in aquatic resources means that fishers are struggling to earn a living from the fishery. As resources decrease, a middleperson is less willing to lend money, especially to those already in debt. In 2004 the ACLEDA bank opened a provincial branch and began giving loans to fishing families.[16] Unlike a middleperson, the bank's repayment schedule is strict. Some fishers hinted that they needed to steal from each other to ensure that they make their payments. Credit markets in Cambodia are harsh: credit

[16] ACLEDA began in 1993 as an NGO for micro-credit and small enterprise development, and was transformed into a commercial bank in 2003 with most loans going to entrepreneurs selling basic commodities.

TABLE VII: Trying to Handle Gear Theft

Year	Koh Sralao Committee Initiative
2002	Divided village into eight sections, each section was allocated a paint colour by which to mark crab traps.
2003	Realized that they needed to switch to a paint that does not easily wash off.
2004	Issued a fining system for stolen crab traps.
2005	Ignored the crab-trap issue, focused on other issues (i.e., waste management, mangrove replanting, working with other committees in the area).
2006	Suggested to increase community patrolling, but idea was opposed by the village leader (who was newly appointed).
2007	Relied on park rangers and an NGO that does active patrolling in the area. This prevented some gear loss, along with artificial seagrass reefs.
2008–2010	Sand mining and crab decline was now the most pressing issue for the committee to address. Villagers reported that crab traps continued to be stolen and that sand barges also destroyed gill nets. Committee members appeared resigned to this practice.

rationing, high interest rates and strict debt collection are the norm (Kenjiro 2005).

Fishing gear may be stolen or destroyed in fishing grounds in and around the village, or at fishing grounds further away (see Figure I in Prologue, which illustrates the mangrove-estuary areas where people fish and Chrouy Pros Bay where people also fish). The resource management committee in Koh Sralao has initiated various responses to gear theft over the years, focusing on theft in and around the village. Table VII documents the various attempts in Koh Sralao to deal with gear theft.

As Table VII illustrates, the resource management committee has attempted to deal with gear theft over the years, although these attempts have not been particularly successful. Perhaps the most innovative idea was in relation to stolen crab traps in and around the village. The idea was to use village subgroups as a way to organize fishing households. Each subgroup was

given a specific paint colour that households could then use to etch markings onto their crab traps. At first, fishers responded enthusiastically to this idea. The committee even fine-tuned the system by introducing water-resistant paints and ensuring that each subgroup knew their designated colour. Although this system was useful for identifying stolen traps when they were found, it proved far harder to verify who had been responsible for stealing the recovered crab traps. Such discussions were tense, and the committee never did find a suitable way to resolve these tensions. After a few years, the committee concluded that unless they caught someone red-handed, crab-trap theft was too contentious an issue to handle. As such, the painting and marking of crab traps has long since stopped.

In 2006 the committee proposed that fishers could pay a nominal monthly fee to the committee so they could begin daily patrolling in areas where fishers set traps and nets. Although many villagers bought into this idea, the idea somehow became political and was squashed by several households that belong to the opposition party and by the newly appointed village chief (who is rumoured not to like the resource management committee because donors often bypass him to talk directly to the committee). Opponents accused the committee of wanting to pocket the money and suggested that they would not really use it for patrolling. Unfortunately, the idea of collecting fees became too controversial and had to be dropped. Committee members were now (2010) resigned to stolen fishing gear being part of the transaction costs facing fishers. Stolen and destroyed gear continues to be an issue, perhaps even more so as crab stocks are in decline and as barges and other larger boats run over sections of gill nets.

Given the context of gear theft, one can see why the committee has struggled with this issue and has not yet found a solution to it. At least the committee has tried to address this, since other levels of government are not interested in touching

this "hot" issue. For example, elected commune officials are aware of stolen gear but refuse to get involved. They argue that fisheries officials should be dealing with issues surrounding gear theft. Certainly Fisheries Administration staff are specifically mandated to deal with fisheries conflicts; however, several fisheries officials suggested that this issue was being exaggerated by local people and that there are more pressing issues for the Fisheries Administration to deal with. Only one Fisheries Administration staff member admitted that stolen fishing gear is a major issue that no one really talked about or knew how to handle.

Even NGOs working within these areas were unaware of the significant increase in gear loss and felt a bit helpless in terms of how to support this issue. One NGO member suggested that gear theft is a normal cycle, with people stealing consistently from each other. This may have been a defence mechanism on behalf of the NGO member, as taking on gear theft would require significant effort at multiple levels. There is no doubt that gear theft is a vicious cycle that needs to be stopped, yet this issue does not appear to be on anyone's agenda. It is amazing that this has slipped through the cracks in a country that has undertaken a significant fisheries reform and created policy that emphasizes local decision-making processes (Marschke 2008). If this really is happening to the extent that informal probing suggests, how is it that this has become an acceptable risk for those working in the fishery?

Fisheries Management Strategies

A careful examination of what Koh Sralao's resource committee focuses on illustrates that they do not work on an active fisheries management program per se. There are two noteworthy exceptions to this: patrolling efforts and attempting to enlarge the mesh size used in crab traps and nets. Patrolling efforts have

already been extensively discussed, so I now turn to examining the latter.

Using a larger mesh size for individual traps or nets can be done whenever fishers replace their nets, which often takes place on an annual or bi-annual basis. In 2002 the committee asked all fishers who were preparing their nets for the next fishing season to use the next size up (going from a 2 cm to a 3 cm mesh size). Many fishers in Koh Sralao agreed to do so, although they soon became quite frustrated when they realized that other fishers also using the same fishing grounds had not followed suit. Those fishers who had agreed to change their mesh size found themselves catching less fish than those who had not (Marschke and Berkes 2005). Understandably, Koh Sralao fishers returned to using a smaller mesh size for their fishing gear in the following fishing season. This is an example of a collective action challenge, since only with compliance from multiple villages is it worth everyone's effort to comply (Ostrom 1990). It is possible that Koh Sralao's committee would now have the moral authority to mandate a change of mesh size in the main fishing grounds of this area, asking other villages also to comply. However, it is also less likely that they would have the energy, ten years in, to monitor and ensure compliance for this action and would only do so with significant support from other actors (i.e., technical departments or NGOs). To date, they have not tried to enlarge mesh size again.

In a sense, Koh Sralao's committee tried to tackle tougher fisheries management issues in its early days: patrolling and encouraging the changing of mesh size are part of this. With time, the committee has chosen to partake in more manageable, durable activities such as habitat restoration, implementing a system of waste management and attempting to share their resource governance experiences with other villages and higher-level authorities. The committee, in a sense, has skirted the most difficult fisheries management issues. In particular,

the committee has not found a way to limit excess capacity (in simple terms, overfishing), either by switching the mesh size used in gear, limiting the number of fish caught or limiting who may enter into a fishing ground. With current stock declines, small-scale fishers, such as those in Koh Sralao, are forced to increase the number of nets or traps that they set and the number of hours that they fish, or to diversify into nonfishing livelihood activities.

In the Cambodian context, catch limitation and limiting the number of fishers in an area tend not to be implemented (Salayo et al. 2008). Koh Sralao's committee, in fact, appears to be a unique example of a committee attempting to limit catch in one fishing season (Van Acker 2010). Wayne (2009) best explains the views of the committee: "The bigger ships can take as much fish as they like, but we only take a little fish and fisheries staff expect us to take even less. This situation is not right, and we [the committee] cannot insist on making people take less when this type of local management would not be enough to improve the overall health of the fishery." Catch limitation is not seen as a fair expectation when larger boats are not following suit. This is also true of exclusion, although for different reasons. Although it is ideal to create a zone where only community members can fish, the reality of doing so can be problematic. Fish species migrate, and much depends on climate variability, stock numbers and market prices in terms of where and what is desirable to fish in any given month. Some stocks and some fishers are highly migratory (Berkes 2010c). Creating tightly controlled zones of access might lead to greater conflicts than already exist, and serve as a mechanism to marginalize the poor further. Careful thought needs to be given to any strategy promoting effort reduction in the Cambodian context.

CONCLUSION

People are living in a context that is turbulent and dynamic, where livelihood stability is not the norm. Nevertheless, people recognize that forms of resource governance may be helpful. Although the resource committee has not been able to control the decline of fisheries resources or the theft of fishing gear, it has been successful in other areas. Habitat restoration is one example of an action that has been particularly effective: over 500 ha have been replanted since 2000. As mangrove habit at near the village is restored, poorer households have an opportunity again to glean for cockles during the rainy season and, more generally, report seeing a greater number of aquatic species such as mangrove mud crabs in these replanted areas. Moreover, these mangroves serve as a buffer for the village against wind and storms.

Koh Sralao's committee has been willing to take on many challenges over the years and has found ways to sustain certain activities, including integrating activities such as mangrove replanting into commune planning processes (the next chapter explores this in greater detail) and to continue other activities at a village level, such as waste management. Even patrolling, an activity that ebbs and flows, has been consistent enough for other villagers and fishers to know that this is an area where it may take place and where one needs to be careful. From a longevity perspective, committee members themselves suggest that one key to their success is recognizing how to fight certain battles and when to accept those that will not be won. Having modest goals is one way to ensure a longer-term approach to resource management, for certain types of activities at least.

Undoubtedly, local governance of any form is tough to implement in a context where resources are declining, there is limited financial or technical support and larger-scale entrepreneurs are also interested in the area. A committee will need the support

of neighbouring villages and local government officials to patrol joint fishing grounds and to ensure consistent policies. Other actors, perhaps from the national level, will need to monitor and help foster solutions for issues such as overfishing, international fleets in local waters and larger-scale resource extraction activities. Resource governance beyond the village does get more complicated, since more actors are involved. Chapter 5 explores how resource governance is working across administrative units, exploring the management of a common fishing ground used by Koh Sralao villagers and others. The main fishing grounds are known as Chrouy Pros Bay; this is a relatively protected ecosystem that is approximately 30 km^2.

V

Resource Governance across Administrative Units

> Last night a trawler destroyed my gill nets. I was quite upset but he told me that I did not have a light on my boat so it was my fault that he could not see me. I reminded him that trawling in the bay is against the law and that I cannot afford a light for my boat. He was sympathetic but did not offer to do anything. I need to find money to get a light for when I fish, although I am not sure this will help in all situations. Trawlers pay no attention to us, the poor fishers (Sok 2004).

Six years later . . .

> I now have a light on my boat, so that helps although boats still run over my nets. This is because there is more boating activity in this area now—trawls, sand barges and bigger ships. I have to think carefully about where to set my nets. I try to pick areas that trawls avoid but are too shallow for bigger ships. I usually guess correctly, but not always (Sok 2010).

This type of governance challenge, where one fisher or boat driver inadvertently ruins the fishing gear of a fisher, is not easy to solve. Initially (in 2004) Sok thought that a light would be helpful for night fishing, even though orange-red buoys did indicate where Sok had set his nets. In the initial case, Sok

had set his nets at dusk and then proceeded to sleep on his boat as a way to save on fuel costs and to scare off potential thieves. Sok was asleep when he heard a boat driving close to his. According to Sok, the trawl fisher had not been paying attention but quickly blamed him for not having a light on his boat as a way to indicate to him that he had set his nets in that particular area. As such, Sok was out of luck and needed to replace his gill nets and, eventually, also to buy a light for his boat (which he had bought in 2006). Having a light has helped somewhat but still does not prevent boats from running over his gill nets. This is because in the last six years the situation in these fishing grounds has changed: these fishing grounds are now also used as a transportation route for barges and ships.

While Sok sometimes fishes in and around Koh Sralao village, he also fishes in the popular Chrouy Pros fishing grounds about 10 km away from Koh Sralao village.[17] Fishers from a handful of villages (including Koh Sralao fishers) along with migrant fishers use this sheltered, shallow-water, nutrient-rich bay since it is particularly rich in aquatic life. With so many people drawing on these natural resources, conflicts are bound to be rife. Two issues are particularly contentious: conflicts

[17] Enclosed on three sides by mangrove estuaries (dominated by *Rhizophora spp.*), Chrouy Pros Bay is bordered on its seaward side by Koh Kong Island. Two relatively narrow channels on either side of the island provide access to the open sea. Aquatic species include grouper fish (*Epinephelus tauvina* and *Epinephelus awoara*), crabs (*Portunidae callinectes*, *Portinidae syllca*, commonly known as swimming crab and mangrove mud crab) and shrimp (*Penaeidae penaeus*, *Penaeidae metapenaeus* and *Penaeus monodon*, commonly known as giant tiger prawn or black tiger shrimp). Seagrass species are particularly abundant in this area (*Halodule uninervis* is the dominant species; *Halophila decipiens* and *Halophila beccarii* are also found) (Bock 2006). This ecosystem is important from a livelihood perspective; moreover it provides a critical nutrient source and is an important migration channel for many aquatic species. Part of these fishing grounds lie within two protected areas (Peam Krasaop Wildlife Sanctuary; Botom Sakor National Park) and within a Ramsar site (Ramsar sites are wetlands of ecological significance).

between resource users using different fishing gear and sand mining in and around local fishing grounds. These two issues cannot be solved by a single resource management committee since the activities occur throughout the shallow-water bay. Even though Chrouy Pros Bay falls under the jurisdiction of three resource management committees, villagers cannot handle these larger-scale conflicts nor can they confront businesses that are granted permits in the capital, Phnom Penh. As such, controversial issues occurring in de facto open-access spaces used by many fishers and other resource users are not easily solved.

Chapter 5 considers resource governance within local fishing grounds, moving beyond the village as a unit of analysis. I carefully examine how two decentralization processes designed to support local governance are used to solve specific fishing-related conflicts. Both the Sub-decree on Community Fisheries and the Law on Commune Administration are examples of policies whose uptake in southwestern Cambodia are partial at best. Although these two policies are not always used as imagined, or at all, this can have both positive and negative implications in terms of resource governance. I then turn to an examination of sand mining, a case in which no policy process appears to be working on behalf of local people. These examples illustrate how formal policies may be used or avoided, and how informal policies often guide everyday practice.

DEALING WITH FISHERIES CONFLICTS

Let me carefully examine the issue of conflicts between fishers using different gear types. Chrouy Pros Bay is a highly productive, shallow-water, brackish ecosystem that fishers and other resource users rely upon. A major source of tension is between fishers using trawls, which are illegal in shallow-water areas according to the Fisheries Law, and fishers using fishing

gear such as gill nets or crab traps. Trawls are nonselective in terms of what they catch and can wreak havoc upon the sea bottom, but, more than this, they also run over traps and nets. The destruction of fishing gear creates a real stress for those setting nets or traps in these fishing grounds. This tension is also illustrative of a power dynamic: fishers who use trawls rely on larger boats than fishers using traps or nets. It tends to be richer villagers who can afford trawls. These tensions are relatively recent since fishers operating trawls only moved into this shallow bay area with the recent increase in foreign vessels found in Cambodia's offshore waters. As more fishers began accessing the same fishing grounds, significant fisheries-related conflicts have emerged.

How, then, have fishers, village management committees, and other concerned actors attempted to deal with specific fisheries conflicts? To explore this question I examine how actors have turned to formal policy processes in an attempt to solve such conflicts, and how certain conflicts were only solved when Koh Kong's provincial governor signalled for the creative adaption of existing policies.

Through Fishing Policy

Within the Community Fisheries Sub-decree (which applies to a handful of villages living around Chrouy Pros Bay) and the Protected Areas Sub-decree (which applies to Koh Sralao), illegal activities such as wildlife hunting, poaching and dynamite fishing are listed along with an explanation of which fishing gear is allowed where. Trawling in shallow waters (less than 20 m), for example, is illegal. For committee-related patrolling activities it is mandated that committee members carry out patrols with a police officer, a technical officer (i.e., a representative from any given technical department) or a park ranger (for patrols taking place within protected areas). Guidelines for

the procedure involved in apprehending someone are also found within such policies.

Patrolling is something that potentially prevents conflicts or deals with existing conflicts in a relatively swift, timely manner. This being said, it is not easy to do in Chrouy Pros Bay. This is a 30 km^2 expanse, attracting a range of fishing boats including larger boats that sometimes tuck into the bay area when the seas are rough. It is too large to manage by village patrolling efforts alone, and even joint village patrols (between resource management committees) are not easy to coordinate or carry out. Things are further complicated by jurisdictional boundaries since several of the villages in and around Chrouy Pros Bay fall under the jurisdiction of the Fisheries Administration, which does not provide "fish rangers," unlike the Ministry of Environment with its park rangers. In addition to support from a technical department, patrolling success requires the support of local police and strong local leadership. Somehow this is not happening in a very consistent manner within Chrouy Pros Bay.

All three villages with management committees in this area agree that there is a need for patrolling in the bay area, and rules pertaining to trawls fishing in shallow-water areas need to be enforced. The challenge is getting support from technical departments—the tip of Chrouy Pros Bay falls under Ministry of Environment jurisdiction and the rest of Chrouy Pros Bay falls within the Fisheries Administration. As such, Koh Sralao villagers, along with the park rangers, tend to patrol near their village and the tip of Chrouy Pros Bay (see Figure I in Prologue), whereas the two other villages (Koh Kapik and Chrouy Pros) are expected to cover other parts of the bay. These two villages require the support of either local police or Fisheries Administration staff to do their patrols; unfortunately they face a serious challenge in getting these stakeholders to approve of, or engage in, their patrolling efforts. And, as was

described in Chapter 4, even Koh Sralao's patrolling efforts ebb and flow, and they are a relatively well-functioning committee with decent technical support.

The following excerpts are taken from a discussion with a provincial fisheries officer about how to better manage Chrouy Pros Bay. The fisheries officer is explaining what the rules are, in terms of local fisheries management, and what has been happening in Chrouy Pros village (one of the two other villages with a resource management committee in the area, besides Koh Sralao), where fishers are struggling to get support for their patrolling efforts.

> The provincial Fisheries Administration carries out patrolling activities, although we have a significant area to cover and a limited budget. If a local fisheries committee wants to patrol their fishing area then a member of the Commune Police needs to join. For example, in Chrouy Pros village, the Commune Chief of Police issued an order stating that only when a commune police officer accompanies the committee on a patrol will the police take any responsibility should a conflict occur. Local police officers need to tell their Chief of Police whenever they go out to patrol with the committee.
>
> I have had many complaints from the committee in Chrouy Pros village about the Chief of Police in their area. In their case, the committee needs the approval of this local chief. A few months ago villagers reported to the committee that there were trawl fishers fishing in their fishing grounds. The committee wanted to initiate a patrol and went to the police to ask them to join in. The Chief of Police was away from the village that day, although several other police offers were around. They invited these officers to join in and one officer agreed. The patrol itself was uneventful and three push nets were caught and fined according to community bi-laws.
>
> When the Chief of Police returned to the area and heard about the patrol he was very angry. He introduced an administrative penalty by taking the police officer's gun and criticizing him publicly. Although committee members were upset because this officer had sacrificed his

time to join in the fisheries patrol, they could not challenge the Chief of Police. The officer himself was quite upset and resigned from the police force, deciding to do police work in another province instead.

The committee then came to see me here in the provincial office as they felt that this action was unfair. Also, the committee told me that they felt that the Chief of Police was supporting illegal activities. Apparently whenever the committee caught illegal fishers these fishers claimed that they pay 50 B [US$ 1.50] per boat to a money collector which is meant to enable them to continue their illegal fishing. The committee wants us, the provincial Fisheries Administration, to do something.

However when the committee does not follow the approved regulations, it makes it hard for me to help them. They are supposed to patrol with a police officer, who can carry a gun, and then inform me about any confiscated gear. There are now many push nets and trawls since the committee generally patrols without the cooperation of the police. This leads to bigger problems since many trawl fishers know that the police are not joining in with the patrols and, because of this, the Fisheries Administration cannot do anything once people are caught.

—Excerpts from an interview with a provincial fisheries officer, Koh Kong province, 2006

Chrouy Pros's resource management committee faces a Catch-22. The police in their area are not interested in working with them, and the provincial Department of Fisheries insists that the committee follow the regulations outlined in the Community Fisheries Sub-decree, which requires a police officer or a technical officer to patrol with a committee. The Department of Fisheries claims to be chronically underresourced (they make a point here) and cannot consistently send a technical officer out to this area, over 30 km from the provincial town. When the village committee takes matters into its own hands, no government authority appears willing to support them if they have deviated slightly from official procedures.

The irony of all this is that trawling in the shallow waters of Chrouy Pros Bay—the main activity that the committee is trying to stop—is illegal according to the 1987 and 2006 Fisheries Law. This example is illustrative of how policy can either be ignored or be followed so carefully so as to make it difficult for fishers to get the support they need to enact specific resource management activities.

Members of resource management committees (focusing on fisheries, forestry or protected areas) cannot carry guns, which is why they need the support of local police officers to patrol their waters. It is risky to patrol without a gun. However, as this example illustrates, getting such support may not be so easy. When committee members do try to cooperate with police officers, there is no guarantee that a police officer will be able to join in a patrol. Some of this foot-dragging (Scott 1985) may be happening because the police are benefitting from their own rent-seeking activities and are reluctant to see this form of income stop. When this is the case, setting up a weekly patrolling roster is unlikely to work since then it would be too easy for police officers to tip off fishers as to when patrols will take place. It may also be that there is limited room for a police officer to support this type of work if someone higher up the chain of command is unsupportive of such initiatives.

A fisheries committee can also patrol with a fisheries officer: this is one way to avoid patrolling with the police. In reality, funds are limited for Fisheries Administration officers to travel to remote villages to help with such patrols, and this is why fisheries officers encourage fisheries committees to cooperate with local police, to confiscate fishing gear and then call a technical officer to support this process. Fisheries officers are insistent that committees follow the regulations set out for fisheries management. Given that rule-making generally takes place at a provincial or national level, not all rules and regulations are always easy for local people to implement. Certainly,

as with the police, some fisheries officers support the idea of local management more than others.

A final option is for a committee to patrol with a park ranger, as is the case in Koh Sralao. However, of all the villages surrounding Chrouy Pros Bay, only Koh Sralao village falls within a protected area, so this is not a viable option for other villages. Park rangers tend to be local people, so they are based in a village, a practice the Ministry of Environment has been promoting since the early 2000s. The Fisheries Administration, on the other hand, does hire technical staff who are meant to work at a village level. However, given that these officers are not from the villages and generally have families in the provincial or district town, there is little incentive for them to stay in the villages for long periods of time. Encouraging local "fish rangers" may be one option for the Fisheries Administration; another is diverting more funds toward coastal patrols.

For this combination of reasons, one can understand why a resource committee may eventually decide to patrol on its own. This is where conflicts can escalate and a type of frontier violence can occur. Between 1999 and 2002 there were twenty-two deaths as a result of fisheries conflicts (Evans 2002). Although this number has now lessened, conflicts continue to lead to violence and injury (Un and So 2009). A serious effort has been made in Chrouy Pros Bay, not only by Koh Sralao's resource management committee but also by the other two committees responsible for Chrouy Pros Bay. However, these patrols have not always been that successful and have caused a significant amount of tension between different actors. As fisheries conflicts escalate and continue to remain unsolved, a resource management committee may decide that it is not worth the headache to initiate patrols. Or, when committees do continue to patrol, they may decide to focus on illegal wildlife hunting or protecting mangrove forests and seagrass sanctuaries, which are less conflict-ridden tasks.

Through Commune Planning Policy

Therefore, even with the establishment of natural resource management committees in the early 2000s, fishers continued to trawl in Chrouy Pros Bay. Committee members were not able adequately to address these tensions through fisheries policy, in large part because of a lack of policy uptake within the provincial fisheries department (although other factors also contributed toward this). Yet resource committees are not the only local institutions responsible for resource management issues and community fisheries is not the only policy designed to enhance local governance (as shown in Table I of Chapter 1). Commune development planning is an example of another policy that is meant to empower local actors via the elected commune councils. Elected commune councils are responsible for most things that take place within their administrative units and are involved in a planning process that is designed to enable communes to identify their specific needs, with NGOs and technical departments then drawing on commune plans to deliver aid. Each commune is granted a small annual budget to be spent on infrastructure projects, or if relevant, other projects that would benefit a commune. The general experience with commune planning has been that over time resource-dependent communities have begun to incorporate more environmental and livelihood concerns within their commune development plans (CBNRM LI 2009).

How, then, has this planning process worked for the two communes surrounding Chrouy Pros Bay (which is where the three village-level resource management committees reside)? An analysis of the 2001–2007 plans for these two fishing-focused communes revealed that commune plans tend to be infrastructure-oriented, prioritizing roads, schools and wells. Mangrove replanting is also listed. Somewhat surprisingly, given the intensity of fishing conflicts found in the area, strategies to address

fisheries conflicts are not overtly found within the commune plans. Perhaps this makes sense, given that commune planning is new in Cambodia and that it takes time for government actors and local commune councils to learn how to use this type of process in a way that addresses local needs.

To expand further, one commune requested that the main boating channel in one of the villages be dredged to allow larger boats a direct route between the open sea and Chrouy Pros Bay. The other infrastructure request within this commune was for Koh Sralao village to build a bridge that connected one part of the village with another. In the second commune, a road that spanned the length of the village was requested. In both communes no contractors bid on these projects, mainly because of the challenges involved in transporting heavy equipment via boat to these areas. Hence, in spite of commune requests, in 2003 and 2004 no infrastructure development projects were funded in this area. In other words, the communes of Chrouy Pros Bay had not spent the money that had been allocated to them by the national government.

Around this time, perhaps in response to the chaotic situation that the Fisheries Administration was not able to regulate combined with ever increasing trawls in the area, Koh Kong's provincial governor became interested in finding a solution to fisheries conflicts. Having grown up in a fishing village himself, the provincial governor visited Thailand in early 2004 to learn how artificial reefs could protect seagrass areas and attract fish habitat. After this study tour, the governor recommended that the unspent commune funds be used to build concrete artificial reefs that could serve as fish attractors throughout Chrouy Pros Bay. This was argued to be a strategy that could help poor fishers in the area and increase fish habitat and productivity. The provincial Department of Planning, which is responsible for facilitating commune planning processes, agreed that this would be a good use of unspent commune funds for these communes.

Yet neither of the two communes actually requested artificial reefs in their commune plans prior to 2007. Before 2007 any requests related to natural resources were mostly in terms of environmental education or mangrove replanting. Little was found in terms of the fishery, even though this was the very period when conflicts were escalating. It is worth repeating that the specific infrastructure requests were to dredge a channel, build a bridge and build a road through one village. As one commune councillor noted: "[W]e did not think of the concrete reefs by ourselves. Actually we were not asked about how else we might spend the funds. We were told that our money would be spent on artificial reefs. We were not in a position to refuse" (Dec 2006).

Hence, with serious encouragement from the governor, the provincial administrators responsible for commune planning decided to spend the money allocated for infrastructure development to build concrete artificial reefs, combined with cement poles used to demarcate seagrass conservation areas. In 2005 the construction of artificial reefs and cement poles began; in early 2006, 414 concrete artificial reefs and one thousand cement poles were placed throughout Chrouy Pros Bay. The estimated expense of the job was CA$ 80,000.

Why, then, did Koh Kong's provincial governor encourage this? According to one government official,

> I think he [the provincial governor] was really clever to push for the artificial reefs. Although he said it was to protect the sea grass, it was actually a good way to limit trawls coming into Chrouy Pros Bay. There has been a lot of conflict in that area and this has been a difficult issue to solve. This way he could get around those technical staff who were not that active in finding solutions for resource problems, and the trawls could not blame the poor fishers (Member of the Department of Environment, Koh Kong, 2008).

Once the provincial governor had encouraged the commune funds to be spent on artificial reefs, few people appeared to object. There was a general feeling among technical experts and fishers that the seagrasses found in this area were in decline because of the use of trawls in the area (Bock 2006). Thus, the NGOs working on environmental issues applauded the move and lent further support to build additional poles to demarcate seagrass conservation areas (PMCR 2008). Moreover, this deployment of artificial reefs appealed to technical departments. The local Department of Environment had been hoping to address seagrass decline for a while, so they were in strong support of this move. The Department of Planning saw this as a way to spend the commune funds allocated to this area. The Department of Fisheries recognized that this would alleviate some pressures on local fisheries conflicts and were also in support of seagrass conservation.

The commune council, while somewhat frustrated that they had no say in how to spend their commune funds, were pleased with this project when they noticed a decline in trawls and saw that the reefs served as fish attractors. Anecdotal evidence from local fishers suggested that there was an increase in fish and crab near the reefs. When asked in 2007, one year later, about how artificial reefs had impacted upon their livelihood, seventy-seven percent of Chrouy Pros fishers felt that the impact was positive (fourteen percent negative, nine percent no opinion). The only people that were upset were the trawl fishers, who found it risky to use such gear in areas where the concrete reefs were not demarcated. Many trawl and push-net fishers were forced to change their fishing grounds and argued that they were now catching smaller yields (although still more than most crab fishers). Even so, a few trawl fishers have been creative. Several placed two long wooden poles holding a net on the front of their boats. When this device touches a cement pole, the trawl then seeks a new direction that avoids the cement

poles and reefs. This is one way to avoid the artificial reefs and still trawl in the area, although it does take more work (which is why not that many fishers are doing this).

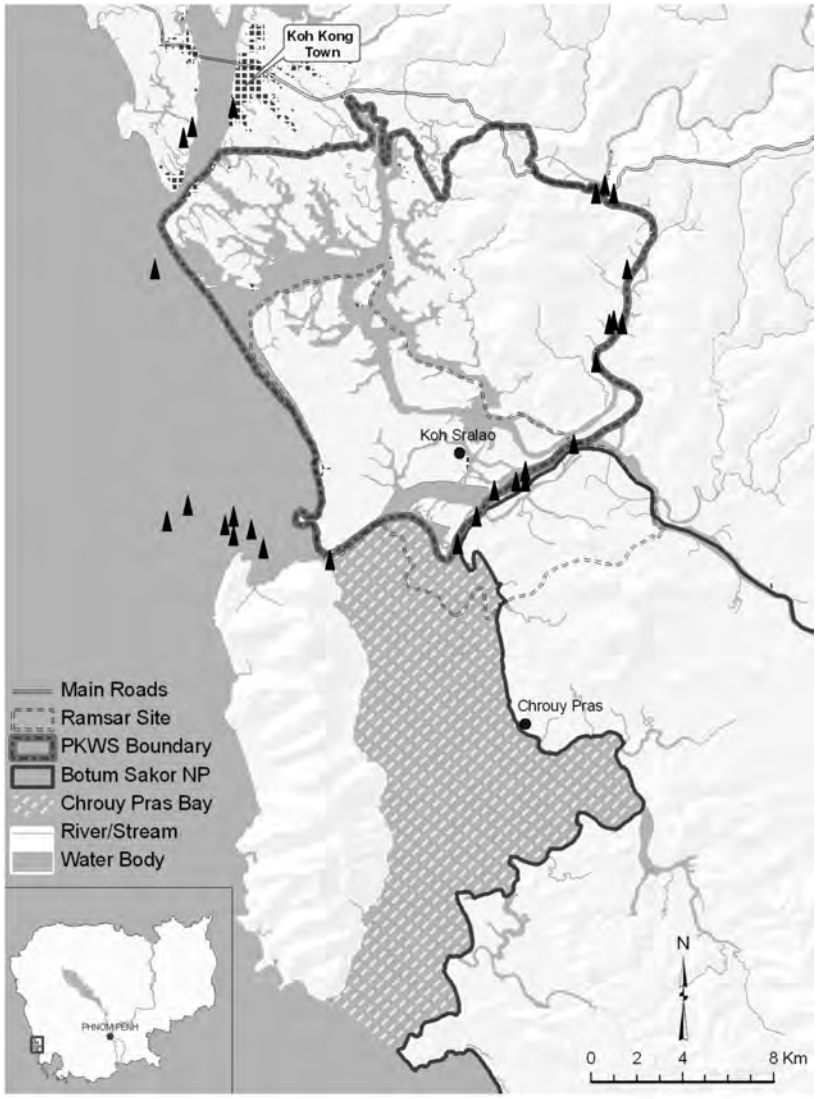
By early 2008 there was a general sense that conflicts had decreased in the area, including the destruction of nets from trawls that Sok described in the beginning of this chapter (granted this still happened, but to a somewhat lesser extent). Poorer fishers talked about being able to set their traps in the areas surrounding the artificial reefs; village leaders were content that a major conflict had significantly lessened. Moreover, the resource management committees were relieved that an ingenious solution had been found to an issue that they had, thus far, not been able to address adequately, and technical departments were pleased with the results of the deployment of the artificial reefs and the demarcation of seagrass sanctuaries. It appeared that things were looking up for fishers in this area, for the first time in a while.

DEALING WITH SAND MINING

This is why taking a longitudinal approach to research is so interesting. Had I stopped my research for this book in 2007 or 2008, as I had originally intended, I would likely have suggested that modest gains had been made in the area of resource governance in spite of stock declines and the general challenges facing communities in this area (granted resource governance was fragile, but nonetheless, something important had been attempted). However, this story does not end with the deployment of artificial reefs and communities demarking seagrass conservation areas to ensure the gradual increase in fish stocks. It is no exaggeration to suggest that the entire resource governance effort in this area has been side-swiped since the advent of sand mining.

Business entrepreneurs turned to Cambodia's coasts in late 2007, looking to mine sand for export within the region. This was likely linked to Indonesia's ban on sand exports in 2007 and the construction boom occurring throughout Southeast Asia and China. Several national ministries (initially the Ministry of Industry, Energy and Mining and then the Ministry of Water Resources and Meteorology, which houses the Committee for Sand Resources Management established in 2009) issued a series of permits that enabled sand mining in southwestern Cambodia. Sand mining activities are found in and around the provincial town and in the rivers flowing through the mangrove-estuary areas toward Koh Kong Island at the edge of Chrouy Pros Bay. This is the same area that fishers rely upon to earn their livelihood. Although these dredging operations began in a handful of sites in late 2007 and early 2008, by 2010 there were an estimated twenty-seven dredging sites within this area (Global Witness 2010). Figure II identifies the multiple sand dredging sites in and around local fishing grounds.

How did this situation emerge so rapidly? In early 2008, within a few weeks of the sand mining operations beginning, villagers in Koh Sralao and elsewhere noticed a decline in the swimming crab population; after several months of sand extraction, the swimming crab population was particularly low. At this point, fishers began to suspect a connection between sand mining and the rapid disappearance of this species in their fishing grounds (as was mentioned in Chapter 3). Koh Sralao's resource management committee initiated a campaign, working with the other resource committees in Chrouy Pros Bay. The goal was to have the Ministry of Environment investigate this issue. Villagers from the three communities thumbprinted a petition asking for the sand mining to be stopped since it appeared to be negatively affecting fish stocks. This petition was sent through official channels. Meanwhile, committee members contacted those whom they knew in government departments to see if



Source: Ministry of Environment, Cambodia, August 2010; location of sand mining adapted from Global Witness 2010 and Marschke 2010 field observations.

FIGURE II: Sand Dredging Sites (Black Triangles)

someone could help them address this issue. The Ministry of Environment sent a delegation of government officials to investigate the issue in April 2008. The delegation examined the situation, talking with local fishers and those controlling the sand mining operations. Water quality samples were also taken; these tests, however, did not come up with anything unusual. Sources who observed the mission suggested that the sand mining operations were suspended the week prior to this delegation visiting and that the delegation was put up in a five-star hotel, owned by one of the main business entrepreneurs controlling the sand mining operations. It appears that nothing came out of this mission.

In the two years since the committees thumbprinted the petition, sand mining activities steadily increased. Koh Kong fishers, including members of the resource management committees discussed in this chapter, have resorted to taking part in protests in the provincial town (such as in October of 2009) and to filing complaints with provincial authorities (Sokheng and Strangio 2010). This has all been to no avail. There has been no environmental impact assessment conducted by the Ministry of Environment to assess the impact of the sand dredging upon the ecosystem, unless the water quality samples count, nor have any scientific studies been undertaken by fisheries or other scientists to assess the health of the crab population or other fish stocks. Considering the seriousness of this activity, little mention is made of sand mining in any written documents (with the exception of Global Witness reports, which I will discuss shortly). Moreover, I have not been able to discuss this issue with any government officials at the provincial or national levels, although it is rumoured that the old provincial governor (who had supported the artificial reefs but was not re-elected in 2008) is using informal channels to try to lessen the amount of sand being mined and removed from this area.

In my last visit to Cambodia (May 2010), Sovanna further explained the sand mining activities to me:

> For the past year we have seen many boats and barges pass in front of our village, and we can hear the equipment being operated all day and all night. It is very noisy. Have you gone out to Koh Kong Island to see the piles of sand and the big ships? These ships have flags from other countries, including Singapore and Malaysia. This is one place where they load the sand to ship somewhere else. At first we tried to stop the sand mining since this activity really affects the crabs but it seems that there is nothing we can do. If we are lucky the companies will soon stop working in this area (May 2010).

I followed Sovanna's advice and took a boat to the area that he described. Since I am not a mining expert, it is hard for me to assess precisely what I saw. Nevertheless, I observed a large sand depot near Koh Kong Island at the edge of Chrouy Pros Bay, saw six sites where sand dredging was taking place and saw at least ten barges and five large ships all in the span of several hours (in May 2010). While the Cambodian government does allow for smallish amounts of sand to be dredged each month—between forty to sixty thousand tonnes—from what I saw and from what villagers suggested, it is probable that more sand than this is being dredged on a monthly basis.

Even with knowing that sand mining activities are taking place in full force, it is difficult to assess the exact impact of these activities. This is because there are few visible signs of serious degradation (as compared to clear-cutting, charcoal production or aquaculture ponds) unless you are a fisher in the area, and there have been no scientific studies undertaken to verify villager claims of stock declines (meaning that such claims are easily dismissed as exaggerated). Moreover, journalists do not appear to be able to access the sand mining companies, and the little written documentation that exists is based

on a series of investigative-journalism-type reports (cf. Global Witness 2009, 2010; Sokha and Strangio 2009). Regardless of the details, it appears that sand is dredged and loaded onto three-hundred-ton barges for transport to a sand depot area where the sand is then cleaned and stored prior to loading onto a larger ship (capable of holding fifteen thousand tonnes of sand) (Global Witness 2009; Sokha and Strangio 2009). Reporters also viewed shipping documents that listed the transfer of 77,236 tonnes of sand from Cambodia to Singapore ports within one week in 2009 (Global Witness 2010).

Perhaps in frustration from the lack of uptake on this issue, Global Witness produced a report in May 2010 suggesting that Singapore needed to explore options for sustainable sourcing of raw materials and to consider carefully how problematic Cambodia's sand mining sector is. (Singapore appears to be the primary destination of Cambodia's export-oriented sand sector.) The report included controversial statements such as "millions of dollars are changing hands, but there is no way of tracking whether royalties, taxes and other revenues generated from the sand dredging and export industries are reaching the national treasury" and "[c]ompanies operating in the sand sector as well as Cambodia's regulatory agencies are ignoring its national environmental and social safeguards, and international industry best practices" (3). Global Witness also released the following press release:

> Cambodia's international donors must tackle head on the gross mismanagement of the country's natural resources at tomorrow's government-donor meeting . . . . Donors gave Cambodia $1bn in aid last year, despite evidence of widespread corruption and mismanagement of public funds and repeated failures to implement promised reform ("International donors must act on entrenched natural resource-related corruption in Cambodia" 31 May 2010).

The Cambodian embassy responded as follows:

> The Royal Embassy of Cambodia to the United Kingdom is not surprised to read the press release by Global Witness . . . as always mentally disturbed and exaggerated with a hidden agenda of pursuing in hugely-damaging smear campaigns to discredit the Government of Cambodia ("Global Witness to fall into its 'own trap'" 1 June 2010).

Both positions suggest a level of frustration with how things are represented. While there may be a middle ground to this story, there is no doubt that larger macro-economic development forces are affecting villagers in southwestern Cambodia. A few business entrepreneurs are gaining from this activity, with local people not benefitting in the least. If you remember the details of Chapter 3, around a sixth of all households left Koh Sralao village in 2009, citing serious fish decline related to sand mining as a reason (these fishers were carrying high debt loads). It is likely the tipping point that has forced households to consider relocation to other areas. This might be acceptable if there were broader economic gains being made that could be funnelled into education, health or basic infrastructure development. Sand mining would be far more understandable, if this were to be the case, as this would then allow for a real discussion about development trade-offs (economic growth, environmental sustainability, etc.). Unfortunately, the benefits of sand mining remain unclear since tracking the royalty fees that businesses are expected to pay on each tonne of sand is difficult at this point (Global Witness 2010).

This issue illuminates how the governance of certain types of coastal resources is not always easy, and how sometimes policy frameworks may be avoided or ignored. For example, these sand mining concessions were granted within a protected area and a Ramsar site, an area where villagers had worked on resource governance issues, in connection with the provincial governor,

the Ministry of Environment and the Fisheries Administration. People in relatively high positions know about the work of these communities. Sand mining is not meant to take place within a protected area, and mining outside of protected areas is subject to an environmental impact assessment. The permits granted to business entrepreneurs, for small amounts of sand extraction, appear to be ignored. It is no wonder that villagers resorted to protest and, with time, became resigned to this situation. Those that stay in the area hope it ends soon; those that left felt they had no other choice.

Most of the sand mining in Koh Kong province is done in the southwestern part of the province, which has been the focus of this research. Two of Cambodia's richest business entrepreneurs control these operations: they are each national senators and are likely making a lot of money. The export of sand from Koh Kong province is estimated to be worth US$ 28.7 million annually (Global Witness 2010). Even if numbers and the importance of connections are exaggerated, this analysis gives a sense of the magnitude of this business. It is no wonder that fishers' complaints are not taken seriously or that the Ministry of Environment and the Fisheries Administration are not in a position overtly to protest the sand mining. This is likely another case of Cambodia's elite benefitting from resource extraction activities, as seen in other sectors (Le Billon 2002; Un and So 2009; Cock 2010). This operation also demonstrates how broader political economy issues can have a devastating impact upon an area. Although a significant effort has been made to support resource governance, in cases like this where business entrepreneurs have high-level connections and can make a significant profit, it appears that power does trump rationality.

CONCLUSION

As this chapter has shown, resource governance policies do not necessarily unfold according to what is written nor are they always followed. Community fisheries policies and programs, designed to support fishers in managing their fishing grounds, have not been implemented as envisioned. For example, the Fisheries Administration has a limited budget to support patrolling efforts, and in some cases staff may not be interested to do so; moreover, certain polices such as the banning of trawls in shallow waters are not enforced (to be fair, most government departments are not enforcing all of their policies). Local governance processes, vis-à-vis commune development planning, have also not followed the prescribed ideal. As employing artificial reefs exemplifies, commune planning, the pinnacle of Cambodia's decentralization agenda, may not be steered from the local level as is envisioned. This may not be a bad thing, however, if a provincial governor is creatively using policy to deal with issues that have proven difficult to solve such as fisheries conflicts. Finding a way to limit trawls—an illegal activity that no one could prevent—in the name of seagrass conservation was a brilliant move since all direct conflicts were avoided and no government department lost face in the process. This example illustrates the hybrid nature of resource governance in Cambodia, and why adapting governance processes to suit a cultural context may not be an inappropriate move.

Nonetheless, "steering hands" can be problematic and this type of informal, adaptive approach to policy will not always work. Sand mining speaks to this. In this case there is no champion willing to stop sand mining, normal policies designed to halt such levels of extraction are not followed and it appears that business entrepreneurs are very well connected. Given the serious amounts of money being made from sand mining, it is hard to imagine anyone is interested in stopping this type of

activity. Mineral development continues to be promoted as a way potentially to alleviate poverty, although this appears to be a rather rhetorical statement. Sand mining is an example of a missed development opportunity for both local citizens and the state in general. As is seen in the mangrove-estuary villages, development benefits do not stream down to local fishers or, from what my informal discussions suggest, to local government officials either. Furthermore, there has been no talk of compensation for fishers' livelihoods as former fishing grounds are no longer accessible resources. The poorest of the poor were forced to flee this area as a way of escaping their debts.

This chapter demonstrates, from another perspective, just how difficult it is to support ongoing resource management activities and resource governance more generally within Cambodia's social-political context. It also illustrates that it requires more than a committee's initiative to engage in active resource management practices. Even with decent policy and strong local will, efforts may be blocked by multiple actors. Higher-level political support is necessary in some cases. Yet the plight of smaller-scale fishers is not the most pressing issue for many government agencies, particularly those fishers living in remote, frontier-like areas of the country. This suggests a rather real failure in governance at many levels, particularly the national level.

VI

Probing the Failures

> International mining firms see Cambodia as a new frontier that has yet to be explored. Unlike many other parts of the world, there has been little geological exploration of Cambodia since France ended its almost century-long colonisation in 1953. For this reason, and the fact that Cambodia is the only country in South East Asia that allows 100 per cent foreign ownership, overseas mining companies have been keen to invest.[18]

As this quote illustrates, Cambodia continues to be promoted as a frontier to be explored for its potential development. Resource extraction has now been happening for over twenty years, leading to the depletion of Cambodia's forests, serious overfishing, a surge in land prices and, most recently, an interest in oil, gas and mining (Cox 2010). Extraction activities have shifted from one natural resource to another. For example, with the moratorium on logging in the late 1990s, entrepreneurs began to engage in land speculation, spurred on by road access, economic growth and general political stability. Between 2000 and 2007, Cambodia's economy grew by 9.5 percent per year,

[18] Invest in Cambodia, http://www.investincambodia.com/minerals.htm (accessed March 19, 2010).

second only to China (Moore 2010). Land prices rose significantly during this same period, as did land concentration. In 2008 the bottom 40 percent of the strata owned 5.4 percent of Cambodia's arable land, whereas the top 20 percent owned 70 percent of the land (Un and So 2009). Given Cambodia's history with resource development thus far, it may be that oil, gas and mineral development will follow a similar pattern of extraction with business entrepreneurs benefitting far more than rural dwellers (Cock 2010).

The development of Cambodia's natural resources can be seen as a blessing, in terms of contributing to the growth in GDP and for potentially lifting the country out of poverty, or as a curse, in terms of depleting Cambodia's once strong natural resource base and thereby deeply impacting rural livelihoods (Auty 2007; Cock 2010). Regardless of one's perspective, resource extraction activities do appear to be the norm. In this regard, headlines in the Cambodian English language newspapers are significant: "Mekong Could be in Danger" or "Fishermen Air Fresh Dredge Fears" or "Fishing Community in Kampot Protests" (Hirsch 2010; Sokheng and Strangio 2010; Vong 2009). International headlines are also telling: "Making a Killing in Cambodia; While most Cambodians spend their lives struggling against poverty, a spoilt, young elite enjoy all the privileges of vast wealth—and they aren't ashamed to flaunt it" (Marshall 2010). A resource bonanza is happening in Cambodia. Considering that over eighty percent of Cambodia's population remains in the rural areas, this is definitely a cause for concern. After all, landlessness, small land holdings and limited access to natural resources are primary factors that affect rural poverty (Diepart 2010).

It is, therefore, a real paradox that during this same period of extensive resource extraction, government bureaucrats have also been drafting and approving various pieces of resource governance legislation. Moreover, there has been, and continues

to be, a massive donor effort working toward enhancing local involvement in resource governance (Godfrey et al. 2000; Un and So 2009; Cock 2010; Gellman 2010). Cambodia continues to transform itself, meaning that actors may be working on a range of activities that are sometimes at odds with each other. This is a context whereby mineral development can take place in protected areas, in spite of regulations prohibiting this, and agricultural concessions can be granted to foreign businesses while local villagers struggle to get access to enough farmland to feed their families (Diepart 2010). The previous chapters have illustrated how people respond to this situation by often moving from one resource extraction opportunity to the next, until there are few options left by which to earn a livelihood. This is where local resource governance may come in, with the starting point being far from fair or just, or when people consider exiting rural areas altogether. There is, unfortunately, no guarantee of work in urban areas (Chandler 2010). This chapter provides a further reflection upon this resource governance situation by considering if and when resource policies work, and by further probing several resource governance failures discussed in the previous chapters.

PROBING RESOURCE GOVERNANCE FAILURES

This research case illustrates how the drafting and passing of new policy has not erased the underlying dynamics of resource competition nor has it shifted the distribution of economic benefits from natural resources to rural communities in any significant manner. Rural livelihoods continue to be affected by ongoing struggles for rights to access, manage and secure benefits from natural resources—principally land, water, fisheries and forests—in the face of intensifying competition (CBNRM LI 2009; Van Acker 2010). A major issue, at this point, is not enshrining local rights into policies and laws, for this has been

actively pursued throughout the past decade, but rather people's capacity to enact these rights in their particular situation. There is an almost normative assumption that once polices are passed, the particular management of a given issue and governing more generally can emerge. This is not proving to be the case.

Perhaps it is naive even to assume that creating decent policy will lead to policy uptake on the ground. Departmental cultures are not swayed simply because new policies are created, particularly if no one is insisting that these new policies are consistently followed. Moreover, if nepotism and cronyism exists to the degree that is suggested (i.e., Gellman 2010; Un and So 2009; Hughes 2009), it will take serious shifts in worldview, particularly in terms of accountability, before these new policies are consistently taken up. After all, actors have embraced resource governance polices for a plethora of reasons. For instance, conservation organizations may be advocating for local involvement in resource management from a commons management perspective (cf. Ostrom 1990) while donors focusing on interactions between humans and their environment may promote a social welfare perspective (cf. Béné et al. 2010). Others may buy into roll-out neo-liberal policies, having faith that market failures can be addressed by volunteer organizations in civil society (cf. McCarthy 2005). Government bureaucrats may support decentralized resource management initiatives as a way to penetrate rural areas and therefore work toward political consolidation (Hughes 2009). In other words, multiple logics may be used when promoting local resource governance (Mansfield 2007), which helps to explain why such policies are passed and why it then becomes challenging to get such policies to work in practice.

Given that such competing logics exist when legislation is drafted and then passed in support of local resource governance, one can appreciate why it may become a real challenge actually to enact such policies. Local resource governance would not

appear to be an obvious choice for government bureaucrats, until one considers the perspectives of roll-out neo-liberalism and political consolidation that government departments may adhere to. This also helps explain why government bureaucrats may not be particularly interested in actively supporting these mechanisms or in working toward resolving particular resource conflicts. At the same time, not all community members buy into the idea of local governance, and some committee members may be more interested in building their alliances and networks than in carrying out resource governance activities. In the particular part of Cambodia where this field investigation took place, the area is close to the Thai border, is a former Khmer Rouge stronghold and, until relatively recently, was isolated from the Cambodian capital, Phnom Penh. It is no wonder that resource governance is hard to enact in this situation.

Southwestern Cambodia has served as a resource frontier for the past twenty years, which helps to explain the ongoing interest from various local, national and regional actors in the natural resources in this area. Establishing forms of resource governance is nearly impossible in this type of context since it requires certain actors to give up revenue-generating opportunities. For these reasons, the resource governance successes explored must be well celebrated. This is not a context that easily supports this type of initiative: the leadership found within villages and within certain sectors of government are particularly noteworthy. Indeed, it demonstrates how people are not passive actors in challenging situations, and how they do have agency. Moreover, it demonstrates that even in contexts where policies are not enacted as imagined, small gains can be made in terms of resource governance.

Throughout this book the potential for resource governance is highlighted; the success stories exist in stark contrast to the resource governance failures. Failures occur for a multitude of reasons and are not always that easy to tease apart. For example,

some issues that ought to be addressed at a local level are not; other issues that require collaboration between various actors somehow slip through the cracks and other issues can still only be handled by higher levels of government with a visionary outlook for resource governance. More concretely, stolen fishing gear may demonstrate a failure in village governance, the challenge of getting support for community patrols may be a failure of co-management processes, and sand mining may illustrate a failure in national governance. It is noteworthy that resource governance failures are not scale-specific, contrary to what advocates of decentralization or centralization might theorize would happen (i.e., promoting either the state or local involvement as the solution to governance failures). As such, the following section carefully probes the nature of resource governance failures at different scales.

Failures at the Village Level

Chapter 4 demonstrates mixed success in the resource governance efforts carried out in and around Koh Sralao village. Resource governance works to a certain extent: there is an active mangrove replanting campaign, a system for waste management and a committee that has ebbed and flowed in its activities over the past decade. These ongoing activities do demonstrate a sustained interest in resource management, even as funds wax and wane (PMCR 2008). What villagers and resource management committees chose to ignore or not work on may also be instructive.

Aspects of the open-access nature of the fisheries resources in southwestern Cambodia make a lot of sense. For instance, effort reduction is something that committee members see as unfair. They argue that fishers are poor to begin with and prefer to allow outside fishers into their fishing grounds rather than limiting access. It may very well be that there are some

unintended benefits from this approach (sure, fish are declining, but given how things currently work in Cambodia it is not clear to me that focusing on effort reduction or controlling resource access would actually lead to poverty reduction). As Béné et al. (2010: 32) note: "The main contribution of small-scale fisheries to poverty alleviation may lie, paradoxically in their semi-open or common access nature. Resource-poor people often rely more heavily on common resources than their better-off households." This gives good pause for thought: perhaps the fishers of Koh Sralao are correct in not wanting to limit access, for this does speak to the welfare function of the fishery.

Other issues that are not solved at a local level are more puzzling. The continuation of gear theft, as an example, may be a resource governance failure or there may be other explanations. Many respondents whom I interviewed over the years faced severe debt levels as a result of fishing gear theft. As much as I tried to engage local institutions and donor organizations into a discussion around this issue, I consistently failed to generate serious interest. Gear theft is likely more than a cyclical process of people stealing from each other in response to individual gear being stolen, although this happens too, as someone or a group of people are likely benefitting from this trade. How is it that gear theft remains such a persistent issue, persistent to the point that it has become a norm?

When explaining this situation to others, particularly academics, an immediate reaction has been that Koh Sralao must lack in social capital, for why else would gear theft be occurring? Although pointing to a lack of social capital is in many ways an obvious explanation, it strikes me as somehow too simplistic to be helpful in understanding this situation. Putnam (1995: 67) defines social capital as the "features of social organization, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit." He further argues that those societies rich in social capital have a sense of "civic

virtue" embedded in a network of reciprocal relations. This differs from societies that have good individuals who are working in isolation (Putnam 2000). As such, it is theorized that in places that are low in social capital it is hard to build trust, collective action and commons governance (Pretty and Ward 2001).

Yet there is another dimension of social capital that is worth thinking about, particularly in the context of Koh Sralao village. Access to social capital in terms of resources depends greatly on the power, position and location of villagers (Bourdieu 1980). Certain members within any village, due to their power and societal position, may sustain privileges that, in turn, underpin and disadvantage other groups. In other words, powerful people can undermine the social capital of less powerful groups. Such insights do help to explain why gear theft may be something no one can tackle, particularly if a powerful subsection in the village or someone with connections outside the village is supporting this practice.

Of course, there are several other possible explanations for this situation. A contributing factor may be that gear theft is a particularly contentious issue that is not easily observable. It may also be that gear theft is seen as part of the risk of doing business as a fisher. In other words, it is the social transaction cost necessary in pursuing this type of livelihood. Although the prevalence of gear theft in Koh Sralao suggests a failure in local resource governance, it may just be that this is not a realistic issue for a resource management committee to address. After all, Koh Sralao committee members are working to instil resource governance in a frontier context within a seriously declining fishery. Many people came to the area to pursue a host of resource extraction opportunities. Now that most local residents no longer have opportunities in other resource sectors, the focus is on the fishery where a certain level of lawlessness continues to pervade. If Cambodia, in general, suffers from corruption and accountability issues (TI 2009), gear theft is

an example of how this is found throughout society to varying degrees. Gear theft serves as a proxy of the challenges of getting resource governance to work on complex issues. It would take a serious effort, over many years, to tackle such an issue, and the incentive structures currently in place for local resource governance do not provide enough support to make such an effort worthwhile.

My own work in other Asian fishing communities suggests to me that stolen fishing gear is not unique to the Cambodian context. This is a resource governance issue that is under-explored, under-reported and under-addressed, not just in Cambodia but elsewhere, too. For example, ten scholarly articles discussing gear theft within the fisheries sector were found in Scholar's Portal (a main database for social sciences research) between 2000 and 2010. What this scarce literature suggests is that fishers may travel further distances to avoid traps getting stolen (Daw 2008) and require extensive support in monitoring and surveillance if this problem is to be solved (Al-Masroori et al. 2009). This does not help me better to analyze the situation in Koh Sralao; nothing is written about how local institutions may be involved in solving this type of issue. I somehow sense that the committee in Koh Sralao could tackle this problem, since they themselves suggested a more active monitoring campaign at one point and have tried a series of things over the years. This, therefore, begs the question of whether this is seen as a reality that comes with life working in a sector such as the fishery.

Failed Partnerships

Based on the work in southwestern Cambodia, it would seem that village-government partnerships are not always working very well, particularly on more contentious issues. Village-focused policies were designed to provide a platform for stakeholder collaboration. Although the nature of these arrange

ments varies, their main thrust is to enable dialogue between stakeholders to ensure better resource management outcomes at a local level (Armitage et al. 2009). Accordingly, government bureaucrats are meant to take a role in either supporting or in working with village members to manage local resources. In reality, however, few government departments are able to support local work in an ongoing manner. Technical departments, whether fisheries, forestry or an environment department, do not have significant operating budgets since decentralization reforms have not, yet, resulted in any serious administrative decentralization (Turner 2006). A lack of finances is the first reason that any government official will cite when explaining why co-management approaches are not always working.

But more than this is going on. There is little incentive for a bureaucrat to help a community to patrol or to engage in conflict management. The departmental culture does not encourage this, and it may even be discouraged since a certain amount of illegal activity can benefit departments from the informal collection of fees. This is never easy to "prove," but the practice of rent-seeking is thought to be rife in Cambodia (Un and So 2009; Global Witness 2009). Although some bureaucrats at a central level may buy into the idea of village-government collaboration on resource management, this practice has not penetrated throughout the governance system. It would take a serious effort at the central level to ensure these practices were adopted in reality. Departments within a ministry hold different perspectives toward local resource governance, such as the Community Fisheries Office whose mandate is to support community fisheries and the Inspection Office whose job is to inspect production and police fishing activities. Thus, bureaucrats who sanction co-management are facing internal struggles to promote the adoption of this type of approach.

Many authors studying local resource governance processes argue that a well-defined resource system, small-scale resource contexts, a clear and identifiable set of social entities with shared interests and reasonably clear property rights are conditions that will enable village-government partnerships to be successful (Ostrom 1990; Berkes 2006; Armitage et al. 2009). If one thinks about this list in the context of the mangrove-estuary villages described in this book, one begins to realize how unlikely such conditions may be in reality. To be frank, I doubt that the villages of southwestern Cambodia are particularly unique. After all, when are social-ecological systems well-defined with only a few users being interested in them? The experience of Koh Sralao villagers, and those surrounding Chrouy Pros Bay, may not be so different from many social-ecological contexts where multiple actors are interested in the same natural resources. In our globalized world, entrepreneurs are continuously searching for opportunities to exploit natural resources, and Cambodia, with its relatively rich natural resources (although there has been a significant depletion of forests and fish stocks, some do remain, and mineral exploitation is only just beginning) and weakly enforced laws, is an attractive place. Against all odds, there have been moments when local resource governance has worked, particularly in and around villages.

Failures in National Leadership

Sand mining is an issue that exhibits how national ministries are not following their own policies. The Ministry of Environment holds jurisdiction over protected areas and sites of ecological significance (i.e., Ramsar sites, biodiversity reserves) and the Fisheries Administration is responsible for the conservation and management of aquatic resources throughout Cambodia. Meanwhile, the Ministry of Industry Mines and Energy is

responsible for mineral exploration, with the Ministry of Water Resources and Meteorology focusing on both water resources and minerals. If each ministry were to follow its mandate, the scale of sand mining would be far smaller, the impacts carefully monitored. This is because an environmental impact assessment would be conducted by the Ministry of Environment, the Ministry of Fisheries would undertake an aquatic survey to assess the impact of sand mining on fish stocks and the concessions granted by the Ministry of Industry, Mines and Energy and the Ministry of Water Resources and Meteorology would be small in nature and cause minimum ecological harm. Yet, in the popular narrative, there has been an emphasis on how mineral, oil and gas exploration may be one way to bring Cambodia's population out of poverty (Cox 2010), and it appears that existing policies are not applied to sand mining in coastal areas. Why is no one encouraging the Cambodian government to take a longer-term view on sustainability or questioning the justice of a few elite actors making an extraordinary profit from a commons resource to the detriment of the local ecology and population?

Just as frustrating is that village protests do not appear to be taken seriously, official complaints launched through government channels are pending and no international donor has championed this issue. It has been well publicized that there are serious accountability issues with the Cambodian government when it comes to extractive industries (Global Witness 2009). Many organizations have not wanted to touch this issue, since it relates to contracts given out to the highest members of the Cambodian government (i.e., national senators). It is an issue that can only be addressed at the highest levels, such as with the prime minister. Although in May 2009 the Cambodian prime minster did call for a halt to sand mining activities, the focus of this ban was inland sand mining, not coastal activities. As such, mining activities increased in southwestern Cambodia

throughout 2009 and 2010 (Global Witness 2010). This is a case where no checks and balances are in place, making it impossible to find a solution. Such an activity makes a mockery of the work of villagers, of policy-makers supporting local resource governance and of many in the donor community.

CONCLUSION

Between powerful actors angling to exploit natural resources and resource policy processes that, in many ways, are designed to be counter-intuitive to how things function in practice, it is no wonder that results are mixed. Perhaps the situation in Chrouy Pros Bay is far more the norm than the work of the committee in Koh Sralao, which demonstrates leadership, risk-taking and a willingness to do something for the "greater good" of the area. Not all communities in Cambodia are willing to invest so much effort into this, particularly since people are not paid to be involved in this type of work. What is done in Koh Sralao is arguably more than many North Americans ever do in terms of getting involved in local governance issues. Actors are capable, even within severely restricted social spaces, of formulating decisions, acting upon them and innovating or experimenting (Long and Long 1992), as well as interpreting policies and even resisting them (Scott 1985). Unfortunately, strong leadership at a local level will only go so far if other actors higher in the chain of command are not also supporting resource governance practices. In this current context, it is no surprise that actors will hit stumbling blocks and, in spite of a decent policy environment that suggests otherwise, business interests often win. There is a Khmer saying that "corrupt officials know how to share corruption money" (Un and So 2009: 133), suggesting that enough people are seeing the benefits from resource exploitation activities; as usual, these benefits are not "bottom friendly."

Decentralized resource governance processes seem "to provide an answer to the rigidity of centralized structures and a response to past failings, but they can also be a smokescreen for things we do when we are not sure what it is we are doing" (Arthur et al. 2011: 15). For both the policy and development communities it can become a justification for further experimentation in contexts that are poorly understood, and where outcomes of practice are uncertain, unpredictable and sometimes undesirable. The resource governance failures of southwestern Cambodia serve as a reality check for understanding how resource governance processes may be implemented. A major stumbling block for local resource governance processes is power relations and policy uptake; this is what needs to be targeted. Moreover, a supportive environment that enables policy to be reflexive and pertinent to ever-changing local contexts needs to be fostered.

Conclusion: Resource Governance at the Margins

Policy reforms promoting local resource governance are not working out as envisioned.[19] Although people do engage in resource governance in creative ways, there are many failures along the road. The broad appeal of local resource governance may, in part, explain why it is so difficult to enact. Government actors, as an example, support resource governance for multiple reasons including to promote roll-out, neo-liberal policies (McCarthy 2005), to work toward greater political consolidation (Hughes 2009) or to support community involvement in resource management (Ostrom 2009). Since these actors are likely to advance diverse aspects of any particular resource governance policy, it can hardly be surprising that implementation will be chaotic and confusing. Even if government departments wanted to support the processes necessary for genuine decentralization, it would be difficult since specific departments dealing with natural resource conservation do

[19] Resource governance reforms are not working out as envisioned in Cambodia or and at a regional level. For example, decentralization processes in post-Suharto Indonesia have not halted deforestation practices and the Philippines struggles to manage its fishery in spite of excellent policies that support local governance (McCarthy 2006; Salayo et al. 2008). Cambodia's experience, too, is far from ideal.

not have large budgets and may also face capacity challenges. Moreover, it really takes time before policy processes are systematically taken up and people begin to buy into notions of local resource governance and "co" models as ways to govern natural resources.

It is no wonder that resource governance results are patchy at best and that this is a difficult agenda to pursue. In some ways, pursuing this type of governance experiment in a place like Cambodia seems almost unrealistic, given its historical roots and emerging reality. After all, this is a place where business entrepreneurs boast about Cambodia's frontier status, while others argue that Cambodia's natural resources, particularly future oil revenues, are its development curse (Le Billon 2002; Un and So 2009). Moreover, the notion of locally driven resource governance does not have particularly strong roots in Cambodia, particularly in rural, lowland villages.[20] Yet donors, policy-makers and village members alike have seized upon an opportunity to create policy that does give more voice to citizens and allows them a role in contributing to village governance, even if only in a few cases. After all, few policies existed in the 1980s and early 1990s, post-Khmer Rouge, and the past fifteen years have been a chance to reconstruct and to get things "right," or at least "better." This is an appealing idea, which helps to explain why such a novel resource governance experiment is underway in a context like Cambodia's.

[20] Specific resource management initiatives appear to have been driven by local government officials who were often responding to directives from higher authorities (Marschke 1999; Frings 1997). This may be linked to the relatively low population pressure found in Cambodia's countryside, thereby avoiding a tragedy of the commons situation (*à la* Hardin) (Diepart 2010). This is not to suggest that people did not have a say in local resources, and certain forms of resource management do appear particularly around forest protection and charcoal production (cf. Marschke 1999; Evans et al. 2004). In terms of specific fisheries management activities, however, this appears limited to mangrove or flood forest protection rather than active no-take zones or gear restriction, from what I can tell.

Considering the landscape where this research took place, a Wild West-type of area that held, until quite recently, lush forests and healthy fisheries, and continues to hold other valuable coastal resources like sand, seagrass, corals and oil, the successes are rather impressive. In many ways, communities have beaten the odds with their successes, for they have done so in the absence of much external support. As Sovanna (2008), the head of Koh Sralao's resource management committee, notes, "[W]e have learned a lot by working on these issues. We are now better organized, can deal with certain conflicts ourselves and know what the law says. We can deal with many small issues just not the big issues." Undoubtedly, communities participating actively in resource governance have gotten something out of the process; if nothing else, confidence has been enhanced (Marschke and Sinclair 2009). To do nothing was not an option for members of these communities. Nonetheless, the protection of natural resources in and around these villages is not particularly easy and is not always proving to be fruitful, particularly in cases where there are large amounts of money to be made (large-scale fishing, sand mining). With every success that can be celebrated emerges another issue that is cause for serious frustration. It will be worth following up on the committee's work in the years to come, to see if sand mining has indeed proved to be the tipping point for resource-dependent villagers, or if those that remain are able to recover and harness their leadership and community organizing skills toward other forms of resource governance (i.e., certification schemes, avoided deforestation, payment for ecosystem services or finding ways to halt fisheries declines). Perhaps an even bigger question is if villagers will see this as worthwhile.

Let me end this story with a few final thoughts.

First, local resource governance does not always make sense, even in resource-dependent villages. This is because declining resources are only one contributing factor in shaping people's

lives. People are further marginalized by their location, their limited access to education and a lack of productive resources available to them. This is not to suggest that resources in and around villages should not be protected, conserved and, where appropriate, governed. Rather, the burden of this effort should not always be shouldered by poorer, rural residents. Governments and other organizations need to recognize and plan for the buffering role that natural resources play, in the sense of providing a fallback strategy for households. Fish and forest spaces absorb unskilled surplus labour and provide a safety net, along with risk mitigation mechanisms for poorer households facing real livelihood insecurities (Béné et al. 2010). What is also needed is investment in solving resource-related conflicts, including patrolling efforts, a commitment to regional forms of resource governance, investments in health and education and working toward livelihood security, in addition to ensuring that common spaces exist for fishers and other local dwellers to access. When resource governance is pursued, there must be local leaders willing to pursue this agenda, particularly in cases where resource governance processes are designed and parachuted in by outside actors, along with appropriate institutional support that includes troubleshooting or backstopping. How this can work in an era of greater livelihood mobility, where people have not been rooted longer in just one place, is another pressing question.

Second, decentralized resource governance as it is currently enacted will not work in Cambodia. Even with donor policies (and the resource governance literature) being strongly oriented toward decentralized resource governance, Cambodia's problems of deforestation, aquatic stock declines and other forms of resource exploitation do not show any signs of abating. Many decentralized resource policies, which were designed with good intentions, do not support rural livelihoods as some policies are manipulated and others are ignored. Policy changes

can be rather meaningless, particularly if the entrepreneurial elites do not themselves adhere to them or if such changes harm patronage networks (Burgos and Ear 2010). Cambodian elites do earn significant money from Cambodia's natural resource base, channelling some of this money, in turn, back into their traditional patrimonial power bases (Un and So 2009; Chandler 2010). This ensures the continuation of some forms of resource exploitation, so long as it pays off for those involved (Cock 2010). Moreover, since resource exploitation often gets handled in the informal realm, it is hard to make sense of what has been negotiated and agreed upon, and it is even harder to know who is in a position or is interested to change this system. Even in cases where major protests have occurred, it is only small-scale resource problems that tend to get solved. This situation needs to change, with solutions being found for the most pressing natural resource issues, if the decline of Cambodia's natural resource base is to be abated. Sustainable forms of resource extraction need to be given far greater consideration, to ensure that villagers will see greater benefits than they currently do and to work toward some form of ecosystem sustainability.

This leads me to my third point: decentralized resource governance should not be the entry point to resource governance in Cambodia. Rather, a serious resource governance effort is needed at higher levels of the governance system. As Andersson and Ostrom (2008: 88) note, "[a] sophisticated governance system recognizes the multi-scale aspects of natural resource governance as well as the presence of countervailing incentives, and seeks to correct them." There is a certain amount of artificiality in strongly promoting decentralization or co-management processes in a context like Cambodia, for this negates both how Khmer society functions and existing hierarchies (Hughes 2009; Gellman 2010). Shifting power relations and control toward subnational levels is not easy. This is not to take away

from local governance mechanisms, since this case shows how part of the solution lies with local actors and those supporting them. Rather, it suggests that centralizing certain aspects of local resource governance may be more important in this type of context than what is currently promoted in many donor policies. For example, even with Cambodia's recent policy reforms, people continue to manage the expectations and needs of their superiors (Hughes 2009). For these reasons, certain changes can only really begin with central technical agencies. Leadership is needed from these national agencies; only with such leadership will appropriate support be given to subnational levels within the system. Since there is respect for hierarchy and for informal networks, why not work with these norms to find solutions to the most pressing issues? As such, it may be that some contexts require centralized leadership, with elements of a top-down approach, if other forms of resource governance are to exist, potentially to flourish. This is an important point to consider.

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[21] Published and forthcoming articles mentioned in this paragraph are fully cited in the References.

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