

Phnong Villagers Adapt to Decline in Natural Resources

Natural resource exploitation over the past decade has had severe consequences for Monduliri province. In a CIDSE Cambodia study John P. McAndrew, Mam Sambath, Hong Kimly, and Ky Bunthai examine the effects of natural resource decline on the livelihoods of Phnong villagers in two provincial communes.*

Since the early 1990s the opening up of the Cambodian economy and the drive to fund political and military power bases have had far reaching consequences for Monduliri province in northeast Cambodia. Legal and illegal logging, and the unregulated hunting of wildlife have diminished the rich natural resources of the province. Rapid inward migration likewise has the potential to exacerbate the decline. As natural resources become more circumscribed, indigenous people are forced to make adaptations that determine the very survival of their way of life. This article focuses on changes that have taken place in two Phnong communes in Monduliri province as a result of increased market activity and diminished natural resources: Dak Dam commune in Ou Reang district and Srae Preah commune in Keo Seima district.

Research Methods

The field research for the study was conducted during several intervals from November 2002 to March 2003. Three primary research methods were used: a household survey, key informant interviews, and participatory rural assessments (PRAs). The research team consisted of four CIDSE Cambodia staff, one Provincial Department of Rural Development (PDRD) counterpart staff, and seven Phnong interviewers. In all, the team was composed of eight men and four women, although not everyone worked together at all times. CIDSE staff from other provinces assisted in the PRAs in Srae Preah. The household survey was conducted in all villages of the two communes based on a 25 percent random sample.

Major Findings

Declines in Natural Resources

As Dak Dam and Srae Preah villagers attempted to rebuild their lives in the aftermath of the Khmer Rouge regime, and amid changes brought on by the market economy, they experienced the rapid exploitation of their natural environment resulting from illegal and legal logging, unregulated hunting, and destructive fishing. In Dak Dam commune illegal logging was conducted on a large scale. Villagers remembered that truck convoys passed through the commune taking logs

across the border into Vietnam. The illegal loggers were armed and at times accompanied by border police and soldiers. In December 1999 a crackdown on illegal logging in Monduliri brought attention to a practice that had been endemic to the province for several years. But it did not curtail it. Indeed, the reinstatement of government officials involved in the crackdown emboldened others to pursue illegal logging activities.¹

In Srae Preah large-scale logging was carried out by members of the Royal Cambodian Armed Forces (RCAF) from about 1993 to 1996. In 1997 and 1998 the Samling company, whose concession covered most - if not all - of Srae Preah, accelerated the pace of logging in the commune, cutting down large resin trees as part of their operations. By the time Samling ceased its operations in early 1999, the loss of resin trees in Srae Preah commune had severely affected the incomes of most local inhabitants. Resin collection was the highest income earner of most commune households. Estimates of average resin tree losses in the six Srae Preah villages were around 50 percent.²

In Dak Dam soldiers and police stationed in the provincial town of Sen Monorum had guns and hunted to increase their food supplies and to supplement their incomes. Illegal loggers also hunted wildlife. In Srae Preah the intense logging period between 1993 and 1998 was a particularly destructive one for wildlife. RCAF and Samling loggers had guns and hunted wildlife for food. Soldiers and police also entered the commune in hunting parties to kill large game. In Dak Dam and Srae Preah supplies of fish were also threatened by soldiers and police coming into the communes to engage in electrofishing.

Livelihood Strategies

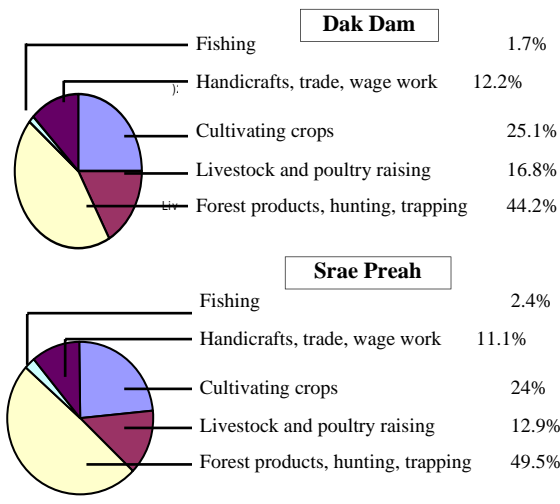
Household livelihoods in each commune were supported by a multiplicity of productive activities. Almost all sample households in Dak Dam and a large number of sample households in Srae Preah were involved in *chamcar* (growing crops other than rice) or slash and burn agriculture. While few households cultivated wetland or paddy rice in the uplands of Dak Dam, more than half of the households in the lower areas of Srae Preah did so. Raising pigs and chickens was prominent in both communes. Of note, gathering food and other products from the forest, and hunting and trapping were practised by a large majority of households in both communes. This underscored the importance of forest resources in the lives of the local people. Fishing was likewise prevalent in the two communes. By comparison, neither the making and selling of goods nor the buying and selling of goods were pursued by large numbers of residents in either area. Wage work was somewhat more common in Dak Dam than in Srae Preah but was not among the leading livelihood strategies in either commune (Table 1).

In the study average cash values of household income in the past year were also computed (Table 2). This provides some indication of the relative importance of various strategies in sustaining household livelihoods.

Comparing household income shares by source in the two communes reveals noticeable differences and similarities in the household income structures. The Dak Dam sample households received the largest shares of their income from hunting and trapping, and from *chamcar* cultivation. By contrast, the Srae Preah sample households received the largest shares of their income

* The complete study entitled *Indigenous Adaptation to a Decline in Natural Resources: The Experience of Two Phnong Communes in Northeast Cambodia* is available in English and Khmer from CIDSE Cambodia.

Figure 1. Household Income Shared by Sources
November 2002–January 2003



from forest gathering (particularly resin tapping), and from wetland rice cultivation. Despite these differences, the importance of forest and land resources in the lives of the people from both communes was clear (see Figure 1).

Notably, the incidence of poverty in both communes was high. In a report published by the Royal Government of Cambodia (RGC) and the World Food Programme (WFP) in March 2003, the poverty line for rural areas in Cambodia was set at 1,036 riels per capita per day, which amounts to 378,140 riels per capita per year.³ In Dak Dam 35 of the 65 sample households, or 54 percent, fell below this poverty line. In Srae Preah 47 of the 74 sample households, or 63 per cent, likewise fell below this mark. These incidences of poverty were considerably higher than the 40.1 per cent of rural households in Cambodia considered to be below the poverty line by the RGC Ministry of Planning in 1999.⁴

Implications

Enhancing Livelihood Strategies

Despite the destruction of forest resources through legal and illegal logging and unregulated hunting in Dak Dam and Srae Preah communes, the indigenous Phnong inhabitants of these areas remained largely dependent on forest resources for their subsistence. The adaptation to the decline in natural resource had essentially been to

Table 1. Livelihood Strategies in Past Year by Household
November 2002–January 2003*

	Dak Dam	Srae Preah
Slash and burn cultivation	64	61
Wetland rice cultivation	3	43
Pig raising	59	54
Chicken raising	63	68
Duck raising	22	10
Gathering food from the forest	60	69
Gathering other products from the forest	57	71
Hunting or trapping	45	52
Fishing	60	69
Making and selling goods	28	23
Buying and selling goods	9	13
Wage work	36	31
	n = 65	n = 74

*Data were collected during this period.

subsist on less and to exploit the further limits of their diminished resource base. This led to intensive hunting in Dak Dam and the tapping of young resin trees in Srae Preah. Losses of income from forest resources forced a greater reliance on the cultivation of crops and the raising of livestock and poultry. However, decreases in soil fertility and irregular rainfall linked to deforestation limited the potential of crop production. Market demand for cash crops such as cashew nuts had also been less than expected. Meanwhile increased market activity had not transformed the local residents into entrepreneurs or traders nor had it provided them with remunerative and sustained opportunities in wage work.

Given the inward direction of household subsistence strategies and the lack of viable short-term alternatives, access and control over natural resources remained critical. A resumption of logging activities in either commune would be devastating for local communities but especially for the resin-tapping households in Srae Preah. With almost all resin trees currently tapped in Srae Preah commune, households would not be able to offset future losses from logging by expanding into new areas. Already diminished levels of income and food security would be reduced even further. This noted, it would be imperative for the RGC with support from the citizenry to enforce the law against the cutting of resin trees. The value of enabling the resin trade to continue must be defended. Prime Minister Hun Sen in a lecture presented in May 2003 proclaimed unequivocally, "We must give first priority to the people.... I made a clear recommendation that the forests where people tap resin should not be allowed for logging."⁵

Beyond upholding the law prohibiting the cutting of resin trees, it is necessary to rethink the viability of concession forestry itself.⁶ The Samling logging concession in southern Monduliri has been inactive since 1999. Nonetheless, Samling has submitted a strategic management plan to the RGC and if the plan is approved the company could once again commence logging operations. Some conservationists have acknowledged the potential threat of Samling while suggesting that well-managed sustainable concession logging might be a better alternative to the illegal logging which could replace it.⁷ The salient question here is whether Samling would have the corporate commitment or financial incentive to manage their concession on a sustainable basis. Given the company's history this seems highly unlikely. Indeed, one could argue that if resin trees were excluded from the company's operation, Samling could not harvest timber on a profitable basis. The RGC should not approve Samling's strategic management plan, for the resumption of logging operations in Srae Preah and other communes of southern Monduliri would only exacerbate the vulnerability and poverty of the local communities living within the concession area.

The cancellation of forest concession agreements and a total crackdown on illegal logging are clearly steps consistent with the RGC's National Poverty Reduction Strategy 2003–2005. Recognising poverty to be economically wasteful, morally unacceptable, and socially divisive, the RGC has made alleviating poverty its overriding development objective. Importantly, poverty reduction entails both increasing productivity and reducing vulnerability. High incidences of poverty exist in both Dak Dam and Srae Preah communes. If

RGC policy is to support the alleviation of poverty in the study communes then it must prevent, and not promote or permit, concessionaires and illegal loggers from exploiting forest resources to the detriment of local residents. Reducing the vulnerability of households in Dak Dam and Srae Preah with respect to access and control over forest resources is a necessary first step in the struggle to eradicate poverty. Increasing productivity in agriculture through improved techniques and augmenting earnings from trade and wage work will complement this.

Strengthening Participation in Natural Resources Management

In the last decade the indigenous Phnong people of Dak Dam and Srae Preah communes suffered a severe decline in their natural resources. The forces behind legal and illegal logging, and unregulated hunting were just too powerful and too relentless for the voices of these indigenous people living on the periphery of society to be heard and taken seriously. Into the 21st century the situation could worsen. The planned resumption of concession logging activities threatens further deterioration of forest resources in Srae Preah. The recent completion of the new road into the provincial capital of Sen Monorum opens up opportunities for land speculation and the violation of indigenous land rights. And yet while the potential for further disenfranchisement is real, so too is the promise of indigenous empowerment.

One alternative that involves local people in natural resources management is community forestry: essentially an effort to support and empower communities to pursue their traditional uses of forest resources whilst encouraging sustainable practices. Community forestry is also designed to promote local knowledge and skills in forest management and to ensure that communities have a stronger voice in decisions affecting the forestry sector. Community forestry normally involves activities in land-use mapping, planning, and developing forest management agreements on resource use, which are mutually recognised by villagers and provincial and local

government officials. A CDRI study has identified 237 community forest projects in Cambodia including 7 in Mondulkiri.⁸ Another promising alternative to corporate and private exploitation of property is communal ownership of land resources. Recently, the Ministry of Land Management announced plans to issue communal land titles to indigenous people in pilot projects under the 2001 Land Law including one village in Mondulkiri.⁹

In Mondulkiri alternatives are beginning to emerge as indigenous communities empower themselves and advocate for their own rights. In recent years indigenous people have built their awareness and understanding of forestry regulations and land laws, and have participated in public events and community action on issues that affect their lives. Decentralisation reforms have also enabled Commune Councils to speak out more forcefully on issues that concern their constituents. Conservation, development, and human rights NGOs have worked together to support the empowerment process. Clearly, much needs to be done to reverse the exploitative trends of the 1990s. But a concerted effort to strengthen indigenous participation in natural resources management has decidedly begun.

Endnotes

1. Global Witness, *Chainsaws Speak Louder Than Words*, May 2000, 19; Global Witness, *The Credibility Gap – and the Need to Bridge It: Increasing the Pace of Forestry Reform*, May 2001, 21-22.
2. These estimates were higher than those of a recent study conducted by the Wildlife Conservation Society which recorded a 20 per cent resin tree loss in one Srae Preah village and a 26 per cent resin tree loss in another. See Tom D. Evans, Hout Piseth, Phet Phaktra, and Hang Mary, *A Study of Resin-Tapping and Livelihoods in Southern Mondulkiri, Cambodia, with Implications for Conservation and Forest Management*, (Phnom Penh: Wildlife Conservation Society, 2003), 40-41.
3. Ministry of Planning, Royal Government of Cambodia and the United Nations World Food Programme, *Poverty and Vulnerability Analysis Mapping in Cambodia: Mapping Poverty, Malnutrition, Educational Need, and Vulnerability to Natural Disasters in Cambodia*, March 2003.
4. Royal Government of Cambodia, National Poverty Reduction Strategy 2003-2005, 24.
5. Samdech Hun Sen, Prime Minister of the Royal Government of Cambodia, "Keynote Lecture: The Economic Government and Strategies to Enhance Rural Livelihoods," Presented at the Development Seminar for Provincial and Municipal Leaders, organised by the Cambodia Development Resource Institute in cooperation with the Ministry of Interior, Phnom Penh, 12 May 2003, 15.
6. See Bruce McKenney, "Questioning Sustainable Concession Forestry in

Table 2. Average Cash Values of Household Income in Past Year November 2002-January 2003* (in riels)**

	Dak Dam	Srae Preah
Chamcar rice	193,292 10.3%	87,986 4.2%
Chamcar crops (other than rice)	271,585 14.5%	160,816 7.6%
Wetland (paddy) rice	4,615 0.2%	259,297 12.3%
Pigs raised	242,308 12.9%	211,149 10.0%
Chickens raised	65,077 3.5%	58,784 2.8%
Ducks raised	7,692 0.4%	2,567 0.1%
Food gathered from the forest	46,769 2.5%	42,239 2.0%
Other products gathered from the forest	252,376 13.5% (34,415 liquid resin)	870,799 41.2% (600,845 liquid resin)
Animals hunted or trapped	527,405 28.2%	133,755 6.3%
Fish caught	32,412 1.7%	51,342 2.4%
Goods made and sold	40,708 2.2%	35,270 1.7%
Goods bought and sold	26,069 1.4%	67,635 3.2%
Wage work	161,323 8.6%	132,486 6.3%
Total	1,871,631 99.9%	2,114,125 100.1%
	n = 65	n = 74

*Data were collected during this period. **4,000 riels equals one US dollar.
Note: Percentages do not add up to 100% due to rounding.

- Cambodia," *Cambodia Development Review*, January – March 2002, 6,1.
7. J. Walston, P. Davidson, and Men Soriyun, *A Wildlife Survey in Southern Mondulokiri Province, Cambodia*, (Phnom Penh: Wildlife Conservation Society, 2001) cited in Evans et al, *A Study of Resin-Tapping and Livelihoods in Southern Mondulokiri*, 19.
8. Bruce McKenney and Prom Tola, *Natural Resources and Rural Livelihoods in Cambodia: A Baseline Assessment*, Working Paper 23 (Phnom Penh: Cambodia Development Resource Institute, 2002), 86-89.
9. Michael Coren, "Landgrabs Loom for Mondulokiri Minorities," *Phnom Penh Post*, Aug 15-28, 2003, 7.

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Prahoc and Food Security...

and officials/authorities to impose a range of licensing, permit, and fee requirements (see CDRI Working Papers 27 and 28 on fish exports and resin trade). Such requirements for *prahoc* trade, no matter whether the trade is informal or commercial, should not be established or allowed. To ensure food security in Cambodia, it is critical that *prahoc* prices remain low. This will require the maintenance of low marketing and distribution costs.

- **Investigate opportunities to combat iodine deficiency problems through use of iodised salt in *prahoc*.** *Prahoc* is the single most important source of salt for Cambodians throughout the year. Findings from this study indicate that farmers (and their family members) consume about 10-15 kg of *prahoc* each year. Salt represents about 3.0-4.5 kg of this consumption, or about 8-12 g per day on average. Since a standard of 10 g per day is often assumed for salt consumption in other developing countries, and it is well known that little salt is used in rural Cambodian cooking beyond what is in *prahoc*, it is fair to say that a great proportion of salt intake in rural areas is from *prahoc*. Therefore, the use of iodised salt in *prahoc* will be essential if iodine deficiency problems are to be reduced in Cambodia. At the *dai*, the decision about which salt to use (and consume the rest of the year) is made by thousands of farmers during one week in January. *Prahoc* making at the *dai* offers a significant opportunity for encouraging the use of iodised salt and raising awareness about its health benefits. While much important effort is focused on ensuring that iodisation occurs in the production of salt, Cambodia may be unique in that influencing the use of iodised salt in a single popular food product (*prahoc*) could have widespread positive health impacts.

Endnotes

- ¹ A *dai* is a bagnet or stationary trawl with an anchoring position in the river used for capturing fish migrating downstream.
- ² Iodine is added to salt in Kampot under what is reportedly monopoly control. This control is viewed as necessary to ensure that iodised salt is consumed in Cambodia. Iodisation of salt can be an effective way to combat problems caused by iodine deficiency. Problems include goitre, lack of concentration and coordination, and lower IQ levels.
- ³ Aware of increasing exports of fish species used in *prahoc*, the Department of Fisheries called on *dai* owners in 2003 to only sell fish caught at night to exporters. This appears to be a practical first step. Previously, most *dai* owners did not operate at night and fish simply migrated past the *dai*. The *dai* closed at night because night sales, such as for animal feed, did not cover labour costs and the fish could not be stored for sales the following day. Exporters are willing to pay a higher price for this night catch, so more *dai* operated at night in 2002-03. Because of fish migration downstream, it is not clear whether the night catch affects the day catch.

References

- Department of Fisheries (1995-2003), "Total Catch (Ton) by Species of *Dai* Fisheries in Kandal/Phnom Penh in the Open Season", (Phnom Penh: Department of Fisheries)
- Lieng, S., C. Yim, and N.P. Van Zalinge (1995), "Freshwater Fisheries of Cambodia, I: The Bagnet (*Dai*) Fishery in the Tonle Sap River, *Asian Fisheries Science* 8 (1995): 255-262