

Prosperity and Impoverishment: Bunong Livelihoods in Transition in Two Mondulhiri Communes¹

Introduction

In 2004, an article featured in the *Cambodia Development Review* delineated the changes taking place among Bunong indigenous people in two Mondulhiri communes as a result of increased market activity and diminished natural resources (McAndrew *et al.* 2004). Despite the destruction of forest resources through forest concessions, illegal logging and unregulated hunting, the Bunong villagers in Dak Dam and Srae Preah communes remained largely dependent on forest resources for their subsistence. Adaptation to the decline in natural resources had essentially been to subsist on less and to exploit the further limits of their diminished resource bases. Given the inward orientation of household subsistence strategies and the lack of viable short-term alternatives, access to and control over natural resources remained critical for household survival. This article, based on recent research, takes the earlier study as its baseline and compares how household livelihood strategies have changed in Dak Dam and Srae Preah communes over the last nine years. Specifically, the research asks how household reliance on forest resources has changed, how household incidence of poverty has changed, and whether households overall have attained a measure of prosperity or experienced further impoverishment. The research findings seek to inform government policy making and government and NGO development programming with indigenous people.

Research Methods

The baseline study conducted in 2002/03 by the International Cooperation for Development and Solidarity (CIDSE) Cambodia (McAndrew *et al.* 2003) and the present research conducted in 2012 by the Analyzing Development Issues Centre (ADIC)

employed mixed methods approaches: household surveys, key informant interviews participatory rural assessments, and secondary data sources. The household surveys in each study were conducted in all villages of the two communes based on 25 percent random samples. In each instance, Bunong interviewers were recruited and trained to conduct the household surveys. The Bunong interviewers asked the survey questions primarily in the Bunong language and recorded the responses in Khmer. Cash values for wage earnings and for profit of goods made and sold and goods traded were provided directly by the respondents. Average cash values for other products were determined through focus group discussions with key informants conducted in the villages of both communes. With these average cash values it was possible to compute cash equivalents for the other household products delineated by the respondents and thus estimate annual household incomes. Fieldwork for the present research was conducted in Dak Dam and Srae Preah communes from January to May 2012.

Livelihood Transitions in Dak Dam Commune

A comparison of cash values of household income in Dak Dam commune from 2003 to 2012 reveals important changes taking place within the local economy (Table 1). Of major significance, average annual household incomes of the sample groups increased 3.4 times from 1,871,631 riels (USD468) in 2003 to 6,312,832 riels (USD1578) in 2012. Economic growth in Dak Dam commune was due mainly to earnings derived from cash crop production of cassava on upland farms and from wage work principally as agricultural labourers. High inflation rates during the interim years likewise contributed to the high volume increase. Earnings from upland crops increased from 24.8 percent of overall household income in 2003 to 38.4 percent in 2012. Earnings from cassava production alone accounted for 22.9 percent of total household income in 2012. Similarly, earnings from wage work rose from 8.6 percent in 2003 to 20 percent in 2012. Meanwhile earnings from hunting and trapping as

¹ Prepared by So Dane, Hak Sochanny, Oeur II and John McAndrew, staff of the Analyzing Development Issues Centre (ADIC). This article is based on the ADIC study *Food Security and Land Use Change in Two Mondulhiri Communes* (forthcoming) supported by IDRC through the Learning Institute

a share of overall household income fell from 28.2 percent in 2003 to 9.1 percent in 2012.

The proportionate increase in the cash value of upland crops is particularly notable because it was accompanied by a proportionate decline in the cash value of upland rice. From 2003 to 2012, the cash value of upland rice production decreased from 10.3 percent to 5.9 percent of total household income. This resulted from the low productivity of upland rice cultivation and the proportionate decline in upland household rice cultivators. Moreover, the cash values of upland rice and upland crops (other than rice, cashew nut and cassava) were much lower than that of cassava. In 2012, in Dak Dam commune the average cash value of upland rice for the 65 upland rice cultivators surveyed was 485,500 riels, the average cash value of upland crops (other than rice, cashew nut and cassava) for the 77 upland cultivators of these crops surveyed was 669,681 riels, and the average cash value of cassava production for the 68 cassava cultivators surveyed was 1,805,221 riels. Clearly, Dak Dam households had an incentive to adopt and expand the cultivation of cassava on their upland farms. At the same time this strategy left households vulnerable to the exigencies of the cassava market.

Dak Dam household income shares by source illuminate the major shifts taking place in commune livelihoods from 2003 to 2012. The share of

household income from cultivating crops rose from 25 percent in 2003 to 39 percent in 2012. Similarly, income from wage work and remittances increased from only 8 percent in 2003 to 22 percent in 2012. By contrast, income from forest products, hunting and trapping fell from 44 percent in 2003 to 26 percent in 2012, while earnings from pig and poultry raising dropped from 17 percent in 2003 to 8 percent in 2012 (Figure 1).

Overall, the expansion of the market economy in Dak Dam commune encouraged a shift away from subsistence upland agriculture to cash crop production of cassava. The labour demands in cassava cultivation likewise brought about increased agricultural labour opportunities. With greater access to cash from cassava production, households became less involved in pig and poultry raising. Stronger conservation measures enacted by the Forest Administration and diminished wildlife populations due to intensive hunting in earlier years also reduced household shares of income from hunting and trapping.

Livelihood Transitions in Srae Preah Commune

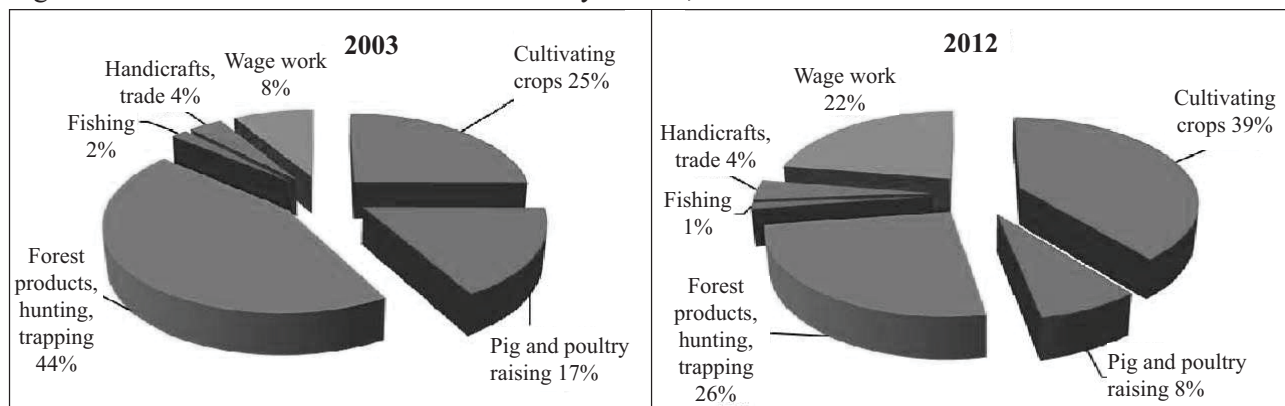
Cash values of household incomes in Srae Preah commune from 2003 to 2012 similarly point to major shifts within the local economy (Table 2). Strikingly, average annual household incomes of the sample groups increased 4.8 times from

Table 1: Average Cash Values of Household Income in Past Year, Dak Dam Commune, 2003 and in 2012 (in riels)*

| Strategy | 2003 | | 2012 | |
|---|----------------|-------------|----------------|-------------|
| | Riels | Percent | Riels | Percent |
| Upland crops (total) | 464877 | 24.8 | 2425270 | 38.4 |
| Upland rice | (193292) | (10.3) | (371265) | (5.9) |
| Upland crops (other than rice) | (271585) | (14.5) | (2054005) | (32.5) |
| Cassava | ** | ** | (1444172) | (22.9) |
| Cashew nut | ** | ** | (3176) | (0.05) |
| Wet land (paddy) rice | 4615 | 0.2 | 53235 | 0.8 |
| Pigs raised | 242308 | 12.9 | 377459 | 6.0 |
| Chickens raised | 65077 | 3.5 | 99247 | 1.6 |
| Ducks raised | 7692 | 0.4 | 12647 | 0.2 |
| Food gathered from the forest | 46769 | 2.5 | 190691 | 3.0 |
| Other products gathered from the forest | 252376 | 13.5 | 856175 | 13.6 |
| Liquid resin | (34415) | (1.8) | (635) | (0.0) |
| Animals hunted or trapped | 527405 | 28.2 | 576486 | 9.1 |
| Fish caught | 32412 | 1.7 | 69494 | 1.1 |
| Goods made and sold | 40708 | 2.2 | 98082 | 1.6 |
| Goods bought and sold | 26069 | 1.4 | 141176 | 2.2 |
| Wage work | 161323 | 8.6 | 1265529 | 20.0 |
| Remittances from children and relatives not considered as household members | ** | ** | 147341 | 2.3 |
| Total | 1871631 | 99.9 | 6312832 | 99.9 |
| | N=65 | | N=85 | |

* 4000 riels equal one US dollar; ** data not available

Figure 1: Dak Dam Household Income Shares by Source, 2003 and 2012



2,114,125 riels (USD529) in 2003 to 10,169,218 riels (USD2542) in 2012. Economic growth in Srae Preah commune was due principally to earnings derived from cash crop production of cassava and cashew nut on upland farms. High inflation rates during the interval years also contributed to the high volume rise. Earnings from upland crops as a part of overall household income increased from 11.8 percent in 2003 to 34.9 percent in 2012. Earnings from cassava and cashew nut production alone accounted for 26.8 percent of total household income in 2012. While the cash value of upland rice as a proportion of total average income decreased from 2003 to 2012, the cash value of paddy rice as a proportion of total average earnings increased. This made paddy rice cultivators less vulnerable to the volatility of the cash crop markets.

In 2003, food and other products gathered from the forest accounted for 43.2 percent of total household income. This underscored the reliance of Srae Preah households on forest resources for their livelihoods. By contrast, in 2012 food and other products gathered from the forest accounted for only 24 percent of total household income. This diminished reliance

on forest resources resulted largely from the rapid decline of liquid resin tapping as a major source of household earnings. Resin trees in several Srae Preah villages were overtapped and unproductive in 2012. In one village alone, an estimated 2,000 resin trees were cut down in 2010 by a rubber company under an economic land concession. As a consequence, total household income from the collection of liquid resin plummeted from 28.4 percent in 2003 to only 4.0 percent in 2012.

Srae Preah household income shares by source highlight the major shifts taking place in commune livelihoods from 2003 to 2012. In 2003 households made one-half of their income from forest products and hunting and trapping. By 2012 the share realised from this source constituted less than one-third of their income. Conversely, in 2003 households earned less than one-fourth of their income from cultivating crops. By 2012 the share gained from this source made up more than one-half of their income. Less prominently, shares from pig and poultry raising dropped from 2003 to 2012, while shares from wage work and remittances rose slightly (Figure 2). Overall, the expansion of the market

Figure 2: Srae Preah Household Income Shares by Source, 2003 and 2012

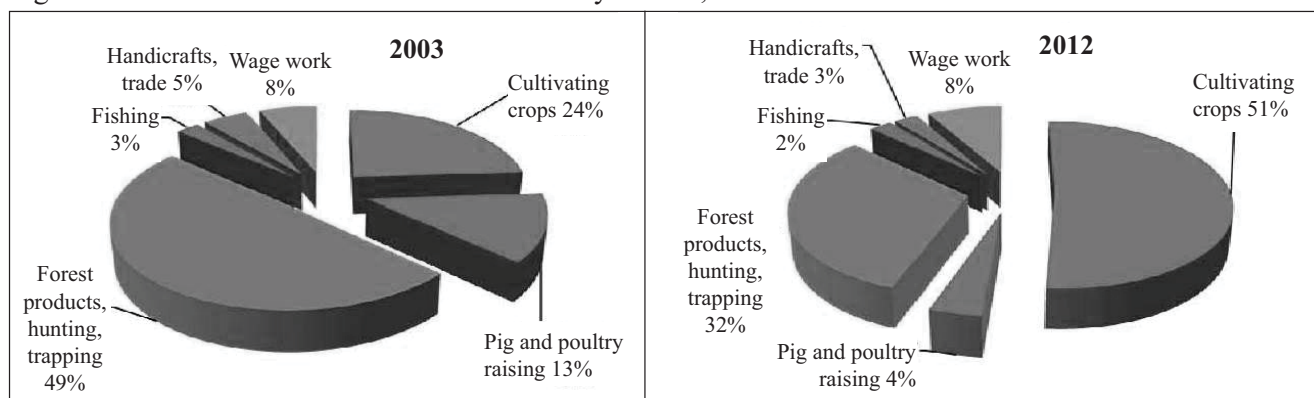


Table 2: Average Cash Values of Household Income in Past Year, Srae Preah Commune, 2003 and in 2012 (in riels)*

| Strategy | 2003 | | 2012 | |
|---|-------------|---------|---------------|---------|
| | Riels | Percent | Riels | Percent |
| Upland crops (total) | 248802 | 11.8 | 3550342 | 34.9 |
| Upland rice | (87986) | (4.2) | (270632) | (2.7) |
| Upland crops (other than rice) | (160816) | (7.6) | (3279710) | (32.3) |
| Cassava | ** | ** | (1996226) | (19.6) |
| Cashew nut | ** | ** | (729764) | (7.2) |
| Wet land (paddy) rice | 259297 | 12.3 | 1665759 | 16.4 |
| Pigs raised | 211149 | 10.0 | 285896 | 2.8 |
| Chickens raised | 58784 | 2.8 | 114547 | 1.1 |
| Ducks raised | 2567 | 0.1 | 13160 | 0.1 |
| Food gathered from the forest | 42239 | 2.0 | 130980 | 1.3 |
| Other products gathered from the forest | 870799 | 41.2 | 2303842 | 22.7 |
| Liquid resin | (600845) | (28.4) | (411415) | (4.0) |
| Animals hunted or trapped | 133755 | 6.3 | 774730 | 7.6 |
| Fish caught | 51342 | 2.4 | 247325 | 2.4 |
| Goods made and sold | 35270 | 1.7 | 28491 | 0.3 |
| Goods bought and sold | 67635 | 3.2 | 227146 | 2.2 |
| Wage work | 132486 | 6.3 | 814453 | 8.0 |
| Remittances from children and relatives not considered as household members | ** | ** | 12547 | 0.1 |
| Total | 2114125 | 100.1 | 10169218 | 99.9 |
| | N=74 | | N= 106 | |

* 4000 riels equal one US dollar for both periods; ** no data available

economy in Srae Preah commune precipitated a shift away from upland subsistence agriculture to increased wetland cultivation and the production of cash crops for the market. It likewise contributed to diminished household reliance on forest resources, particularly liquid resin, and pig and poultry raising. Albeit opportunities for wage work increased, jobs were generally seasonal, local and low-paying.

Poverty and Inequality in Dak Dam and Srae Preah Communes

In Srae Preah commune, economic growth led to a decline in the number of sample households living in poverty, from 63 percent in 2003 to 43 percent in 2012. Economic growth in Dak Dam commune, by contrast, did not have the same mitigating effects on poverty as the proportion of sample households living in poverty increased from 54 percent in 2003 to 65 percent in 2012. Poverty levels in 2012 in both communes were much higher than the poverty level

of 24 percent calculated by the World Bank for rural households in Cambodia in 2011. Gini coefficients, which measure levels of overall income inequality, were also high in both communes. In 2012 the Gini coefficient for the Dak Dam household sample was 0.43, while that for the Srae Preah household sample was 0.38, both much higher than the Gini coefficient of 0.24 calculated by the World Bank for rural areas in Cambodia in 2011.²

Overall poverty decline in Srae Preah commune shows that proportionally higher numbers of Srae Preah households enjoyed a degree of prosperity in 2012 than in 2003. Conversely, overall poverty rise in Dak Dam commune indicates that proportionally higher numbers of Dak Dam households were impoverished in 2012 than in 2003. Moreover, high levels of overall household income inequality in 2012 suggest that economic well-being and deprivation co-existed among households in both communes.

Indigenous women likewise experienced economic change differently. In small women's focus groups some women recounted how they had enlarged upland household farms to benefit from cassava production. Other women lamented that they were no longer able to rely on diminished forest resources and thus undertook wage work as agricultural labourers to maintain household food security.

² Figures for 2003 are based on the poverty line for rural areas of 1036 riels per capita per day set by the Ministry of Planning, Royal Government of Cambodia and the United Nations World Food Programme (2003). Figures for 2011 are based on the poverty line for rural areas of 4422 riels per capita per day and the Gini coefficient for rural areas of 0.24 calculated by the World Bank based on the Cambodia Socio-Economic Survey (CSES) 2011. The World Bank provided these preliminary calculations to the authors for use in this article on 4 December 2012.

Conclusion

The 2003 baseline study argued that despite the destruction of forest resources, indigenous Bunong inhabitants in Dak Dam and Srae Preah communes remained largely dependent on forest resources for their subsistence. Over the past nine years the inward directed reliance on forest resources began to change as households turned outward and began to produce cash crops for the market. The expansion of the market economy in the two communes generated economic growth with mixed outcomes for poverty reduction and high income inequality among sample households. This resulted in prosperity for some and impoverishment for others.

Between the years 2003 and 2012, Dak Dam and Srae Preah households experienced a transition in agricultural production as they moved from the cultivation of upland staple crops mainly for subsistence to the production of cash crops for the market. In these years, the number of upland rice cultivators and the value of upland rice production decreased proportionately in both communes. Moreover, in 2012 the value of cassava and cashew nut production in Dak Dam and Srae Preah communes was higher than the value of upland rice and other upland crops combined. In Srae Preah commune the expansion of paddy rice cultivation made paddy rice cultivators less vulnerable to the exigencies of the cash crop markets.

The cultivation of cash crops in the two communes was accompanied by a shift away from shifting agriculture to growing crops on permanent farms. Establishing permanent farms helped to expand hectareage for cash crops and to prevent encroachment on fallow lands. Still, the clearing of new lands which is a defining feature of shifting agriculture persisted. In 2012, 64 percent of the Dak Dam sample households and 58 percent of the Srae Preah sample had reportedly cleared land in the past five years. The opening up of lands for cash crop cultivation spurred economic growth, but at the cost of exacerbating the threat posed to forested areas.

As income shares from the cultivation of crops increased in the two communes, income shares from forest products, hunting and trapping decreased. Specifically, household earnings from hunting and trapping in Dak Dam commune, and from liquid resin tapping in Srae Preah commune, declined sharply from 2003 to 2012. Nonetheless, in 2012 forest products, hunting and trapping still

made up one-fourth of household incomes in Dak Dam and nearly one-third of household incomes in Srae Preah. Although forest resources no longer constituted the dominant share of household income it had in 2003, a large majority of Dak Dam and Srae Preah households continued to rely on gathering food and other products from the forest and hunting and trapping wildlife to supplement their household incomes and livelihoods. Access to and control over forest resources and the conservation of these resources remained as critical for household food security in 2012 as they were in 2003.

As policy makers encourage the adoption and expansion of cash crops to augment economic growth, they must likewise strengthen the participation of indigenous groups in natural resource governance. This requires the political will to crackdown on the endemic illegal timber trade, to enforce stricter legislation regulating economic land concessions and mining concessions, to implement communal land titling under the 2001 *Land Law*, and, crucially, to recognise indigenous peoples' rights to have free, prior, and informed consent over the development, use and exploitation of their lands, territories, and resources as provided in the *United Nations Declaration on the Rights of Indigenous Peoples* adopted by Cambodia and 142 other member states on 13 September 2007.

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