



Participatory valuation of forests in subsistence economy in Sekong, LAO PDR

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Short title: Economic returns from conserving natural forests, LAO PDR

Key Message: Since the economic benefits from conserving the natural forest are of a substantial magnitude compared to average household income, conserving natural forests in Sekong is a worthwhile undertaking.

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1. What was the problem?

LAO PDR is a country with a forest cover of 70 percent. However, slash-and-burn agriculture, uncontrolled fires, commercial and illegal logging, and fuel wood collection resulted in the loss of 6.8 percent of the country's forests between 1990 and 2005 (Butler 2006). But there is a growing recognition of the importance of protecting watersheds and securing local livelihoods leading to evident efforts undertaken in Lao PDR to increase forest cover. The direct contribution of NTFPs to food security in valuation studies is roughly 50 percent compared to that of rice, which is the staple food. NTFPs also contribute indirectly to food security, as they can be sold to buy rice in times of shortage. NTFPs are estimated to contribute 40-50 percent of cash incomes of Lao rural households.

NTFPs are therefore the most important safety net or coping strategy for the rural poor in Lao PDR (Foppes et al. 2004). However, given the high dependence of local communities on NTFP harvesting for their livelihoods, there is an ongoing debate about whether degraded forests should be transformed into plantation forests to increase long-term national and provincial income, or whether they should be allowed to regenerate naturally thereby, favoring biodiversity and protecting the livelihoods of the current and future generations.

2. Which ecosystem services were examined and how?

A joint study was conducted by IUCN and WWF to evaluate economic returns from conserving forests in Sekong Province. The study demonstrates the links between biodiversity and current sectoral priorities and development needs in the country, highlighting the economic value of maintaining natural regeneration of forests.

Conservation of forest ecosystem services is considered here. Sekong is the second smallest province in Lao PDR and provides a habitat to several endangered mammals such as the tiger, clouded leopard and the Asian elephant. Douc langur, dhole, Asiatic black bear, and sambar have also been recorded in Sekong. The diversity of fish, amphibian and reptilian species is most likely very high due to large expanses of undisturbed habitat and abundant watercourses. In addition, around 178 species of birds have been identified. The study shows that since the economic benefits from conserving the natural forest are of a substantial magnitude compared to average household income, conserving natural forests in Sekong is a worthwhile undertaking.

(a) Direct use valuation

Two methods were used to compute NTFP values. The first method consisted of the use of market prices of goods, where available, together with estimated quantities of harvest. Focus group discussions (FGDs) were conducted in three villages to get specific species and quantities harvested in a year. The second method applied was the Participatory Environmental Valuation (PEV) technique, whereby local villagers expressed the value of NTFPs within the context of their own perceptions, needs and priorities rather than through conventional cash-based techniques. In the latter method, rice which has a market value was used as numeraire for valuation and villagers were then asked to rank all the products extracted from the forest, including rice, by placing counters on each product harvested. The points in rice equivalent were then multiplied by the market value of rice to get corresponding values. The annual values were computed by discounting overall values. Estimates of direct use values show that the annual value of NTFPs is between USD 398 to 525 per household, figures which are above the provincial average income of USD 120. The timber revenue was for instance, USD10.35 per household (Rosales et al. 2003).

(b) Indirect use valuation

The indirect use values considered in this study are composed of watershed protection, biodiversity conservation and carbon sequestration. Watershed protection refers to the function of the forest in protecting downstream users, such as irrigation facilities, micro-hydro power supplies, lowland agricultural production and fishery resources that fall within the watershed's catchment area, against floods and sedimentation. Also the presence of the forest facilitates the protection against damages from floods and erosion. The avoided costs from these damages are thus, what would represent the value of watershed protection from Sekong forests. Biodiversity conservation services are estimated by using revealed willingness to pay of the government as expressed by its expenditures for forest conservation. Carbon sequestration services were evaluated by benefit transfer method. The indirect use value from fisheries was USD 0.47/household, agriculture production (USD 2.5/household), potential hydro power supply (USD 233-1581/household) and flood control (USD 92.3/household). Carbon sequestration value was USD

1284/household, bioprospecting (USD 0.11-0.55/household) and conservation expenditure was USD 0.07/household (Rosales et al. 2003).

3. Did the examination of ecosystem services generate impacts on decision-making or policies and, if so, how?

The study did not lead to any policy recommendations; however, the importance of conserving forests can be understood in terms of the relative comparison of direct and indirect value of the forest with average provincial average income. There is a need for using effective economic instruments for conservation of natural forests corresponding to economic valuation.

References:

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