



# Environmental Valuation in SW-China: Experiences from a Survey Study in Xishuangbanna

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## Problem statement

In transition economies like China experience with economic valuation methods of environmental changes like the Contingent Valuation Method (CVM) is still limited, especially in rural areas. People are not used to actively taking part in public decision making. As a consequence they have very little experience with surveys and referenda. In environmental valuation surveys, however, it is crucial that respondents be aware of any environmental problems in their area and that they perceive that their honest opinions on such problems are useful for solutions in the best interest of society. Thus, the present study pursues the following objectives:

- Assessing the awareness level of residents of a small urban community for the ecological threats of deforestation and rapid expansion of rubber monocultures
- Scrutinizing the applicability of CVM in the socio-economic context of rural China
- Measuring the potential social benefits arising from a rubber conversion program increasing forests in the area.

Figure 1: Study area



## The Environmental Situation

Xishuangbanna Dai Autonomous Prefecture, which is located at the southernmost rim of China's Yunnan Province (see fig. 1), is famous for its high biological and ethnic diversity. With merely covering 0.2 % of the landmass of China it is home to 25 % of all species in the country, as well as 13 different ethnicities the dominant one of these being the Dai.

The cultivation of rubber trees (*Hevea brasiliensis*), which was originally introduced to this area as early as during the 1950s, has been expanded rapidly in recent years leading to massive changes in traditional land-use patterns. Although it is the source of rising rural incomes and overall economic development in the prefecture, excessive rubber cultivation goes along with a variety of ecological problems, including most prominently a severe reduction of biodiversity.

The Nabanhe Watershed National Nature Reserve (NNNR) is located in the northwestern part of Xishuangbanna about 30 kilometers from the prefectural capital of Jinghong where the CVM study is to be conducted. Since even in this reserve area farmers have been constantly expanding their rubber cultivation, the study assesses the impact of the consequences of rubber cultivation there on the living conditions of city-dwellers in Jinghong.



Photos by M. Cotter

## Awareness

Fig. 2 lists the consequences of rubber cultivation mentioned by residents of Jinghong during an initial round of household interviews. In a subsequent pre-survey, respondents indicated on a 5-point Likert scale how serious they judge each of these consequences. Fig. 2 gives mean results for each item, with 0 indicating *not serious at all* and 4 indicating *very serious*. As can be seen from fig. 2, people are especially concerned about the destruction of forests and a loss of water resources in the Mekong and two of its tributaries.

Figure 2: Seriousness of ecological consequences

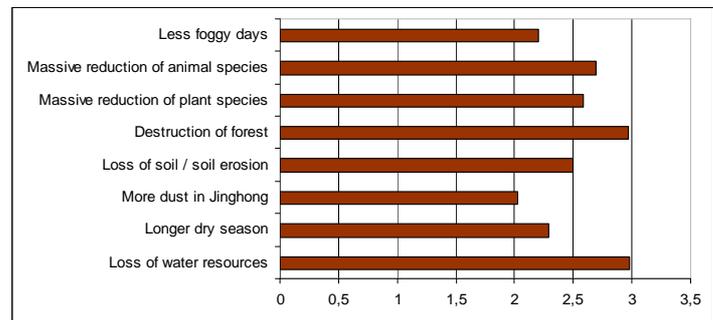


Table 1 shows that respondents are much more aware of the changes occurring in the whole of the prefecture of Xishuangbanna than of those in the NNNR. However, a considerable part of the population seems to be affected by these changes, nevertheless.

Table 1: Knowledge about rubber cultivation

	Prefecture	NNNR
Have you noticed the rapid expansion of rubber cultivation in...?	97%	39%
Do you think rubber cultivation in ... affects the living conditions in Jinghong?	84%	52%
Have your personal living conditions been affected by rubber cultivation in...?	26%	18%

## Conclusion and outlook

This study is work in progress, final results will be available in 2009. So far we have found that households of our survey population are aware of the environmental problems caused by rubber monocultures in their area and that they feel that their personal living conditions in the city of Jinghong are affected by these. In a next step we aim at eliciting the willingness-to-pay of Jinghong residents for a rubber conversion program in the NNR. The results of our pretests and in-depth interviews suggest that a market-oriented valuation technique like CVM can be applied in the socio-cultural context of China without reservation.