

Jameekorn Rangmanee 2015: Valuing the Hydrological Services of Forest Ecosystem: Case Study of Mae Lao Sub-Watershed, Chiang Rai Province. Master of Science (Agricultural and Resource Economics), Major Field: Agricultural and Resource Economics, Department of Agricultural and Resource Economics. Thesis Advisor: Assistant Professor Penporn Janekarnkij, Ph.D. 125 pages.

The study aimed to assess the perceptions of people who receive water related benefits from watershed services in Mae Lao Sub-River Basin, analyse their willingness to pay and its determinants, and assess the economic value of water related services from the forest ecosystem. Data were collected from 231 samples who live within two kilometers of Mae Lao River. Contingent valuation method was applied in this study.

Results show that sampled households spent 145.60 Baht per month for drinking and domestic water. Of the total, 43% knew that Mae Lao River is originated from the national conserved watershed forest at DoiNangkaew. Of the total, 58% considered that threats of watershed forest cause the declining volume and degraded quality of water in Mae Lao River. Further, 95% perceived the need of forest conservation activities conducted by people upstream and 83% stated the need for support and compensation of those who conserve forests.

Using the probit model, the mean willingness to pay for a household was 271.71 Baht per year to securing hydrological services of the forest ecosystem. The willingness to pay for a household with tapped water as main source of water use is 244.64 Baht per year. When tapped water is not a main source, household's willingness to pay becomes 296.67 Baht per year. Higher education of household head, increased household income, and household that agreed to support those who conserve watershed forest would increase the willingness to pay of a household. The willingness to pay reduced with the increased offer price and when a household uses tapped water as main source. Thus, the economic value of forest's hydrological services to those water users in the study area is amounted to 1,620,768 Baht per year. The study suggests that an establishment of Mae Lao watershed forest conservation fund for enhancing the mechanism of Payment for Forest Ecosystem Services is possible as the direct beneficiaries would support or compensate those who conduct forest conservation activities.

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Thesis Advisor's signature

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