

# ***Economic –Ecological Valuation of Water Resources in Costa Rica A Practical Application in the Internalization of Environmental Benefits***

By  
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Forest management and conservation in the upper watershed of the Rio Segundo in Costa Rica provide high water quality to the citizens of the downstream town of Heredia. In recognition of the economic value of this environmental service, the citizens of Heredia now pay for the service through a charge to their monthly water bill. This pioneering initiative began when the local public utility company of Heredia (Empresa de Servicios Públicos de Heredia, or ESPH) recognized that there was an urgent need to protect its water supply from the risk posed by changes in land use in the upper watershed. ESPH designed a creative economic approach to protecting and capitalizing the value of the natural endowment of high quality water in the region. In March 2000, ESPH introduced adjustments to the monthly water bills of all categories of end-users. The additional charge of US \$ 0.05/m<sup>3</sup> ensures that water users contribute directly to financing the cost of maintaining adequate forest cover, which promotes filtration and recharge, in strategic areas of the catchment. The captured stream of revenues is used to offer direct and tangible financial compensation to the Braulio Carrillo National Park and private landowners in the watershed for their investments in forest protection and restoration in key areas of the watershed. Participating landowners receive a payment close to US \$ 70/hectare/year. This amount represents the opportunity cost incurred by landowners who forgo productive uses of the land (mainly marginal dairy farming and abandoned grasslands) in order to generate the environmental service of water quality. The compensation payment estimate is based on the annual flow of revenues of traditional land uses and the value that local residents give to water as an environmental service. Paying the national park and landowners for the costs of supplying water quality reflects a high-benefit-low-cost investment strategy that is based on social equity and the user-pays principle. The ESPH initiative is fully independent in administration and funding, and does not rely on government or external funding for its operation. This case study provides some sense of what is achievable in terms of stimulating operative markets for environmental services through direct and tangible Willingness-to-Pay (WTP) in a developing tropical country.