

Managing the mangroves economically: ‘use it or lose it’

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Abstract

Being in the constant lime light of environmental scientists, the mangrove forests are now considered to be the potential weapon for fighting natural disasters and climate change. However, these functions and the consequent utilities would remain abstract unless we seek to document them by valuation and monetisation in the system of free market trade. A case study was conducted in Tamil Nadu in India in the Pichavaram mangroves in the year 2010, with the major objective of estimation of the economic value of those mangroves. The Pichavaram mangroves with an area of 1,110 ha possess rich and diverse floral and faunal wealth comprising a criss-cross network of 4,440 rivulets and 51 islets. The required data were collected randomly from 41 experts of two universities in Tamil Nadu and 120 villagers, making a total sample size of 161. The most important present use of the Pichavaram mangroves as cited by the respondents was services of mangrove through their ecological functions like protection against tsunami, floods and heavy winds. In calculating the Total Economic Value of the concerned mangrove area, the values were divided according to direct use values and indirect use values, and were calculated through market pricing, surrogate pricing and Willingness To Pay (WTP). The direct use values involving fishery contribution and eco-tourism values were estimated to be Rs. 1,65,75,000. The indirect use value component comprised support to off-shore fisheries, carbon sequestration and storm-protection function of the mangroves, valued to be Rs. 336,10,51,127. The WTP found out through Contingent Valuation Method (CVM) amounted to Rs. 1,05,185. Thus, the Total Economic Value (TEV) was added upto Rs. 353,52,31,312, which is an indicative price of the huge value of the mangrove resources required for understanding the sustainable exploitation of the mangrove ecosystem for the long-term economic benefit of any country.

Keywords

ecosystem valuation, fisherfolk, voluntary fund donation organization, green economy, carbon trading