

## **ECOLOGICAL DEBT AND ECOLOGICAL CONFLICTS IN THE CENTRAL VALLEY OF COSTA RICA: METHODOLOGICAL CHALLENGES AND PRELIMINARY RESULTS**

BERNARDO AGUILAR-GONZALEZ  
*FUNDACIÓN NEOTRÓPICA.*

Environmental Justice originally focused mostly on the unfair distribution among ethnic or income groups of environmental burdens seeing to redress them. Today, thanks to the work of political ecologists, the scope of its principles expand to encompass a much broader array of environmental conflicts involving an unfair distribution of the costs and benefits of conservation and development and environmental discrimination. In order to achieve real green economies, such conflicts need to be resolved in order to provide a context of just and stable societies and credible institutions. Therefore areas of inquiry such as ecological debt and ecological justice become crucial topics for the international community to consider. This scope is highlighting, in Latin America, the use of ecological economic tools such as social metabolism and material flow analysis; energy analysis; world-system and social network analysis; ecological footprint analysis; life cycle analysis; the use of "green" indices of human development and others, aside of monetary and multicriteria valuation techniques.

This paper presents a case study of this type of ecological conflicts and analysis in the La Carpintera Protected Zone of Costa Rica, close to its capital city San José. La Carpintera is a small yet key protected area located in the ecological bridge between Mesoamerican and South American ecosystems. It provides important ecological services for the east section of the Central Valley. Scenic beauty for luxury housing, water provision and green house gas regulation are among the most important services provided. Yet land use changes resulting from seemingly illegal actions, land invasions and a historical lack of management by the regional conservation area authorities have resulted in continued degradation and endangerment of its capacity to provide those key services. Further, poor communities established within the boundaries of the protected area have restricted opportunities to improve their quality of life since the municipal governments involved in providing public services hold back due to the nature of the area. The consequence is increased pressure over the area's resources. This research seeks to contribute useful information to solve these problems by estimating the ecological debt that more affluent environmental service user communities (debtors) have with La Carpintera. This estimation can justify seeking for the resources necessary to improve the quality of life of the communities inside the protected area (creditors) while better conserving the area. The methodology includes community ecological footprint analysis, benefit transfer estimation of the services involved and participatory exercises within a multicriterial framework. Preliminary results show the contrasting realities of debtor and creditor communities and shed light into the usefulness of this approach.