

**COURSE REPORT**

## The Economics of Ecosystems and Biodiversity (TEEB) for Brazil's Northeastern Biodiversity Corridor

Recife, Pernambuco – Brazil  
November 5-9, 2012

A field course organized by:  
Environmental Leadership & Training Initiative (ELTI)  
Northeast Center for Environmental Research (Centro de Pesquisas Ambientais do Nordeste – CEPAN)

**Background:** The Northeastern Biodiversity Corridor is a conservation strategy created by Conservation International, which CEPAN adopted and has been implementing in northeastern Brazil. The establishment of this biodiversity corridor involves the integrated planning and implementation of best practices for biodiversity conservation in hotspots and other natural areas of ecological importance. Currently, the Northeastern Biodiversity Corridor sub-region is one of the two most threatened hotspots located within Brazil's Atlantic Forest.

The remaining forests in the Northeastern region of Brazil's Atlantic Forest amount to less than 12% of the territory and are located primarily in small, isolated fragments. The loss and fragmentation of the forests, along with other anthropogenic disturbances (such as hunting, fires and logging), has dramatically altered their structure and composition and significantly reduced their potential to maintain biodiversity and provide ecosystem services, such as carbon sequestration, soil protection and climate regulation. Nonetheless, the Northeastern Corridor still

contains a great diversity of endemic flora and fauna, having close to 8% of the vascular plant species, 66% of bird species, 28% of amphibian and reptile species and 46% of mammal species of the entire Atlantic Forest. Moreover, scientists are still discovering new species of birds, reptiles and bromeliads in the region.



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Given this context, one approach to addressing the drivers of biodiversity loss and the collapse of ecosystem services is to incorporate the value of biodiversity and the costs of its loss into the region's economy and public policies. The Economics of Ecosystems and Biodiversity (TEEB) is a series of reports written by a team of professionals that are aimed towards national and international policy makers. The goal of the TEEB reports is to ensure that policy makers are able to apply strategic and economic thinking to the use of ecosystem services and biodiversity so that they can provide society with the tools to incorporate the value of nature in decision making at all levels. At a local and regional scale, TEEB provides insight and methods so that policies, businesses and even individual citizens can promote and contribute to the sustainable development and conservation of ecosystems and biodiversity.

The goal of this course was to introduce the principles and guidelines of TEEB to public and private managers from the Northeastern Biodiversity Corridor region so that they have the ability to apply economic instruments, strategic thinking and key activities of environmental compliance to activities that alter the dynamics and functioning of the Atlantic Forest remnants.

### Objectives:

- Promote a better understanding of the social and economic impacts related to the loss of biodiversity, ecosystems and the services they provide, both today and in future scenarios.
- Present a wide range of economic instruments as tools to integrate the economy of ecosystems and biodiversity with sectorial policies and development objectives.
- Train participants in the proper use of the principles and guidelines of the TEEB methodology.
- Teach the methodology to conduct an environmental assessment and characterization of the production units found in working landscape.
- Define recovery actions for each environmental zoning situation, focusing on the induction and management of the natural regeneration potential of these areas.
- Encourage participants to apply the TEEB methodology in their businesses and/or activities.
- Give participants the opportunity to meet and establish collaborations in order to generate ideas that can be supported by ELTI's Leadership Program.

**Format:** The course took place over five days and was divided into five modules. Each module included a series of talks and case studies, and two site visits were also incorporated into the agenda to illustrate the concepts presented. The course also included activities designed to apply the new material to the participant's individual projects.



In the first module the instructors presented the basic concepts related to ecosystems, ecosystem services and functions and biodiversity. The objectives were to create a link between the benefits and value of biodiversity and ecosystem services and human wellbeing, demonstrate the relationship between ecosystem services and the economy and introduce the TEEB principles and guideless as a framework to address some of the issues.

During the second module, the instructors gave an introduction to basic economic concepts, biodiversity and ecosystem services valuation and mechanisms that incorporate biodiversity and ecosystem services value on decision-making. The goal of the module was to demonstrate the economic value of biodiversity, ecosystems and environmental services.

The third module consisted of lectures on the principles of tropical forest restoration and how these principles are applied in the design of restoration actions for different environmental situations and according to the applicable environmental legislation. A site visit to Suape Port and Industrial Complex was done to show one example of large-scale restoration efforts in Brazil's Atlantic forest.

The fourth module included various mechanisms to capture the value of biodiversity at the local and regional levels. The lectures were followed by a visit to the *Dois Irmãos* State Park, where a payment for environmental services scheme (Projecto Água do Parque) was finalized between the park and the water treatment company (Compesa).

In the final module the instructors addressed the reasons that motivate the business and corporate sector to protect and conserve biodiversity, which industries are responsible for—or are more vulnerable to—the loss of biodiversity and environmental services and the economic opportunities related to conserving and protecting these resources. The goal of this module was to propose solutions for better management of natural capital.

**Instructors and Coordinators:** The instructors covered different topics depending on their expertise: Susan Seehusen, Environmental Economy Advisor for the German Agency for International Cooperation (GIZ), covered the ecological principles of ecosystems, ecosystem services and biodiversity, as well as their importance to local and regional economies; Paula Ceotto from Conservation International (CI) presented the TEEB framework; Carlos Eduardo Menezes (Federal Institute of Education, Science and Technology of Pernambuco – IFPE) presented the principles of environmental economics, as well as various tools for the environmental valuation of ecosystem services; Dr. Pedro Brancalion (Laboratory of Ecology and Forest Restoration – LERF) discussed the principles and strategies for tropical forest restoration and presented the guidelines for environmental compliance for working landscapes; and Dr. Severino Riveriro Pinto (CEPAN) discussed the business opportunities related to biodiversity conservation and ecosystem restoration.



Special guest instructors for this course included: Dr. Felipe Melo (Federal University of Pernambuco – UFPE), who introduced the region by discussing land use changes in Brazil’s Northeastern agricultural landscape and Laura Vicente (Vicente e Maciel Advogados), who presented the legal framework applicable to environmental compliance in rural landscapes.

The course was coordinated by Cecilia Del Cid-Liccardi (ELTI) in collaboration with Severino Riveiro Pinto (CEPAN), and organized by Cecilia Del Cid-Liccardi, Saskia Santamaria (ELTI) and Cristiane Lucena Barbosa (CEPAN).

**Participants:** We initially received 178 applications to attend the course from government officials, representatives of the business sector, environmental program managers, staff-members of NGOs and academics, from all regions of Brazil. From this pool, 30 participants from the states belonging to the Northeastern Biological Corridor were selected. Participation by professionals from different fields was encouraged, including biologists, foresters, geographers, lawyers, architects, anthropologists and economists. Those participants facing political or technical environmental challenges were especially welcome.

**Outcomes and Follow-up:** Participants were actively engaged throughout the course. They presented their action plans and also benefited from the feedback they received from instructors and their peers. ELTI’s Leadership Program also generated interest among participants and will work with CEPAN to identify the most promising candidates in order to help them carry out their initiatives.

CEPAN and ELTI also are developing a second TEEB course targeting the State’s key policy makers, with the support of the Environmental Secretariat of Pernambuco. This second course will take place in the State of Pernambuco from March 18-22, 2013.



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*This event was possible thanks to Arcadia Fund, whose Environmental Conservation grants support programmes that protect and enhance biodiversity, and provide field training and academic research.*