

# Biodiversity conservation in Costa Rica: the INBio experience.

Peter Green reports on INBio's pioneering work

**C**OSTA RICA IS LOCATED IN Central America between Panama and Nicaragua. The country has a stable and democratic political system, no army and roughly 4% of the species believed to exist in the world.

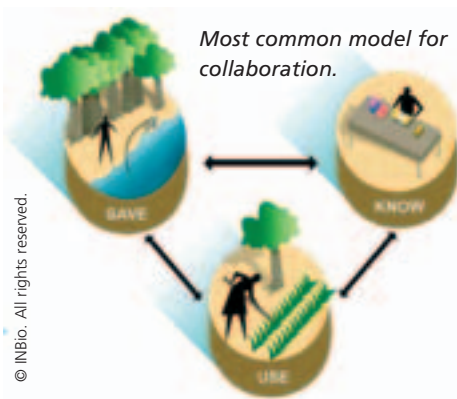
Mind-boggling? When focusing on the number of species per square kilometer, Costa Rica could be considered one of the densest countries in the planet. Just to give you an idea, it is estimated that more than 500,000 species inhabit this country. With this wealth of natural resources and a little vision, an institution within the country whose mission would be centred on biodiversity conservation seems like a logical step. This institution is known as the National Biodiversity Institute (INBio) which was created in 1989 under the Costa Rican law of associations as a nonprofit civil organization. It came about as part of a paradigm shift in the country's response to the issue of biodiversity conservation. Although initially Costa Rica had understood conservation to mean protection of resources, this concept gave way to a view of conservation as an opportunity to incorporate biodiversity into socioeconomic development.

INBio's mission is to *'promote greater awareness of the value of biodiversity as a way to achieve biodiversity conservation and improve the quality of human life.'* Its activities are carried out in close collaboration with the government and other public and private institutions, both domestic and international.

The Institute's ultimate goal is for knowledge to be used by society, and not merely to reach society. In short, INBio is a civil society organization that develops knowledge on the country's biodiversity and contributes this knowledge to various processes so that society will conserve its biodiversity and use it sustainably.

The main accomplishments of INBio can be summarized as follows:

1. INBio developed a conceptual framework for the protection, knowledge and use of biodiversity, which has now become a national policy contained in the National Biodiversity Strategy. The best way to conserve the country's biodiversity is by using it to improve the quality of life for Costa Rica.



2. INBio has become a national organization of international scope. The donor community, the international scientific community and the 106 official delegations of countries interested in learning more about INBio are an example of its international impact as a reference institution for sustainable management of biodiversity.

3. INBio developed an innovative system for compiling inventories of biodiversity. Because experts are in short supply all over the world, it coordinated 'taxonomic work teams' of paratonomists, technicians, curators and national and international experts.

4. It has made innovative use of modern information technologies with systems to support the collection, administration, generation and dissemination of information. For example, its own *Atta!* information system has received worldwide recognition as a pioneering initiative. It includes: bar codes to identify each specimen in the collection, geo-referencing for each of the more than three million specimens, multimedia information and an Internet site where the general public enjoys flexible, free access to the databases. This information system won INBio the *'Tech Museum 2003: Technology Benefiting Humanity'* award from the Tech Museum of Innovation located in San Jose, California.

5. INBio has developed various processes for sharing knowledge and information on biodiversity with diverse sectors of society for the primary purpose of supporting the formation of values and activities for sustainable use of biodiversity. For example, Editorial INBio has published 94 products, mostly for

educational purposes and to support ecotourism (now the country's primary source of income), and created INBioparque, a theme park whose purpose is environmental education, that received over 150,000 visitors in its first three years of operation.

6. A Bioprospecting Endeavor (systematic search for new uses of biodiversity), using modern scientific and technological approaches to seek out new products derived from Costa Rican wild organisms of interest to the chemical, pharmaceutical, agricultural and biotechnology industries. Research is guided by such criteria as guaranteeing improvement of the country's scientific and technological capacity and sharing equitably any benefits that may potentially derive from these products, considering protected wild areas as one of the beneficiaries. Collaborations are typically carried out via research agreements.

This Unit has been responsible for conducting research to find sustainable uses for genetic and biochemical elements of Costa Rican biodiversity. It has structured agreements for scientific cooperation with renowned universities, research centers and companies, both nationally and internationally. At the national level, one of our most outstanding programs has been *'Support to Develop Biodiversity Use by Small Enterprises'* (INBio/IDB/MIF Program) which began in 1999 under the terms of an agreement with the Inter-American Development Bank (IDB) and through non-reimbursable technical cooperation from the Multilateral Investment Fund (MIF). In addition to the research agreements, Bioprospecting offers services, consultancies and training in different areas. INBio has positioned itself as a leading institution in its field and seeks to continue to advance biodiversity research through partnerships as a Center of Excellence for the Management of Science and Technology for Conservation and Sustainable Development.

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#### Further Information

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