

Amid controversy and irony, Costa Rica's INBio surrenders biodiversity collections and lands to the state

by Edward Hammond

After an extended financial crisis and lengthy negotiations, Costa Rica's National Biodiversity Institute (INBio) is transferring its land and biodiversity collections to the government. Shedding its major assets, INBio will continue as a non-governmental entity in a smaller form, offering biodiversity consulting and bioprospecting services.

It is a sobering fall from grace for an Institute that once assumed control of the nation's natural history collection, maintained a prominent international profile, and suggested its bioprospecting deals could earn more than \$300 million per year for the small country. Although INBio was frequently lauded internationally, to the disappointment of many Costa Ricans it was never able to deliver on its domestic economic promise and ultimately was unable to support itself.

The asset transfers will save the country's biodiversity collections, which INBio could no

longer pay to maintain, by returning them to government control. These formally changed hands on 27 March at a ceremony where INBio, perhaps seeking to ease tensions, announced the naming of two newly discovered species after government officials.¹

Beyond the drama that has surrounded the fate of Latin America's second largest natural history collection, INBio's financial meltdown has raised questions about the prominent role that it was allowed to play in overseeing Costa Rica's natural national patrimony. Although it is a non-profit private entity, INBio was permitted quasi-statal roles, past decisions that are now coming under greater scrutiny.

Also raising questions is the failure of INBio's bioprospecting programme, once seen as an international model and a rising economic engine for conservation, but which ultimately offered up access to Costa Rican biodiversity to foreign

TWN THIRD WORLD NETWORK is a network of groups and individuals involved in bringing about a greater articulation of the needs, aspirations and rights of the people in the Third World and in promoting a fair distribution of world resources and forms of development which are humane and are in harmony with nature.

Address: 131, Jalan Macalister, 10400 Penang, MALAYSIA
E-mail: twn@twnetwork.org **Website:** www.twn.my

Tel: 60-4-2266728/2266159 **Fax:** 60-4-2264505

companies at a low rate of return and, INBio's critics say, without needed transparency.

One of INBio's founding purposes in 1989 was "integrating national [biodiversity] collections into one physical and administrative entity", namely INBio itself.² Controversial from the start, this activity drew resistance from government scientists as soon as it began, as INBio sought to remove collections from the National Natural History Museum.³

Today, however, INBio is unable to pay the cost of maintaining the national biodiversity collections it tends, which number 3.5 million items and are estimated to cover nearly a third of Costa Rica's biodiversity. The specimens will pass to the National Natural History Museum, which will assume the cost of maintaining them but which is under pressure from foreign scientists to maintain the same easy access that INBio offered,⁴ and has confronted claims by INBio that elements of the database that indexes the national collection are INBio's private intellectual property.⁵

The government has purchased INBio's other major tangible asset, INBioparque, a suburban theme park built to educate Costa Ricans and tourists about biodiversity. It is planned to be the site of new offices for SINAC, the agency that manages Costa Rica's protected areas. Title to the park has been transferred to the government, and INBio recently contracted to administer the facilities through March 2016.⁶

It was supposed to be the other way around. INBio collected biodiversity samples in SINAC-administered protected areas and was to support SINAC by paying the agency 50% of the Institute's bioprospecting royalty income.⁷ The income never materialized and, instead of receiving royalties, SINAC's parent ministry is now paying to buy INBio's land, offering a lifeline to the cash-strapped Institute, but at a cost that environment ministry officials say they cannot afford.⁸

The bilateral model does not work

INBio was one of the first groups to promote and implement the bilateral bioprospecting model widely touted in the early years of the United

Nations Convention on Biological Diversity (CBD). It aimed to link developing-country conservation and research institutions with Northern companies eager to exploit what was then termed "green gold" (i.e., the commercial potential of tropical forest species) through bilateral bioprospecting contracts.

In the model, in return for providing access to sovereign biodiversity, developing countries would be paid small up-front fees and then larger royalties once products were patented and commercialized. INBio also hoped to garner jobs processing natural product ingredients. Bioprospecting patent royalties, the model promised, could be directly invested in conservation, such as protected areas, and related science, such as taxonomy.

INBio's most famous deal was a 1991 agreement with drug company Merck, made even before the CBD was signed at the 1992 Earth Summit in Rio de Janeiro, Brazil. At the Earth Summit and afterwards, the Merck-INBio deal was hailed as a harbinger of a new era for rainforest-derived drugs, poised to yield large financial benefits for developing countries. The Merck deal continued to be cited as a "success" into the 2000s, although by 2008 Merck walked away from the agreement and, in 2011, gave away its library of natural compounds, in the view of one commentator "as if to mark the [20th] anniversary of its Costa Rican folly".⁹

Although INBio continues to be enthusiastically lauded by Northern foundations and companies, most recently winning a 2014 award from Japan's Asahi Glass Foundation,¹⁰ the economic reality of its bioprospecting programme was not nearly as positive as the extensive attention it received from the grantors of international prizes.

INBio's Merck deal and other bioprospecting contracts failed to generate enough revenue for the Institute itself to be economically viable, much less the 10-20 major new pharmaceuticals, large contributions to national parks, and "more income to the country than the \$300 million we normally get from coffee [annually]" that INBio leaders initially suggested were possible.¹¹ (Accounting for inflation, that's over \$500 million a year today.)

The state bails out INBio amidst criticism

Recently, sources of revenue for INBio have included the administration of aid funding – a Global Environment Facility (GEF) small grants programme – although the government has recently rescinded INBio’s authority to do so.¹²

Some Costa Rican critics question why the state should keep the Institute alive by buying its money-losing biodiversity theme park, and if the price is too high.

The deal to buy INBioparque calls for the government to pay almost 5 billion Costa Rican colones (\$9.35 million) for 7.2 hectares of land, about two-thirds of which are undeveloped. The housing ministry made an initial payment of \$2.8 million, with additional instalments due over the course of several years. Environment ministry officials, however, who are on the hook to make those payments, have expressed concern. The nearly \$1 million per year for the next six years, they say, is too large a proportion of the ministry’s budget.¹³

The transfer of INBio’s biodiversity collection has also prompted criticism. INBio initially sought to characterize it as a gift to the nation, a view that Costa Rican scientists did not share. In 2013, when outlines of the deal became public, the former director of the Natural History Museum, Melania Ortiz Volio, pointed out that the role of curating the biodiversity collections had been taken away from the Museum in 1989, when INBio was founded, because the private entity would allegedly do a better job. Yet INBio had proven financially unstable and sought to return responsibility to the state.

“The irresponsibility is incredible,” an obviously incensed Ortiz Volio wrote in an editorial, “as was the initial arrogance, and two decades later, in bankruptcy, they hand over everything for the State to pay.”¹⁴ (INBio has not technically entered bankruptcy but has been unable to pay its bills. INBio management has termed the process “expropriation by mutual agreement”).¹⁵

Other Costa Rican biologists have been similarly critical, noting that INBio benefited from numerous confidential bioprospecting agreements without a public accounting, which they juxtaposed

against the efforts of indigenous peoples, local communities and other non-governmental organizations to develop Costa Rica’s biodiversity law, which has access and benefit-sharing provisions. “INBio is giving back what never belonged to it,” they write, referring to the biodiversity collections, saying that they could have been put to better use over the past two decades supporting protected areas rather than INBio itself.¹⁶

INBio intends to press forward in a pared-down form that it likens to a “think-tank”, with its website offering training, consultancy and bioprospecting services. Some of INBio’s expertise is sure, for instance in Costa Rican taxonomy and public biodiversity education, but with the Institute’s recent calamitous past and uncertain domestic relationships, it remains to be seen how many clients will be forthcoming.

Lessons from the INBio failure

While limited financial resources and the urgency of biodiversity conservation seldom allow policy-makers the luxury of extensive retrospection, there are worthwhile lessons for other countries to be learnt from INBio’s fate. In retrospect, the Costa Rican government’s late 1980s and early 90s decisions to permit a new, private entity to wield such strong control over national patrimony and policy-making appear to have been mistakes.

To many observers, it has also been apparent for a number of years that INBio’s bioprospecting model, implemented at the dawn of the CBD, and similar approaches applied elsewhere, have failed to yield the anticipated benefit-sharing. But the general approach has been slow to evolve or be replaced. Here, INBio’s fate should add underscore and exclamation point to the conclusion that bioprospecting schemes reliant on pharmaceutical patent royalties are quite likely to fail, even if the developing-country partner(s) have strong self-interest, domestic legal tools and sophisticated negotiation skills.

Edward Hammond directs Prickly Research (www.pricklyresearch.com), a research and writing consultancy based in Austin, Texas, USA. He has worked on biodiversity and infectious disease issues since 1994. From 1999 to 2008 Hammond directed the

Sunshine Project, an international non-governmental organization specializing in biological weapons control. Hammond was Programme Officer for the Rural Advancement Foundation International (now the ETC Group) from 1995 to 1999. He holds MS and MA degrees from the University of Texas at Austin, where he was an Inter-American Foundation Masters Fellow.

Endnotes

1. Soto M, M (2015). INBio traspasa colecciones biológicas al Museo Nacional. *La Nación* (San José), 27 March.
2. Gamez Ret al. (1993). Costa Rica's Conservation Program and National Biodiversity Institute (INBio). In Reid W et al. (eds.), *Biodiversity Prospecting*. World Resources Institute.
3. Ortiz Volio M (2013). Lo que retorna el INBio. *La Nación* (San José), 17 April.
4. Soto M, M (2015). Colecciones biológicas del INBio son invaluablees para la ciencia. *La Nación* (San José), 11 March.
5. Soto M, M (2015). INBio reclama al Estado por querer expropiarle bienes como equipos y computadoras. *La Nación* (San José), 5 March.
6. Rojas P (2015). INBio seguirá al frente del INBioparque por un año más, tras acuerdo con el gobierno. *crhoy.com noticias* (website), 31 March. URL: <http://www.crhoy.com/del-dia-inbio-seguira-al-frente-del-inbioparque-por-un-ano-mas-tras-acuerdo-con-el-gobierno/>
7. Sittenfeld A and R Gamez (1993). Biodiversity Prospecting by INBio. In Reid W et al. (eds.), *Biodiversity Prospecting*. World Resources Institute.
8. Arrieta Perez C (2014). Estado debe girar casi cinco mil millones de colones al InBio. *El País* (San José), 14 November.
9. Coniff R (2012). A Bitter Pill. *Conservation Magazine*, Spring. URL: <http://conservationmagazine.org/2012/03/a-bitter-pill/>
10. Asahi Glass Foundation (2015). Blue Planet Prize – Current Year Winners (web page). URL: <http://www.af-info.or.jp/en/blueplanet/introduction.html>
11. INBio Director Rodrigo Gamez Lobo, interviewed by US Public Radio International (1992). Pharmaceutical Prospecting. *Living on Earth*, 4 September (transcript). URL: <http://loe.org/shows/segments.html?programID=92-P13-00036&segmentID=1>
12. Wade L (2014). Celebrated biodiversity institute faces financial crisis. *Science*, 19 December.
13. Arrieta Perez (2014).
14. Ortiz Volio (2013).
15. Vargas M, A (2013). INBio inició campaña por donaciones. *La Nación* (San José), 9 March.
16. Solís Rivera V and P Madrigal Cordero (2013). ¿Qué es lo que el InBio devuelve al Estado? *La Nación* (San José), 9 April.