ECONOMICS AND THE CONVENTION ON BIOLOGICAL DIVERSITY

Lucy Emerton
IUCN Economics and Biodiversity Programme
LAE@iucnearo.org

THE PLACE OF ECONOMICS IN THE CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity (CBD) is one of the global conventions on environmental conservation that came out of the 1992 UN Conference on Environment and Development in Rio de Janeiro, Brazil. By signing and ratifying the CBD, countries have agreed to support its goals and aims. The three main objectives of the CBD are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. To achieve these objectives, the CBD includes 42 articles, each dealing with specific aspects of biodiversity conservation, sustainable use and equitable benefit sharing.

Key actions specified in the CBD

- General measures (**Article 6**)
- Identification and monitoring (**Article 7**)
- *In-situ* conservation (**Article 8**)
- *Ex-situ* conservation (**Article 9**)
- Sustainable use (**Article 10**)
- Incentive measures (**Article 11**)
- Research and training (**Article 12**)
- Public education and awareness (**Article 13**)
- Impact assessment (**Article 14**)
- Access to genetic resources (**Article 15**)
- Access to and transfer of technology (**Article 16**)
- Exchange of information (**Article 17**)
- Technical and scientific co-operation (**Article 18**)
- Biotechnology and benefit distribution (**Article 19**)
- Financial resources (**Article 20**)
- Financing mechanism (**Article 21**)

Almost all of the objectives and articles require the understanding and use of economics for their implementation. Perhaps most importantly, economics is crucial to biodiversity conservation because ***unless it makes demonstrable economic and financial sense for people to conserve biodiversity, it is unlikely that individuals, households, industries, companies or governments will take action to do so. People will continue to degrade and deplete biodiversity in the course of their activities because they feel that it is more profitable and economically desirable to do so.***

Because of the importance of economics to biodiversity conservation, there are references to it throughout the CBD. The most explicit reference to economics is the repeated call for the use of incentives as a tool for biodiversity conservation. Article 11 calls for Contracting Parties to "*... as far as possible adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity ...*". Article 20 again mentions the use of economic incentives to achieve the objectives of the Convention.

Economics in the Convention on Biological Diversity

Articles	6	7	8	9	10	11	12	14	15	16	20	21
Economic assessment	✓							✓				
Economic incentives	✓		✓		✓	✓		✓		✓	✓	✓
Financial resources			✓	✓			✓		✓	✓	✓	✓
Economic valuation		✓										

Economic incentive measures are also central – although implicit – to the implementation of other parts of the Convention including Articles 6 (general measures for the conservation and sustainable use of biological diversity), 8 (*in situ* conservation), 10 (sustainable use of the components of biological diversity), 14 (impact assessment and minimising adverse impacts) and 16 (access to and transfer of technology).

Both Articles 20 (financial resources) and 21

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(financial mechanisms) explicitly underline the need to provide financial support to national activities intending to achieve the objectives of the Convention, from within countries and via new financial mechanisms and global transfers. It also calls for financial support for biodiversity conservation elsewhere – including Article 8 (*in situ* conservation), Article 9 (*ex situ* conservation), Article 12 (education and training), Article 15 (access to genetic resources) and Article 16 (access to and transfer of technology).

The development of new procedures for biodiversity impact assessment (such as economics) is called for in Article 14 (impact assessment and minimising adverse impacts) and by implication in Article 6 of the Convention, which calls upon its contracting parties to develop – in accordance with their specific national interests and conditions – strategies, plans and programmes for the conservation of biodiversity and sustainable use of its components. The Convention also calls for them to integrate the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programmes and policies. It implies the importance of economic valuation in Article 7 (identification and monitoring) of components of biological diversity important for its conservation and sustainable use.

It is clear that economics forms a cross cutting issue in the Articles of the CBD.

ECONOMIC APPROACHES TO BIODIVERSITY CONSERVATION

In particular, four sets of economic tools and measures can be applied to biodiversity conservation, and used to strengthen the implementation of the CBD. These are:

- **Biodiversity economic assessment:** Applying economic assessment to biodiversity conservation involves integrating biodiversity concerns into economic assessment as well as integrating economic concerns into biological and ecological assessment. The traditional tools of economic assessment – such as accounting and cost-benefit analysis – have tended to ignore the benefits associated with biodiversity conservation and the costs associated with its loss. They also omit consideration of the impacts that biodiversity conservation and loss have on the wider society and economy and on ecological processes, and the necessity of building into projects, policies and programmes economic incentives for biodiversity conservation. In turn, biodiversity assessment often ignores economic concerns. It is not only desirable to conserve biodiversity, but at the same time it is necessary to ensure that considerations of financial sustainability, economic growth and distributional equity are incorporated into conservation activities. Unless biodiversity can at the same time generate financial and economic benefits, and there exist sufficient economic incentives for people not to deplete or destroy biodiversity in the course of their economic activity, it is unlikely to be conserved over the long-term.
- **Economic valuation:** Valuation is a key step in biodiversity economics. Economists and decision-makers have traditionally seen the value of biological resources in terms of the direct uses they support – the raw materials they provide for human production and consumption (for example the timber value of natural forests or the fisheries value of coastal and marine ecosystems). Demonstrating the *total* economic value of biodiversity illustrates the benefits associated with its conservation and highlights the wide range of individuals and groups they accrue to, on and off-site. Valuation also shows the high and wide-ranging economic costs associated with the loss or degradation of biodiversity and its components, including on and off-site subsistence losses and decreases in employment, income and foreign exchange earnings as well as the expenditures necessary to replace or mitigate lost biodiversity goods and functions. Calculating economic values also underlines the fact that biological resources and their diversity constitute far more than a static biological or ecological reserve. Biodiversity forms a stock of natural capital which if managed sustainably can yield in perpetuity a wide range of direct and indirect economic benefits to human populations.
- **Economic instruments:** Many of the goods and services associated with biological resources, ecosystems and their diversity – and the premium attached to conserving them – are undervalued by the market, or ignored in national and sectoral policies and institutional arrangements. This results in biodiversity being under-priced, over-consumed and under-conserved because it is treated as a free good which can be mined, converted, depleted or otherwise degraded at no cost. Economic instruments include such measures as property rights, taxes, subsidies, charges, fees, market establishment, funds, loans, performance bonds and deposit systems. They are already widely used in other sectors of the economy in order to achieve development goals. They also have a broad range of potential applications to

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biodiversity conservation, because they provide a suite of tools for overcoming market, policy and institutional failures and for encouraging people to conserve biodiversity in the course of their economic activities. They aim to change people's behaviour by making sure that they take into account the real value of biodiversity and the broad costs associated with its loss when they make decisions.

- **Financing mechanisms:** Biodiversity conservation is not cost-free – it imposes a wide range of direct and indirect costs on different economic groups. It is necessary to find ways to offset, compensate for and fund these costs. Various mechanisms can be deployed to finance biodiversity and to compensate the people who bear the costs associated with its conservation. Financing mechanisms operate at many levels – between and within countries, from and to governments, the private sector and local communities. Finance can be raised directly from biodiversity, such as through the sustainable use or trade of biological resources themselves – including goods such as timber and non-timber forest products and the pharmaceutical, agricultural and industrial applications of biological resources as well as services such as water provision, climatic regulation, tourism and scientific research. Finance can also be raised by making sure that charges are levied on economic activities which contribute to biodiversity degradation and loss – such as pollution taxes, land reclamation bonds and waste disposal charges. Other financing mechanisms include the transfer or redistribution of funds between individuals, groups or countries as through measures such as investment promotion, trust funds, loans, swaps and offsets.

STEPS IN THE USE OF ECONOMICS FOR BIODIVERSITY PLANNING

So how can these economic tools and measures be used for biodiversity planning? A first step is to work to integrate economics into countries' plans and policies for biodiversity conservation. Most countries who have signed and ratified the CBD are in the process of preparing National Biodiversity Strategies and Action Plans (responding to the requirement of Article 6a of the Convention). Economics can provide a powerful source of support for these strategies and plans.

There are three major stages in the development and implementation of National Biodiversity Strategies and Action Plans –the ***biodiversity assessment or country study***, the development of a ***national biodiversity strategy and action plan***, and monitoring and impact assessment of the ***implementation of policies, programme and projects*** forming a part of the action plan. Economic tools and measures are important at all stages of this process.

Integrating economic tools and measures into National Biodiversity Strategies and Action Plans is relatively straightforward. In particular, 10 steps can be used to analyse, identify, develop and implement economic aspects of biodiversity conservation within the context of biodiversity planning, policy and practice:

- **Step 1 - Identify issues and data needs; Step 2 - Identify available biodiversity economics information and data:** Up-to-date information on biodiversity is often scarce, and especially little is known about the economics of biodiversity. A first step in economic aspects of the biodiversity assessment or country study is to identify issues which will be dealt with and to find out which data and information exist, or can be used, to address these concerns.
- **Step 3 - Assess the macroeconomics and sectoral economic context; Step 4 - Investigate the impacts of national economic policies and activities on biodiversity:** Economic aspects of the biodiversity assessment or country study include analysis of the macroeconomic, sectoral and policy context of a country. These conditions set the overall framework within which the economy operates, and within which people conserve or degrade biodiversity as they undertake the production and consumption activities necessary for their survival.
- **Step 5 - Identify and value biodiversity benefits and their distribution; Step 6 - Identify biodiversity costs and their distribution; Step 7 - Identify the beneficiaries, cost-bearers and financing needs for biodiversity conservation:** Economic valuation of biodiversity benefits and costs provides important information for the biodiversity assessment or country study. By highlighting current inequities in the distribution of costs and benefits, and identifying the need for incentives and financing for biodiversity conservation, economic analysis of these values also contributes to the development of activities which will form a part of biodiversity strategies and action plans.
- **Step 8 - Assess the potential for using economic instruments for biodiversity conservation; Step 9 - Identify future needs for economic assessment of biodiversity:** Economic tools and measures

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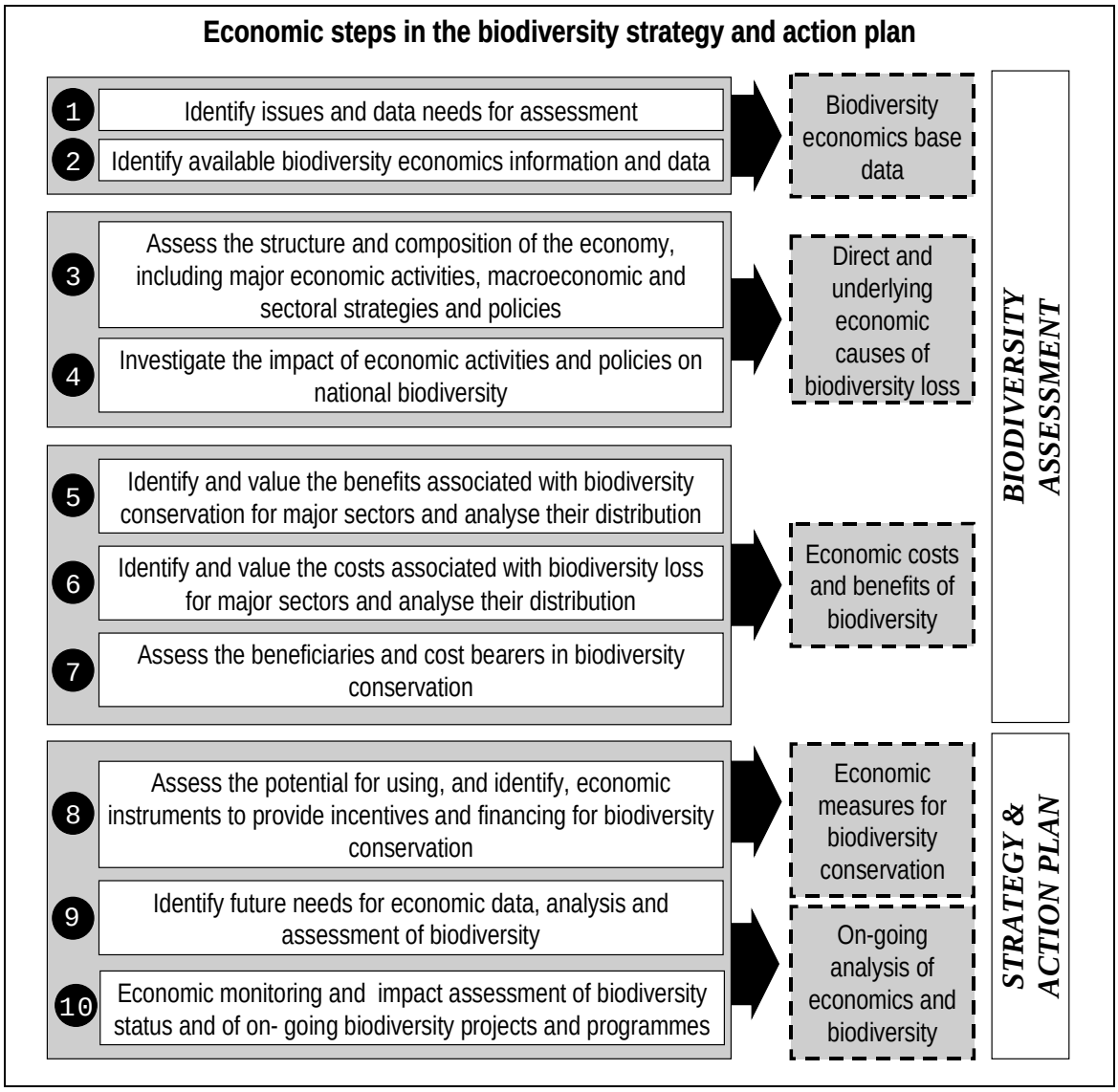
form an integral component of national biodiversity strategies and action plans. The identification of economic instruments which can provide finance and incentives for biodiversity conservation forms an important step in the development of these strategies and action plans.

- **Step 10 - Economic monitoring and impact assessment of biodiversity status and of on-going biodiversity projects and programmes:** Economic monitoring and impact assessment takes place both during and after implementation of the programmes and projects which form a part of national biodiversity strategies and action plans. They look at the economic changes which have taken place as a result of changes in biodiversity and at the economic factors underlying biodiversity changes. By highlighting the costs and benefits associated with biodiversity change, the aim of monitoring and impact assessment is to make recommendations as to how both economic and biodiversity conditions can be improved in future policies, programmes and project activities.



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