

Integrating Ecosystem Services into Policy and Planning

The Background

Ecosystem services can be defined as the benefits people obtain from nature. They supply the basic inputs that are essential for human production and consumption, such as food, drinking water, medicines and raw materials used for construction and fuel (provisioning services) and protect against erosion and droughts, regulate water flow and help people to adapt to climate change (regulating services). Ecosystem services are also essential for people's physical and mental health, joy, spiritual inspiration and cultural identity (cultural services). Most economic activities and, ultimately, many aspects of human-wellbeing depend in some way on ecosystems and their capacity to provide these services in the future. Ecosystem services also have considerable importance in economic and development terms. The livelihoods of at least three billion people or almost half the global population are thought to depend directly on marine biodiversity (SCBD 2009) and 5-8% of current global crop production worldwide is directly attributable to pollination (IPBES 2016). The degradation of land based ecosystem services is estimated to exceed the value of the entire global agricultural market by at least five times, with an annual loss of ecosystem services worth 6.3 – 10.6 trillion USD per year (ELD 2015), while at a local level, a study in the Malawi's Upper Shire Valley showed that land degradation and deforestation account for up to 40 per cent of power outages and load losses occurring in the country's hydropower sector (LTSI 2010). Ecosystem-based solutions, either as stand-alone measures or in combination with 'grey' infrastructure (i.e. built infrastructure, such as sea walls), have often been proven to be more cost-effective in delivering key facilities and services than grey measures on their own.

Ecosystem Services

Provisioning Services describe the material or energy outputs from ecosystems: e.g. food, water, raw material, medicinal resources.

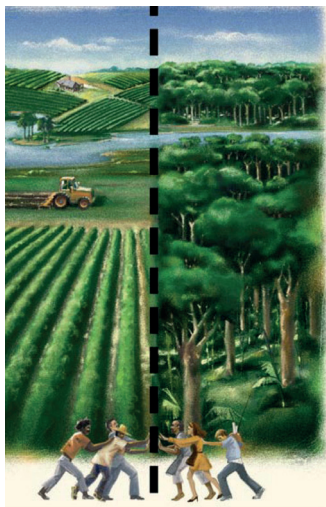
Regulating Services are the services that ecosystems provide by acting as regulators eg. regulating the quality of air and soil or by providing flood and disease control.

Supporting Services underpin almost all other services: habitat and genetic diversity of plants and animals.

Cultural Services are the non-material benefits people obtain from ecosystems: aesthetic inspiration, cultural identity and recreation.

Ecosystem services tend to be particularly critical for poorer and more vulnerable population groups, who are unable to access or afford alternative products or income sources. A study from Northern Benin showed that the economic contribution of non-timber forest products (NTFPs) to rural households accounted for 39% on average, including wild foods, medicinal plants, fodder, construction materials and firewood (Heubach et al. 2011). However, the socio-economic relevance of each of these uses of NTFPs differs comparably between dwellers: Poorer households are relatively more dependent on NTFPs in order to fulfil their basic needs than wealthier households, who often have available more agricultural land and other assets (Heubach et al. 2013). Despite their importance, ecosystems continue to be degraded and depleted. The value of the services ecosystems provide tend to be poorly understood and articulated, and as a result, it's frequently omitted when formulating policies, planning investment projects and negotiating prices. Very often, both the benefits associated with conserving and

sustainably using ecosystems and the costs attached to their degradation and loss are underestimated. Incentive mechanisms shaping policies, institutions and markets lead to overexploitation and short-term gains.



Source: WRI

Since the emergence of ‘the ecosystem approach’ in the mid-1990s under the Convention on Biological Diversity (CBD) and the subsequent coining of the term ‘ecosystem services’ by the Millennium Ecosystem Assessment in 2005 these concepts have progressively gained international recognition and influence. Based on the premise that there are almost no ecosystems that have not been shaped by people and no people who have zero dependency on ecosystem services, emphasis has been put on integrated approaches to managing land, water and ecosystems in a way that it recognizes and addresses both dependencies and impacts. These ideas are also reflected in the 2030 Agenda for Sustainable Development and considered both explicit and implicit in different Sustainable Development Goals (SDGs), particularly in Target 15.9, which calls for the integration of ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts. There is a wide recognition that the SDGs are interconnected and that their implementation can only take place in an integrated manner, addressing social, economic and environmental concerns equally. Numerous examples of the economic benefits that ecosystem services yield for human well-being and development exist across different countries and development sectors. At the global level, initiatives such as The Economics of Ecosystems and Biodiversity (TEEB) and the Economics of Land Degradation (ELD) have made great progress in assessing and valuating ecosystem services. However, valuing nature in terms of ecosystem services has been subject to strong criticism from conservatio-

nists and environmental actors in the past. The anthropocentric approach is argued to ignore the intrinsic value of biodiversity and therefore, its right to exist regardless of its benefit to people. Economic valuation has often been understood as the commodification of nature. There are concerns that putting a price tag on the ecosystems not only leads to perverse incentives for speculation and trade but is also considered by some actors as unethical. Critics also come from practitioners and policy makers, who argue that an expert-driven approach to assessment and valuation has led to a wide range of valuation studies being carried out without a clear policy impact. The results of the assessments are either not appropriately communicated to policy makers or they plainly miss to address the policy questions in place. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), an independent intergovernmental body established in 2012, was designed to bridge that gap between science and policy by synthesizing existing knowledge on biodiversity, ecosystems and their services, promoting dialogue between science and policy and providing practical oriented recommendations for policy makers worldwide. In a series of thematic and regional assessments IPBES assess the status and trends with regard to biodiversity and ecosystems, the interlinkages with human well-being, current threats and effectiveness of responses at global, regional and national level (such as Aichi Targets, SDGs).

Our position

In this context, GIZ takes the following positions:

■ Ecosystem services have multiple values

In Economic valuation of ecosystem services aims at incorporating not only monetary values, but also other (non-monetary) values into decision-making. The concept of multiple values reflects on how differently people value nature and its benefits, depending on the natural space they live, their cultural and institutional backgrounds, as well as their worldviews, principles and preferences. These values can be either synergistic or at odds with each other (e. g. maintaining forest for multiple purposes such as groundwater production and recreation versus woodcutting) and, thus, create the need for action from policymakers to appropriately account for these differences into their decisions. A holistic approach on valuation goes beyond monetization and includes economic, bio-physical, socio-cultural, health and holistic values.

■ Ecosystem service assessments need to be policy-oriented

Ecosystem service assessments and valuations can be carried out for multiple purposes. They can be used to design environmental policy instruments and incentives, to compare alternative policies, to convey environmental messages and evidence, to resolve environmental conflicts, etc. In order to properly assess ecosystem services, it is necessary to understand both the 'supply side' (the ecosystem) and the 'demand side' (the socio-economic system). There are many different methods for doing an assessment (monetary, social, biophysical, etc.), each method differing in scale, scope, ecosystem services it assess and metrics for analysing the results. There is no universal standard for assessments, and not all methods serve all assessment purposes. The better a common understanding of the starting point and purpose of an assessment, the easier it becomes to define the terms and methods of the study itself. The project "ValuES – Methods for integrating ecosystem services into policy, planning and practice" commissioned by the German Federal Ministry for the Environment (BMU) supports practitioners in the design of ecosystem service assessments, for example through the Method Navigator, a compilation of over 65 commonly used methods and tools across all disciplines.

■ Trade-offs and competing goals need to be explicitly considered in developing planning

The integration of ecosystem services in decision-making implies that trade-offs in regard to the use of different ecosystem services are made explicit and factored into development planning. Both the opportunity costs and the externalities associated with choosing to pursue a particular land use option are taken into account. These effects (and of the groups they impact) need to be considered in order to balance competing goals and identify mutually-beneficial trade-offs and 'win-win' situations. The intention is to level the playing field: to enable decisions to be made on the basis of the best possible information, and to identify where unavoidable consequences may require some form of remediation or mitigation. Assessing and comparing alternative scenarios for the utilization and management of ecosystem services is key for better decision making processes.

■ Integrating ecosystem services into policy and planning requires a stepwise approach

A stepwise approach helps practitioners, advisors and policy makers to recognise ecosystem services and to mainstream them into plans, programmes and concrete

development-related decisions. Within GIZ, different approaches are available, each focusing on specific aspects and purposes to support the integration of an ecosystem service perspective. The Integrating Ecosystem Services into Development Planning (IES), as well as the framework by the Economics on Land Degradation (ELD) Initiative aim to assist development planners to recognise the links between nature and development, consider the trade-offs associated with alternative development options, and incorporate ecosystem service-related opportunities and risks into plans, programs and concrete development-related decisions.

Our recommended actions

GIZ considers the following the most important recommendations for action:

■ We incorporate ecosystem valuation as part of a larger political process

We support countries in carrying out ecosystem services assessments to value and communicate the importance of nature, for example within protected areas, in terms of their contribution to economic development and human well-being. Going beyond an academic exercise, we integrate economic valuations into a broader political process. For example in Taï National Park in Côte d'Ivoire, we facilitated a series of stakeholder trainings and scoping workshops in order to discuss options for the assessment in terms of scope, target groups and required information. To ensure the policy relevance of the assessment, the process was designed in a strategic manner, identifying entry points and considering communication and stakeholder involvement from the early stages. The results of the study are now being used by the national parks authority to make the case for increased budget allocations, and to help raise funds from the international cocoa industry. Similar studies are now being conducted to pinpoint the importance of two other Ivorian national parks for local livelihoods and national socio-economic development.

■ We engage multi-disciplinary teams and non-conventional partners

The assessment and valuation of ecosystem services and their relation to human well-being is a multi-disciplinary task and requires an integrated approach. By definition, the decisions affecting ecosystem service are taken by a wide range of sectors and on different levels. Therefore it is crucial to design a multidisciplinary process

and involve stakeholders from all sectors, going beyond traditional ‘conservation’ actors and incorporating non-conventional partners such as Ministries of Finance and Economic Planning, sectoral ministries, financial institutions, private sector and local communities. In Peru, GIZ supported a collaborative effort of the the Ministry of Economy and Finance and Ministry of Environment in the development of guidelines for public investment in biodiversity and ecosystem services, which provides strategic regulation for the development and implementation for public investments in biodiversity, ecosystems and ecosystem services (water regulation and soil erosion control).

■ **We promote an integrated approach on spatial and development planning**

An ecosystem service approach represents a shift from environment versus development - as being opposed or mutually exclusive-, towards a paradigm of environmental conservation and sustainable use for development -as being a necessary and enabling condition. In addition to creating new jobs, promoting investment and improving infrastructure, development planning needs to consider the dependencies and impacts that economic activities have on the ecosystems and design policy mechanisms that ensure that ecosystems continue delivering ever-important services. The potential role of ecosystems for employment creation and income generation needs to be taken into account. In Vietnam, we support the Ministry of Planning and Investment in incorporating ecosystem services and climate change into spatial and developing planning. Ecosystem service valuation will be used to analyse the benefits, costs and impacts of ecosystem services across different sectors. This analysis will serve to inform policy-makers about the impacts of decisions and to allow the weighing of different options.

■ **We use economic valuation as a tool to (re-)design and implement instruments that capture and redistribute the value of ecosystem services**

Assessing and valuing ecosystem services as a stand-alone effort is often not sufficient to influence decision making. Beyond raising awareness about the importance of ecosystem services, the focus should be in the (re-) design and implementation of instruments that capture and redistribute the value of ecosystem services. Who carries the costs and who reaps the benefits from current development option? How can benefits and costs be distributed in a more equitable and sustainable way? In Brazil, we advised the municipality of Duque the Caixas (State of Rio de Janeiro) in the incorporation of ecosystem services in urban planning. Citizens, decision-makers and experts identified and prioritized the most relevant ecosystem services for the sustainable development of the municipality, thus providing non-monetary information about multiple ecosystem services across different landscapes. As a result, nine thematic maps of selected ecosystem services were developed. These maps will help the department of urban planning to develop a new land use plan, manage land use conflicts and discuss different scenarios for resilient and sustainable urban development. Ultimately, the goal is to enhance productive activities while addressing some of the municipality’s main concerns: water scarcity, urban heat waves, severe flooding and landslides.

¹ TEEB for Local and Regional Policy Makers, 2010
ELD Initiative, 2015. [The value of land](#)
IPBES, 2016. [Summary](#) for policymakers of the assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination and food production.
LTSI, 2010. Environmental and Natural Resources Management Action Plan for the Upper Shire Basin.
ValuES - [Integrating Ecosystem Services into Policy, Planning and Practice](#)

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Address
Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Deutschland
T +49 61 96 79-0
F +49 61 96 79-11 15
E info@giz.de
I www.giz.de

Responsible/Contact:
Paulina Campos Monteros
GIZ Section 'Forests, Biodiversity and Agriculture'
E Paulina.Campos@giz.de

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