Policy brief

Mainstreaming Ecosystem Goods and Services into International Policies

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Preface

Ecosystems provide goods and services essential for human well-being. These ecosystem services are estimated globally to be worth trillions of euros every year. Although often unrecognized, many of these goods and services, from flood protection by coastal mangroves to the pollination provided by insects or climate regulation of forests, represent nature's value to economic sectors and most forms of human activities on the planet.

Slowing down, halting and reversing the decline of ecosystems that provide these vitally important services are essential for sustainable development. While the recognition is not new, deteriorating ecosystem and biodiversity trends, and indeed the growing cost of the degradation of ecosystems in terms of human life and prosperity, are proof that past responses from government, business and civil society have been inadequate.

There is growing urgency to find policy levers and sustainable market frameworks that would help guard against ecosystem goods and services (EGS) degradation far more effectively at the level of root causes and at a large scale. Many of the policies and practices that affect EGS are local, but they are often embedded in or influenced by a broader international policy context, as in the case of tropical forests and climate change. This brochure, produced by a joint PBL and IISD team, brings attention to the influence of international policy mechanisms that often define the framework for policy-making and action at the national or local level. While some of these included environmental and biodiversity policies, others have no explicit environmental dimension, even if they have a major impact on EGS and, through that, an impact on human well-being.

The brochure identifies the relevance of key international policy areas such as trade and investment, development assistance and climate change to EGS in the context of poverty reduction; points out problems; and recommends specific measures that can help build consideration of EGS into future policies. Many involve the application of tools that have already been proven at the pilot scale and beyond, but in order to live to their full potential, they need to be mainstreamed. This requires detailed technical work, building the right institutional capacity and political will. This can be challenging, but institutions behind international policies must take up the challenge.

Maarten Hajer
Director, PBL

Franz Tattenbach
President, IISD

Principle findings

- Degradation of ecosystems worldwide threatens local and regional supplies of food, forest products and fresh water, and also biodiversity. Although most decisions that directly affect ecosystem management are made locally, these decisions are influenced by national and international policies. This study shows how local delivery of ecosystem goods and services (EGS) is closely linked to international policies on development cooperation, trade, climate change and reform of international financial institutions.

- Integrating or mainstreaming EGS considerations into these policies provides significant opportunities to contribute to reducing poverty while simultaneously improving the quality of local EGS. Furthermore, mainstreaming EGS in international policies can contribute significantly to achieving policy objectives on biodiversity and sustainable management of natural resources.

- However, mainstreaming EGS requires careful consideration because many of the opportunities identified can reduce poverty, but may have the opposite effect if poorly managed or implemented. A major challenge is, therefore, to ensure consistent policies across scales and policy domains based on analysis of the local situation. In order to support poverty reduction it matters how the mainstreaming is done and who benefits locally.

- Tools to mainstream EGS into non-environmental policy domains are available but there are few examples of their systematic application. Examples of tools that could play a constructive role in this process are the monitoring and reporting mechanisms developed by the Convention on Biological Diversity (CBD).

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Relevance of ecosystem goods and services in development and poverty reduction

Ecosystems provide essential goods and services

All over the planet, ecosystems are losing their capacity to deliver ecosystem goods and services (EGS). As demand for provisioning services such as food and timber increases with rising population and increasing drive for wealth, pressure will be even greater on other ecosystem services such as water and soil retention, climate mitigation and biodiversity conservation. To strengthen EGS delivery, national and international polices in all areas will need to be modified to address unintentional impacts on these vital services.

In developing countries where the poor rely directly on ecosystems, strengthening local ecosystem services can contribute to reducing rural poverty. But EGS loss has also regional and global implications. For example, deforestation can increase erosion and watershed runoff, creating water management issues downstream, and restricting the productive capacity of ecosystems. Furthermore, forest loss reduces the ecosystem's carbon sequestration capacity and exacerbates global climate change issues. Another example is wetland conversion and drainage which can lead to habitat loss for commercially valuable fisheries, loss of natural water purification capacity and to increased exposure to flooding.

Environmental policy alone is not sufficient to ensure EGS delivery

Most international policies on biodiversity and environmental conservation capture little local attention, and have limited influence on other sectors. As a result, these policies do not adequately address EGS degradation that results from national and local decision-making in various economic sectors. Furthermore, international policy objectives in other sectors are not linked to EGS outcomes but mostly to economic outcomes. Yet, the economic value of EGS does not appear in market transactions or in national accounts, nor are they used in economic models that guide international policy formulation.

This exploratory report examines the links between EGS and international policies with the aim of guiding decision-making to strengthen EGS output and to reduce poverty.

The report provides examples of international policies contributing to local success and failure in strengthening EGS. Three international policy domains - development cooperation, climate, and trade – are explored in terms of how policies could be modified to improve local EGS output.

Linking local ecosystem goods and services to national and international policies

Local EGS degradation results from complex policy interactions

One of the main reasons for loss of ecosystem goods and services is local choices made about land and resource use. These choices tend to undervalue the collective benefit of non-market ecosystem goods and services (EGS) in favour of a limited range of commercial benefits such as cash crops, fish and timber. The effect of local management practices on ecosystems is well documented, with many examples of management interventions successfully reducing poverty and ecosystem degradation. This study explores the link between local management practices and national and international policies in three biomes or ecosystems.

Drylands ecosystems

Degradation of *drylands ecosystems* often results from agricultural development in high-risk areas, land-use conflicts and inappropriate agricultural practices. Such practices tend to be fostered by ill-considered trade liberalisation, export-oriented development projects and policies discriminating against pastoral ethnic groups. Ecosystem-sustaining practices require policy support to improve techniques and extension services, as well as recognition of more flexible resource tenure to protect collective rights to access seasonal and intermittent resources.

Tropical forest ecosystems

Loss of *tropical forest ecosystems* often results from agricultural colonisation, which is linked to road construction and commercial forestry. These processes have been aided by national policies that subsidise infrastructure, credit and land conversion for export-oriented agriculture, and by policies supported or promoted through structural adjustment programmes of international financial institutions. The practices needed to sustain forest ecosystems and livelihoods are well understood. However, incentives to better align the value of forest EGS with economic returns to local users for their preservation are often frustrated by the complex realities of forest tenure and lack of supportive institutions for collective management.

Coastal wetlands

The main threat to EGS in *coastal wetlands* comes from land-use change including conversion to urban or industrial uses and intensive aquaculture. Once converted, however, wetlands are extremely difficult and costly to rehabilitate. The most promising measures to protect such areas include better economic valuation of the services they provide, such as flood control, water quality, and habitat for valuable species, and more attention to resource tenure and risks of privatisation.

Well-defined international policies can foster local practices

Effective local practices can be fostered with consistent and supportive international policies. But ecosystem degradation can be exacerbated by policies promoting conversion from communal to private land tenure, and by export-oriented agriculture, typically aligned with trade liberalisation and structural adjustment. While trade liberalisation can contribute to increasing returns to agriculture, it must be combined with improved ecosystem management. Such management practices include decentralised and community-based management innovations, tenure practices that create incentives for sustainable management, and improved production technologies and extension services.

Linking local ecosystem goods and services to national and international policies

Development cooperation policies

Little recognition for ecosystem goods and services in international development policies

Environmental sustainability is one of the development goals for poverty reduction identified in the Millennium Development Goals (MDG 7). Yet, sustainability is often viewed in development agencies and programmes separately from economic development and little attention is given to integrating ecosystem goods and services (EGS) into development decision-making. As a result, poverty reduction programmes guided by for example national Poverty Reduction Strategy Papers (PRSPs) and national MDG strategies give little attention to strengthening EGS in reducing poverty.

Strengthening EGS in development cooperation can help people out of poverty

Strengthening EGS can help improve the quality and sustainability of the living conditions of the rural poor in developing countries who depend on ecosystem integrity for their livelihoods. EGS also provides the urban poor with access to safe food and water, and disease prevention. Yet, poverty reduction interventions seldom address measures to preserve EGS. The few successful approaches are highly contextual, and are thus difficult to scale up or replicate easily. However, opportunities are created to integrate EGS measures with a changing focus of development policy from project funding to sector and budget support and to more policy coherence to integrate development with trade, security and environmental policies.

Recommended policy measures

Screen development portfolios

The portfolios of development agencies need to be screened to assess consistency with EGS concerns and to raise awareness about the links between strengthening EGS and reducing poverty. Various tools could be applied to mainstream EGS into sectoral strategies such as Strategic Environmental Assessment (SEA), economic valuation and pro-poor Payments for Ecosystem Services (PES), as well as analysis of infrastructure and natural resource development projects, including agriculture.

Build capacity in developing countries

Mainstreaming EGS demands a consistent effort over a long period of time. Capacity to apply these tools needs to be built in developing countries and also institutions need to be established that can use the analytical results in decision-making. Capacity building needs to target national policy agencies and also local officials as well as farmers, researchers and extension workers who support decisions on ecosystem management.

Strengthen local institutions for resource management

Weak resource governance undermines potential management interventions such as pro-poor Payment for Ecosystem Services. Thus, local institutions for resource access and management need strengthening especially in poor and marginalised communities. While such policies cannot be easily standardised, they need to ensure fair processes for negotiating rather than prescribing rights. Women especially should be engaged because they produce about 50% of the world's food but control only 1% of the productive land.

Invest in food security and sustainable agriculture

Most importantly, there is a need to invest in food security and sustainable agriculture. A sustainable form of agriculture should be based on ecological literacy to prevent EGS degradation and the consequential poverty.

Devopment cooperation policies

Climate policies

Ecosystem goods and services loss contributes to climate change

While international policies to foster climate change mitigation or adaptation give little attention to ecosystem goods and services (EGS), integration of EGS into climate policy would align these policies with sustainable development. In fact, EGS loss is a major contributor to greenhouse gas emissions. The IPCC Fourth Assessment Report identifies agriculture and forestry practices, including land-use change, as contributing over 30% to global greenhouse gas emissions. These emissions are largely due to the conversion of tropical forests to agriculture, and unsustainable forestry and agricultural practices. The IPCC assessment has concluded that about 75% of the potential to mitigate these emissions through improved practices is in developing countries. Furthermore, the mitigation cost of carbon emissions through EGS measures in forestry and agriculture is also relatively low compared to other mitigation measures.

… well-functioning EGS mitigates climate change and supports adaptation

Healthy ecosystems provide significant climate mitigation services through increased carbon sequestration, and support adaptation by buffering extreme climatic events. Ecosystem-based adaptation preserves and enhances service delivery by healthy ecosystems to improve climate buffering capacity. For example, mangroves help to resist storm damage and coastal erosion, wetlands to absorb floods and reduce drought impacts, while afforestation contributes to moderating temperature and precipitation extremes.

Recommended policy measures

Use REDD approaches to mitigate loss of forest ecosystems

Forest ecosystems can benefit from approaches that provide carbon credits for Reducing Emissions from Deforestation and forest Degradation (REDD) in UNFCCC mitigation agreements. This market-based tool creates value for standing forests that rivals the commercial alternatives of timber and agriculture production. However, long-term carbon and ecosystem benefits are only assured if most of the income from this new practice goes to marginalised forest dwellers rather than to financial intermediaries, speculators and large landowners. Policies and processes to secure tenure and benefits for local forest users are difficult to implement but are essential in preventing carbon credits simply resulting in relocation of forest conversion to new sites. Part of the equation is developing sustainable agriculture.

Build capacity and commitment in developing countries

Effective implementation requires capacity building and ongoing commitment in REDD countries to collective tenure and forest co-management, and to monitor compliance. In this respect, ensuring that carbon market benefits flow to impoverished local resource users is crucial for agriculture-based mitigation policies. Such policies would benefit from greater clarity and transparency of monitoring mechanisms showing not only carbon and ecosystem outcomes but also fair institutional processes and social benefits.

Focus on building local resource management

Ecosystem-based adaptation through strengthening EGS requires greater attention to local resource management processes and institutions, as well as to sustainable intensified agricultural practices to reduce pressure on biodiversity and other ecosystems. Both approaches require renewed policy commitment to investment in people-focused rural development, agricultural research, and rural livelihoods.

Climate policies

Trade policies

Trade policy can affect ecosystem goods and services delivery

Depending on the context, trade policy measures can have either positive or negative impacts on the delivery of ecosystem goods and services (EGS). Trade policies may inadvertently lead to conditions that undermine EGS and indirectly have negative impact on trade. International trade policies generally regulate rather than prescribe the use of national trade policy interventions. These national measures are likely to affect EGS because of their effect on decisions regarding production and consumption. In turn, this may have negative impacts on trade. This is the case, for instance, when trade liberalisation leads to over-harvesting of commodities such as fish and timber, and reduces the productivity of these ecosystems and the economic potential for commodity trade.

EGS is marginal in trade policy but sustainable management is essential for trade

Even though sustainable development is a goal in WTO negotiations, EGS remains marginal to trade policy decisions. The rationale for trade liberalization is that all countries benefit from specialization and trade. However, this values some EGS (agricultural and industrial agri-food commodities, for example) that can be traded at the expense of others (e.g., water quality, erosion control, soil carbon sequestration) that cannot. The result is that, without incentives for protection, important local EGS are degraded as a result of producing more commodities for export. Trade liberalisation generally lowers production subsidies in developed countries, which improves returns to developing country producers. However, it can also limit state incentives for sustainable agricultural practices and biodiversity conservation. By linking environmental impact to socio-economic outcomes, analysis of EGS degradation can strengthen the economic argument for environmental protection and reduce fears of protectionist intent behind environmental trade measures.

Recommended policy measures

Integrate EGS into trade agreements

More needs to be done to integrate EGS considerations into WTO and regional trade agreements. Such measures include negotiations to reduce subsidies on ecologically harmful fisheries using EGS indicators (such as fish stocks); inclusion of environmental considerations in international standards; and cooperative measures to address transboundary threats to EGS through bilateral and regional free trade agreements (e.g., pollution control, watershed management).

Create incentives to selectively strengthen EGS

International trade negotiations already target production subsidies in fisheries and agriculture which lead to overexploitation of ecosystems. However, policy can also create incentives to selectively strengthen EGS, such as for sustainable agriculture.

Use trade policy to strengthen EGS

The use of trade policy to strengthen EGS could be endorsed in multilateral environmental agreements to protect against WTO disputes. In this respect, WTO processes such as subsidy determination negotiations, and trade policy reviews, may be extended to include expertise on EGS to better assess the sustainability impact of trade policy measures, and to foster policy harmonisation between environment, trade and other economic sectors.

Incorporate EGS into voluntary standards

In addition to trade policy measures, voluntary standards can support EGS where countries choose to comply, for instance organic food standards and forest product certification schemes. These need to be clarified and standardised to facilitate compliance by developing country producers.

Trade policies

Tools for mainstreaming ecosystem goods and services

Limited experience in mainstreaming ecosystem goods and services

To mainstream ecosystem goods and services (EGS) into international policy domains and to ensure that the intended effects are achieved, tools are needed to support the assessment of opportunities. Fortunately, there is growing and well-documented experience with such tools. They can be applied to policy design, analysis, implementation or review, across a variety of different fields. However, there is little experience with the systematic application of these tools to date.

Tools and processes need to match the specific situation

Mainstreaming EGS involves gradual and long-term capacity building that extends over many years. Application of tools and processes described in this study tend to be context-specific and are not easily standardised for different applications and different EGS.

Tools for mainstreaming EGS

Public expenditure reviews can contribute to making the case for EGS in public finance, for example as part of a national poverty reduction strategy.

Portfolio screening can build awareness of the implications of current programmes and policies on EGS. Various tools for applying environmental criteria in portfolio screening for socially responsible investment may need to be modified to reflect ecosystem degradation.

Schemes for payment for ecosystem services have been attempted in many settings but struggle with the challenge of determining fair prices and monitoring benefits in relation to quantities of EGS provided. While these difficulties may be resolved within a defined sub-national setting such as a medium-sized watershed, this may be more difficult on a national or global scale.

Integrated environmental / ecosystem assessments focused on specific contexts (ecosystem, political entity or both) are increasingly common and help establish links between ecosystem change, the underlying drivers and impact on human well-being.

Strategic environmental assessment can help to make explicit the environmental implications of proposed policy measures by assessing indirect and linked EGS effects.

Standards and certification mechanisms, which are frequently voluntary, are increasingly popular as consumers become more sensitive to environmental issues. There is a need to ensure that new product and process standards specifically include EGS considerations that can be monitored, verified and harmonised to ensure comparability and consistency.

CBD tools useful in international policies

The Convention on Biodiversity (CBD) can play an important role in mainstreaming EGS because of the large number of signatory countries and because of the essential role of biodiversity in influencing EGS and its objective of sustainable use of natural resources.

The CBD advocates an ecosystem approach as the primary framework for action. This provides a sound basis for integrating EGS concerns into national planning, and focuses on governance and management issues.

The CBD has been ratified by most countries, and if its obligations were treated seriously in national policies this would provide real support to mainstreaming EGS in other policy domains as well. But many of the CBD provisions lack traction in national policies. And because the CBD lacks implementation and compliance mechanisms, even strong obligations are often ignored. The national environmental agencies that oversee CBD implementation are typically less powerful than economic agencies, so EGS considerations find limited political support. For all these reasons, the CBD fails to live up to its potential as a mechanism for supporting mainstreaming of EGS.

Tools for mainstreaming ecosystem goods and services