

On behalf of:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

of the Federal Republic of Germany



Implemented by:



INTEGRATING ECOSYSTEM-BASED ADAPTATION AND ECOSYSTEM SERVICES INTO STRATEGIC ENVIRONMENTAL ASSESSMENT FOR NATIONAL LAND-USE PLANNING

2016 – 2020

This factsheet explains:

- What is meant by EbA
- How to integrate EbA into SEA processes
- The overall approach to mainstreaming ecosystem services into SEA processes
- Ways for future intervention

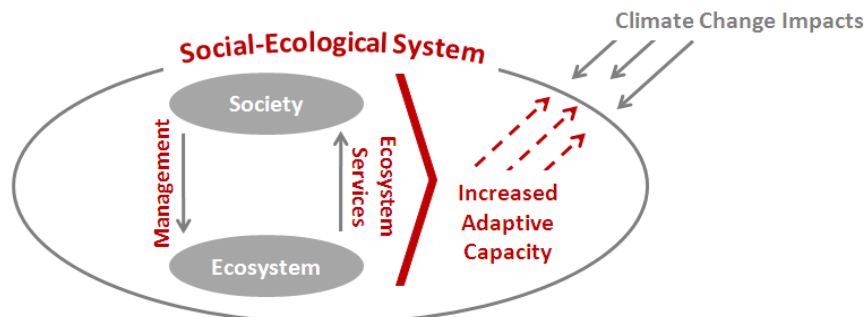
Ecosystem-based adaptation (EbA)

There are multiple approaches to managing ecosystems that help vulnerable people to adapt and build their resilience against the impacts of climate change without disturbing the environment or leading to drawbacks elsewhere. Ecosystem-based adaptation (EbA) is one such approach that integrates the use of ecosystem services (the benefits people obtain from ecosystems) and biodiversity into an overall strategy to help people adapt to the adverse effects of climate change (CBD, 2009).

EbA can be applied in the context of all ecosystems, i.e. natural forests, agricultural lands or cities. Trees, for example, provide soil retention services that are important for agriculture and provide needed shading in urban areas as heat waves become more common.

Beyond reducing the vulnerability of communities, EbA also offers environmental (e.g. biodiversity protection), socio-cultural (e.g. cultural heritage or tourism), and economic (e.g. increased food production) benefits (Doswald et al., 2014). In spite of its multiple benefits, adoption and implementation of ecosystem-based approaches to adaptation lag behind other methods, in part due to the lack of their integration into policies and planning processes.

Ecosystem-based adaptation (EbA) is a relatively new approach, connecting the need for climate change adaptation as mentioned in the United Nations Framework Conventions on Climate Change (UNFCCC) and the need for preserving biodiversity as mentioned by the Convention on Biological Diversity (CBD). There have been a number of interesting implementations of EbA strategies at local and project levels. However, for EbA to be successful, it needs to be systematically integrated into adaptation strategies, planning processes and policies at provincial and national levels. There have been promising attempts to formulate more complex frameworks on EbA, but the integration of the approach into strategies and policies remains a challenge.



The EbA framework

Opportunities in the legal and institutional framework

SEA constitutes a frontline tool for mainstreaming a range of sustainability-related concerns into strategic decisions the world over. Vietnam has a fairly well institutionalized system of SEAs, with the first legislation having been introduced in 2005 and a second generation of legal frameworks being implemented since 2014. Particularly the Law on Environmental Protection (LEP) from 2014, the Decree No. 18/2015 guiding the implementation of the 2014 Law on Environmental Protection, and the Circular No. 27/2015 guiding the implementation of the Decree No. 18/2015 for SEA, have laid an important legal basis for promoting the mainstreaming of EbA. Specific provisions of the 2014 LEP, Decree No. 18/2015 and Circular No. 27/2015 support the consideration of climate change and climate change responses in planning procedures via the SEA process.

Approach to the SEA process for revision of the National Land-Use Plan (NLUP) for 2016 – 2020

The overall approach of the SEA process for revision of the NLUP for 2016 – 2020 is a participatory SEA approach in which, during the SEA inception workshop, it was determined by the workshop's participants that the SEA process should focus on impacts of the proposed national land-use plan and its alternatives on ecosystems and ecosystem services.

What are ecosystem services?

Ecosystem services are the direct and indirect contributions of ecosystems to human well-being. Ecosystem services are generally categorized into four main types:

- **Regulating services** are defined as the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.

- **Provisioning services** are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.
- **Supporting services** are services such as ecosystems providing habitat for migratory species and maintaining the viability of gene-pools.
- **Cultural services** include non-material benefits that people obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic values.

Why consider ecosystem services in SEA?

The concept of ecosystem services has become increasingly central in land use planning over the last decade. It has been defined as a "cornerstone of sustainability science" because of its focus on the interaction between nature and society (Clark and Dickson, 2003). It has attracted considerable attention amongst the policy community for this reason, but also because it provides a framework for applying economic values to nature-society interactions. The assessment of the influence of land use plans on ecosystem services therefore can provide monetary evaluations, which will aid society's understandings of the trade-offs involved in land use planning. These monetary values extend beyond those traditionally accounted for in financial transactions (e.g. the cost of food) to include the value of nature in providing services such as clean air to breathe, the cycling of nutrients essential for crop growth, and detoxification of water used for agricultural and human consumption.

The concept of ecosystem services also provides a more integrated framework for analyzing the environmental consequences of land use policy than is achieved under traditional practices used in SEA and Environmental Impact Assessment (EIA). It is particularly apt at demonstrating the strategic importance of both positive and negative trends across multiple elements (e.g. air, water and soil) and environmental components. Finally, it helps to make the analysis of trade-offs more tangible as a consequence of its integrative nature.

SEA considerations and National Land-Use Plans

SEA issues/considerations	Changes in related ecosystem services due to NLUP
Climate change concerns and related risks	
Sea level rise and coastal flooding	Regulating service: Regulation of natural hazards Cultural services: Recreation and ecotourism
Saline intrusion	
Riverine floods	Regulating service: Regulation of water timing and flows
Torrential/flash floods	Regulating service: Regulation of natural hazards
Declining rainfall and meteorological drought	Regulating service: Regulation of regional climate
Intended Nationally Determined Contributions-related concerns	Regulating service: Regulation of global climate and regulation of natural hazards
Biodiversity and forestry	
Protected areas	Supporting services: Maintaining species populations and protection of the capacity of ecological communities to recover from disturbances Cultural services: Recreation and ecotourism, educational and inspirational values, ethical and spiritual values
Ecosystems supporting critically endangered species	Supporting services: Maintain species populations Cultural services: Recreation and ecotourism
Forest management and REDD+ related concerns	Regulating service: Regulation of water timing and flows
Land management	
Soil fertility	Regulating service: Regulation of soil quality
Soil erosion and degradation	Regulating service: Erosion control

Ways forward

During the course of implementation of the SEA process for the NLUP 2016 – 2020, a number of limitations have been encountered. Those were for instance a lack of a sound legal basis and a clear and practical guidance on how to integrate EbA into the SEA framework, or lack of spatial data on biodiversity and hazard risks to introduce a number of uncertainties into the analysis of how the NLUP may affect ecosystem services. Therefore, it is recommended to create a sound legal basis and a clear, practical guidance on how to integrate EbA into the SEA framework in Vietnam.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
 Project Strategic Mainstreaming of Ecosystem-based Adaptation in Viet Nam
 14 Thuy Khue, Hanoi, Viet Nam
 T +84 4 39 34 49 51
 F +84 4 39 34 49 50
 I www.giz.de/viet-nam

