

Capacity Development for Forest Ecosystem-based Adaptation (FEbA) Enhancing social, economic and ecological resilience through strategic use of forest-based adaptation solutions in the MENA region

In short

Mediterranean forests provide important goods and services for the well-being of urban and rural populations, and they deliver – often unaccounted for – valuable services to other sectors. Due to the vast biodiversity and richness in endemic species the ecosystems of the Mediterranean basin figure among the world's biodiversity hotspots. As the Mediterranean region will very likely be badly affected by climate change, there is **need to secure livelihoods, wherefore forest ecosystems can provide important adaptation solutions**. However, this “adaptation through forests” also requires “adaptation of forests”. *Part I of the paper provides more information.*



Consequently, valorising the potential of forest resources for sustainable development requires **capacity development for cross-sectoral approaches to adaptation**. The capacity development activity thus strives (a) to strengthen the capacity of systematically assessing adaptation needs and opportunities for action across sector limitations and (b) in the same time to promote forest ecosystem-based adaptation solutions as part of comprehensive adaptation strategies. *Part II of the paper gives more detail.*



Part I: Forest ecosystem-based Adaptation in the Mediterranean basin

Mediterranean forests: key to sustainable development

Mediterranean forests **provide a wide range of goods and services**, such as watershed protection, erosion control, pasture, biodiversity shelter, carbon storage, wood energy and multiple non-timber forest products (aromatic and medicinal plants, honey etc.). A large part of the population in MENA countries lives in rural areas and their livelihoods are built mainly on agriculture, livestock husbandry and the use and commercialization of natural resources. Thus, forest landscapes **contribute to poverty alleviation, socio-economic development of rural areas and food security of local people**. In addition, various other **sectors, in particular water, agriculture, tourism and energy, depend strongly on the goods and services** provided by forests. Consequently, tapping the potential of forest resources for sustainable development requires a cross-sectoral approach.

Climate change: an additional challenge putting benefits at stake

With respect to the projected impacts of climate change, the Mediterranean basin, in particular its Southern and Eastern rims, is considered as one of the most affected regions worldwide. Climate projections indicate a continuous rise in average temperatures, frequency and intensity of extreme weather events with an overall decrease in annual precipitation. Subsequently the **risk of droughts, floods, landslides and forest fires are expected to increase** – effects that particularly relate to **alterations in the water cycle, the degradation of agricultural land and the erosion of biological diversity**.

Already now the overexploitation of forests in the region, overgrazing, forest fires, rapid urbanization etc. endanger forest functions. At the bottom of those human induced pressures are frequently insufficient legal frameworks and policies that result in participation, access and tenure issues, adding to insufficient financial and human capacities. **Stress factors attributed to climate change exacerbate those already existing anthropogenic pressures on forests** thereby putting the provision of forest goods and services at risk and increasing the vulnerability of ecosystems and society.

What forests have to offer in climate change adaptation

Forest ecosystem goods and services (FGS) have the **potential to reduce the vulnerability of society** even under a changing climate: Forests are characterized by a certain level of resilience to changing climatic conditions, and they provide tried and tested as well as cost-effective adaptation options¹, leading to reduced sensitivity (e.g. erosion control) or increased adaptive capacity of society (e.g. strengthening rural incomes through valorisation of NTFPs) and ecosystems. The figure below illustrates how forest ecosystem services can have a positive influence on the different components of vulnerability to climate change.

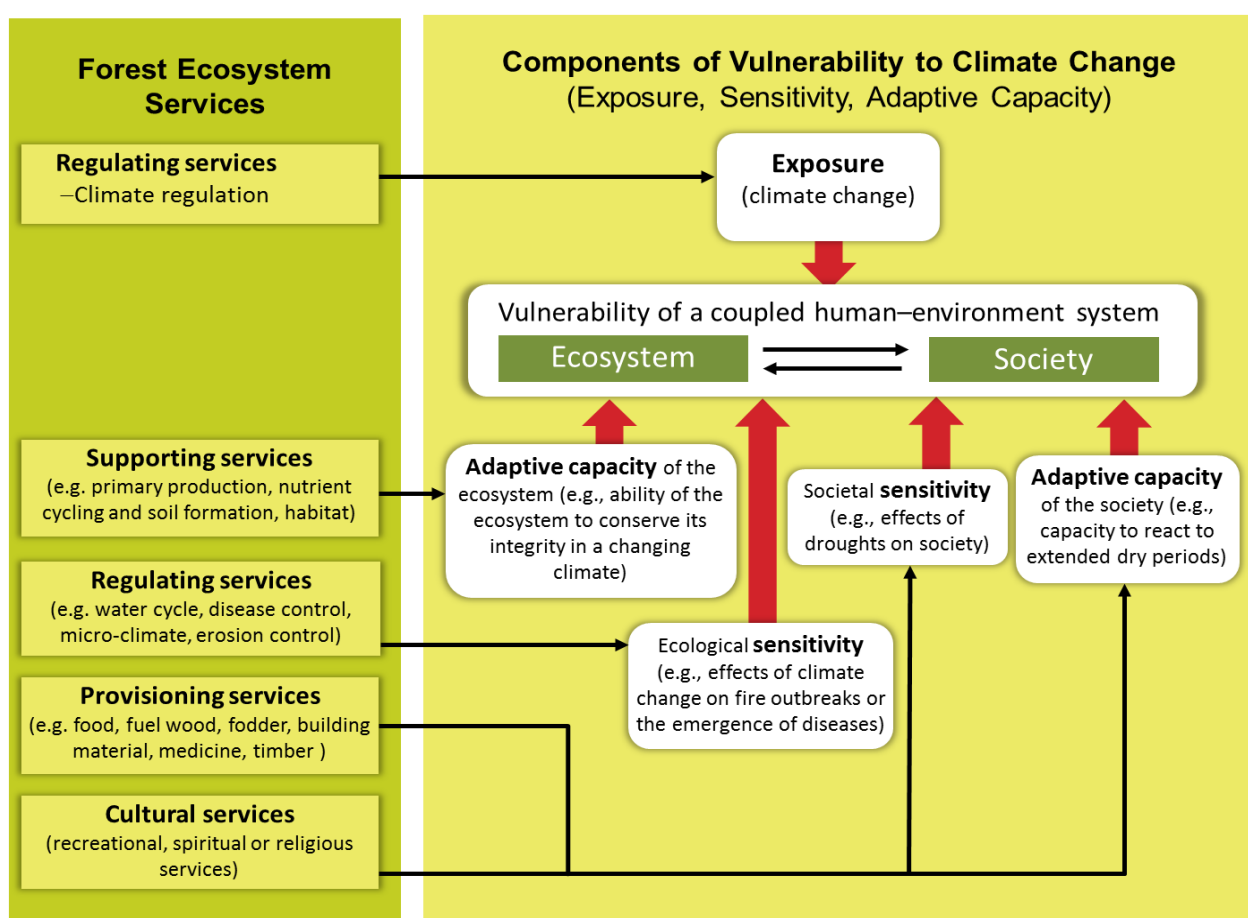


Figure 1: Relationship between forest ecosystem services and the different components of vulnerability to climate change (Adapted from: CIFOR, World Agroforestry Centre and USAID (2009))

The following questions indicate some **key issues to be considered when dealing with Forest Ecosystem-based Adaptation (FEbA)**:

- Which other sectors benefit from or rely on forest ecosystems' goods and services - and how?
- Does climate change and associated impacts on forest ecosystems increase other sectors' vulnerability?
- Which forest ecosystem goods and services can be enhanced, deliberately chosen as options for climate change adaptation in other sectors?
- Which activities in forest management and related sectors are thus required to make FEbA work?

¹ TEEB (2009): The Economics of Ecosystems and Biodiversity - Climate Issues Update.

Forest management for adaptation

Experts generally agree that the practices and policies needed to enhance the adaptation potential of forests are largely encapsulated within the **concept of sustainable forest management (SFM)**. They are justified regardless of climate change (so called “no regret” options). With adaptation as a main topic for receiving financing, the challenge of managing forests under climate change can serve as a catalyst for SFM. **The emphasis lies on multiple uses of the forest and on the production of both forest ecosystem goods and services to meet present-day needs while at the same time securing their continued availability and contribution to long-term development.**

However, beyond securing good practice in forest management as a first step, projections on climate change and associated impacts may require management decisions differing from ongoing practices and the respective forest management objectives may need to be reviewed. While SFM always is a planning exercise, **planning for climate change adaptation involves anticipating much greater uncertainty, novel risks and systematic risk reduction.**

Towards a cross-sectoral approach

While the forest management institutions are key players, efficiency and effectiveness are limited in cases where forest resources management is done without participation of those benefiting from ecosystem services or bearing the consequences of the loss of ecosystem services. Likewise, planners in other sectors do not necessarily recognize the potential role of forests in reducing societal vulnerability and the benefits drawn from forest ecosystem goods and services.

Planning for adaptation thus has to link non-forest actors with those engaged in forest management. Action is needed on a local, regional, national and the MENA level to promote and enhance the valorisation of FGS for reducing vulnerability to climate change.

Part II: Capacity development for FEbA

The GIZ regional project « Adapting Forest Policy Conditions to Climate Change in the Middle East-North Africa region » works in the framework of the Collaborative Partnership on Mediterranean Forests (CPMF) with the countries Algeria, Lebanon, Morocco, Tunisia, Turkey (and Syria):



Figure 2: Selected regions for the development of FEbA activities

In order to **mainstream the FEbA-concept into the policies and strategies of the forest administrations and their partner sectors and to strengthen the inter-sectoral cooperation**, a capacity development process is supported targeting decision makers from the forest administrations and their partner sectors with several steps (see Figure 3).

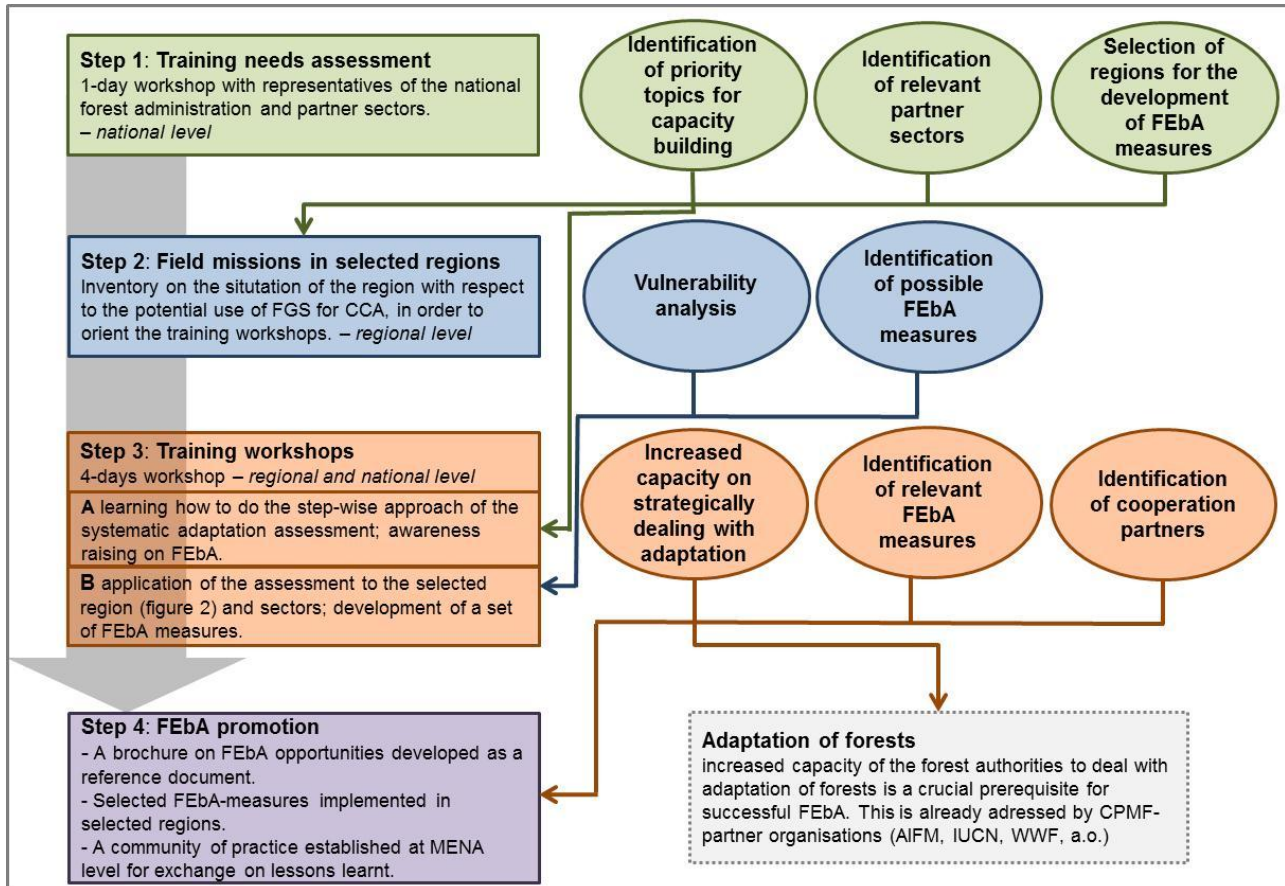


Figure 3: Capacity development process in 4 steps

The trainings are based on the practitioner’s training “Integrating Climate Change Adaptation into Development Planning”², developed in 2011 by GIZ in cooperation with OECD, with funding from BMZ.

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² For more information on the training and available material see www.oecd.org/dac/environment/climatechange