



Mainstreaming biodiversity into the food and agriculture sector

Ending hunger, achieving food security and improving human nutrition are global development objectives. A major challenge over the coming years will be increasing agricultural production to adequately feed the growing world population. Aichi Biodiversity Target 7, which calls for areas under agriculture to be managed sustainably, and Aichi Biodiversity Target 13, which calls for the maintenance of the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, are both directly relevant to the food and agriculture sector.

Biodiversity is the basis of agriculture. It is at the origin of all crops and domesticated livestock and the variety within them, and is the foundation of ecosystem services essential to sustain food production, nutrition and human well-being. When managed sustainably, agriculture can contribute to developing and maintaining crops and livestock genetic diversity as well as wider ecosystem functions such as the maintenance of water quality, soil moisture retention, carbon sequestration and pollination. While agriculture can contribute to the conservation and sustainable use of biodiversity, it is also a major driver of biodiversity loss.

Status of agricultural biodiversity globally

Modern agricultural development, overall, has resulted in significant natural resource use, biodiversity loss and adverse impacts on ecosystems. Globally, the expansion of agricultural areas is the single largest direct cause of biodiversity loss. Today, agriculture is mainly expanding in the tropics, mostly replacing forests, woodlands and natural grasslands, leading to biodiversity loss and further greenhouse gas emissions. The food and agriculture sector is estimated to account for some two thirds of the recent and projected loss of terrestrial biodiversity. These losses undermine the long-term sustainability of the food and agriculture sector by threatening agricultural productivity. They also erode prospects of addressing other societal challenges such as ending hunger and malnutrition and addressing climate change.

The demand for food and agricultural commodities is expected to increase for the foreseeable future as a result of population growth, increasing wealth and shifts in consumption patterns. Unless actions are taken, this demand will place strain on existing agricultural systems and generate pressure to convert further natural habitat to agricultural purposes with negative consequences for biodiversity and human wellbeing.

The way forward

Meeting global food demands in a sustainable way is achievable, but it will require significant actions to change some existing policies and practices. In particular, it will require that the conservation and sustainable use of biodiversity is considered in the policies and practices of the food and agriculture sector. A number of actions for bringing about this change will be explored during the thirteenth meeting of the Conference of the Parties to the Convention on Biological Diversity.

Principles for sustainable agriculture are promoted by a number of international instruments; the Food and Agriculture Organization's Reviewed Strategic Framework is particularly relevant. These initiatives, along with the guidance provided by the Convention on Biological Diversity, provide a basis for the way forward.



Governments need to promote coherent national policies related to agriculture, land use management and biodiversity. Clear legal frameworks, mechanisms to encourage sustainable agriculture, as well as subsidy reform, will be key in ensuring biodiversity is given proper consideration in agricultural production. Integrated landscape-level planning can help to maximize both agricultural productivity and biodiversity conservation.

Agricultural resources and products need to be put to better use. Currently between 30-40 per cent of food produced is lost or wasted. In developing countries, this loss tends to be the result of poor infrastructure throughout the supply chain while in developed countries, most waste occurs at the level of retailers and consumers. Reducing this loss will not only help to meeting growing food needs, but also reduce the pressure on the natural environment.

The conservation and restoration of biodiversity (including pollinator and pest-control species, as well as soil biodiversity) in agricultural landscapes can help to ensure the sustainability and productivity of agriculture and improve the nutritional value of food. Enhancing the ecosystem services (such as erosion control) can simultaneously improve resource use efficiency and provide off-farm benefits. Such actions will also reduce the need for agricultural inputs, such as water, fertilizer, and pesticides.

Restoring degraded land to support agricultural activities can increase food production while reducing the need to convert additional natural areas to agricultural, also contributing to climate change mitigation by increasing carbon sequestration.

Efforts to mainstream biodiversity into the food and agriculture sectors at all levels and scales need to be strengthened. To be effective, such efforts need to target all stakeholders, including producers and consumers, throughout the agricultural supply chain.

Questions to guide the discussions:

- What are some specific positive examples of biodiversity mainstreaming in the food and agriculture sector?
- What additional actions are needed to enable and support biodiversity mainstreaming in this sector? Budgetary, development of processes, legislation or policies actions?
- What are the biggest challenges and barriers to mainstreaming biodiversity into the agriculture sector? What are the biggest opportunities we have now?
- Who are the main actors that have a key role to play in achieving biodiversity mainstreaming in this sector?