

# Organic Agriculture and Biodiversity

*Organic agriculture is a holistic production management system, which enhances agro-ecosystem health, utilizing both traditional and scientific knowledge. Organic agricultural systems rely on ecosystem management rather than external agricultural inputs.*



**Biodiversity**, the variety of life on earth, is the foundation for all agriculture - from the food we eat to the ecosystem services we rely on for production.

**Research** into organic agriculture practices has shown that organic systems have the potential to support biodiversity conservation through:

- Increasing the number and variety of wild species found on farms
- Supporting high levels of agro-biodiversity
- Maintaining healthy soils and soil fauna, such as earthworms
- Reducing the risk of water pollution
- Being energy efficient
- Lowering emissions of carbon dioxide to reduce global warming

About a third of the world's land surface is used for agriculture. Organic agriculture standards and practices ensure this area is sympathetically managed for biodiversity and that primary ecosystems are not cleared to further extend the agricultural frontier.

## Not all agriculture is beneficial to biodiversity.

- **Agriculture has reduced habitat for wild species:** there has been a 500% expansion in the extent of cropland and pasture worldwide in the last 300 years. Habitat loss is now identified as the main threat to 85 - 90% of all species described by IUCN as 'threatened' or 'endangered' and is the most commonly recorded reason for species extinction during the last 20 years.
- **Conventional agricultural practices have major environmental impacts:** it has been estimated that the environmental cost (impacts on wildlife, pollinators, natural enemies, fisheries, water, and development of resistance) and social costs (human poisonings and illnesses) of pesticide use reach about US\$8 billion each year.
- **High-yielding, uniform cultivars are reducing the number of genetically viable species used in agriculture:** 75% of agricultural crop diversity (agro-biodiversity) has been lost in the last 100 years.
- **Native animal breeds are also declining:** it has been estimated that every week at least one breed of domestic animal becomes extinct, and over 25% of listed breeds are at risk.
- **Pollution of the natural gene pool:** the contamination of cultivated and wild species by invasive exotic genes introduced through Genetically Modified Organisms (GMOs) is causing pollution of the natural gene pool.



## Organic agriculture has been proven to be an effective method for conserving biodiversity, but more needs to be done to realize this advantage, including:

- Support from governments and donors for organic agriculture as a policy for biodiversity conservation
- Ending perverse subsidies that encourages agriculture which harms biodiversity and introducing the polluter-pays-principle for agriculture
- Research and extension to develop long-term examples of biodiversity-friendly organic farming and to promote and exchange successful techniques amongst farmers and technicians
- Market promotion for organic products highlighting their biodiversity benefits
- Protection of farmers' rights to develop, exchange, sell and save seeds

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