

BIODIVERSITY, AGRO-ECOSYSTEM RESILIENCE AND WILDLIFE HEALTH

- **Lubroth J. (1), Kaeslin E. (2), Bernardi M. (3), Hoffmann I. (1)**
(1) Animal Production and Health Division, Agriculture and Consumer Protection Department;
(2) Forestry Department;
(3) Climate, Energy and Tenure Division, Natural Resources Management and Environment Department;
Food and Agriculture Organization of the United Nations (FAO), Viale delle Terme di Caracalla, 00153, Rome, Italy

FAO manages a broad range of programmes, activities and technologies to enhance sustainable management practices in crop agriculture, livestock, forestry and fisheries, including the promotion of mixed agricultural systems such as rice-fish farming and agroforestry; integrated pest management; pollination management; advice on soil and water conservation; promotion of grasslands and forage resources; conservation and sustainable use of wildlife; and knowledge and information to adapt to the impacts of climate variability and change on farmlands, livestock systems, forests and wildlife health. FAO also addresses legal and economic aspects of biodiversity, compiles global and regional data and information, and uses its multidisciplinary expertise through an integrated approach to biodiversity conservation and sustainable agriculture. Through its work as a specialized United Nations (UN) organization, FAO assists countries in the implementation of biodiversity-related agreements of relevance to food and agriculture. These include the FAO-based International Treaty on Plant Genetic Resources for Food and Agriculture and the Global Plan of Action for Animal Genetic Resources, the Convention on Biological Diversity, the UN Framework Convention on Climate Change, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the Convention to Combat Desertification.

FAO cross-disciplinary work is exemplified by the ecosystems approach that interlinks biotic communities of plants, animals (wild and domestic) and micro-organisms to each other and to their abiotic environment. The multiple goods, services and functions provided by the different levels (ecosystems, species and genes) of biodiversity depend on the interactions between its various components, such as nutrient cycling, pollination, pest control, regulation of the water cycle and the maintenance of wildlife populations and their habitats. Management approaches to ecosystems, particularly agro-ecosystems, must be focused on the biological organization as well as on the human interactions that shape and influence them to increase (or decrease) ecosystem resilience. To prevent the negative consequences, including climate change, agro-ecosystem management should be carried out with a view to promote responsible and sustainable practices as a prerequisite for sustainably.

