



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE

THE STATE OF THE WORLD'S BIODIVERSITY FOR FOOD AND AGRICULTURE

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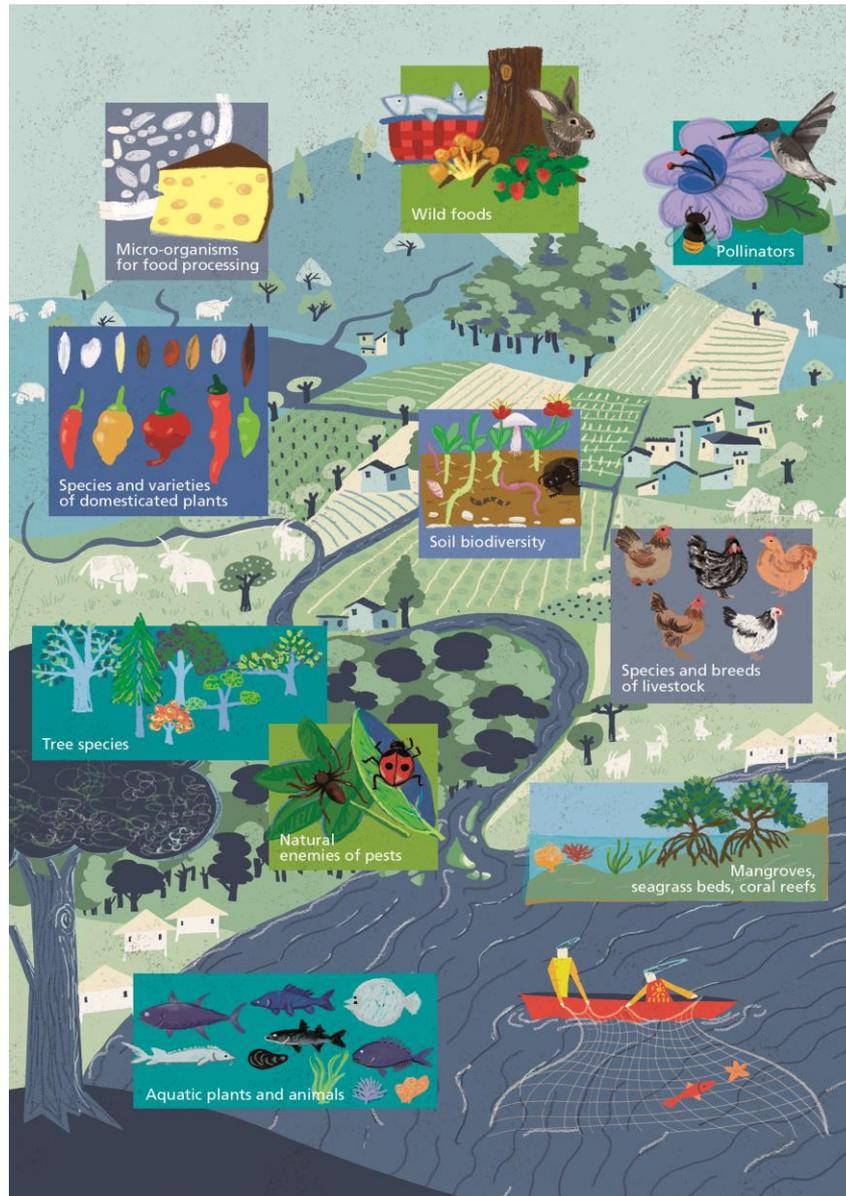


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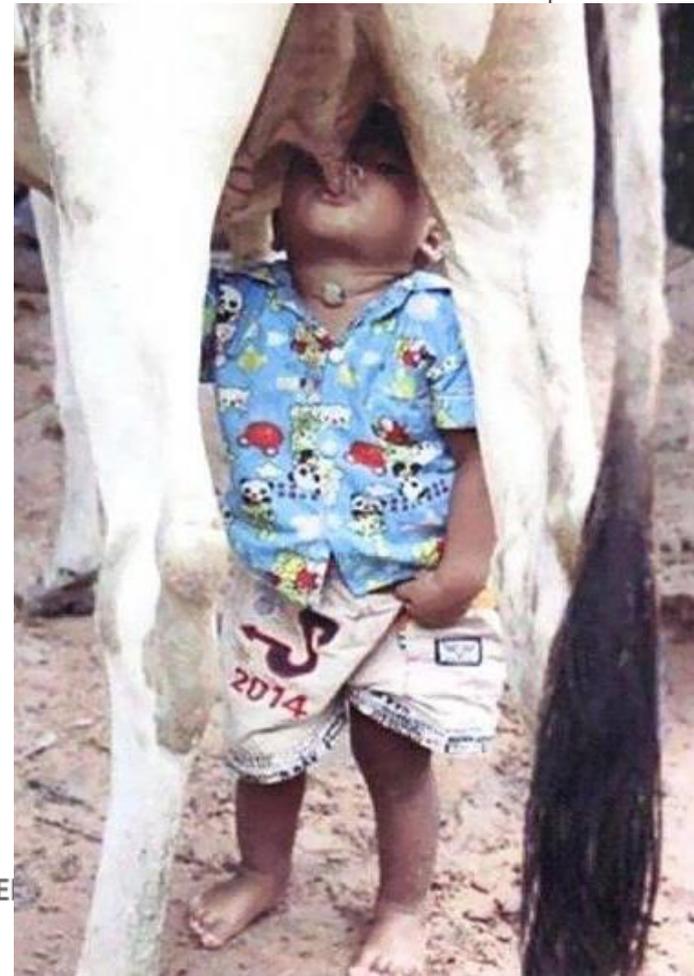
Biodiversity for food and agriculture



Biodiversity for food and agriculture is the variety of life at genetic, species and ecosystem levels that contributes to agriculture and food production.



Different production systems and functions





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The State of the World's Biodiversity for Food and Agriculture



Sources of information

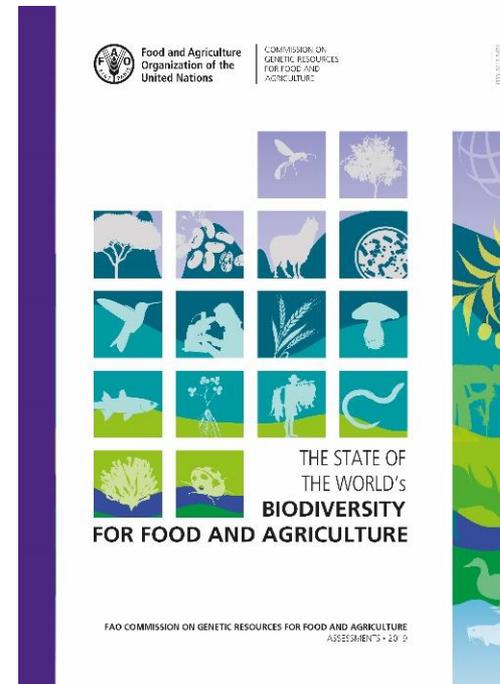
91 country reports, prepared by
over 1 300 contributors

27 reports from international
organizations

5 thematic studies

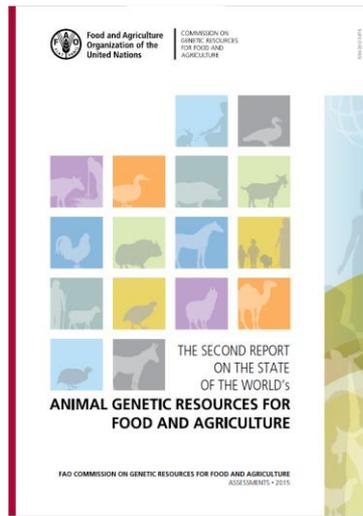
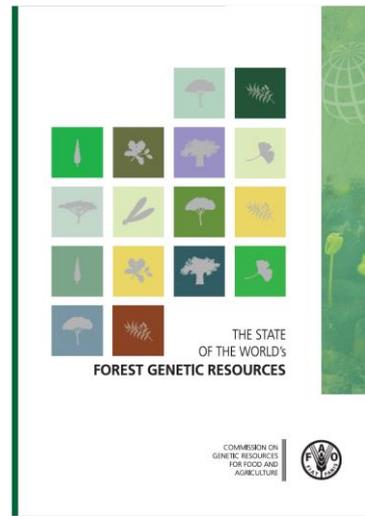
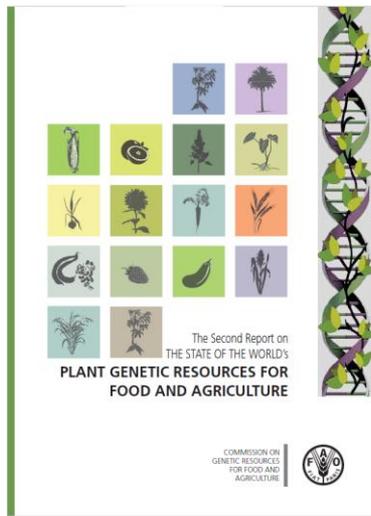
6 regional synthesis reports

Over 175 contributors and reviewers





State of the World Reports

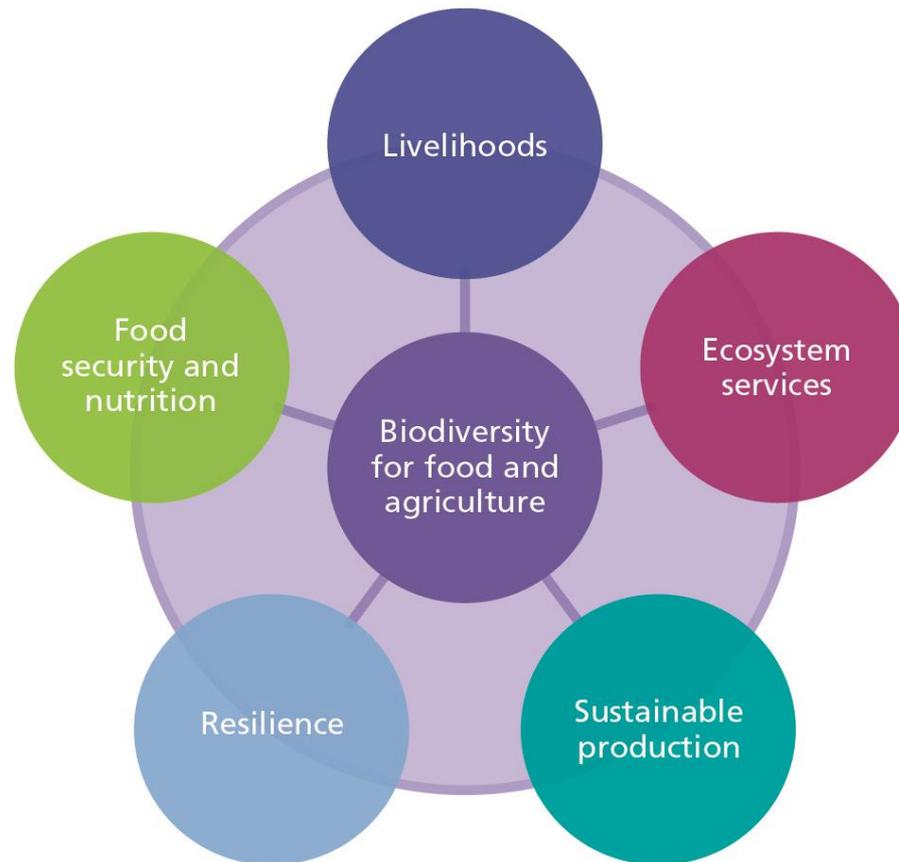




Key findings



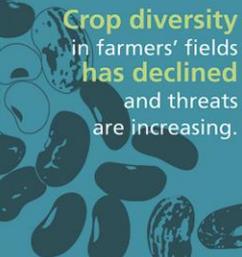
1. Biodiversity is essential to food and agriculture





2. Biodiversity for food and agriculture is declining

Crop diversity in farmers' fields **has declined** and threats are increasing.



Of **6 000** **plant species** that have been cultivated for food, **9 account** for **66% of total** crop production.



Of **7 745** extant **local breeds** of livestock reported globally, **26%** are classified as **at risk of extinction**.



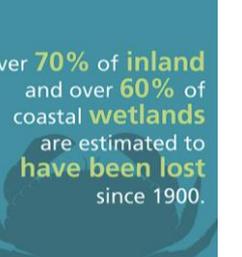
There are about **60 000** **tree species** globally.



694 species are reported to be used in **aquaculture**. **Global capture fisheries harvest over 1 800 species** of animals and plants.



Over **70%** of **inland** and over **60%** of coastal **wetlands** are estimated to **have been lost** since 1900.



The world's **mangrove area declined** by an estimated **20%** between 1980 and 2005. These vital ecosystems remain **widely threatened**.



Soil biodiversity is **under threat** in all regions of the world.



The IUCN Red List of Threatened Species contains **over 9 600** **wild food** species of which **20%** are considered **threatened**.



33% of **fish stocks** are estimated to be **overfished**, 60% to be maximally sustainably fished and 7% to be underfished.



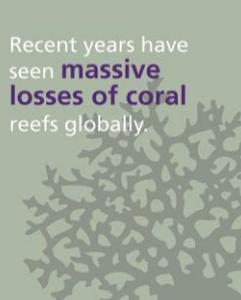
Many countries report **declines** in populations of **birds, bats and insects** that contribute to pest and disease regulation.



Bee-colony losses are on the rise; **17%** of vertebrate **pollinator species** are threatened with global **extinction**.



Recent years have seen **massive losses** of **coral** reefs globally.



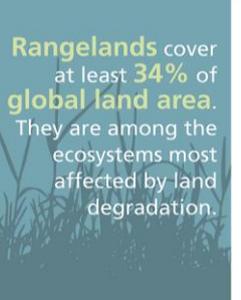
The global area covered by **seagrass** is estimated to have **declined** by **29%** in the last 100 years.



Global forest area continues to **decline**, although the rate of loss decreased by 50% in recent decades.



Rangelands cover at least **34%** of **global land area**. They are among the ecosystems most affected by land degradation.





3. Multiple interacting drivers of change are affecting biodiversity for food and agriculture

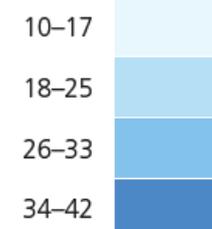
Drivers of change		Reported effect on biodiversity for food and agriculture
Economic and social	Population growth and urbanization	--
	Markets and trade	-
	Changing economic, sociopolitical and cultural factors	+ / -
Environmental drivers	Climate change	--
	Natural disasters	--
	Pests, diseases, invasive alien species	--
Drivers at production system level	Changes in land and water use and management	--
	Pollution and external inputs	--
	Overexploitation and overharvesting	--
Other	Advances and innovations in science and technology	+
	Policies	++



Reported effects of climate change on the provision of regulating and supporting ES, by production system

Production systems (PS)	Effects of climate change on ecosystem services								
	Pollination	Pest and disease regulation	Water purification and waste treatment	Natural-hazard regulation	Nutrient cycling	Soil formation and protection	Water cycling	Habitat provisioning	Production of oxygen/gas regulation
Livestock grassland-based systems	-	-	-	-	-	-	-	-	-
Livestock landless systems	-	-	-	-	-	-	-	-	-
Naturally regenerated forests	-	-	-	-	-	-	-	-	-
Planted forests	-	-	-	-	-	-	-	-	-
Self-recruiting capture fisheries	-	-	-	-	-	-	-	-	-
Culture-based fisheries	-	-	-	-	-	-	-	-	-
Fed aquaculture	+/-	-	-	-	-	-	-	-	-
Non-fed aquaculture	-	-	-	-	-	-	-	-	-
Irrigated crop systems (rice)	-	-	-	-	-	-	-	-	-
Irrigated crop systems (other)	-	-	-	-	-	-	-	-	-
Rainfed crop systems	-	-	-	-	-	-	-	-	-
Mixed systems	-	-	-	-	-	-	-	-	-

Proportion of countries reporting the PS that report any effect of the driver (%)



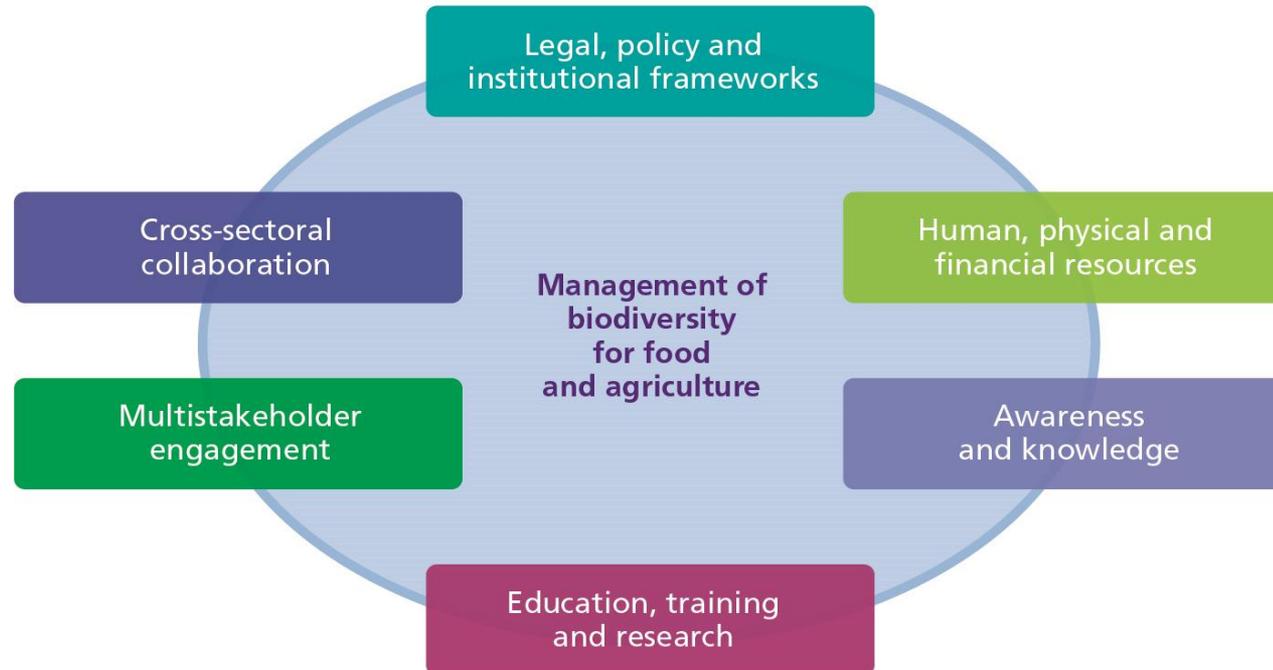
4. The use of many biodiversity-friendly practices is reported to be increasing

Management practices and approaches	Production systems (PS)												Proportion of countries reporting the PS that report any trends (%)
	Livestock grassland-based systems	Livestock landless systems	Naturally regenerated forests	Planted forests	Self-recruiting capture fisheries	Culture-based fisheries	Fed aquaculture	Non-fed aquaculture	Irrigated crop systems (rice)	Irrigated crop systems (other)	Rainfed crop systems	Mixed systems	
Landscape management	↗	↗	↗	↗					↗	↗	↗	↗	0-9
Ecosystem approach to fisheries					↗	↗	↗						10-19
Restoration	↗		↗	↗	↗				↗	↗	↗	↗	20-29
Diversification	↗	↗	↗	↗	↗	↗	↗		↗	↗	↗	↗	30-39
Home gardens	↗	↔	↗	↗					↗	↗	↗	↗	0-9
Agroforestry	↗	↗	↗	↗					↗	↗	↗	↗	10-19

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5. Enabling frameworks for the sustainable use and conservation of biodiversity for food and agriculture remain insufficient





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What needs to be done?



Address knowledge and data gaps



Support uptake of biodiversity-friendly management practices in all sectors



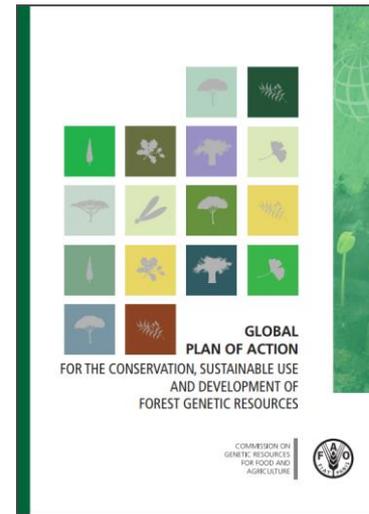
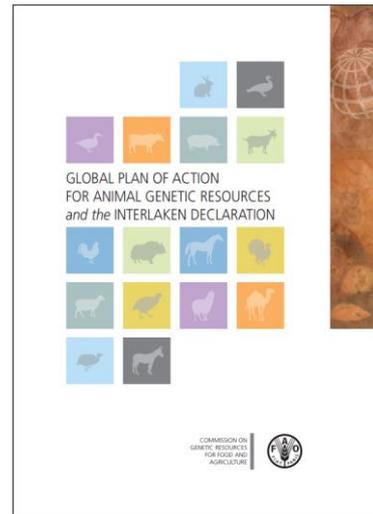
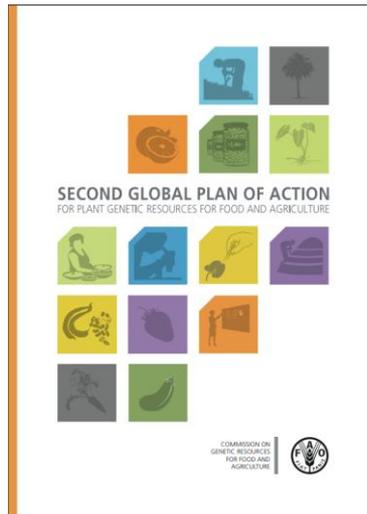
Tackle constraints to the establishment of effective *in situ* and *ex situ* conservation programmes



Improve cross-sectoral collaboration and multistakeholder engagement and cooperation in the management of BFA



Global Plans of Action





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Thank you!

Full report at:

<http://www.fao.org/cgrfa/topics/biodiversity/sowbfa/en>

