



Food and Agriculture
Organization of the
United Nations

A woman wearing a red headscarf and a patterned green and brown dress is standing at a fruit market stall. She is holding a bunch of dark purple grapes and appears to be inspecting or preparing them. The stall is filled with various fruits, including several crates of peaches, bunches of green and dark grapes, and several large watermelons in the foreground. The background shows a white canopy of the market.

**DELIVERING ON THE
KUNMING-MONTREAL GLOBAL
BIODIVERSITY FRAMEWORK
THROUGH AGRIFOOD SYSTEMS**

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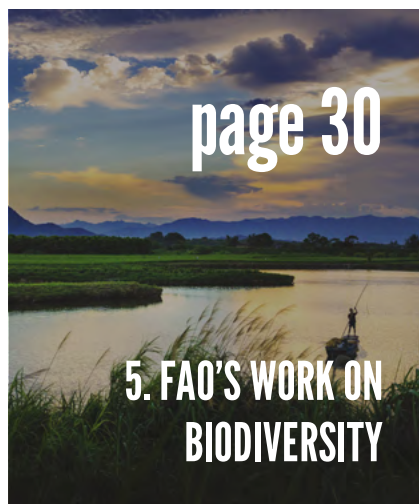
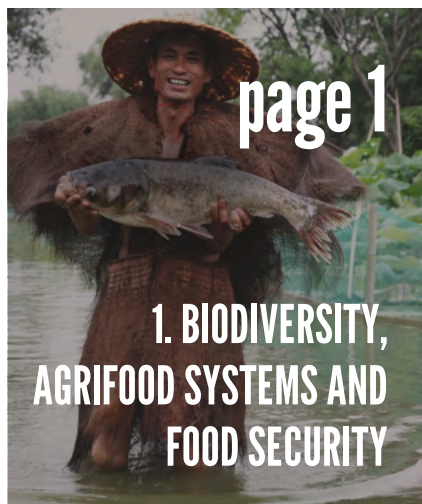
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Cover photograph: Kyrgyzstan. Roadside fruit seller © FAO/Vyacheslav Oseledko



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1. BIODIVERSITY, AGRIFOOD SYSTEMS AND FOOD SECURITY

China. Huzhou mulberry-dyke and fish pond © GIAHS

Biological diversity (also referred to as biodiversity) is [defined](#) as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems”.

Agrifood sectors – crop and livestock production, forestry, fisheries and aquaculture – depend on biodiversity as the foundation for sustainable production, ensuring long-term food

security and nutrition for all.

Biodiversity encompasses the many species, varieties and breeds directly used for food, fuel and fibre. It includes the species that play critical roles in ecosystem functions and services, such as the pollinators that increase crop yields, and the species that help control pests, contribute to healthy soils, or provide oxygen, food or habitats for harvested fish species. It also includes the genetic diversity within all the species that support food and agricultural production.



MANAGERS OF BIODIVERSITY

Farmers, livestock keepers, forest dwellers, fish farmers and fisherfolk are managers and custodians of biodiversity.

Smallholders with less than 2 hectares operate only around **12 percent** of all agricultural land, and produce roughly **35 percent** of the world's food.

These producers often have vast knowledge about biodiversity and its importance in our food supply.

Even though Indigenous Peoples constitute only around **6 percent** of the global population, they manage or have tenure rights over around **40 percent** of the planet's protected areas and ecologically intact landscapes (excluding Antarctica).



BURUNDI

Women working in a communal garden using sustainable soil management and improved seeds.
© FAO/Giulio Napolitano/





PERU

*Female farmer
and young son
showcasing yield,
Andean agriculture,
Cusco-Puno
Corridor*
© FAO/Jeremy
Cornejo





PEOPLE DEPEND ON AGRIFOOD SYSTEMS

3.83 billion people, many of whom belong to poor and rural populations, depend on agrifood systems for their livelihoods.



Food



Feed



Fibre

Everyone depends on these systems for food, fuel, timber and fibre.

IN 2023, UP TO

757 MILLION
people

worldwide faced hunger.

2.8 BILLION
people

could not afford a healthy diet.

2.6 BILLION
people

were overweight or obese, mainly because of bad diets.

THE VALUE OF AGRICULTURAL PRODUCTION (**USD 5.2 TRILLION IN 2022**) HAS INCREASED MORE THAN THREEFOLD SINCE 2000.





AGRIFOOD SYSTEMS DEPEND ON BIODIVERSITY

**AT LEAST
50 000**

[wild species](#) are used globally for food, energy, medicine, materials and other purposes through fishing, gathering, hunting and logging.



food



medicine



energy



materials

**OVER
450**

[species](#) are managed to help supply ecosystem services supporting food production – e.g. for pollination and pest control – with far more unmanaged species also essential to these services.

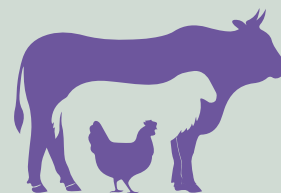
35 PERCENT

of crop production depends to some degree on animal pollinators, such as bees, birds and bats.

The value of pollinators' contributions to global crop output is estimated to be [USD 235–577 billion](#) annually.



**AROUND
8 800**



[livestock breeds](#) are used for food and agriculture, many with unique characteristics that can contribute to meeting challenges related to climate change.



SYRIAN ARAB REPUBLIC

*Livestock as a
mean to empower
women's vulnerable
crisis-affected
households*

© FAO/Alessandra
Benedetti





2. BIODIVERSITY LOSS AND AGRIFOOD SOLUTIONS

Colombia. Deforestation in the Mairipán region © FAO/Felipe Rodríguez

Biodiversity, including the species, genetic and ecosystem diversity, that supports food and agriculture, is declining globally.

The primary drivers of biodiversity loss – land-use change, climate change, pollution, overexploitation of wild species and the spread of invasive species – can all be linked to unsustainable agricultural practices.

On the other hand, the transformation of agrifood systems can contribute to the conservation, restoration, and sustainable use of biodiversity while also achieving synergies with climate change mitigation and adaptation, land restoration, and efforts to improve food security and nutrition.



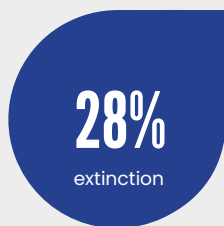
BIODIVERSITY FOR FOOD AND AGRICULTURE IS IN DECLINE



As much as
95 PERCENT
of global food production
depends on soil.



Yet, over
ONE-THIRD
of land is moderately to highly degraded.



At least
28 PERCENT
of local breeds of livestock are at risk of extinction (61 percent have unknown risk status).

420 MILLION
hectares of land were deforested between 1990 and 2020.

38 PERCENT
of global fish stocks are overexploited, up from 10 percent in 1974.



Between 2000 and 2018, almost 90 percent was related to agriculture expansion (50 percent for cropland and 38 percent for livestock grazing).



AGRIFOOD SYSTEMS CAN BE PART OF THE SOLUTION TO THE BIODIVERSITY AND CLIMATE CRISES

Agricultural diversification can have a [highly positive impact](#) on biodiversity, and preliminary evidence indicates that it has potential to increase food security for [over 1 BILLION people](#) and resilience to climate change for [over 25 MILLION people](#).

Agroforestry can provide [major benefits](#) for biodiversity, increase food security for those living on degrading land, [reduce soil erosion](#) by **50 PERCENT**, [increase soil carbon](#) by **21 PERCENT** and [increase soil nitrogen](#) for crops by **46 PERCENT**.

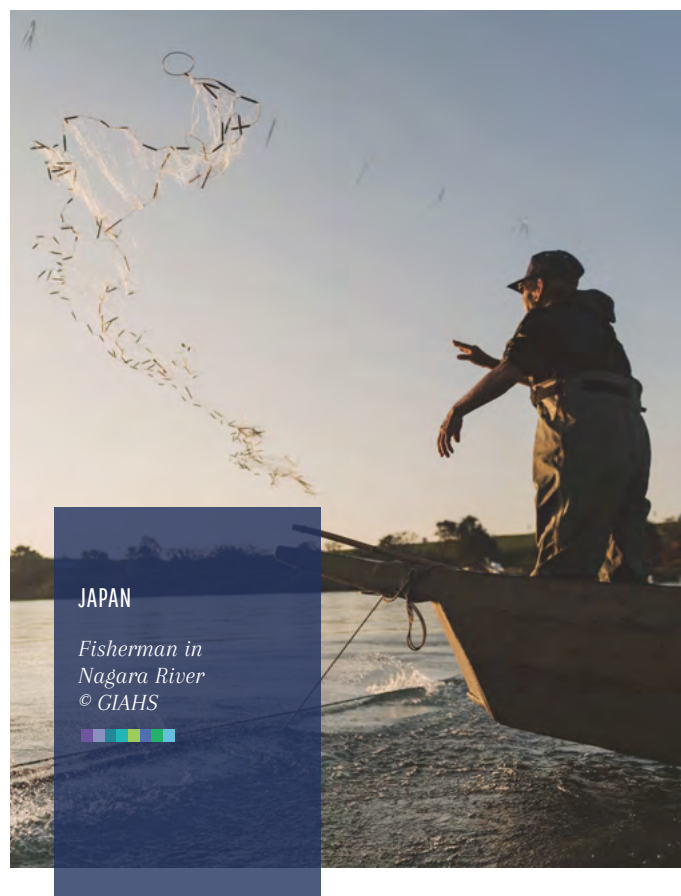




Rebuilding overfished stocks could increase fisheries production by **16.5 MILLION TONNES** per year and increase annual value by an estimated at **USD 32-83 BILLION**.

This would also increase the contribution of marine fisheries to coastal communities and their food security, nutrition, economies, livelihoods and well-being.

Interventions in coastal and marine ecosystems have the potential to mitigate **1.4 GIGATONNES** of CO₂ equivalent per year.





Reducing post-harvest food loss has the potential to deliver food security for **1 BILLION** [people](#), mitigate **4.5 GIGATONNES** of [CO₂ equivalent per year](#) and help to reverse biodiversity loss by freeing up land and ocean resources that can be used to protect biodiversity – [making a substantial contribution](#) to addressing the biodiversity crisis.

Reducing food waste (at the consumer or retail level) can help avoid habitat loss caused by agricultural expansion, and has the potential to increase food security for **0.7–1 BILLION** [people](#) and mitigate another **4.5 GIGATONNES** of [CO₂ equivalent per year](#).





3. THE KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

Mexico. Ich Kool: Mayan milpa of the Yucatan Peninsula © Ivan Lowenberg

In response to the accelerating loss of biodiversity, 196 parties adopted the [Kunming-Montreal Global Biodiversity Framework \(KMGBF\)](#) at the fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) (COP15) in 2022.

The framework sets out an ambitious roadmap for a world living in harmony with nature and includes four goals for

2050 and 23 targets for 2030 (Table 1, page 13).

The targets are clustered into three groups:

- ✓ reducing threats to biodiversity;
- ✓ meeting people's needs through sustainable use and benefit-sharing; and
- ✓ tools and solutions for implementation and mainstreaming.



TABLE 1. GOALS AND TARGETS OF THE KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

GOALS	<p>A</p> <p>Increase the area of natural ecosystems by 2050; Halt human-induced extinction, reduce extinction rate</p>	<p>B</p> <p>Use and manage biodiversity sustainably; Enhance nature's contribution to people</p>	<p>C</p> <p>Share benefits from genetic resources & traditional knowledge fairly and equitably with Indigenous People and local communities</p>	<p>D</p> <p>Secure adequate means of implementation and make them accessible to all parties</p>
TARGETS	<p>Reducing threats to biodiversity</p> <ul style="list-style-type: none"> 1 Plan and manage all areas to reduce biodiversity loss 2 Restore 30 percent of all degraded ecosystems 3 Conserve 30 percent of land, waters and seas 4 Halt species extinction, protect genetic diversity, and manage human-wildlife conflicts 5 Ensure sustainable, safe and legal harvesting and trade of wild species 6 Reduce the introduction of invasive alien species by 50 percent and minimize their impact 7 Reduce pollution to levels that are not harmful to biodiversity 8 Minimize the impacts of climate change on biodiversity and build resilience 	<p>Meeting people's needs through sustainable use and benefit-sharing</p> <ul style="list-style-type: none"> 9 Manage wild species sustainably to benefit people 10 Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry 11 Restore, maintain and enhance nature's contributions to people 12 Enhance green spaces and urban planning for human well-being and biodiversity 13 Increase the sharing of benefits from genetic resources, digital sequence information and traditional knowledge 	<p>Tools and solutions for implementation and mainstreaming</p> <ul style="list-style-type: none"> 14 Integrate biodiversity in decision-making at every level 15 Businesses assess, disclose and reduce biodiversity-related risks and negative impacts 16 Enable sustainable consumption choices to reduce waste and overconsumption 17 Strengthen biosafety and distribute the benefits of biotechnology 18 Reduce harmful incentives by at least USD 500 billion per year, and scale up positive incentives for biodiversity 19 Mobilize USD 200 billion per year for biodiversity from all sources, including USD 30 billion through international finance 20 Strengthen capacity-building, technology transfer, and scientific and technical cooperation for biodiversity 21 Ensure that knowledge is available and accessible to guide biodiversity action 22 Ensure participation in decision-making and access to justice and information related to biodiversity for all 23 Ensure gender equality and a gender-responsive approach for biodiversity action 	



THE CONVENTION ON BIOLOGICAL DIVERSITY

The [Convention on Biological Diversity \(CBD\)](#) is a multilateral treaty signed in Rio de Janeiro in 1992. It was adopted alongside the [United Nations Framework Convention on Climate Change](#) and the [United Nations Convention to Combat Desertification](#), which together form the three Rio Conventions.

The CBD has three objectives:

- (i) the conservation of biological diversity;
- (ii) the sustainable use of its components; and
- (iii) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The [Kunming-Montreal Global Biodiversity Framework](#) is the latest in a series of global conservation agreements under the CBD, with earlier examples including the Strategic Plan for Biodiversity 2011–2020 and its 20 [Aichi Biodiversity Targets](#).



Kunming-Montreal
GLOBAL BIODIVERSITY FRAMEWORK



ECUADOR

*Amazonian
Chakra, FAO-
GIAHS recognized
agroforestry system,
© FAO-GIAHS/
PARETO PAYSAGES*





AGRIFOOD SYSTEMS IN THE KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

Agrifood systems are directly related to more than half the targets of the Kunming–Montreal Global Biodiversity Framework and to all the other targets in one way or another. This ranges from the targets on ecosystem restoration, invasive alien species and pollution to those addressing genetic resources for food and agriculture, soil health and pollination.

Target 10, for example, commits countries to managing areas under agriculture, aquaculture, fisheries and forestry sustainably, including through the sustainable use of biodiversity and a substantial increase in the application of biodiversity-friendly practices.

TARGET 10

Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry

Attaining this target will be facilitated by actions taken to promote the achievement of the other targets in agrifood systems.

Agrifood sectors therefore have an important role to play in the planning, implementation and monitoring of the actions that need to be taken in order to meet the targets of the Kunming–Montreal Global Biodiversity Framework.

Table 2 (page 20) provides a brief overview of how each target is related to agrifood sectors.



BIODIVERSITY-FRIENDLY PRACTICES

Biodiversity-friendly practices are practices and approaches in crop and livestock production, forestry, fisheries and aquaculture that promote the conservation and sustainable use of biodiversity. Practices and approaches that can, in some contexts, be considered “biodiversity friendly” include:

Agroecology: an integrated approach that seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system.

Agroforestry: land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals.

Ecosystem approach to fisheries (or aquaculture): an approach that strives to balance diverse societal objectives by taking account of the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries

Integrated pest management: includes measures that discourage the development of pest populations, and combines biological, chemical, physical and crop specific (cultural) management strategies and practices to grow healthy crops and minimize the use of pesticides.

Organic agriculture: promotes and enhances agroecosystem health, emphasizing the use of management practices in preference to the use of off-farm and synthetic inputs.

Sustainable forest management: considers seven thematic elements: extent of forest resources; forest biodiversity; forest health and vitality; productive functions of forest resources; protective functions of forest resources; socio-economic functions of forests; and legal, policy and institutional framework.

Sustainable soil management: maintains or enhances soil functions that enable the ecosystem services the soil provides, including for water and nutrient quality and availability, and for carbon sequestration.

For more information, see Chapter 5 of [The State of the World's Biodiversity for Food and Agriculture](#).



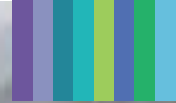
PLANNING, IMPLEMENTATION AND MONITORING

Countries are expected to submit revised and updated [National Biodiversity Strategies and Action Plans](#) (NBSAPs) in alignment with the goals and targets of the Kunming-Montreal Global Biodiversity Framework. Countries, must also submit National Reports to

assess and monitor progress in the implementation of their NBSAPs.

Parties to the CBD have adopted a monitoring framework that includes 26 mandatory headline indicators, and over 200 recommended ones to be used in National Reports.





4. KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK TARGETS AND AGRIFOOD SYSTEMS

The Kunming-Montreal Global Biodiversity Framework (KMGBF) is designed to engage everyone – the whole of government and the whole of society.

The full participation and involvement of agrifood stakeholders will be essential to its success.

The following table illustrates some of the links between the Kunming-Montreal Global Biodiversity Framework targets and agrifood systems. It is not intended to be exhaustive.

For a full description of the targets please consult the CBD's [guidance notes](#) on them.



TABLE 2. KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK TARGETS (KMGBF) AND AGRIFOOD SYSTEMS

KMGBF ARGET	LINKAGES WITH AGRIFOOD SYSTEMS
REDUCING THREATS TO BIODIVERSITY	
<p>1 Plan and manage all areas to reduce biodiversity loss</p>	<p>Biodiversity is threatened both by agricultural expansion and by unsustainable practices within areas already used for crop or livestock production, fisheries, aquaculture or forestry.</p> <p>Integrated land- and sea-use planning is a key way of balancing production with the conservation, restoration and sustainable use of biodiversity. For example, it can identify the areas most suitable for implementing particular practices and approaches (e.g. where restoration could support a return to a productive state), optimize multifunctionality (e.g. by identifying how synergies and trade-offs between food production and other objectives can best be managed), and identify areas where conversion of natural habitats to agricultural production should be avoided (e.g. because it would have major impacts on biodiversity or carbon storage).</p>
<p>2 Restore 30 percent of all degraded ecosystems</p>	<p>It is estimated that <u>one-third</u> of land used for food, fibre and feed production is degraded, and worsening trends in land degradation affect the livelihoods of <u>1.3 to 3.2 billion people</u>. The <u>rate</u> of degradation of inland water and marine and coastal ecosystems is also increasing.</p> <p>The restoration of ecosystems used for crop and livestock production, forestry, fishing and aquaculture provides an opportunity to return them to healthy and stable states in which they are able to support human needs for sustainable food production and livelihoods, and to optimize interactions between plants, animals, microorganisms, humans and the environment.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
REDUCING THREATS TO BIODIVERSITY	
<p>3 Conserve 30 percent of land, waters and seas</p>	<p>A range of protected and conserved areas are of particular significance for agrifood systems, including areas that have been designated as Globally Important Agricultural Heritage Systems, World Heritage Sites and Wetlands of International Importance. The interaction between people and biodiversity over time in such locations has produced distinct agroecosystems with significant ecological, biological, cultural and scenic value.</p> <p>Protected and conserved areas can deliver a range of ecosystem services essential to agrifood systems. The flow of benefits, however, depends on how effectively the areas are managed, how well they are integrated with surrounding landscapes and seascapes, and whether or not they are supported by local communities.</p>
<p>4 Halt species extinction, protect genetic diversity, and manage human-wildlife conflicts</p>	<p>A vast number of wild and domesticated species are found in and around farms, pasturelands, forests, fish farms and fisheries. This diversity – and the genetic variability within these species, e.g. breeds varieties and strains of domesticated livestock crops and aquaculture species – is indispensable for the resilience of agrifood systems and their adaptation to new conditions, including to climate change. There is an urgent need to reduce threats to species and genetic diversity – including threats associated with agrifood systems – and to strengthen <i>in situ</i> and <i>ex situ</i> conservation measures.</p> <p>In addition, effective approaches for managing human-wildlife conflicts, for example destruction of crops and attacks on livestock by wildlife, are needed – and can benefit both food security and conservation.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
REDUCING THREATS TO BIODIVERSITY	
<p>5 Ensure sustainable, safe and legal harvesting and trade of wild species</p>	<p>Over 50 000 wild species are harvested as human food or for other purposes, making a significant contribution to food security, nutrition and livelihoods. Unsustainable harvesting and trade of such species can be a threat to their survival and to the benefits they provide to people (see Target 9).</p> <p>Achieving this target in agrifood systems requires the elimination of Illegal, Unreported and Unregulated (IUU) fishing, which threatens marine ecosystems by undermining efforts to manage fisheries sustainably. In the case of wild meat, approaches can include improving how wildlife hunting is regulated, increasing the supply of sustainably produced alternatives, strengthening the management capacities of Indigenous Peoples and local communities, and reducing demand for wild meat.</p>
<p>6 Reduce the introduction of invasive alien species by 50 percent and minimize their impact</p>	<p>Agrifood systems are increasingly suffering the negative effects of invasive alien species. However, they also contribute to their spread – particularly through trade. Outbreaks of non-native pests can have devastating effects on harvests, especially as there may be no natural enemies present that can control their populations.</p> <p>Efforts to prevent the introduction of alien species that may become invasive need to be strengthened, for example by improving border controls, and to eradicate or control those that have become invasive. One option that can sometimes be deployed is to develop value chains for the sustainable harvesting and trade of the invasive alien species. This can both provide livelihood opportunities and help to control the species.</p>



KMGFB TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
REDUCING THREATS TO BIODIVERSITY	
<p>7 Reduce pollution to levels that are not harmful to biodiversity</p>	<p>Agrifood systems both contribute to pollution and are vulnerable to its impacts. They are crucial to the achievement of this target, which includes components related to reducing excess loss of nutrients in the environment, for example those arising from fertilizer use, by at least half, reducing the overall risk from pesticides and highly hazardous chemicals by at least half, including through integrated pest management, and preventing, reducing and working towards eliminating pollution.</p> <p>Integrated pest management includes techniques that discourage the development of pest populations by combining biological, chemical, physical and crop-specific (cultural) management practices to minimize pesticide use.</p>
<p>8 Minimize the impacts of climate change on biodiversity and build resilience</p>	<p>Climate change is a driver of both biodiversity loss and food insecurity. Agrifood systems contribute approximately <u>one-third</u> of global anthropogenic greenhouse gas emissions and are highly vulnerable to the impacts of climate change.</p> <p>While several of the climate adaptation and mitigation strategies that can be implemented in agrifood systems have the potential to contribute to biodiversity loss (e.g. irrigation strategies involving building dams or increasing water abstraction, and introduction of potentially invasive species), there are also many biodiversity-friendly practices and approaches that can <u>contribute</u> to climate change mitigation and adaptation.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
MEETING PEOPLE'S NEEDS THROUGH SUSTAINABLE USE AND BENEFIT-SHARING	
<p>9 Manage wild species sustainably to benefit people</p>	<p>Management of wild species in agrifood systems directly contributes to people's wellbeing, food security and nutrition. In addition to the species targeted by capture fisheries, which produced 92.3 million tonnes of fish in 2022, a wide range of wild plants, fungi and animals are consumed by people around the world. Many are rich in micronutrients and help make diets more balanced and nutritious. Wild species are also used for energy, medicine, materials and other purposes. At least 3.5 billion people use non-wood forest products, and forests contribute to the nutrition of many communities by providing diverse food sources.</p> <p>There is a need to ensure that all harvesting of wild species is done sustainably and that their ecosystem roles are accounted for in the management of agrifood systems.</p>
<p>10 Enhance biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry</p>	<p>Meeting increasing demand for food, feed and fibre will accelerate biodiversity loss unless sustainable management is widely implemented. At the same time, the decline of biodiversity threatens efforts to improve food security and the resilience, efficiency and productivity of agrifood systems.</p> <p>Achieving this target depends on substantially increasing the application of biodiversity-friendly practices, such as sustainable intensification, diversification, agroecology and other innovative approaches, in crop and livestock production, forestry, fisheries and aquaculture. This can be supported by capacity development, strengthening relevant legal, policy and incentive frameworks and improving cooperation between sectors. Actions could be guided by the Framework for Action on Biodiversity for Food and Agriculture.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
MEETING PEOPLE'S NEEDS THROUGH SUSTAINABLE USE AND BENEFIT-SHARING	
<p>11 Restore, maintain and enhance nature's contributions to people</p>	<p>Biodiversity within agrifood systems provides numerous benefits to people, including regulation of air, water and climate, crop pollination and reduction of disease risk.</p> <p>Pollinators, for example, are essential for the production of fruits, vegetables and oilseeds, as well as seeds for many root and fibre crops. Better management of pollination can increase yields by 24 percent. Soil biodiversity is essential for soil formation, nutrient cycling, water filtration, carbon sequestration, pest and disease control, and decontamination of polluted soils.</p> <p>The capacity of biodiversity to fulfil these roles is widely under threat and can be greatly affected – for better or worse – by activities within the agrifood sector. Numerous biodiversity-friendly practices that could help address these problems exist and could be more widely adopted.</p>
<p>12 Enhance green spaces and urban planning for human well-being and biodiversity</p>	<p>By 2050, it is expected that 70 percent of the global population will be living in urban areas and thus at risk of becoming isolated from nature and the benefits to health and well-being associated with access to green spaces. At the same time, the need to meet growing urban food demand has meant that many cities have identified the importance of promoting local food production and improving access to locally produced food, including through urban agriculture. There is also increasing interest in urban forestry and the various benefits that trees can provide in urban settings. The agrifood sector therefore has an important role to play in efforts to make cities greener and more biodiverse.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
MEETING PEOPLE'S NEEDS THROUGH SUSTAINABLE USE AND BENEFIT-SHARING	
<p>13 Increase the sharing of benefits from genetic resources, digital sequence information and traditional knowledge</p>	<p>The sharing of benefits that arise from the utilization of genetic resources is one of the three objectives of the CBD. The special features of genetic resources for food and agriculture, including their roles in food security, are widely acknowledged as factors that need to be accounted for in benefit-sharing arrangements. Appropriate access and benefit-sharing arrangements for digital sequence information (DSI) and traditional knowledge associated with genetic resources for food and agriculture are also needed.</p> <p>Key mechanisms in this field include the International Treaty on Plant Genetic Resources for Food and Agriculture's Multilateral System of Access and Benefit-sharing, which provides a transparent and reliable framework for facilitated exchange of crop genetic resources for research, training and breeding.</p>
TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING	
<p>14 Integrate biodiversity in decision-making at every level</p>	<p>In recent years, the need to integrate biodiversity-related concerns into the decisions taken by public-and private-sector actors (in other words to “mainstream” biodiversity) has received increasing global attention.</p> <p>Given the many links between agrifood systems and biodiversity, these systems are key targets for biodiversity mainstreaming. There is a need to ensure that biodiversity and its multiple values are accounted for in food and agricultural policies, regulations and planning instruments, and to identify specific biodiversity-relevant targets with indicators for monitoring progress.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING	
<p>15 Businesses assess, disclose and reduce biodiversity-related risks and negative impacts</p>	<p>Agrifood businesses, in particular large and transnational companies and financial institutions, often have major impacts on biodiversity. Improving monitoring, assessment and disclosure processes related to businesses' dependencies and impacts on biodiversity and the resulting risks and opportunities has significant potential to benefit biodiversity. Making information available to consumers on the impacts that business practices have on biodiversity can also support sustainable consumption (see Target 16).</p>
<p>16 Enable sustainable consumption choices to reduce waste and overconsumption</p>	<p>Unsustainable consumption, overconsumption and waste are major problems in agrifood systems and have major impacts on biodiversity. For example, approximately 13 percent of the world's food is lost between harvest and the shops, and a further 19 percent (worth more than USD 1 trillion a year) is wasted in retail and by consumers. The resources used to produce this food (water, land, energy, nutrients, etc.) are wasted, exacerbating the biodiversity crisis.</p> <p>There are many opportunities in agrifood production and supply systems to affect the choices available to consumers and the likelihood that waste and overconsumption will occur. At the same time, agrifood systems respond to consumer demands, and thus consumption choices have the potential to drive shifts towards more sustainable systems.</p>
<p>17 Strengthen biosafety and distribute the benefits of biotechnology</p>	<p>This target addresses the need to strengthen measures related to the regulation, management and control of risks associated with the use and release of living modified organisms resulting from the use of biotechnology, as well as measures related to participation in biotechnological research and to the distribution of benefits arising from biotechnologies based on genetic resources. Numerous biotechnologies have actual or potential applications in agrifood systems, and there is a need to ensure that harmful impacts are avoided and that benefits are distributed equitably.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING	
<p>18 Reduce harmful incentives by at least USD 500 billion per year, and scale up positive incentives for biodiversity</p>	<p>Repurposing agricultural subsidies represents a multibillion-dollar opportunity to transform agrifood systems. Support to agricultural producers currently accounts for almost USD 540 billion annually, and the majority goes towards measures that are harmful to the environment. Phasing out harmful subsidies provides an opportunity to redirect resources towards investments that support positive biodiversity outcomes in agrifood systems.</p> <p>Given the complex trade-offs with other policy areas, any strategy for repurposing agricultural support requires systematic assessment to ensure policy coherence across the food supply chain and in the intersection with other systems. A transparent and multistakeholder approach is also vital.</p>
<p>19 Mobilize USD 200 billion per year for biodiversity from all sources, including USD 30 billion through international finance</p>	<p>The costs of reversing biodiversity loss and delivering food security are not covered by existing domestic, private and international finance available for these purposes. For example, the cost of reversing biodiversity loss is predicted to reach USD 711 billion per year by 2030.</p> <p>Action can be supported by international financial mechanisms such as the Global Environmental Facility and the Green Climate Fund. However, despite the significant potential of agrifood solutions to reduce biodiversity loss, only 22.7 percent of aid activities targeting biodiversity objectives was directed to agricultural sectors in 2022.</p>
<p>20 Strengthen capacity-building, technology transfer, and scientific and technical cooperation for biodiversity</p>	<p>Shortages of trained personnel and technical resources are a major obstacle to efforts to improve the conservation, restoration and sustainable use of biodiversity in agrifood systems. Many countries will need to strengthen research, education and training, and develop a strong and diverse skills base, including in taxonomy and through citizen science.</p> <p>To catalyse the transition towards more sustainable agrifood systems, capacity-building efforts need to reach farmers, fisherfolk, fish farmers, livestock keepers and forest-dependent people (including small-scale producers in all cases) as well as Indigenous Peoples and local communities, women and youth.</p>



KMGBF TARGET	LINKAGES WITH AGRIFOOD SYSTEMS
TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING	
<p>21 Ensure that knowledge is available and accessible to guide biodiversity action</p>	<p>Data, information and knowledge on the biodiversity that underpins agrifood systems are essential to its conservation, restoration and sustainable use. However, significant knowledge gaps remain, particularly with regard to the biodiversity that provides regulating and supporting ecosystem services and to wild foods. These gaps limit the comprehensiveness of national and global biodiversity assessments, hinder the evaluation of policies and practices, and constrain evidence-based policy development. Access to traditional knowledge from Indigenous Peoples and local communities should only be accessed with their Free, Prior and Informed Consent.</p>
<p>22 Ensure participation in decision-making and access to justice and information related to biodiversity for all</p>	<p>This target relates to constraints to the participation of Indigenous Peoples and local communities, women and girls, children, youth and persons with disabilities in biodiversity-related decision-making. It also addresses factors that limit their access to biodiversity-related justice and information.</p> <p>Action in agrifood systems is vital to the achievement of this target. For example, many of the world's Indigenous Peoples live in rural areas, are heavily dependent on agrifood systems and play important roles in the conservation, restoration and sustainable use of biodiversity. Representation and participation in decision-making, and access to justice and information, can help overcome the significant disadvantages they face in agrifood systems, including those related to poor working conditions, discrimination and inadequate access to resources.</p>
<p>23 Ensure gender equality and a gender-responsive approach for biodiversity action</p>	<p>Globally, 36 percent of working women are employed in agrifood systems. Women generally have marginal roles, low wages and low-skilled and labour-intensive jobs, and are less likely to own land or have secure land-tenure rights. This inequality creates a 24 percent gap in productivity between women and men farmers on farms of equal size. Rural women, as food providers and producers, hold unique knowledge of genetic resources, local species, and ecosystems from centuries of experience.</p> <p>Ensuring gender equality and a gender-responsive approach in the implementation of the Kunming-Montreal Biodiversity Framework has the potential to enhance biodiversity outcomes. At the same time, it could help close the gender gap in farm productivity and the wage gap in agrifood systems, an outcome that would increase global gross domestic product by 1 percent (or nearly USD 1 trillion).</p>



AZERBAIJAN

*Bees pollinating
sunflower*
© FAO/Javid
Curbanov





5. FAO'S WORK ON BIODIVERSITY

Guided by its [195 Members](#), FAO works globally, regionally and in over 130 countries to achieve food security and enhance nutrition for all.

In its efforts to realize this vision, FAO's projects, programmes and knowledge products help countries to sustainably use, conserve and restore biodiversity in agrifood systems.



FAO STRATEGY ON BIODIVERSITY

In 2019, FAO adopted its [Strategy on Mainstreaming Biodiversity across Agricultural Sectors](#), which aims to reduce the negative impacts of agriculture on biodiversity and promote sustainable agricultural practices and the conservation, enhancement, preservation and restoration of biodiversity.

The [Action Plan 2024–2027](#) for the implementation of the strategy guides FAO's work on biodiversity and is fully aligned with the Kunming-Montreal Global Biodiversity Framework.



BANGLADESH

Majeda Begum, mud
crab farmer
© FAO/Masudur
Rahaman





THAILAND

*Goldband fusilier
over coral reefs*
© FAO/Sirachai
Arunrugstichai





FAO INTERGOVERNMENTAL PROCESSES ADDRESSING BIODIVERSITY

FAO hosts a number of bodies related to biodiversity, including:

The **International Plant Protection Convention**:

a multilateral treaty that addresses the application of phytosanitary measures by governments to protect their plant resources from harmful pests introduced through international trade.



The **International Treaty on Plant Genetic Resources for Food and Agriculture**:

a multilateral treaty under which countries are helped to develop sustainable agriculture approaches. Farmers and researchers are helped to adapt crops to the effects of climate change with the aim of achieving food security for all.



The **Commission on Genetic Resources for Food and Agriculture**:

an intergovernmental body that specifically addresses biological diversity for food and agriculture. In response to the report on [The State of the World's Biodiversity for Food and Agriculture](#), FAO adopted in 2022 the [Framework for Action on Biodiversity for Food and Agriculture](#). The implementation of this framework will directly contribute to the achievement of all the food and agriculture-related targets of the Kunming-Montreal Global Biodiversity Framework.





FAO AND THE INTERNATIONAL BIODIVERSITY AGENDA

FAO supports the implementation of the CBD, including through:

1 NEGOTIATIONS

Providing knowledge and technical support for negotiations



2 NATIONAL POLICY PROCESSES

Including assisting in the implementation of the Kunming-Montreal Global Biodiversity Framework and the development and implementation of NBSAPs, aligned with national agrifood policies.



3 MONITORING AND REPORTING

Supporting the development and use of indicators for the Biodiversity Plan at global and national levels and facilitating global reporting on progress.





FAO IN ACTION

[FAO's field-level programmes and projects](#) in many parts of the world promote practices and management strategies that enhance the sustainable use, conservation and restoration of biodiversity in agrifood systems and hence promote the sustainable supply of food and the livelihood security of millions of producers.

In its roles as an implementing agency of the [Global Environment Facility \(GEF\)](#) and a partner of the [Green Climate Fund \(GCF\)](#), as well as by working with bilateral donors, FAO assists countries to access financial resources for work on biodiversity.

The [Benefit-sharing Fund](#) of the International Treaty on Plant Genetic Resources for Food and Agriculture assists farmers and Indigenous communities in developing countries to meet the challenges of biodiversity loss.

CHINA

*Fujian Youxi Lianhe
Rice Terraces
in Southern
Mountainous and
Hilly areas*
© GIAHS





THE FAO BIODIVERSITY KNOWLEDGE HUB

Access to high-quality data, policy guidance, tools, learning materials and other resources is crucial for the conservation, restoration and sustainable use of biodiversity in agrifood systems.



[fao.org/biodiversity/
knowledge-hub](https://fao.org/biodiversity/knowledge-hub)



The [FAO Biodiversity Knowledge Hub](https://fao.org/biodiversity/knowledge-hub) provides access to biodiversity-related resources developed by FAO. The aim is to strengthen countries' capacity to mainstream biodiversity in agrifood sectors, implement the Kunming-Montreal Global Biodiversity Framework, deliver on the Sustainable Development Goals and achieve food security for all.

Explore the Hub



- **Resources:** search, filter and access over 370 tools, guidelines and other resources on biodiversity for food and agriculture developed by FAO. Filters include the targets of the Kunming-Montreal Global Biodiversity Framework.



- **Data and indicators:** access data, information and resources for over 20 FAO indicators used to monitor progress towards the implementation of the Kunming-Montreal Global Biodiversity Framework, as well as key databases and information systems.



- **Learning:** explore a range of freely available e-learning opportunities that can support the conservation, restoration and sustainable use of biodiversity for food and agriculture.



- **Country reports:** discover reports prepared by countries and submitted to FAO on a range of topics related to biodiversity.



- **Communities:** join networks to engage and interact with relevant stakeholders and share experiences, questions and innovative ideas.



- **Helpdesk:** for assistance with navigating the Hub and its resources, contact the helpdesk at Biodiversity@fao.org



ITALY

*Porcini mushrooms
in a market in Rome*
© FAO/Cristiano
Minichiello



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