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# Report on the High-Level Regional Dialogue on the Mainstreaming of Biodiversity in the Agricultural, Forestry and Fisheries Sectors (DRANIBA)

Mexico City, October 29-30, 2018

Towards the mainstreaming of biodiversity in  
food systems and agricultural, forestry, fisheries  
and aquaculture production processes  
in Latin America and the Caribbean





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# 1. Background

The current well-being and the future survival of humanity are confronted by significant, and frequently urgent, challenges in the global context, such as: climate change, population growth, the intensity and frequency of natural disasters, environmental degradation, the loss of biodiversity and ecosystem services, increasing demand for food, lack of access to quality food, sustainable food production, migration, increased conflicts, corruption and poor governance. According to the United Nations, by 2050 the world's population will reach 9.7 billion (United Nations, 2015). Much of this growth is expected to take place in developing countries, especially in areas where the population already depends heavily on sectors such as agriculture, forestry, fisheries and aquaculture. This will result in an increase in the demand for food that is healthy, nutritious and produced in a sustainable manner.

A key challenge to ensure our well-being is to increase sustainable production of healthy, nutritious and safe food, while conserving biodiversity and reducing pressure on natural resources and ecosystems, including land and water resources, while avoiding food overproduction, loss and waste. Criteria and actions aimed at promoting conservation and the sustainable use of biodiversity in food systems contribute to the diversification of these systems and their resilience to climate change, as well as to the sustainability of ecosystem services. Conservation and sustainable use of biodiversity are the responsibility of all productive sectors and different actors within the value chain and food systems, and cannot be achieved without their active participation and commitment.

In December 2016, the United Nations Biodiversity Conference (COP-13) was held in Cancun, Mexico, within the framework of the Convention on Biological Diversity (CBD). Its main theme was “Mainstreaming biodiversity for well-being”, with emphasis on the agricultural, forestry, fisheries, aquaculture and tourism sectors, which resulted in the Cancun Declaration on the Integration of Conservation and Sustainable Use of Biodiversity for Well-being and Decision XIII/3 of the COP. This helped to position the issue at the highest level of the United Nations System, and related international organizations, including FAO.

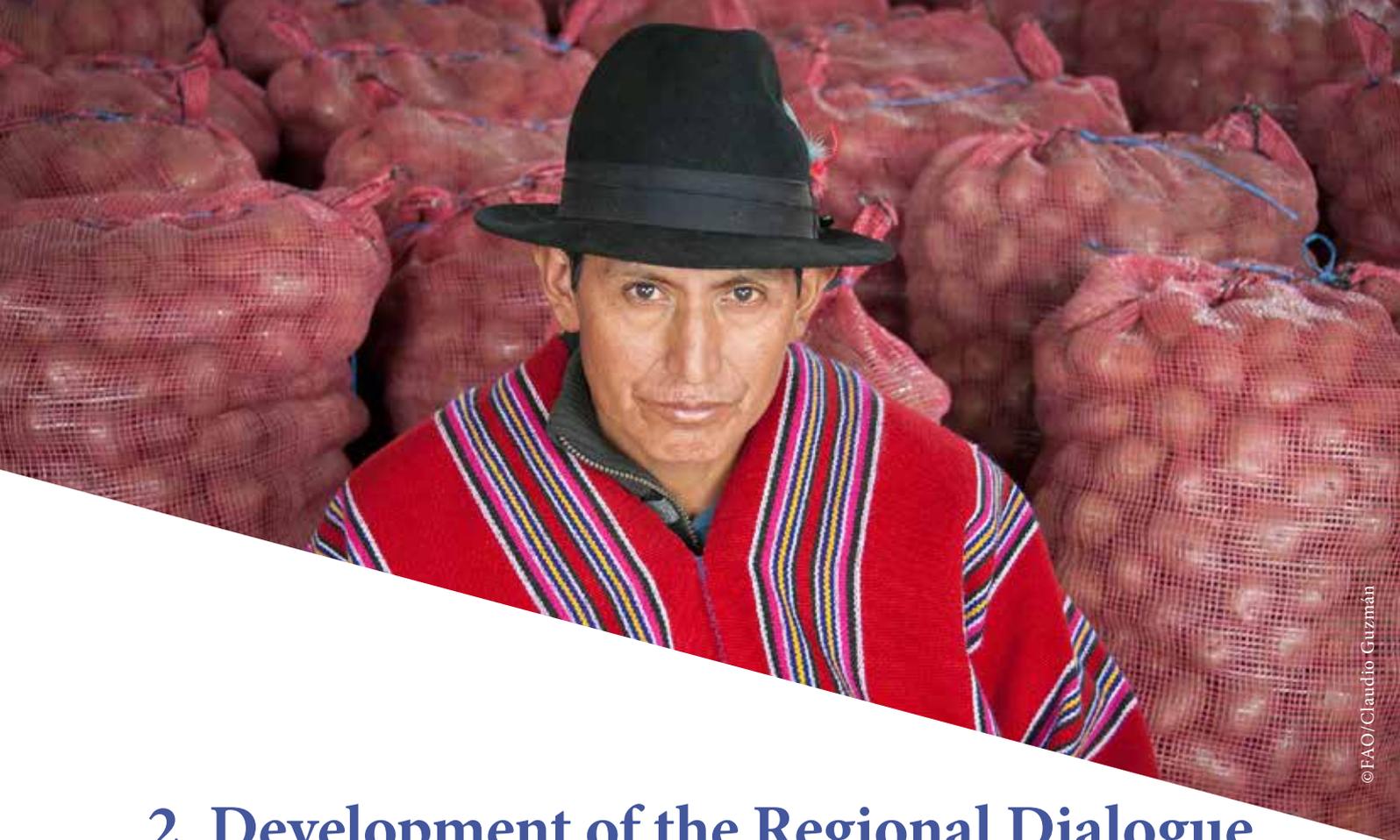
Following a request at the 40<sup>th</sup> Session of FAO Conference in July 2017, FAO and the CBD organized in Rome, in May 2018, the *Multi-stakeholder dialogue on biodiversity mainstreaming across agricultural sectors*<sup>1</sup>. This dialogue facilitated an inter-sectoral discussion on the mainstreaming of biodiversity in all agricultural sectors<sup>2</sup> as part of efforts to achieve the Sustainable Development Goals (SDGs). Participants recognized the need to adopt a long-term vision on how biodiversity mainstreaming in production sectors should be addressed in order to achieve sustainable agriculture and food security and nutrition. In addition, FAO was asked to facilitate regional and inter-sectoral dialogues in order to identify opportunities to implement processes for the development of related policies, legislation and research.

During the 35<sup>th</sup> session of FAO Regional Conference for Latin America and the Caribbean (LARC 35), which took place in Montego Bay, Jamaica, in March 2018, the participating countries, led by the Government of Mexico, asked FAO to organize a Regional Dialogue to complement the one held in Rome, with the objective of contributing to the development of FAO's Strategy on Biodiversity. During the First Strategic Coordination Dialogue between FAO and the Government of Mexico, held on June 15, 2018, Mexico reiterated its interest in hosting the High-Level Regional Dialogue on the Mainstreaming of Biodiversity in the Agricultural Sectors, Forestry and Fishing (DRANIBA).

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<sup>1</sup> More information on the FAO Biodiversity Mainstreaming Platform: <http://www.fao.org/biodiversity/mainstreaming-platform/en/>

<sup>2</sup> FAO's definition of agriculture includes agricultural crops, forestry, livestock, fisheries and aquaculture.



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## 2. Development of the Regional Dialogue

### 2.1 Opening session

DRANIBA, which was organized by FAO and the Mexican government through its Ministry of Foreign Affairs, was held on October 29-30, 2018, and attended by delegates from 11 Member Countries of the region (Bahamas, Plurinational State of Bolivia, Chile, Cuba, Ecuador, Honduras, Mexico, Nicaragua, Paraguay, Peru and Suriname) and Spain, as well as representatives of United Nations agencies (United Nations Development Programme – UNDP, and UN-Environment, also known as United Nations Environment Programme - UNEP), academia, and international, intergovernmental and non-governmental organizations, including the Agroecological Movement of Latin America and the Caribbean (MAELA), the Fund for the Development of Indigenous Peoples of Latin America and the Caribbean (FILAC), the Caribbean Regional Fisheries Mechanism (CRFM), and the German Agency for International Cooperation (GIZ), among others. The agenda of the event, and the full list of participants, can be found in Appendices I and II, respectively.

The opening session was chaired by Ambassador Miguel Ruiz-Cabañas Izquierdo, Assistant Secretary for Multilateral Affairs and Human Rights of the Ministry of Foreign Affairs, representing the Mexican government, with the participation of FAO Representative in Mexico, Crispim Moreira; the General Director for the Primary Sector and Renewable Natural Resources of the Secretariat of Environment and Natural Resources of Mexico (SEMARNAT), Edda Fernández Luiselli; the National Coordinator of the National Commission for Knowledge and Use of Biodiversity in Mexico (CONABIO), José Sarukhán Kermez; and the Executive Secretary of the National System for Research and Technology Transfer for Sustainable Rural Development in Mexico (SNITT), Jorge Galo Medina Torres, representing the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food of Mexico (SAGARPA).

FAO Representative in Mexico highlighted the country's role in organizing the meeting, led by Ambassador Ruiz-Cabañas, and the importance of mainstreaming biodiversity to directly contribute to and meet the

agreed targets of the 2030 Agenda for Sustainable Development. He pointed out the importance of the forum with respect to the recommendations of LARC 35, in which it was agreed to hold this high-level regional meeting. He also acknowledged the role of Mexico and CONABIO in leading the process and setting an example for Latin America and Caribbean (LAC) in this theme. He emphasized the importance of public policy managers and all productive sectors working together based on their different perspectives and knowledge. He highlighted the participation of experts on issues related to biodiversity and indigenous peoples, especially Mirna Cunningham of FILAC and Gisela Illescas Palma of MAELA, and their important role in promoting the conservation of biodiversity. He also expressed the need to make important changes in the production and consumption of healthy and nutritious food for all. He reaffirmed the commitment of the Mexican government to this issue in the region and, in particular, its work with the Mesoamerica without Hunger program. He stressed that the results of DRANIBA will serve as inputs for the COP-14 of the CBD to be held in Egypt, and in the follow-up stages. He urged all productive sectors to join in the efforts to incorporate biodiversity conservation criteria in their productive systems.

The General Director of the Primary Sector and Renewable Natural Resources of SEMARNAT expressed the importance of working with strategic partners, including FAO, to implement solutions to social, environmental and economic challenges, such as food loss and waste, as well as actively collaborating with the Policy Task Force led by the Presidency of the Republic and coordinated by SEMARNAT. She emphasized the existence of different initiatives, partnerships and tools to address global and regional challenges, which are aimed at promoting sustainable production and consumption, including sustainable food systems, the circular economy and the efficient use of natural resources. She invited participants to think outside the box and be bold in taking steps to achieve the necessary changes.

The National Coordinator of CONABIO referred to the privileged status of the region as megadiverse, and pointed out the contradiction that despite this biodiversity, the region's population, particularly in urban centres, only consumes food based on 15 plant species and five animal species. He highlighted the contribution of indigenous peoples and local communities to biodiversity conservation through traditional practices of seed conservation, harvesting and exchange, although their products have limited access to markets and consumers. He warned that the lack of biodiversity knowledge is a threat, since people only tend to value what is familiar. In this regard, he expressed the importance of expanding the diversity of food products, facilitating knowledge about the environmental benefits and adaptation to climate change generated by biodiversity. He indicated that making visible and valuing the contribution of biodiversity to improve the health of the population through diversified and healthy diets also contributes to increasing the incomes and improving livelihoods of rural households. Finally, he highlighted the importance of rural development and the union between traditional knowledge and modern science to achieve sustainable and resilient production systems.

The Executive Secretary of SNITT provided an update on the progress of the Mexican government in the development of its Strategy for the mainstreaming of biodiversity and the creation of the Centre for the mainstreaming of biodiversity in the agricultural sector. The institution is specialized in providing answers and recommending specific actions that contribute to implementing production methods compatible with biodiversity conservation and the sustainable use of natural resources for the production of food, clothing and other needs. In addition, he highlighted the importance of teaching responsible consumption so that consumers are able to identify sources of origin, production processes and benefits.

The closing remarks at the opening session were made by Ambassador Miguel Ruiz-Cabañas Izquierdo, who highlighted the role of José Sarukhán, from CONABIO, in promoting the issue of biodiversity conservation in Mexico and the region. He thanked FAO for organizing DRANIBA and the participants from the region for their participation. He recalled the conclusions of COP 13, held in Cancun in 2016, which recognized the importance of integrating productive sectors in the task of biodiversity conservation to ensure the sustainability of the food system. He also recognized the commitment of FAO,

and Director-General José Graziano da Silva, to adopt this issue as part of the organisation's international agenda and establish the *Platform for the Mainstreaming of Biodiversity*. He referred to the importance of granting adequate incentives to the actors of the agricultural, forestry and fishing sectors, and to providing the necessary information to achieve the conservation and sustainable use of biodiversity for food production. He also highlighted the importance of developing producer guidelines, which could influence national regulations and laws aimed at biodiversity conservation. He noted that, within the regional framework of the 2030 Agenda, countries share common challenges that could serve as inputs for a regional plan, which could, in turn, contribute to a global strategy on biodiversity conservation. Finally, he added that the conclusions of DRANIBA would be presented to the government to ensure follow-up actions.

## 2.2 Presentations

During the Regional Dialogue, various case studies and experiences regarding the mainstreaming of biodiversity in productive systems were presented<sup>3</sup>, in order to contribute to the exchange of knowledge and promote a dialogue among the countries of the region.

### International context

First, the advances and challenges related to the mainstreaming of biodiversity conservation in productive systems in the global and regional context were addressed. The main topics presented are summarized below:

#### **The path ahead: Follow-up actions to the Mexico agreements**

The General Director of International Cooperation and Implementation of CONABIO (Mexico) highlighted the strategic role of FAO in mainstreaming biodiversity in agricultural, forestry, fishing and aquaculture production systems in order to ensure human well-being and achieve different targets of the SDGs. He mentioned FAO Regional Commissions and Statutory Bodies that have addressed the issue of biodiversity conservation, and highlighted the creation of the *Platform for the Mainstreaming of Biodiversity* and the *Dialogue among multiple stakeholders on the mainstreaming of biodiversity in the different agricultural sectors*. In addition, within the framework of the recommendations of LARC 35, he noted that countries in the region should continue to work with FAO in developing a regional strategy for the mainstreaming of biodiversity conservation in productive systems. He also emphasized the important impact of the different productive sectors working together and pooling resources in the management of biodiversity, thus generating better alternatives for development, well-being, diversification of production and greater benefits for communities and society. Finally, he highlighted the importance of advancing in the monitoring of territories and the use of this information to take effective action for biodiversity conservation, use and restoration.

#### **Results of the Multi-stakeholder Dialogue on the Mainstreaming of Biodiversity across Agricultural Sectors, and recommendations of LARC 35**

The Natural Resources Officer of the Climate, Biodiversity, Land and Water Department of FAO thanked Mexico for its leading role in highlighting the importance of biodiversity conservation in food production systems. He spoke about the need to create and strengthen bridges between inter-sectoral government agencies, productive sectors and governments. He stressed the importance of the exchange of information, knowledge generation and communication to achieve the necessary changes in food production systems. He also recognized the role of Ambassador Martha Bárcena Coqui, Permanent Representative of Mexico to

<sup>3</sup> The presentations links are available at Appendix I.

FAO, for her leadership in organizing the *Multi-stakeholder Dialogue on the Mainstreaming of Biodiversity across Agricultural Sectors*, which was held in Rome in early 2018. He added that FAO is working with countries to develop regional dialogues, starting with this one, and the results will be presented to FAO Regional Commissions and in other global forums in 2019. He emphasized that a world without hunger cannot be achieved without the conservation and sustainable use of biodiversity.

## **Approaches for the mainstreaming of biodiversity in productive sectors**

The Regional Dialogue continued with the presentation of successful experiences of biodiversity mainstreaming in diverse productive systems.

### **Advances in the mainstreaming of biodiversity in the agricultural sector**

The Deputy Director of Genetically Modified Organisms of SAGARPA (Mexico) pointed out the country's efforts to position its agricultural products in the international market based on a solid track record of health and food safety actions. He highlighted the importance of increasing knowledge about the benefits and functions of biodiversity to support its conservation and improvement. He noted that there are already some international markets, particularly for fruit, that require environmental certification of products based on biodiversity rules. He reported on the advances in the national agricultural policy, where lines of action have been developed aimed at the conservation of biodiversity, ecosystem services and land management. In addition, he referred to the work of Centre for Biodiversity Conservation Research of Mexico and its mandate in terms of generating information, capacity building and public policy advocacy.

### **Strategies for the mainstreaming of biodiversity in the forestry sector**

The President of the Sustainable Growth Path (SGP) (Costa Rica) highlighted the importance of forest biodiversity in ensuring a sustainable and diverse flow of ecosystem services. He mentioned that, in Central America, the coverage of protected areas has increased and that countries have developed legal and regulatory instruments to guarantee forest management and conservation. He affirmed that there are still challenges, especially in the governance of forests within protected areas and elsewhere, to facilitate inter-institutional cooperation, public financing, private investment and green industry in order to make biodiversity conservation into a sustainable business with environmental benefits that also contributes to the well-being of vulnerable groups. Finally, he noted the existence of successful experiences in the region, which can be adapted and replicated according to each social and environmental context.

### **Strategies for the mainstreaming of biodiversity in the livestock sector**

The President of the National Association of Breeders of Creole and Colombian Breeds (ASOCRIOLLO) focused his presentation on the management and use of the genetic resources of local breeds, and emphasized the importance of generating incentives for clean livestock production, which also consider the sustainable use of soil and water, the challenges of climate change and native breeds.

### **Strategies for the mainstreaming of biodiversity in the aquaculture and fisheries sector**

The Executive Director of the Caribbean Regional Fisheries Mechanism highlighted the importance of biodiversity in sustaining livelihoods, food security, employment, trade, recreation and tourism. Using the example of fishing trends since 1974, he emphasized the problems associated with over exploitation. He discussed innovative fisheries management practices that consider ecosystem conservation criteria in coastal and marine areas, and the importance of data and scientific knowledge in these initiatives. He stressed that, in terms of fisheries, regional and international governance and cooperation are essential to develop shared mechanisms and strategies to achieve the biodiversity objectives.

### **First National GIAHS Forum in Mexico**

The General Director for Global Issues of the Ministry of Foreign Affairs of Mexico highlighted the role of Globally Important Agricultural Heritage Systems (GIAHS) in biodiversity conservation and territorial and landscape management, as well as in preserving the cultural wealth associated with food and nutritional security to improve the living conditions of local communities. He noted that the Chinampas system of the UNESCO World Cultural Heritage Site in Xochimilco, Tláhuac and Milpa Alta, in Mexico City, has been declared a GIAHS site and is a clear and tangible example of a system that brings together biodiversity conservation and culture. He stressed that work is already underway on a new proposal to certify the Milpa Maya System in Yucatan as a GIAHS site.

### **Importance of the GIAHS<sup>4</sup>**

The presentation by the Global Coordinator of FAO-GIAHS focused on the importance of these sites in guiding dynamic conservation, which includes adaptation to new systems, modern production techniques and sustainable development, together with traditional practices and knowledge. He discussed the monitoring and evaluation of the sites in order to improve them and adapt to new conditions, thereby ensuring the conservation of the territory and local practices. He reaffirmed the importance of GIAHS in preserving traditional knowledge and practices, the conservation of agrobiodiversity, and improving the living conditions of communities that manage these sites and their products. He explained the process by which GIAHS sites are chosen, from the elaboration of a national proposal and scientific evaluation, to their official designation. He presented examples of GIAHS sites and products and how they enrich the diversity of food, agro-tourism and ecotourism services that generate income for local communities. He indicated that these criteria could be used in other sites for the conservation of agrobiodiversity, even if these are not designated as GIAHS sites.

The FAO-GIAHS Program Specialist presented the Globally Important Agricultural Heritage Systems as a tool to address the incorporation of biodiversity in agriculture. He referred to the comprehensive approach of GIAHS sites, including aspects of biodiversity, food security and livelihoods; culture; local knowledge and values; landscape management and sustainable agriculture. He also provided an overview of GIAHS sites in Chile, Mexico and Peru.

### **Indigenous peoples and biodiversity**

The President of the Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean (FILAC) pointed out that there are 826 indigenous peoples and 400 languages spoken in the region, with 25% of total forests and their biodiversity located in indigenous territories. He referred to biodiversity as an engine for the survival of the planet and humanity, and highlighted its importance in indigenous culture and spirituality. He pointed out the threats related to the natural resources extraction-based development model, which expels local communities from their territories and changes forms of land use, triggering the degradation of natural resources. He proposed a way of relating to the planet that emphasizes conservation and the sustainable use of biodiversity. He noted that indigenous peoples have contributed to the dialogue on biodiversity since 2000, participating in different forums of the CBD, emphasizing the importance of addressing biodiversity loss (beyond its biological dimension, from a sociocultural perspective) as a multidimensional problem. He referred to the importance of the revitalization of food systems considering the indigenous perspective, which includes governance strategies, networks of different indigenous peoples, traditional criteria of biodiversity use and conservation, alternative ways of doing business, the exchange of knowledge and trade. He emphasized that public structures can be enriched by these perspectives and thus guarantee the exchange of information and knowledge based on respectful and honest cultural relations. He explained that free and informed consent processes are necessary because there are no clear public mechanisms through which various groups, including indigenous peoples, men and women of different ages, can make proposals, according to

<sup>4</sup> Additional information on FAO/GIAHS website: <http://www.fao.org/giahs/en>

their values, needs and spirituality. He added that this broad perspective could help to reconcile different interests, while at the same time promoting productive sectors, which States have largely failed to achieve on their own.

### **Civil society, agroecology and biodiversity**

The representative of MAELA in Mexico discussed the work carried out in the agroecology area towards the conservation of biodiversity for food and agriculture. He also referred to MAELA's struggle for food sovereignty, recognizing communities and indigenous peoples as traditional holders of knowledge that guarantees food diversity to sustain life. He pointed out that agroecology is an alternative to achieve the sustainability of the food system, emphasizing the role of women not only in managing knowledge, traditions and conservation practices, but also as providers of food for their families.

### **TEEB AgriFood: Monitoring and decision-making mechanisms**

The UN Environment Representative in Mexico presented the initiative called “The Economics of Ecosystems and Biodiversity for Agriculture and Food (*TEEB AgriFood*)” related to the evaluation of agricultural systems. He referred to the need to recognize the economic importance of biodiversity loss, in order to demonstrate the value of nature. He mentioned that the *TEEB Agri-food* initiative has collected information that shows that the economic environment in rural areas is significantly distorted by positive and negative externalities associated with the productive system (including agricultural inputs, markets and equipment, as well as soil quality, water, pollinators, etc.), which when properly used can help to generate employment, knowledge, healthy production and well-being. He mentioned that there is a lack of awareness about the interdependence between natural, human and social capital in food production systems. However, he pointed out that the *TEEB Agri-food* initiative allows countries to measure those indicators that, until now, have been largely invisible in food production systems, including human capital, agriculture, biodiversity and ecosystem services, as well as measuring their impacts and interdependencies. He gave some examples of where the *TEEB Agri-food* has been applied in Brazil, Colombia and Mexico.

## **International financing and national strategies**

### **The experience of BIOFIN in Mexico**

The Regional Advisor for Latin America of the United Nations Development Programme (UNDP) reported that the Biodiversity Finance Initiative (BIOFIN) has actions in 36 megadiverse countries, 11 of them in Latin America and the Caribbean. He explained that this initiative has helped to increase financial resources to address the challenges faced by countries in the use and conservation of biodiversity. He indicated that by investing in biodiversity, future costs in restoration, infrastructure and environmental crises are avoided. He pointed out the different mechanisms that exist to access funds for the mainstreaming of biodiversity in productive systems, including climate financing, conservation mechanisms, low-impact sustainable businesses and a “greener” financial sector, among others.

### **Experiences of the German Agency for International Cooperation (GIZ) in promoting the mainstreaming of biodiversity in the productive sectors of Latin America**

The Principal Advisor of the GIZ project, Mainstreaming of Biodiversity in Mexican Agriculture (IKI-IBA), discussed the training tool *value links* developed by the project, which allows the mainstreaming of ecosystem services in development planning. He also discussed the *Capacity WORKS* model for the management of cooperative systems, policy courses on the mainstreaming of biodiversity, and cases where these methodologies have contributed to the mainstreaming of biodiversity criteria in productive agricultural systems. He highlighted that agricultural productive sectors in the region are aware of their impacts on biodiversity, and emphasized the importance of analysing these impacts, together with sector-specific goals, in order to move towards a more sustainable performance.

### **Global Environment Facility (GEF): An international cooperation mechanism**

The GEF Project Task Manager of FAO Regional Office said that GEF, which is oriented to tackle environmental problems to achieve global environmental benefits, focuses on five main areas: biodiversity, climate change, land degradation, chemicals, and international waters. She mentioned that, in Latin America and the Caribbean, FAO is implementing 42 projects associated with agriculture, livestock, forestry, fisheries and aquaculture, which directly benefit approximately 50,000 people in the territory, of which 22,000 are women through good practices of landscape management, restoration and conservation (147 species related to agro-biodiversity, 35 species of local crops conserved *in situ*, and 15 species are conserved *ex situ*). All projects include training activities in natural resource management, capacity building and policy development. He noted that GEF7 (2018-2022) establishes the possibility of accessing financing through three programs: sustainable food systems, restoration of degraded landscapes and basic products (*commodities*) produced with zero-deforestation.

### **Experience of the National Fund for Biodiversity of Mexico (FPB)**

The Manager of Environmental Services for the National Forest Commission of Mexico (CONAFOR) presented the experience of the National Fund for Biodiversity (FPB), which provides financing through the Payments for Ecosystem Services (PES) mechanism. He indicated that the program protects biodiversity, promotes connectivity among ecosystems for landscape management and fosters the integration of technical knowledge, traditional practices, and legal and financial instruments for the conservation of globally important biodiversity associated with forest ecosystems in clearly defined sites, providing sustainable solutions, and using transparent monitoring and communication systems.

### **12 years of the Cultivating Good Water program**

The Coordinator of the Paraná SDGs Observatory (Brazil), and former coordinator of the Cultivating Good Water program of Itaipú Binacional, shared his experience of 12 years of work in the management of the Paraná basin, where biodiversity is valued in terms of income, health, food, reduction of social inequalities, technology, recreation and healthy and sustainable life. He highlighted the importance of governance of natural resources with ethical foundations in caring for the community, in the conservation of natural resources, ecological integrity, social and economic justice, democracy and peace, with the participatory management of the territory. In this regard, he said it is essential to coordinate the efforts, objectives, goals and budgets of the different actors, in order to have an impact in the territory and scale up experiences based on local management. He noted that technical solutions exist and that the important thing is building trust among the participants, as well as working with entities that promote dialogue and coordination to generate co-management in the territory. He indicated that, based on his experience, he recommends starting work with companies that are open to change and that are willing to obtain benefits under social responsibility criteria.

## **2.3. Task forces**

CONABIO presented DRANIBA with background information and agreements related to the CBD that served as a basis for creating the task forces. It was noted that, in 2015, a meeting of international experts was held for the mainstreaming of biodiversity in productive systems. Some of the actions recommended in that meeting have been executed, being the most important Decision XIII / 3 of COP-13: “Strategic actions to enhance the implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievement of the Aichi Biodiversity Targets, including with respect to mainstreaming and the integration of biodiversity within and across sectors”. Other specific recommendations emerged from the meeting, identifying FAO as a strategic partner in facilitating the implementation of these recommendations and establishing, in May 2018, the *Platform for the mainstreaming of biodiversity*.

The task forces focused on reviewing, updating and prioritizing the recommendations of the COP-13 and the *Multi-stakeholder Dialogue on the Mainstreaming of Biodiversity across Agricultural Sectors*, adapting them to the context of Latin America and the Caribbean, while also considering the recommendations of LARC 35 and the discussion paper prepared for DRANIBA (Appendix III).

The participants were divided into two task forces: 1) Cross-cutting issues: global governance, national policies and legislation, incentives, investment and voluntary certification systems; and 2) Sectoral issues: agriculture, forestry, fisheries and aquaculture. The results of their work are summarized in Appendix IV.

## 2.4. Closing of the Regional Dialogue

Closing remarks were given by the Deputy Executive Secretary of the CBD, who expressed his gratitude to the Mexican Government, FAO and all the participating countries and institutions for their efforts to promote agreements on biodiversity. He highlighted the work of DRANIBA and noted that the results will be considered at COP-14 in Egypt.

He stressed the importance of the different productive sectors being involved and working in a coordinated manner to achieve the global biodiversity goals. In addition, he acknowledged the commitment and work of FAO in the implementation of the *Multi-stakeholder Dialogue on the Mainstreaming of Biodiversity across Agricultural Sectors* and the launch of the *Platform for the mainstreaming of biodiversity*, which will facilitate inter-sectoral coordination.



## 3. Conclusions, recommendations and action plan

The following conclusions, recommendations and proposals for a LAC Action Plan emerged from the Regional Dialogue:

### 3.1. Conclusions

- a. The recent progress in terms of conservation and use of biodiversity at the political level was recognized, particularly the High-Level Segment of COP-13 with the Cancun Declaration on mainstreaming the conservation and sustainable use of biodiversity for well-being, and Decision XIII / 3. This has positioned conservation and use of biodiversity at the highest political level in all regions of the world, while also encouraging the involvement of international organizations.
- b. The role of FAO was recognized in bringing together the different sectors and actors, and increasing cooperation with the CBD. This has helped strengthen the link between biodiversity and the ecological and economic benefits it provides in the agricultural, forestry, fisheries and aquaculture sectors. Also, the role of indigenous and local populations in biodiversity conservation and management, in order to ensure the provision of food and improve nutrition worldwide. In addition, the role of indigenous and local populations has also been recognized as fundamental for the conservation and management of biodiversity, to ensure the provision of food and improve nutrition worldwide.
- c. It was reaffirmed that all agricultural productive sectors should consider the implications of their activities, especially the related and accumulated impacts on terrestrial ecosystems, marine areas, inland waterways, and soils. It was highlighted that actions for the conservation and management of biodiversity must be inter-sectoral and inter-institutional.

- d. The relationship between the integration of biodiversity conservation criteria in the agricultural, forestry, fisheries and aquaculture sectors (and its implications for sustainable of food production, diversification of diets, improvement of nutrition and conservation management) was highlighted.
- e. The challenges in relation to the prevention, management, utilization and eradication of invasive alien species were taken into consideration, and noted as subject that has not been sufficiently studied and that has a great impact on the conservation and management of biodiversity.

## 3.2. Recommendations

- a. Create or promote a food initiative based on product diversification (agro-biodiversity and socio-biodiversity).
- b. Incorporate biodiversity criteria and indicators into food systems so that they are more sustainable and contribute in an integrated manner to the achievement of the SDGs targets.
- c. Develop a platform of indicators or evaluation criteria based on operational and/or scientific data to measure the progress of the integration of biodiversity at the national and subnational levels in the agricultural, forestry, fisheries and aquaculture sectors.
- d. Involve ministries of finance in the formulation of inter-sectoral plans and programs to integrate biodiversity as a strategy for human well-being in the productive agricultural sectors.
- e. Identify and value the economic, social and cultural contribution of biodiversity and ecosystems in the sustainability, profitability and competitiveness of the different sectors, considering the participation of the different stakeholders and its contribution to livelihoods.

## 3.3. Action Plan

The following follow-up actions were proposed for countries of the region:

### a. Sensitization and dissemination:

- a.1: Disseminate the importance of biodiversity in productive systems and food security and nutrition using different forms of communication and dissemination, aimed at different audiences such as the government decision makers and the private sector: meetings, technical documents, interviews, case studies and the exchange of successful experiences.

**Organizers:** FAO, through its national and regional offices, the Regional Commissions and the Regional Conference. **Period:** 2019-2020

- a.2: Use the different technical forums or platforms; discussion forums and training courses; documents and manuals designed according the target audience, as a mechanism for raising awareness and for the dissemination of practical tools for the mainstreaming of biodiversity in the different productive sectors.

**Organizers:** FAO, through its national and regional offices; FAO projects and publications; national governments. **Period:** 2019-2020

**b. Dialogues and knowledge management:**

**b.1:** Use the Platform for the mainstreaming of biodiversity linking the agricultural, forestry, fisheries and aquaculture sectors as a neutral forum to promote spaces for dialogue, transparency, and the exchange of traditional and technical knowledge, with the participation of academics, governments and civil society at the regional level.

**Organizers:** FAO, its Regional Office for Latin America and the Caribbean, and Regional Commissions. **Period:** 2019-2020

**b.2:** Develop and promote a vision for sustainable food systems of the future and the Global Action Plan on the mainstreaming of biodiversity in food systems (including the agricultural, livestock, forestry, fisheries and aquaculture production systems).

**Organizers:** FAO. **Period:** July 2019 (40<sup>th</sup> session of FAO Conference)

**c. Strengthening the sustainable use and conservation of biodiversity in countries of the region.**

**c.1:** Convene multi-sectoral and inter-stakeholder consultations at the national and sub-regional levels to identify critical gaps and cooperation opportunities that facilitate processes for improving policies, laws and regulations associated with food production and the conservation of biodiversity.

**Organizer:** FAO Regional Office for Latin America and the Caribbean. **Period:** 2019

**c.2:** Systematize the results of consultations and develop innovative instruments (codes of practice, quantification of benefits, guidelines, among others) that help countries promote the sustainable use and conservation of biodiversity in the agricultural, forestry, fisheries and aquaculture sectors.

**Organizer:** FAO Regional Office for Latin America and the Caribbean. **Period:** 2019

## 4. References

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# APPENDIX I: Agenda

Time	Session	Additional notes
<b>29 October</b>		
<b>Item 1</b>  09:00 – 10:00	<b>Opening ceremony</b>	<b>Food and Agriculture Organization of the United Nations:</b> <i>Crispim Moreira, FAO Representative in Mexico</i>
		<b>Environment and Natural Resources Secretariat:</b> <i>Edda Fernández Luiselli, General Director of the Primary Sector and Renewable Natural Resources</i>
		<b>National Commission for Knowledge and Use of Biodiversity:</b> <i>José Sarukhán Kermez, Nacional Coordinator</i>
		<b>Agriculture, Livestock, Rural Development, Fisheries and Food Secretariat:</b> <i>Jorge Galo Medina Torres, Executive Secretary of the National System for Research and Technology Transfer for Sustainable Rural Development</i>
		<b>Foreign Affairs Secretariat:</b> <i>Ambassador Miguel Ruiz-Cabañas Izquierdo, Undersecretary for Multilateral Affairs and Human Rights</i>
<b>Item 2</b>  10:30 – 11:30	<b>International context</b>	<b>Plenary presentations</b>
	Mexican Government presents a COP-13 summary from CBD	Presentation of the COP-13 results from CDB and the workshop <i>La Ruta que Enfrentamos</i> (June 2018), Follow-up actions to the agreements: Hesiquio Benítez Díaz, CONABIO, Mexico <a href="http://www.fao.org/3/ca3297es/ca3297es.pdf">http://www.fao.org/3/ca3297es/ca3297es.pdf</a>
	FAO: Multi-stakeholder dialogue on mainstreaming of agriculture sectors, Regional Conference, SDGs	Presentation of the Dialogue results among multiple interested parties on biodiversity mainstreaming in the different productive sectors, recommendations of FAO 35 <sup>th</sup> Regional Conference: Paulo Lourenço Dias Nunes, Natural Resources Officer, CDB-FAO

Time	Session	Additional notes
<b>Item 3</b> 11:30 – 13:00	<b>Examples of approaches for biodiversity mainstreaming in the productive sectors</b>	<b>CHAIR: Michael Pintard, Minister for Agriculture and Marine Resources of Bahamas.</b>
<i>10 minutes per intervention and 20 minutes of open discussion</i>	Agriculture	Progress of Biodiversity mainstreaming in the Agricultural sector: Israel Lorenzo Felipe, Deputy Director of Genetically Modified Organisms, SAGARPA, Mexico <a href="http://www.fao.org/3/ca3294es/ca3294es.pdf">http://www.fao.org/3/ca3294es/ca3294es.pdf</a>
	Forests	Biodiversity mainstreaming strategies on Forestry: Jorge Rodriguez Quiros; President of the Sustainable Growth Path (SGP), Costa Rica <a href="http://www.fao.org/3/ca3290es/ca3290es.pdf">http://www.fao.org/3/ca3290es/ca3290es.pdf</a>
	Livestock	Biodiversity mainstreaming strategies on Livestock: Germán Martínez, ASOCRIOLLO and American Federation of Associations of Criollo Cattle Breeders, Colombia <a href="http://www.fao.org/3/ca3287es/ca3287es.pdf">http://www.fao.org/3/ca3287es/ca3287es.pdf</a>
	Fisheries and aquaculture	Biodiversity mainstreaming strategies on aquaculture and fisheries: Milton Haughton, Executive Director, Caribbean Regional Fisheries Mechanism <a href="http://www.fao.org/3/ca3285en/ca3285en.pdf">http://www.fao.org/3/ca3285en/ca3285en.pdf</a>
14:30 – 15:30	<b>Continuation - examples of approaches</b>	
<i>10 minutes per intervention and 20 minutes of open discussion</i>	GIAHS	Globally Important Agricultural Heritage Systems as an approach tool for biodiversity mainstreaming in Agriculture: Yoshihide Endo, GIAHS FAO programme Coordinator <a href="http://www.fao.org/3/ca3291en/ca3291en.pdf">http://www.fao.org/3/ca3291en/ca3291en.pdf</a> and <a href="http://www.fao.org/3/ca3292es/ca3292es.pdf">http://www.fao.org/3/ca3292es/ca3292es.pdf</a>  Presentation of the objectives of the first National Forum on GIAHS Programme (CDMX, 31 Octobre): Mexican Chancellery
	Indigenous groups and local communities	Myrna Cunningham, President of the Fund for the Development of Indigenous Peoples of Latin America and the Caribbean (FILAC) <a href="http://www.fao.org/3/ca3299es/ca3299es.pdf">http://www.fao.org/3/ca3299es/ca3299es.pdf</a>
	Civil society	Gisela Illescas Palma, Agroecological Movement of Latin America and the Caribbean (MAELA) <a href="http://www.fao.org/3/ca3290es/ca3290es.pdf">http://www.fao.org/3/ca3290es/ca3290es.pdf</a>
	TEEB: monitoring tools and decision making	Dolores Barrientos, UN Environment Representative in Mexico <a href="http://www.fao.org/3/ca3296es/ca3296es.pdf">http://www.fao.org/3/ca3296es/ca3296es.pdf</a>

Time	Session	Additional notes
<b>Item 4</b>	<b>International financing and national strategies</b>	
16:00 – 17:00	BIOFIN Mexico	BIOFIN, Mexican experience: Mariana Bellot Rojas, Regional Advisor for Latin America, PNUD <a href="http://www.fao.org/3/ca3286es/ca3286es.pdf">http://www.fao.org/3/ca3286es/ca3286es.pdf</a>
<i>10 minutes per intervention and 20 minutes of open discussion</i>	GEF-FAO	Gathering experiences and opportunities for GEF-7: Maria Mercedes Proaño, FAO <a href="http://www.fao.org/3/ca3298es/ca3298es.pdf">http://www.fao.org/3/ca3298es/ca3298es.pdf</a>
	Cultivating Good Water Experience	Nelton Friedrich, Coordinator of the SDGs Observatory for Paraná, Brazil <a href="http://www.fao.org/3/ca3300es/ca3300es.pdf">http://www.fao.org/3/ca3300es/ca3300es.pdf</a>
	German Technical Cooperation in LAC	Experiences on German technical cooperation to foster Biodiversity Mainstreaming in the LAC productive sectors: Oscar Manuel Ramírez Flores, Senior Advisor, Mainstreaming of Biodiversity within the Mexican Agricultural Sector (IKI IBA), GIZ <a href="http://www.fao.org/3/ca3293es/ca3293es.pdf">http://www.fao.org/3/ca3293es/ca3293es.pdf</a>
	Mexico's experience	Hilda González Hernández, Manager of Forest Environmental Services, National Commission on Forestry of Mexico <a href="http://www.fao.org/3/ca3290es/ca3290es.pdf">http://www.fao.org/3/ca3290es/ca3290es.pdf</a>
<b>30 October</b>		
<b>Item 5</b>	<b>Roadmap for incorporating biodiversity</b>	Orientation to group work. <a href="http://www.fao.org/3/ca3295es/ca3295es.pdf">http://www.fao.org/3/ca3295es/ca3295es.pdf</a>
09:00 – 12:45		Group discussions to define the lines of work to advance on the following: a. Prepare a regional information document, with relevant elements for the strategy <sup>10</sup> to integrate biodiversity in the different agricultural sectors being prepared by FAO, and present it during COP-14 in Egypt; b. Define a roadmap of actions implementation; and c. Discuss on available options at the international, regional and national level to accelerate investments in programs that contribute to biodiversity mainstreaming.
14:30 – 15:30	<b>Plenary: discussion of the roadmap</b>	Presentation and discussion of the group work
16:00 – 17:00	<b>Agreements and Recommendations</b>	The event secretariat will prepare a summary of the agreements and recommendations to be presented in plenary for approval
17:00 – 17:10	<b>Closure</b>	Mexican authorities

<sup>5</sup> Strategy on biodiversity mainstreaming in the productive sectors.



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## APPENDIX II: List of participants

Name	Position	Institution	Country
<b>Michael Pintard</b>	Minister	Ministry of Agriculture and Marine Resources	Bahamas
<b>Kenneth Richardson</b>	Assistant Director	Ministry of Agriculture and Marine Resources	Bahamas
<b>Teresa Pérez Chávez</b>	Directora General de Biodiversidad y Áreas Protegidas	Ministerio de Medio Ambiente y Agua	Bolivia
<b>Nelton Friedrich</b>	Coordinador	Observatorio ODS de Paraná	Brazil
<b>María Karin Molt González</b>	Jefa Departamento de Políticas y Planificación de la Biodiversidad, División de Recursos Naturales y Biodiversidad	Ministerio del Medio Ambiente	Chile
<b>Germán Martínez</b>	Presidente de ASOCRIOLLO	Federación Americana de Asociaciones de Criadores de Bovinos Criollos y Asociación Nacional de Criadores de Razas Criollas y Colombianas (ASOCRIOLLO).	Colombia
<b>Jorge Rodríguez Quiros</b>	Presidente	Sustainable Growth Path (SGP)	Costa Rica
<b>Milton Haughton</b>	Executive Director	Caribbean Regional Fisheries Mechanism	Jamaica
<b>Yamile Lamothe Crespo</b>	Subdirectora de Ciencia, Técnica, Innovación y Medio Ambiente	Ministerio de la Agricultura	Cuba
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<b>Alfredo López</b>	Subsecretario de Patrimonio Natural	Ministerio del Ambiente	Ecuador
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<b>Paulo Lorenço</b>	Natural Resources Officer	FAO Climate, Biodiversity, Land and Water Department	FAO

Name	Position	Institution	Country
<b>Yoshihide Endo</b>	Coordinador del programa SIPAM	FAO Sistemas Importantes del Patrimonio Agrícola Mundial (SIPAM)	FAO
<b>Clelia Maria Puzzo</b>	Especialista en Programas	FAO Sistemas Importantes del Patrimonio Agrícola Mundial (SIPAM)	FAO
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<b>Gisela Illescas</b>	MAELA Mexico	Movimiento Agroecológico de América Latina y el Caribe (MAELA)	MAELA
<b>Myrna Cunningham</b>	Presidenta	Fondo para el Desarrollo de los Pueblos Indígenas de América Latina y el Caribe	FILAC
<b>Cristina Alejandra Goralewski Hempel</b>	Presidente	Instituto Forestal Nacional	Paraguay
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Name	Position	Institution	Country
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<b>Alicia Ituarte</b>		FAO Mexico	Mexico
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<b>Liza Covantes</b>	Especialista de Políticas Públicas	CONABIO - GEF	Mexico
<b>Víctor Alvarado Martínez</b>	Asesor	CONABIO	Mexico



# APPENDIX III: Reference document

**Towards biodiversity mainstreaming in food systems and agriculture, forestry, fisheries and aquaculture production systems in Latin America and the Caribbean.**

## Contents

**Introduction**

**Mainstreaming biodiversity**

**Approaches to landscape and seascape management**

**Impact of the agriculture, forestry, aquaculture and fisheries sectors on biodiversity**

**Benefits of the sustainable use of biodiversity**

**Regional Plan**

**APPENDIX - Successful case studies**

**References**

## Introduction

The current global context poses significant threats to the well-being of humanity due to the effects of the main challenges of our time: climate change, population growth, the intensity of natural disasters, environmental degradation, loss of biodiversity and ecosystem services, an increase in the demand for food, lack of quality food, migration and an increase in conflicts.

According to projections, the world population will reach 9.7 billion by 2050, representing an increase of almost 30% compared to the latest figures<sup>6</sup>. Much of this growth is expected in developing countries and in areas where the population depends heavily on sectors such as agriculture, forestry, fisheries and aquaculture, which will bring increasing demand for healthy and nutritious food that is produced sustainably. In this scenario, world production of quality food will have to increase by 50% in order to cope with population growth and changes in dietary habits<sup>7</sup>. In addition to a growing population, we are

6 FAO. 2017. The Future of Food and Agriculture: Trends and Challenges. <http://www.fao.org/3/a-i6881e.pdf>

7 FAO. 2018. Sustainable Agriculture for Biodiversity. Biodiversity for Sustainable Agriculture. <http://www.fao.org/3/a-i6602e.pdf>

facing changes in food consumption habits that are linked to increasing urbanization, which means greater demand for meat and dairy products<sup>8</sup>, as well as food that is healthy, nutritious and accessible to fight overweight and obesity, related non-communicable diseases, malnutrition and micronutrient deficiencies.

Previously, the agriculture, forestry, fisheries and aquaculture sectors all produced food with little consideration for the conservation of natural resources, especially biodiversity or ecosystem services. However, these are essential to production processes and sustainability, and for our general well-being. For this reason, natural resources and biodiversity must be conserved together and exploited in a sustainable manner, taking into account current trends, environmental degradation, competition for resources and the fact that land and marine production areas are limited.

Therefore, one of the main challenges to ensure our well-being is to increase and achieve sustainable production of healthy, nutritious and safe food, while conserving biodiversity and reducing pressure on natural resources and ecosystems, including land and water resources. This needs to be done while avoiding food overproduction, loss and waste. The inclusion of conservation initiatives and the sustainable use of biodiversity in food production systems helps to improve their diversification and resilience to climate change, as well as helping to maintain ecosystem services. The conservation and sustainable use of biodiversity is the responsibility of all food production sectors and cannot be achieved without their participation.

By including conservation initiatives and the sustainable use of biodiversity in food systems, and making these initiatives sustainable, requires the efficient and innovative use of natural resources. The reduction of food loss and waste from production to consumption, while considering the wide variety of diets globally, as well as the organization and governance of food value chains are essential sustainable components of the food systems.

Given the current global situation, sustainable development policies are urgently needed that balance economic, social and environmental aspects. To achieve this goal, it is essential to advance on mainstreaming conservation initiatives and the sustainable and responsible use of biodiversity in food systems and the production processes across the agriculture, forestry, fisheries and aquaculture sectors, thereby ensuring the active participation of relevant actors, while reducing pressure on biodiversity, ecosystems and natural resources. Within FAO's strategic framework and the Convention on Biological Diversity (CBD) work programme, significant contributions have been made towards this goal, facilitating international cooperation and establishing a foundation for implementation of biodiversity use and conservation.

## Mainstreaming biodiversity

Under the CBD, the important link between biodiversity and agricultural sectors has been recognized given that the sustainable use of biodiversity and associated services it provides, will help to meet global demand for food. Ensuring the sustainable use of biodiversity is essential to face this challenge at three levels: ecosystems, species and genetic resources. Species and genetic diversity in crops and animals allows them to adapt to changing environmental conditions, as well as ensuring the healthy maintenance of ecosystems for the provision of services.<sup>9</sup>

In December 2016, under the framework of the CBD, the United Nations Biodiversity Conference was held in Cancun, Mexico. The conference's main theme was "Mainstreaming biodiversity for well-being",

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<sup>8</sup> FAO. 2017. The Future of Food and Agriculture: Trends and Challenges. <http://www.fao.org/3/a-i6881e.pdf>

<sup>9</sup> CBD, UNEP. 2008. Biodiversity and Agriculture. Safeguarding Biodiversity and Securing Food for the World. <https://www.cbd.int/doc/bioday/2008/ibd-2008-booklet-en.pdf>

with emphasis on the agriculture, forestry, fisheries, aquaculture and tourism sectors, which resulted in the Cancun Declaration on Mainstreaming the Conservation and Sustainable Use of Biodiversity for Well-being and the COP Decision XIII / 3. This helped to position the issue at the highest level of the United Nations system, and related international organizations including FAO. Today, there is a global consensus on the importance of achieving the biodiversity mainstreaming in and across the different sectors, with the support of relevant actors such as international organizations, the private sector and civil society organizations, as well as participating countries. In addition, efforts to achieve biodiversity mainstreaming must not be isolated, but should form an core and integrated part of the country's management of natural resources. The aim, among other concrete actions, is that significant changes should be made in national conservation, production and development policies and programs, with a high-level commitment, at both policy and resource levels, from all the sectors involved.

Biodiversity mainstreaming is part of FAO's five focus areas included in its Strategic Objectives, which are designed to help meet the challenges of humanity and our relationship with agriculture, forestry, fishing and aquaculture:

1. Help to eliminate hunger, food insecurity and malnutrition.
2. Make agriculture, forestry and fisheries more productive and sustainable.
3. Reduce rural poverty.
4. Promote inclusive and efficient agricultural and food systems.
5. Increase the resilience of livelihoods in the face of natural disasters.

FAO, and its Member Countries, have developed various instruments to promote conservation and the sustainable use of biodiversity, including the following agreements: the International Plant Protection Convention, entered into force in 1952; the 1995 FAO Code of Conduct for Responsible Fisheries; the International Treaty on Plant Genetic Resources for Food and Agriculture, adopted in 2001; and the FAO Commission on Genetic Resources for Food and Agriculture.

In addition, FAO's *voluntary guidelines* on agro-environmental policies provide guidance to Member Countries to improve their policies through an approach that links society, the territory, the environment and the economy in a more integrated manner. The guidelines also provide a series of strategic recommendations, including sector-specific and inter-sectoral measures, for promoting sustainable production in agriculture, forestry, fisheries and aquaculture. FAO proposes that these policies should be developed in coordination with different social actors to advance sustainable development and food and nutritional security in the context of global climate change.

In addition to these tools, FAO has created the Biodiversity Mainstreaming Platform<sup>10</sup>, which offers an inter-governmental space to reach agreements on policies that help integrate biodiversity in FAO's focus areas under the *Plan for mainstreaming biodiversity in food systems and agriculture, forestry, fisheries and aquaculture production processes*. This plan aims to facilitate the implementation of existing initiatives and recognizes the interdependent relationship between biodiversity and the agricultural sectors, which must be sustainable to meet higher demand for food as the population increases. Achieving this goal will not only contribute to meeting the objectives of FAO and the CBD, including its Strategic Plan 2011-2020 and Aichi Targets, but will also support the implementation of other global commitments such as the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (particularly SDGs 1, 2, 5, 6, 12, 14 and 15). The plan will also support the Paris Agreement of the United Nations Framework

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<sup>10</sup> The creation of the Platform was welcomed in Decision XIII / 3 of the Conference of the Parties of the CBD, and the 40<sup>th</sup> Session of FAO Conference welcomed FAO's initiative to act as a Platform for mainstreaming biodiversity and asked it to facilitate mainstreaming of new measures, in collaboration with its partners such as the CBD and other United Nations organizations, with a view to promoting conservation and the sustainable use, management and restoration of biodiversity in all agricultural sectors at the national, regional and international levels. <http://www.fao.org/about/meetings/multi-stakeholder-dialogue-on-biodiversity/biodiversity-mainstreaming-platform/>

Convention on Climate Change (UNFCCC) and the commitments made in the framework of the United Nations Convention to Combat Desertification (UNCCD).

## Approaches to landscape and seascape management<sup>11</sup>

In order to discuss biodiversity mainstreaming in food systems and production processes, it is necessary to approach the issue from a landscape perspective. Biodiversity is important in this context since the productivity of the agriculture, forestry, fishing and aquaculture sectors depends on healthy and diverse ecosystems, which provide essential services to these sectors. The landscape, or seascape in the case of marine areas (as there are a number of examples of degraded landscapes negatively affecting seascapes), means the set of physical, environmental, human, economic, institutional and cultural resources that comprise a territory's assets and potential. Given the dependence of the agriculture and food production sectors on the landscape, this approach tackles the main challenges of the sectors and actors from a sustainable, integrated and multifaceted perspective, while helping to address the underlying causes of environmental degradation and food insecurity.

In this context, it is important to point out that there are several megadiverse countries in the region, which are centres of origin and genetic diversity for a large number of food species, whose genetic resources have benefited the rest of the world. Therefore, protecting these areas where biological and cultural diversity converge, and where species diversification has taken place and continues to take place, is a form of global insurance against change scenarios, including climate change.

Three main benefits of a landscape and seascape based approach have been identified:

1. It offers a global platform in all sectors and areas, addressing the problems at their appropriate scale, thus improving the likelihood of project success and sustainable results.
2. It helps to address and incorporate externalities that occur far beyond traditional interventions at the farm and community levels.
3. It contributes to developing resilience in socio-ecological systems, thereby improving their capacity to withstand stresses and impacts, including likely future impacts of climate change.

In this regard, the landscape management approach is essential to support sustainable agriculture and food production, and to build productive and resilient socio-ecological systems. Furthermore, the landscape represents the participation of multiple sectors and actors, which use the goods and services generated by biodiversity. Biodiversity and ecosystems are also an important source of income and employment in many countries, including producers such as farmers, fishermen, aquaculture producers, foresters, men, women, youth, indigenous groups and Afro-descendants. These groups are the most affected by biodiversity loss, ecosystem deterioration and the loss of ecosystem services, such as the depletion and pollution of water resources (such as heavy metals, nutrients and sediments), the loss of soil quality and habitats, and the consequences of these changes, which include a lack of services such as pollination, resilience to climate change and pests and diseases, as well as the resulting impact on native wildlife diversity. Therefore, it is essential to involve these groups in negotiation processes with the food production sector, and to move jointly towards biodiversity mainstreaming in order to increase sustainability and improve their livelihoods.

Landscape management increases the resilience of production systems and their capacity to resist the probable impacts of climate change and the intensification of natural phenomena, which in turn

<sup>11</sup> FAO. 2017. Landscapes for Life. Approaches to landscape management for sustainable food and agriculture. <http://www.fao.org/3/i8324en/i8324en.pdf>

depend directly on the quality and functioning of the services provided by ecosystems. In this regard, it is important to consider that biodiversity and ecosystems are the main contributors to the capture of greenhouse gases and also reduce the vulnerability of communities to the effects of climate change, while avoiding environmental imbalances.

As part of this approach, it is also necessary to incorporate the restoration of degraded ecosystems to ensure healthy and productive landscapes as a key element for the reconstruction of livelihoods, ecosystem services and the diversification of opportunities for sustainable development, both in rural and urban/peri-urban areas.

## **Impact of the agriculture, forestry, aquaculture and fisheries sectors on biodiversity**

Population growth linked to the increase in food demand, together with changes in patterns of production and consumption, have led to a shift from traditional agriculture to intensive production systems. These have contributed to an increase in food production, but are also responsible for environmental degradation and the loss of biodiversity due to changes in land use, over-exploitation of natural resources, intensification of production systems, excessive use of chemicals and fertilizers, contamination from various sources, the introduction of invasive alien species, and increased vulnerability to climate change.

Traditional food production systems and small-scale farms in the region are giving way to extensive systems of agriculture and livestock production that, instead of improving the well-being of the local population, contribute to the intensification of the cycle of poverty as small-scale producers stop planting diverse species, decreasing their intake of nutritious foods and endangering the ecosystems that provide diverse socio-environmental benefits. The expansion of the agricultural frontier has occurred at the expense of very diverse ecosystems. For almost a decade, various reports have shown that the transformation of habitats generated by agricultural expansion is one of the main factors behind the loss of biodiversity worldwide. Latin America has not been exempt from this situation, especially given that the loss and transformation of habitats is identified as the greatest risk to biodiversity since the reduction and loss of habitats is causing a biodiversity crisis.<sup>12</sup>

Additionally, agricultural expansion continues to be the main cause of land degradation, desertification and deforestation. Forest loss in the period 2010–2015 reached an average 7.6 million hectares per year, while an average 4.3 million hectares per year were added in the same period, which implies a annual net reduction of 3.3 million hectares per year<sup>13</sup>. It is estimated that around 200 million hectares of land are degraded globally, resulting from productive activities such as those linked to agricultural sectors, either in large-scale production or subsistence agriculture, as well as other activities of intensive productive sectors. In Latin America, agricultural and livestock activities are responsible for approximately 70% of habitat conversion in the region.

Although the region still has a large endowment of natural resources, the largest expanse of arable land in the world and receives 29% of the world's rainfall, its agricultural area has increased more than 34 % in the last 50 years and, since 1990, the area covered by forest ecosystems has been reduced by 9%. In addition, the extraction of water in the region has doubled at a rate higher than the world average, most of which is used in agriculture. Generally, the expansion of production has been accompanied by intensive

<sup>12</sup> UNEP-WCMC. 2016. The State of Biodiversity in Latin America and the Caribbean. <https://www.cbd.int/gbo/gbo4/outlook-grulac-en.pdf>

<sup>13</sup> FAO, 2015. Global Forest Resources Assessment 2015. How are the world's forests changing? <http://www.fao.org/3/a-i4793e.pdf>

use of inputs, soil degradation, loss of biodiversity and deforestation. The region is responsible for 14% of soil degradation globally and the rate of deforestation is also high, with forest loss averaging 2.2 million hectares per year in the period 2010-2015<sup>14</sup>.

Worldwide, it is estimated that around three quarters of the genetic diversity of agricultural crops has been lost during the last century due to the homogenization of agricultural production systems, mainly due to the intensification of farming systems, together with specialization of plant and animal breeders. This genetic erosion continues as the result of increased trade in only a few crops and, today, 90% of the energy and protein from food sources comes from only 15 plant species and 8 animal species, with worrying consequences for food and nutritional security. For example, more than 50% of the world's energy consumption now comes from the consumption of wheat, rice and corn.<sup>15</sup>

In addition, the extraction and inefficient use of water for irrigation results in the waste of this resource, the degradation of agricultural land and the over-exploitation of groundwater. The figures reveal that water extraction in the region has doubled at a rate higher than the world average, most of which is used in agriculture<sup>16</sup>. This is especially serious when, in total, 76% of groundwater extractions in Latin America and the Caribbean (LAC) region are related to crop production (Mekonnen et al., 2015).<sup>17</sup>

The effects of climate change are already being felt in many countries of Latin America and the Caribbean, especially the Caribbean's small island developing States, which face challenges to increase their capacity for adaptation and to mitigate the impacts of this phenomenon that are making them increasingly vulnerable. The economic activities of these countries are strongly linked to the use of the biodiversity of their coastal and marine ecosystems, as well as their forests, agricultural lands and mineral resources, which means they are becoming more vulnerable due to the impacts of unsustainable productive activities and climate change.

Moreover, the concentration of socio-economic activities in coastal areas means that onshore activities are likely to have an impact on coastal and marine ecosystems, habitat destruction, deforestation and soil erosion, resulting in sedimentation of coral reefs, seaweed beds and coastal wetlands.<sup>18</sup>

In terms of forest ecosystems, we know that they concentrate an important part of global and regional biodiversity. However, as mentioned above, the unsustainable development of the agricultural sector has caused the loss of forest cover and, consequently, the loss of ecosystems and species, as well as the services they provide. Unsustainable agriculture and livestock systems are the main drivers of deforestation in the remaining tropical forests of Latin America. Natural forests are being cut down to plant large areas of monocultures such as soybean, cotton or African oil palm and to establish ranches on an unprecedented scale. In addition, the introduction of invasive alien species represents another threat to biodiversity, with plantations of oil palms such as the African oil palm (*Elaeis guineensis* Jacq.) expanding in the region.

The fisheries and aquaculture sector also generates impacts on biodiversity and marine and coastal ecosystems, through overfishing, the bycatch of non-target species, habitat degradation, and land use change in coastal ecosystems of high environmental importance such as wetlands, including mangroves, seagrasses and coral reefs. The fight against illegal, unreported and unregulated fishing is one of the main challenges for the fishing sector, while the aquaculture sector faces other challenges such as the control

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<sup>14</sup> FAO, 2016. Challenges for Sustainable Use of Natural Resources, Risk Management and Climate Change Adaptation in Latin America and the Caribbean in the New Framework of Sustainable Development Goals . Thirty-fourth Session. Mexico City, Mexico, February 29 - March 3, 2016.

<sup>15</sup> CBD. About Agricultural Biodiversity. <https://www.cbd.int/agro/about.shtml>

<sup>16</sup> FAO- WHO. 2017. Latin America and the Caribbean. Panorama of Food and Nutritional Security. Sustainable Food Systems to end hunger and malnutrition. <http://www.fao.org/3/a-i6747s.pdf>

<sup>17</sup> UNEP-WCMC. 2016. The State of Biodiversity in Latin America and the Caribbean. <https://www.cbd.int/gbo/gbo4/outlook-grulac-en.pdf>

<sup>18</sup> FAO.2008. Climate Change in the Caribbean and the Challenge of Adaptation: [http://www.pnuma.org/deat1/pdf/Climate\\_Change\\_in\\_the\\_Caribbean\\_Final\\_LOW20oct.pdf](http://www.pnuma.org/deat1/pdf/Climate_Change_in_the_Caribbean_Final_LOW20oct.pdf)

of diffuse pollution and the introduction of invasive alien species, among others. These impacts generate changes in the structure, functioning, productivity and resilience of coastal and marine ecosystems.<sup>19</sup>

It should also be mentioned that fishing is affected by agriculture, soil degradation and deforestation, due to causes such as sediment transport, pollution from land-based sources, the destruction of coastal habitats such as mangroves, lagoons and coral reefs where a significant number of commercial species live and reproduce, and the introduction of invasive alien species mainly into inland waterways.

Unfortunately, in many cases the decisions in this sector are made without scientific support or ecosystem considerations, and without considering the interrelations between species and their environment, but rather considering the target species in isolation.

The growth of aquaculture worldwide (with differences between regions and economies) implies the expansion of cultivated areas, larger farms, higher density of individuals in farms and the use of fish feed often produced outside the immediate area. At the global level, aquaculture has increased its social and economic impact through food production, while contributing to livelihoods and income generation. Another positive effect on the ecosystem includes the supply of seeds for the repopulation of endangered or overexploited aquatic species. However, when it is poorly managed, aquaculture can affect ecosystems and services with negative environmental, social and economic consequences. Aquaculture also often faces risks from other human activities such as the contamination of waterways by agricultural and industrial activities.<sup>20</sup>

In addition to these pressures on biodiversity, population growth in the region and inequality affects the populations that live in both rural and urban areas. In this regard, the focus on the degradation of ecosystems and the loss of biodiversity will have a positive impact in the fight against poverty and food insecurity.

## Benefits of the sustainable use of biodiversity

Latin America and the Caribbean is the world's largest exporter of agricultural and food products: LAC's share of world agri-food exports grew from 8.3% in 1990 to 13.8% in 2015<sup>21</sup>, and the region will play an even greater role in the future as a global supplier of food and agricultural raw materials. According to a recent study published by FAO and the Organisation for Economic Cooperation and Development (OECD), *Agricultural Outlook 2018-2027*, "it is expected that total crop production in the region will grow 1.8% per year through 2027 [...] representing a 17% increase in agricultural and fisheries production [in the region]."<sup>22</sup>

Biodiversity related to the agriculture, forestry and fishing sectors is the basis of global food production systems. In particular, in the case of agro-ecosystems, this includes the genetic diversity of animals, plants and microorganisms, species diversity and the physical, chemical and biological processes needed to maintain different ecosystems, as well as the interrelationships, evolutionary processes and adaptation of these species to a changing world<sup>23</sup>.

<sup>19</sup> Revista Iberoamericana de Ciencias. 2014. Impacto de la actividad pesquera sobre la diversidad biológica. Revisión para el Pacífico sur de México. <http://www.reibci.org/publicados/2014/mayo/4569333.pdf>

<sup>20</sup> FAO, 2011. Aquaculture Development. <http://www.fao.org/docrep/014/i1750s/i1750s.pdf>

<sup>21</sup> ECLAC- FAO- IICA. 2017. The Outlook for Agriculture and Rural Development in the Americas: A Perspective on Latin America and the Caribbean 2017-2018 <http://www.fao.org/3/i8048en/I8048EN.pdf>

<sup>22</sup> OECD / FAO forecast a 17% increase in agricultural and fisheries production in Latin America and the Caribbean by 2027.

<sup>23</sup> CBD. About Agricultural Biodiversity. <https://www.cbd.int/agro/about.shtml>

In Latin America and the Caribbean, agriculture has been central to the lives of people throughout history. In addition to employment and food, it provides and maintains cultural values and identity for all inhabitants, traditionally representing a clear link between nature and society. Taking into account the traditional knowledge of farmers and producers is essential to achieve the objectives of conservation and food security. This knowledge must be recognized, valued and integrated into public and private policies, plans and initiatives, with biodiversity mainstreaming serving as a valuable tool.

Through formally recognizing such agricultural heritage systems (such as the Globally Important Agricultural Heritage System – GIAHS), initiatives primarily in Asia have shown the potential for substantial improvements in landscape management, production, livelihood opportunities (especially youth and women), and diversification while ensuring biodiversity conservation and utilization as corner stone of such activities.

The GIAHS are remarkable systems of land use and landscapes that are rich in biodiversity, which evolve from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development<sup>24</sup>. This concept shows the importance of recognizing, valuing and integrating traditional knowledge linked to agricultural sectors and the management of natural resources into policies, plans and public and private initiatives. In Latin America and the Caribbean, the following three GIAHS pilot sites have been selected that recognize cultural factors, value systems and social organizations in the local communities: Agriculture in Chiloé archipelago in Chile; the Andean Systems in Peru; and the Chinampero Productive System in Mexico, where traditional agricultural practices have been passed on from generation to generation.

Agroecology and other similar approaches encourage crop diversification, promote landscape management and harness synergies between biodiversity, the services it provides and increased productivity. As a result, these approaches help to address food security and conservation challenges, including mitigation and adaptation to climate change, increasing the resilience of agro-ecosystems.

Also, the development of sustainability in all types of agricultural practices in the region, from extensive to family farming, will help to promote conservation and the sustainable use of biodiversity, while contributing to the fight against poverty, hunger and malnutrition.<sup>25</sup> It is important to note that the family farming sector in Latin America and the Caribbean covers a great diversity of arrangements and production systems, providing work for around 60 million people, and representing 75% of the total units of productive activities in the region, exceeding 90% in some countries. In addition, up to 80% of exports are produced by family farming.

From the economic perspective, given that the agricultural sector provides jobs mainly for rural and coastal communities of the region, sustainable agriculture is an important tool in the fight against poverty and inequality, helping to provide food and livelihoods for vulnerable families in these areas. Environmental degradation especially affects the most vulnerable social sectors, among which are family farmers, fishermen, artisanal aquaculture producers, and small-scale forestry producers, who depend directly on natural resources for subsistence and income<sup>26</sup>. As mentioned above, promoting the conservation of these natural resources through the implementation of sustainable production practices will also have an effect on other indicators of development and well-being.

In this regard, addressing the issue of nutritional security is essential, especially in a region where there are significant rates of malnutrition, reflected in undernourishment, obesity and non-communicable diseases

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<sup>24</sup> FAO. 2011. Globally Important Agricultural Heritage Systems: A Legacy for the Future. <http://www.fao.org/docrep/014/i2232e/i2232e.pdf>

<sup>25</sup> FAO. 2014. Family Farming in Latin America and the Caribbean: Policy Recommendations. <http://www.fao.org/docrep/019/i3788s/i3788s.pdf>

<sup>26</sup> FAO. 2016. Voluntary Guidelines for Agro-Environmental Policies. <http://www.fao.org/3/a-i5462e.pdf>

related to food consumption. According to FAO data, in Latin America and the Caribbean, 42.5 million people do not have access to enough food to cover their daily energy requirements, while overweight and obesity rates are increasing in all countries of the region, and in all age groups, regardless of economic level or geographical location<sup>27</sup>. An additional benefit of conservation and the sustainable use of biodiversity is the contribution of diverse nutrients to local diets.

In terms of the forestry sector, forest ecosystems are the guardians of most terrestrial biodiversity, and offer other services linked to the hydrological cycle, carbon sequestration and storage, as well as air and water purification. In addition to being a source of timber and non-timber resources, forests also represent values and cultural identity for indigenous and local communities in Latin America and other regions. Non-timber forest products are a source of livelihood and income for forest-dependent communities. In rural areas, “*environmental income*” from forests represents an average 22% of total income, and this proportion is even higher in poorer populations. Environmental income therefore works as a buffer for inequalities in rural areas. (Vedeld *et al.*, 2004). In addition, recently children adjacent to natural forest have also recently been shown to have improved nutrition when compared to children further from forests. The use of sustainable practices by different actors in the forestry sector (from forest dwellers to large-scale producers) will ensure the sustainability of forest ecosystems and biodiversity, while protecting the environmental services provided by these ecosystems. Agroforestry and certification schemes also encourage the sustainable management of forest ecosystems with additional social and environmental benefits, including greater biodiversity and protection against soil degradation caused, for example, by erosion, while providing opportunities to generate higher incomes. Meanwhile, the fight against illegal logging, the change of land use in forest ecosystems and the introduction of exotic invasive forest species that compete with underutilized native species, are the biggest challenges to achieving sustainability in the forestry sector. Addressing these issues in a timely manner, as well as the generation of alternative and sustainable productive activities related to forest ecosystems, should be considered priority areas going forward.

For its part, the fisheries and aquaculture sector provides food security and livelihoods for between 10% and 12% of the world’s population<sup>28</sup>. It is estimated that by 2030 aquaculture will provide more than 60% of animal protein from aquatic ecosystems and the sustainable increase in production will contribute to meeting the growing demand for protein in the region. In this regard, aquaculture activities should be developed using an ecosystemic approach that integrates aquaculture into the ecosystem, and promotes the sustainable development, equality and resilience of interconnected socio-ecological systems<sup>29</sup>.

In order to promote biodiversity mainstreaming in the fisheries and aquaculture sector, factors that affect the health of ecosystems on which fisheries depend should be considered in addition to productivity. These include pollution from land-based sources, contamination by plastics, the introduction of invasive alien species that compete environmentally and economically with native species, and control of overfishing, illegal fishing, bycatch and the use of fishing gear that damages coastal ecosystems and seabeds. The restoration and management of mangroves are essential as they serve as protection to the environment, breeding areas for commercial fish and as fishing areas for local fishers.

Meanwhile, livestock production in the region has focused on the use of a limited number of breeds, mainly because producers prefer the most profitable breeds and productive methods, which has resulted in the degradation and even the disappearance of animal genetic resources. However, many indigenous breeds, some of which are in danger of extinction, present adaptive characteristics such as the ability to resist climatic stress, diseases and parasites, which are of great importance in a changing world.

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<sup>27</sup> FAO. 2017. Panorama of Food and Nutritional Security in Latin America and the Caribbean 2017. Key Messages: <http://www.fao.org/americas/publicaciones-audio-video/panorama/2017/en/>

<sup>28</sup> CBD- COP13-HLS. Mainstreaming Biodiversity for Well-Being. <https://www.cbd.int/cop/cop-13/hls/introduction-hls-en.pdf>

<sup>29</sup> FAO. 2010. Technical guidelines for responsible fishing. [http://www.fao.org/tempref/FI/DOCUMENT/aquaculture/aq2010\\_11/root/2011/i1750s.pdf](http://www.fao.org/tempref/FI/DOCUMENT/aquaculture/aq2010_11/root/2011/i1750s.pdf)

Biodiversity mainstreaming in the livestock sector includes the conservation and sustainable use of diverse breeds and animal species, with different types of livestock systems adapted to certain geographical regions and ecosystems. This also involves the use of alternative inputs, especially in extensive livestock systems, which in turn helps to conserve native ecosystems, while promoting conservation and the use of native grasslands, different grazing techniques, and native trees and shrubs. In addition, it is necessary to change practices that degrade livestock land such as the use of fire and overgrazing. This approach to mainstreaming biodiversity in the livestock sector includes both the supply and demand sides, and the intensification of livestock production should consider the control of zoonotic diseases and animal welfare in extensive and intensive production systems, especially those that use less land.

The region of Latin America and the Caribbean takes the lead in biodiversity mainstreaming globally through the adoption of a *Regional Plan for biodiversity mainstreaming y in food systems and agricultural production processes*, which includes sustainable and efficient use of natural resources, biodiversity and ecosystems, with a focus on landscape management, the control of water and soil pollution, the reduction of the use of polluting agricultural inputs, conservation and promotion of the productive diversification of local species, the valuation and use of knowledge linked to traditional productive practices, and alternative production schemes that promote the sustainable production of diverse and nutritious foods.

This Plan should consider the following key aspects:

#### **A. Production and consumption**

The way in which food is produced and consumed is key to a healthy planet. Biodiversity and ecosystem services are indispensable elements for the agriculture and food production sectors, which means their conservation is crucial for food and nutritional security.

Good governance, regulatory frameworks and incentives are needed to facilitate the inclusion of criteria for the use and conservation of biodiversity in food production systems, as well as to reduce food loss and waste.

The participation of associations (*partnerships*) among multiple actors and sectors throughout the food chain should be encouraged, as should the participation of indigenous and local communities, as well as local producers of all sizes and other actors in the production chain, including civil society organizations and consumers.

Communication strategies are a common thread linking the entire production chain, involving producers and final consumers, while also helping to promote the required changes in food production and consumption habits.

Approach sustainable production, *particularly for small island development states –SIDS*, at the level of landscapes/seascapes as food production, forestry and fisheries are frequently inter-related. Ignoring one sector may in fact undermine the sustainable production of food and the overall environment.

#### **B. Public policy innovation**

In order to meet the challenges of biodiversity mainstreaming in food and agriculture production, innovative economic, social and environmental policies are needed, together with policy tools and other mechanisms that contribute to the achievement of the Sustainable Development Goals. Biodiversity mainstreaming will also help to maintain and restore productive ecosystems and contribute to the fight against poverty by helping to end hunger and ensure access of all people, particularly the poor and those in vulnerable situations, to a healthy and nutritious diet.

It will also help to ensure the sustainability of food production systems and the implementation of resilient agricultural practices that increase productivity and production, while maintaining ecosystems and strengthening the capacity of farmers to adapt to climate change and improve soil quality.

The design of public policies and other planning instruments that include biodiversity mainstreaming in productive sectors will help to ensure that the contribution of biodiversity and genetic diversity to agricultural, livestock, forestry, fishing and aquaculture production systems is understood, valued and protected.

The countries of the region are committed to the 2030 Agenda and the fulfilment of the Sustainable Development Goals, among other international agreements. These commitments must be considered in the design of public policies and should support decision-making that promotes biodiversity mainstreaming in productive sectors.

### **C. Good practices**

The productive potential of the region could benefit from the implementation of traditional, mixed and agroecological practices at the small, medium and large scale, which ensure the valuation of traditional knowledge and innovation for the efficient management of natural resources linked to food systems.

This will allow countries to take advantage of the added value of landscape management. In addition, rural/urban linkages should be promoted along with the strengthening of the primary sector as a tool to reduce inequalities, including improving access to markets, combating rural migration and illegal activities, and stopping the over or illegal exploitation of natural resources.

These practices will help to promote varied diets that are nutritious and culturally appropriate through the diversification of food production from animal, fish and plant sources, among other things.

### **D. Governance**

Inter-sectorial governance, participatory management and community involvement and ownership should be taken into account.

Experience suggests that the involvement of local community needs to form the basis of landscape management, as they directly benefit from it and have a sense of responsibility and ownership.

### **E. Financing**

In addition to governance and legal frameworks, countries require financial resources to support the biodiversity mainstreaming in national plans, programs and policies.

The Plan will help to identify financing opportunities and access to financing mechanisms through the involvement of other relevant global organizations, including the Environment Fund (GEF), international cooperation agencies, and the UN's Biodiversity Finance Initiative (BIOFIN).

### **F. The role of international organizations**

The agendas of international and regional organizations include traditional and scientific knowledge that promotes innovation in the productive sectors, as well as instruments and guidelines that promote sustainable development and support the objectives of the Regional Plan, but are not necessarily related to the environmental sector. This includes international organizations such as UN Environment, whose

agenda includes sustainable production and consumption and the efficient use of resources, as well as FAO, and the Convention on Biological Diversity.

As an agency that works with all productive sectors, it is essential for FAO to promote the development of a strategy that considers the regional inputs needed to establish global guidelines and agendas that will guide national efforts in this area.

As a global organization with a presence in the region and different countries, FAO is able to provide support at all levels and promote interaction, communication and capacity building actions, as well as continuing to strengthen mainstreaming within the organization between its different focus areas.

In addition, FAO's Biodiversity Mainstreaming Platform offers a space to promote collaboration between the different actors involved, fulfilling its main objective that consists of *“the adoption of good practices in all agricultural sectors that promote the conservation of biodiversity, stability and resilience of production systems, and reduce pressure on natural habitats and species.”*

Cooperation between FAO and other international organizations, particularly within the CBD, is a clear example of how their combined efforts help to focus attention on different problems linked to unsustainable production systems. This also encourages long-term initiatives to integrate biodiversity in the agendas of participating international organizations and continues to provide support to countries in their regional and national efforts in this area.

## APPENDIX: Successful Case Studies

These case studies are examples of how biodiversity has been integrated in productive sectors in the region, thereby contributing to the regional development agenda, as well as to national development policies and indicators, such as the fight against poverty, hunger and inequality, while ensuring an adequate and balanced supply of food. In the future, the efforts described below must be reflected in the policies, programs and budgets of all the sectors involved, thus ensuring that the most vulnerable communities receive special attention and guaranteeing multi-stakeholder participation so that the private sector, indigenous and local communities, civil society and other relevant actors are engaged and committed to achieving these objectives.

### Centre for the Integration of Biodiversity MEXICO

**Action area:** Governance / **Sector:** Agriculture, forestry and fishing

In the framework of the preparation for the Thirteenth Conference of the Parties (COP 13) of the Convention on Biological Diversity (CBD), held in Cancun, Mexico, in December 2016, the Mexican Commission for the Knowledge and Use of Biodiversity (CONABIO), the German Agency for International Cooperation (GIZ), and the BIOFIN-Mexico initiative, among other institutions, worked closely with representatives of the agriculture, forestry, fisheries and tourism sectors in the development of strategies to integrate biodiversity in these sectors. As a result, the Secretary of Agriculture, Livestock, Rural Development, Fisheries and Food of Mexico (SAGARPA) published in 2017 the Integration Strategy for the Conservation and Sustainable Use of Biodiversity in the Agriculture Sector 2016-2022 (EIBA), which includes clear strategic objectives and guidelines to be implemented by the agriculture sector to achieve the integration of conservation and the sustainable use of biodiversity. As part of this process, the SAGARPA Centre for the Integration of Biodiversity was founded in 2018, which is the only one of its kind in the world, with the objective of promoting the integration of conservation and the sustainable use of biodiversity in the agriculture, livestock, fisheries and food sectors. It also provides a space for inter-institutional cooperation that contributes to the achievement of the Sustainable Development Goals of the 2030 Agenda, while promoting inter-sectoral dialogue and gathering useful information to incorporate biodiversity criteria into SAGARPA's policies and programs.

#### **Main contributions:**

- Collaboration between the environmental sector and productive sectors, incorporating sustainability criteria in primary production.
- Promoting recognition by the different productive sectors of the importance of biodiversity for their activities.
- Systematization of the efforts and advances in different areas of SAGARPA, which helps to generate recommendations for sectoral planning instruments to support their implementation.
- Strengthening capacities of the different actors of the sector to fulfil their sustainability and biodiversity conservation commitments.
- Development of public policy instruments and institutions that include specific actions for the integration of biodiversity in productive sectors.

## *Alianza del Pastizal* ARGENTINA, BRAZIL, PARAGUAY AND URUGUAY

**Action area:** Protect natural grasslands and their biodiversity in South America's Southern Cone through coordinated actions between the four countries (Argentina, Brazil, Paraguay and Uruguay), and between different sectors of society (producers, civil society organizations, academia and governments), within the framework of the sustainable development of the region. / **Sector:** Livestock

The *Alianza del Pastizal* is a multinational organization, which brings together representatives from Argentina, Brazil, Paraguay and Uruguay, to promote nature conservation and sustainable rural production on the natural grasslands of the Southern Cone.

The area of natural grasslands in South America's Southern Cone, comprising the Pampa Biome, is unique in the world. The introduction of cattle in the 16<sup>th</sup> and 17<sup>th</sup> centuries initiated a sustained change in the biodiversity of grasslands and associated species, displacing and replacing populations of deer in vast areas of the region and, as a result of overgrazing, led to an impoverishment in valuable plant species and a loss of habitat for many species of birds.

As other forms of production such as agriculture and forestry were introduced, the natural grasslands were reduced in area. The rate of this change in land use has increased significantly in recent years with the increase in the value of agricultural products, led by soy and corn, and afforestation, mainly with eucalyptus and pines. It is estimated that one million hectares are transferred annually from extensive livestock to more intensive production, to the detriment of the natural grasslands of the Southern Cone.

The natural grasslands are a habitat for 540 species of registered wild birds, of which 12 are endangered globally. Among them are species of migratory birds that make their crossing annually from the North American prairies to the pampas of South America.

Due to the importance of natural grasslands for the biodiversity it harbours, in 2004 BirdLife International, together with its partners in the Americas, decided to promote actions to protect these grasslands. This is how, two years later, the first South American regional initiative for the conservation of natural grasslands was created: the *Alianza del Pastizal*, led by BirdLife International and executed through local partners Aves Argentina, Guyra Paraguay, Save Brasil and Aves Uruguay.

The main objective of the *Alianza del Pastizal* is to promote the conservation of grasslands in the Southern Cone.

### **Main contributions:**

- Combining the efforts and actions of various groups (conservation organizations, rural associations, academia, government agencies) in four countries of the region to promote the conservation of natural grasslands.
- Creating awareness in society about the importance of the conservation of natural grasslands and their associated rural activities.
- Promoting scientific research.
- Identifying, publishing and promoting good rural practices for the integration of conservation in production management.
- Encouraging the training and education of technicians capable of transferring knowledge and good practices for productive management to producers.
- Certifying or approving rural food products that are produced in a way that contributes to the conservation and biodiversity of grasslands.
- Developing, strengthening and executing projects for conservation and the sustainable use of grasslands in the region.
- Serving as a management platform for third-party projects, which are compatible with the spirit of the *Alianza del Pastizal*.
- Contributing to the development of public policies (at different levels, provincial, state, federal and even regional) for the conservation of grasslands, their biodiversity and sustainable rural practices.
- *The Alianza del Pastizal's* meat certification allows consumers to identify and select meat products produced in harmony with nature conservation, protecting large areas of native grasslands and the unique vegetation of the South American Pampas.

## National plan for the promotion of socio-biodiversity product chains BRAZIL

**Action area:** Governance / **Sector:** Agriculture

The main objective of the program implemented by the Brazilian government with the Ministry of Environment is to promote the conservation and sustainable use of biodiversity and guarantee the generation of alternative income for rural communities, specifically family farmers and traditional sectors.

This program supports the production and extraction of native products from Brazilian biomes, the industrial processing of these products, access to markets and the strengthening of social and producer organizations.

### **Main contributions and lessons learned:**

- Institutional coordination to achieve integrated public policies.
- Strengthening of socio-biodiversity product chains.

## Incentives and public-private mechanisms to support zero deforestation processes in supply chains in Colombia: Case study of the Amazonian Piedmont. COLOMBIA

**Action area:** Economic instruments, incentives / **Sector:** Livestock

An analysis of incentives and public-private mechanisms in Colombia and particularly in the Amazonian foothills was carried out, aimed at supporting zero deforestation processes in supply chains.

Based on this analysis, it was possible to identify that the country has a variety of public instruments to support farmers, but that the available resources continue to be limited and difficult for small producers to access. Additionally, they still lack an agro-environmental approach that explicitly and concretely fosters processes of environmental reconversion and the recovery of ecosystem services of importance for ecosystem production and functioning. Despite the existence of public instruments, land continues to suffer from degradation, which means incentives urgently require inter-sectoral design and management with the inclusion of sustainable management requirements and the integration of the conservation perspective in agriculture programs.

### **Main contributions and lessons learned:**

- Identification of existing instruments to provide support from the public sector to small producers.
- Mapping of challenges to achieve the inter-sectoral management of existing incentives aimed at achieving zero deforestation.
- Identification of the necessary actions to achieve an agro-environmental approach and improve conditions for the participation of small producers.

## Use of inputs for agrobiodiversity and agricultural by-products in the manufacture of aquaculture feed COLOMBIA, COSTA RICA, GUATEMALA AND PARAGUAY

**Action area:** Capacity building / **Sector:** Aquaculture, agriculture

The objective of the program was to replace commercial aquaculture feeds with alternative low-cost feed, prepared with ingredients derived from local agrobiodiversity, for limited resource aquaculture producers (ARELs in Spanish). The program was based on model units that helped to build local capacities and expand the benefits derived from these actions to other ARELs in the territory.

### **Main contributions and lessons learned:**

- Capacity building with a self-management approach.
- Strengthening the economic-productive sustainability of limited resource aquaculture producers with the use of local ingredients.
- Reduction of food loss and waste from agriculture.

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# APPENDIX IV: Conclusions of the task forces

## Task Force 1 – Cross-cutting issues

### Global governance

- FAO Strategy for the mainstreaming of biodiversity in the productive sectors is important to influence the national agricultural, forestry, fishing and aquaculture sectors, as well as the international agendas and other United Nations agencies.
- The Strategy will contribute to the mainstreaming of biodiversity in the agricultural, fishing and forestry sectors, and its formulation will be reviewed by the technical committees, regional conferences, the Council and FAO Conference.
- Provide a neutral forum, through the Platform for the Mainstreaming of Biodiversity, for governments, communities and other stakeholders (government, private sector, local peoples and indigenous communities, financial sector, academia, civil society, among others) in sustainable food systems along the food chain to identify synergies, align objectives and develop integrated intersectoral approaches for the mainstreaming of biodiversity in the agricultural, forestry and fishing sectors (including wild species).
- Facilitate multisectoral and inter-stakeholder dialogues (government, private sector, local peoples and indigenous communities, financial sector, academia, civil society, among others) focusing on processes, policies and legislation at the regional and national level, with a view to identifying gaps and opportunities, as well as promoting research and applications related to the use of biodiversity and the and valorisation of its conservation.
- Promote the development of a vision for sustainable food systems of the future and of a global action plan on the mainstreaming of biodiversity in food systems (agriculture, livestock, aquaculture, fisheries and forestry sectors), recognizing the important role of both producers and consumers.

### National policies and legislation

- Help countries to raise awareness about the value of biodiversity and ecosystem functions and services, and their essential role for human well-being and food and nutritional security.
- Cooperate with countries in the development, evaluation and monitoring of national and regional initiatives and policies, governance mechanisms and regulatory approaches that effectively incorporate the conservation and sustainable use of biodiversity in the agricultural, forestry and fisheries sectors.
- Develop, improve or expand new instruments (such as codes of practice, guidelines and standards), in order to support countries in the sustainable use and conservation of biodiversity in the agricultural, forestry and fishing sectors. This will allow countries to identify and value the economic, social and cultural contributions of biodiversity and ecosystems in the sustainability, profitability and competitiveness of the different sectors, considering the participation of the different stakeholders.
- Determine and promote approaches and practices that effectively integrate the conservation and sustainable use of biodiversity in the agricultural, forestry and fisheries sectors, and in the different

terrestrial and marine landscapes within them (using experiences related to agroecology, sustainable agriculture and GIAHS), with special attention to the strengthening of educational models, research, innovation, training and extension systems.

### **Incentives, investment and voluntary certification systems**

- Contribute to the improvement of methods to establish biodiversity accounting, functions and ecosystem services in national accounts and other instruments.
- Support countries to evaluate and review their policies and incentives to promote the sustainable use and conservation of biodiversity in the agriculture, forestry and fisheries sectors, including the elimination of those incentives that generate an adverse impact on biodiversity and ecosystem services.
- Provide a neutral forum for the development of sustainable production and biodiversity conservation guidelines that can serve as a basis to promote responsible private investment and the development of verification and control instruments to certify productive systems that use biodiversity sustainably, including voluntary certification or participatory guarantee systems, among others.
- Facilitate public, private or mixed investment that promotes the conservation and sustainable use of biodiversity in the agricultural, forestry and fishing sectors and food systems, in order to reduce the loss of biodiversity and restore ecosystems.
- Encourage dialogue, trust and transparency among all stakeholders that use and have an impact on biodiversity, and encourage systematic changes through inclusive policies and value chains.
- Promote investment in technical assistance and extension services aimed at the adoption of sustainable and equitable practices and knowledge management, which integrate biodiversity into agricultural, forestry and fisheries production.
- Carry out an inventory of verification and control systems, including voluntary certification or participatory guarantee systems, among others, in the agricultural, forestry and fishing sectors, considering regional or national approaches where appropriate.
- Promote business models that consider the conservation and sustainable use of biodiversity.
- Cooperate with countries in the mobilization of resources to promote knowledge management, innovation and technological development for the integration of conservation and sustainable use of biodiversity in productive systems in the agricultural, forestry and fisheries sectors.

## **Task Force 2: Sectoral issues**

### **Agriculture and livestock**

- Highlight that the actions recommended in this Regional Dialogue should be carried out in coordination with FAO's Global Action Plan for plant and animal genetic resources.
- Implement programs that promote the approach of agro-biodiversity and socio-biodiversity (traditional systems and local crops), including subsidies for sustainable agricultural and livestock practices, with the criteria of biodiversity use and conservation.

- Create or promote a food agenda based on product diversification (agro-biodiversity and socio-biodiversity), including sustainable food systems.
- Generate indicators and data on the current state of the agricultural frontier and livestock that serve as a basis for governmental and institutional decision-making, which means specific data about the livestock sector is required to develop actions in this sector.
- Develop a national and subnational data platform to approach local communities and decision-makers, which includes information on areas with greater biodiversity and socio-biodiversity value.
- Based on reliable information, systematically establish a communications strategy and spaces for dialogue among diverse actors.
- Develop consultation platforms for countries to evaluate their national subsidies or incentives, considering local regulations. It is important to create spatial analysis tools, to avoid the duplication of subsidies in a given area, and in order to avoid negative impacts on biodiversity and ecosystem services. Establish criteria to support biodiversity conservation, including the legal definition of land tenure and environmental impact assessment criteria.
- Develop a platform for the diversification of native crops in the value chain and in the market as a mainstreaming approach to biodiversity in the sector.
- Include products with added value and differential value, including the development of agricultural chains with zero-deforestation.
- Implement payment for agrobiodiversity conservation practices in voluntarily designated conservation areas.



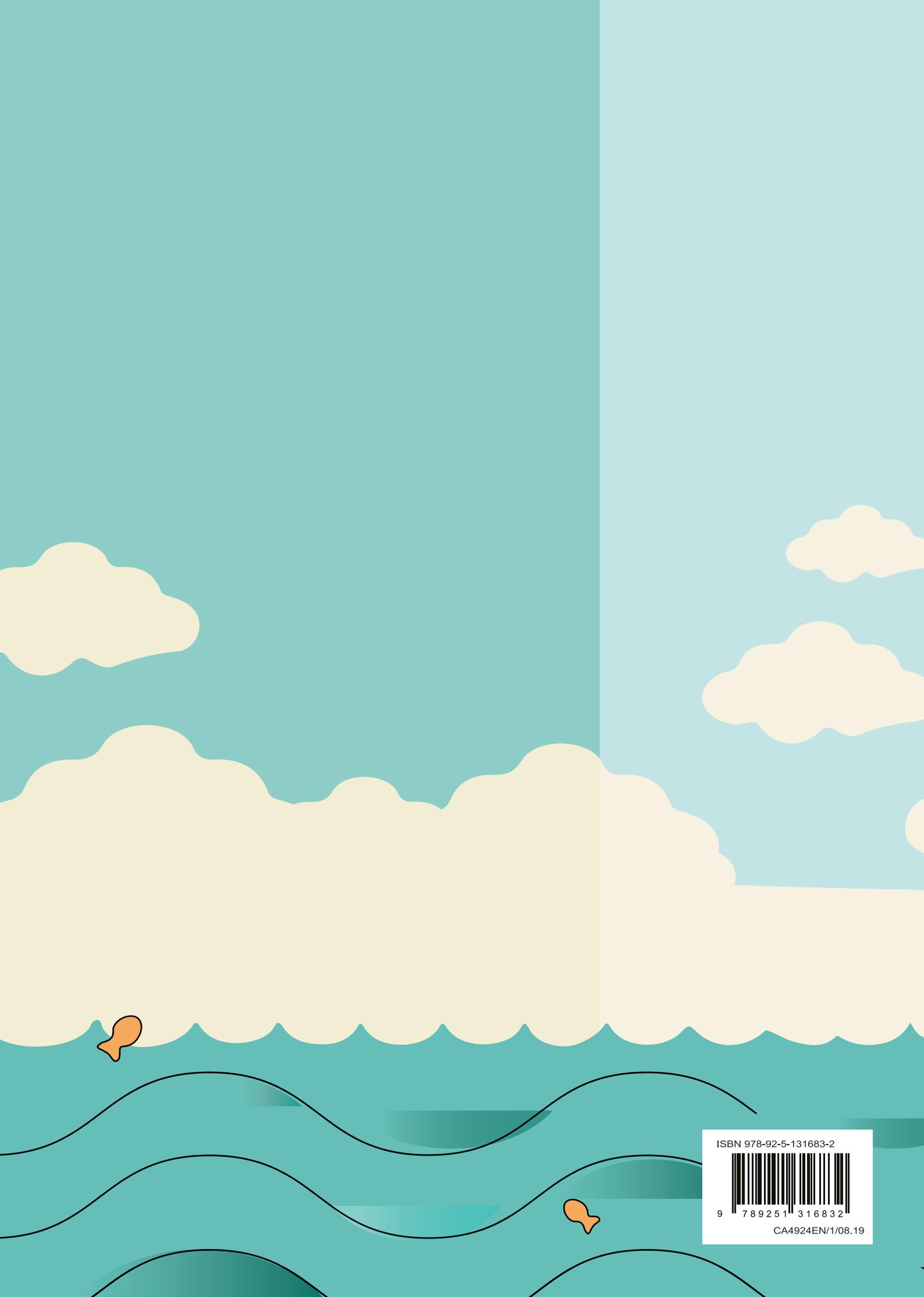
## Forestry

- Highlight that the actions recommended in this Dialogue should be consistent with FAO's Global Action Plan for the Conservation, Sustainable Use and Development of Forest Genetic Resources, as well as the National Biodiversity Strategies and their related action plans.
- Develop a platform of indicators, linked with the SDGs, on legal and illegal land-use changes, restoration and remediation (including gallery forests), the participation of key actors (including those responsible for managing the resources) and actions to mitigate or reduce the negative effects of natural events (hydrological, meteorological, geophysical and biological) such as hurricanes and landslides, among others.
- Develop and use support tools in geographic information systems, taking into account the use of updated coverage and appropriate scales (e.g. Mexico).
- Develop a communications strategy on the importance of biodiversity in promoting well-being in order to involve other sectors and actors, highlighting the economic, social and cultural dependence of productive sectors and services on the integration of biodiversity, as well as its role in generating new opportunities.
- Work with financial and private institutions to implement international standards in productive sectors, such as the International Finance Corporation's platform, among others.
- Promote the national and subnational use of planning tools at the landscape or basin level using ecosystem-based approaches in key projects, and promote the participation of the different stakeholders, particularly indigenous and local communities.
- Apply the value chain approach at the sectoral level for value-added timber, non-timber and wildlife products. Value chains must consider the communities where these products are produced through to the final consumer. This work must be carried out with the participation of business owners, local communities and indigenous peoples, considering local cultural and spiritual aspects where applicable.
- Develop marketing strategies, stimulating consumer awareness and loyalty, including issues associated with places of origin of products (timber and non-timber), with a view to obtaining benefits for responsible consumption.
- Promote the development of productive forest projects, preferably with native species, under a territorial approach with productive diversification. In addition, these projects must include scientific criteria that allow the monitoring and evaluation of forest conditions to ensure their sustainability. It is also necessary to determine if there are enough different species so that they can reproduce and not perform selective logging of only one species.

## Fishing and aquaculture

- Highlight that the actions recommended in this Regional Dialogue should be integrated into the state of the world's aquatic genetic resources for food and agriculture.
- Strengthen research to promote selective capture systems and other improvements in fishing techniques and methods that contribute to reducing bycatch and achieving sustainable use and protection of biodiversity.
- Develop institutional and sectoral capacities to expand the use of alternative fishing methods in new regions and professionalize the sector.
- Take actions to strengthen value chains, accompanied by marketing strategies, including different species, certification tools and synergies with stakeholders, thereby facilitating fishermen's access to markets.
- Strengthen fisheries management through intersectoral and regional cooperation.
- Develop a communications strategy to promote the participation of local communities and other interested actors and sectors.
- Develop financial mechanisms to support the transition to sustainable practices.
- Promote national policies and measures for the establishment, management and financing of protected marine areas, no-fishing zones and fishing refuges.
- Improve the design and functioning of the legal framework for fishing and aquaculture:
  - Modernization and development of legal framework;
  - Update fisheries legislation;
  - Incorporate ecosystem principles, and biodiversity standards;
  - Include inspection and surveillance systems (cooperation for capacity building);
  - Concrete actions to mitigate illegal fishing.
- Strengthen research and data collection for decision-making, and the implementation and monitoring of ecosystem-based fisheries management plans.
- Promote research on ocean acidification and climate change to better understand their impacts on marine ecosystems and fisheries, and to implement fact-based policies and programs to build resilience in coastal ecosystems and communities.
- Strengthen regional coordination dialogues for countries that have shared ecosystems.
- Develop strategies to reduce effluents and waste from aquaculture and pollution, as well as exploring the cultivation of other native species.
- Increase the development of research and technology to include new species in aquaculture and mariculture.
- Diversify production to include other species and reduce the pressure on common species.





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