Governance
approaches and practices in Latin America and the Caribbean for transformative change for biodiversity

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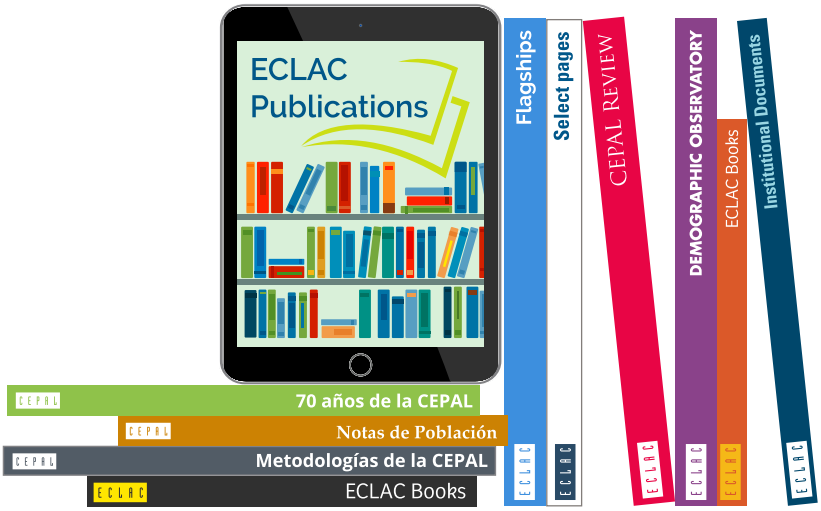

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Overview

Latin America and the Caribbean has enormous strategic renewable and non-renewable natural resources that have played a key role in the region's development. For example, in some countries, in economic terms, natural heritage accounts for more than 45% of total exports and up to 38% of tax revenue. However, this relevance is not expressed in a uniform way, and natural heritage is dwindling, leading to negative impacts on environmental health, social justice and the sustainability of the economy itself, while increasing socioecological conflicts.

In the pandemic and post-pandemic context, in which the region's structural problems have been exacerbated, it is essential to reconsider how to manage natural resources for social and economic recovery and to do so in such a way that social well-being and the health of ecosystems can be strengthened and improved to move towards multidimensional, comprehensive, sustainable and fair development systems. The discussions around the Convention on Biological Diversity (CBD) propose a transformative change aimed at achieving the 2050 vision of "living in harmony with nature". In this endeavour, the governance of biodiversity addressed in this study plays a very important role in Latin America and the Caribbean.

The *governance for transformative change for biodiversity* proposed by IPBES (2019a) refers to all institutions, rules, processes, networks and stakeholders that formulate, participate in and implement decisions intended to change the existing structures and paradigms that have a negative impact on biological diversity, through integrative, inclusive, informed and adaptive approaches. These approaches involve making progress in coherence and effectiveness, equity, representation and in the active participation of different groups of stakeholders, in particular the most vulnerable whose ways of life depend on biodiversity; moving towards access to information, transparency and the integration of different knowledge systems; adapting processes for contextualization of local conditions; and strengthened resilience. Governance approaches for transformative change for biodiversity need to be developed by stakeholders in productive, economic and financial sectors whose activities depend on or are linked to biodiversity.

Countries in the region have expressed in various forums that they wish to better understand the conceptual model of governance for transformative change for biodiversity, as proposed by IPBES, and the implications of implementing it. In this study, prepared by the Economic Commission for Latin America and the Caribbean (ECLAC), we find that there are numerous initiatives, projects and policies in Latin America and the Caribbean that are being developed in a manner consistent with the IPBES conceptual model and that contribute to improving the state of biodiversity and the socioeconomic well-being of

the communities and different stakeholders who depend on or work directly with it. Therefore, we need to learn more from experiences in the region, identify how to strengthen, scale up and replicate them, and be clearer about the challenges they face.

The case studies on governance for transformative change for biodiversity come from the agricultural, fishing, forestry, finance, manufacturing, infrastructure and tourism sectors at different levels (local, subnational and national) in Latin America and the Caribbean. Their subject matter has the potential to contribute to the creation and implementation of the new post-2020 global biodiversity framework and to practical solutions that will allow us to rebuild better after the COVID-19 pandemic. For ECLAC, it is a pleasure to systematize a series of existing biodiversity governance practices and lessons learned in the region that illustrate strengths and challenges in implementation for South-South learning.

This analysis is complemented by another study on the mainstreaming of biodiversity into the productive, economic and financial sectors, which account for nine of the ten cases presented here (see Alvarado, Tambutti and Rankovic, 2022), as well as the compendium of all information on the case studies in an easy-to-read format, providing excellent examples that have the potential to be adapted, expanded and replicated in line with the specific conditions of our countries and subregions (see Catacora-Vargas, Alvarado and Tambutti, 2022, forthcoming).

The catalytic potential of governance for transformative change for biodiversity in addressing existing challenges creates strengths for multidimensional progress towards the 2030 Agenda, human rights and the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement), among others. This type of governance can therefore generate various turning points if it is promoted, enhanced and supported by the political will to change, and it is gaining international attention.

It is worth mentioning that the *Latin American Economic Outlook 2021: Working Together for a Better Recovery*, a report produced jointly by the Organisation for Economic Co-operation and Development (OECD), ECLAC, the Development Bank of Latin America (CAF) and the European Union, proposes addressing the effects of the pandemic and transforming development traps into virtuous circles that will put the region on a path towards improved well-being (ECLAC, 2021). The four traps (identified in the report Latin American Economic Outlook 2019: Development in Transition) are low productivity, social vulnerability, institutional weakness and a lack of environmental sustainability (OCDE/CAF/ECLAC, 2019). These are all connected, to various extents, with tailored solutions from the experiences described in the cases analysed in this document, and provide a regional, biocultural and inclusive perspective of sustainable development under conditions often similar to those in the so-called Global South.

We would like to acknowledge and express our thanks for the tremendous support of the members of the high-level expert group in biodiversity in the region (convened by ECLAC) and of individuals implementing the case studies analysed here, who have provided their time and experience and collaborated on this work in many different ways. Their participation has not only enhanced the process by providing data, concrete information and conceptual approaches, but has also made it more representative of the significant biocultural diversity that is the region's greatest asset. We also acknowledge that the studies were prompted by the Chilean government's request to ground key concepts used in the new post-2020 global biodiversity framework in the region's positive experiences for South-South learning. Last but not least, we would also like to express our sincere thanks for the financial support of French Cooperation in the preparation of this publication.

Key messages

Latin America and the Caribbean has a significant wealth of governance experiences for transformative change for biodiversity. These experiences integrate multiple practices whose results are complementary and contribute to ecosystem restoration and species recovery, while supporting the socioeconomic activities of traditional ways of life and economic sectors (such as tourism and product manufacturing). These sets of practices achieve positive ecological and socioeconomic outcomes by integrating sustainable use as a strategy for biodiversity conservation.

Experiences that contribute to improving the state of biodiversity through its sustainable use are not sufficiently recognized; however, analysing them based on the governance approaches proposed by IPBES makes it possible to ground a conceptual framework by helping to identify transformative practices for biodiversity that have the potential for adaptation and replication in other contexts. The approaches proposed by IPBES are integrative, inclusive, informed and adaptive (see diagram 1).

A. Lessons learned to advance transformative change for biodiversity

The sustainable use of biodiversity and mainstreaming it into different sectors contributes to changing the conservation paradigm by considering human groups from a holistic perspective —such as territorial, biocultural and human and collective rights-based perspectives— creating positive changes in the state of biodiversity. All the experiences analysed are based on sustainable use, and combine conservation actions and contributions to ways of life, especially traditional ones, as well as productive, economic and financial activities. The results show that this is a strategy for improving regulatory and operational coherence; promoting the inclusion of different stakeholders; creating participatory processes adapted to local contexts; and strengthening the vision and ownership of conservation in the long term.

Regulatory and operational coherence do not always move at the same speed, but they mutually strengthen each other when developed using a territorial and biocultural approach. Some essential practices to achieve this coherence are participatory and long-term management of ecosystems and landscapes; the design of restoration, recovery and sustainable use processes within the productive, economic and financial sectors, recognizing local forms of organization and ways of life; the inclusion

of traditional knowledge and practices in conservation planning; and the granting of territorial security and access to ecosystems and their components (especially for rural women, indigenous peoples and local communities). Other effective area-based conservation measures are shown to be highly adaptive and integrative of these practices and they contribute to diversifying biodiversity conservation options through sustainable use with the participation of relevant stakeholders.

Human and collective rights depend, directly and indirectly, on the conservation and sustainable use of biodiversity. Securing rights is relevant for all human groups, but they are of particular importance for the ways of life of indigenous peoples and local communities. Justice and human dignity are closely related to the status of biodiversity and are catalysed when securing: (i) the right to land/sea and access to and use of ecosystems and their components in support of those who historically rely directly on biodiversity; (ii) the right to maintain traditional ways of life; (iii) the economic, social and political rights of indigenous peoples, local communities, women and young people; and (iv) the right to enjoy the benefits derived from ecosystem functions and services, such as healthy and nutritious food and a safe, clean, healthy and sustainable environment.

The effective consideration of human and collective rights in conservation involves strengthening the capacities of the most disadvantaged and least represented stakeholders. This group of stakeholders generally includes indigenous peoples and local communities, small-scale and artisanal producers (e.g., peasants, fishers, pastoralists and gatherers), women, young people, cooperatives, unions and other grassroots organizations. Strengthening capacities aimed at the full and effective participation of rights holders is achieved through the implementation of the biocultural and territorial approaches. By incorporating these approaches into policy-making processes and the actions of support institutions, the design and implementation of practices contributing to the achievement of the 2030 Agenda from an comprehensive perspective is also enhanced.

Multi-stakeholder processes in biodiversity conservation, sustainable use, the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, and mainstreaming biodiversity in different sectors require the inclusive participation of different stakeholders and sectors and a search for equitable conditions in decision-making. All the cases included in this study mentioned the participation of different stakeholders and sectors, as well as coordination and cooperation processes that contribute, to varying degrees, to providing a voice for those who have generally been excluded and/or at a disadvantage in regulatory, institutional and technical decision-making. In these processes, grassroots groups stand out for their leading role, together with the increasingly proactive roles of academia and civil society organizations. Also, the positive and multiplying role that the private sector can assume when it operates with social and ecological responsibility are important, as is the catalytic function of the public sector when it is proactive. The practices of multi-stakeholder processes that create equitable conditions are capacity-building; the creation of coordination spaces; timely and equitable access to information; participation in planning, implementation, decision-making and monitoring; and securing the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Information is a lever for governance for transformative change for biodiversity when access to it is equal, adapted to the different stakeholders involved, transparent, and leads to capacity-building, knowledge dialogues and the co-creation of knowledge. Information and knowledge are empowering factors; when produced through participatory methodologies, they enable: (i) knowledge-building dialogues, for example through the integration of technical, scientific and traditional and local knowledge; (ii) the co-creation and co-documentation of knowledge, meaning the generation of information, methods, proposals and other intellectual resources in a participatory and collaborative manner; and (iii) local ownership of initiatives for the conservation and sustainable use of biodiversity. In these processes, collective and participatory work in agreed monitoring activities is essential to consolidating knowledge, recognizing progress and challenges, increasing transparency and accountability and visualizing future scenarios. A crucial aspect is for the process of defining relevant indicators to make sense to the stakeholders involved. In addition, another basic and cross-cutting element is the simplification of information to facilitate

proactive and multi-stakeholder processes, which also leads to the strengthening of representative discussion capacities in intersectoral coordination dialogues.

The appropriation of governance processes for transformative change for biodiversity is facilitated by adaptation to national, subnational and local conditions, and enhanced by public sector support. Ownership of initiatives is a crucial factor for sustainability, which is possible through the adaptation of processes to local, subnational or national socioecological and institutional contexts. Participatory methodologies contribute to enhancing ownership when they are applied from the problem identification stage through to the planning, decision-making, monitoring and evaluation of results. At the same time, dialogue and collective reflection help to gain an understanding of local dynamics and their connection to larger-scale social and ecological processes, and to raise awareness of the needs of other stakeholders. A proactive public sector, which makes resources available in the service of processes and is predisposed to change and to collaborative learning, assumes roles that contribute to the adaptation, appropriation, scaling up and sustainability of transformative biodiversity initiatives.

B. Findings on obstacles and limitations

Public biodiversity management bodies generally operate with few allocated resources, have insufficient or frequently changed personnel, and have weak or non-existent inter- and intrasectoral coordination. This condition limits the possibility of establishing long-term and genuinely inclusive and deliberative processes, in particular with the most disadvantaged and underrepresented stakeholders. Added to this is the generally reduced familiarity among the staff of public entities with comprehensive approaches for biodiversity management such as transdisciplinary, territorial and biocultural approaches. It should be noted that, in general, despite having few resources, the initiatives analysed in this report have been maintained over time owing to the benefits they create and the efforts of the stakeholders directly involved.

Innovative mechanisms created by the financial sector need to make their processes more inclusive through the use of comprehensive and multi-stakeholder approaches. Financial mechanisms can operate at different scales (national, subnational and local), but the problem of those developed from the top down is that they usually experience challenges when it comes to appropriation by different stakeholders and in the achievement of more holistic results. However, there are also financial mechanisms with territorial, biocultural and multi-stakeholder approaches that have been very successful in integrating multidimensional socioeconomic and environmental performance considerations.

Processes for the fair and equitable sharing of the benefits arising from the use of genetic resources still require strengthening and further implementation. There has been progress in the implementation of the Nagoya Protocol; however, it is insufficient compared to the demand for and use of genetic resources in the region. Moreover, local stakeholders still need to develop consensus-based procedures for the fair and equitable sharing of the benefits arising from the use of genetic resources, for example, for women because of their productive activities in the sustainable use of biodiversity. When local stakeholders reinvest the income generated through collective access and use of ecosystems and their components in community projects, this is also a form of benefit-sharing, which is more widespread and has greater potential for replication because it is consistent with the social dynamics of many indigenous peoples and local communities.

Although the inclusion of groups that are usually marginalized is promoted, their participation remains insufficient, particularly in relation to women, young people, indigenous peoples and local communities. This limitation relates to financial, regulatory and policy frameworks that lack provisions for inclusion and fail to consider human rights and collective rights; the lack of recognition of the tasks, roles and rights of women; the challenges in creating opportunities for young people in rural areas; and the reduced availability of resources and personnel to provide support for the various issues in the

territories of indigenous peoples and local communities. The application of a collective, human rights-based approach can make a significant contribution to addressing these limitations.

Monitoring and data creation need to be improved and sustained through participatory processes, by integrating the biophysical and socioeconomic aspects of the conservation and sustainable use of biodiversity and of the fair and equitable sharing of the benefits arising from the use of genetic resources. Monitoring that is unclear, incomplete or restricted to technical teams is common. The planning of monitoring is, in and of itself, an activity that requires greater attention. Monitoring needs to be implemented in a participatory manner that includes different stakeholders (including local people and representatives of different sectors, to implement inter- and intrasectoral dynamics), contributing to processes of appropriation and adaptation of biodiversity-related initiatives to local contexts; strengthening financial and public policies and sustainability; adapting information for the sectors involved; and applying a transdisciplinary, territorial and landscape-based approach.

The coronavirus disease (COVID-19) pandemic has brought a great many challenges and uncertainties, ranging from communication difficulties caused by digital gaps and transportation limitations to the disruption of a variety of processes, including the conservation and sustainable use of biodiversity. Processes that were interrupted by the pandemic, with different implications, include training, participatory planning with local stakeholders, onsite monitoring and evaluations, renewal of documents required to apply for public funds and biodiversity-use permits, economic activities, such as community tourism, owing to restrictions in the provision of services, and the sale of products derived from the sustainable use of biodiversity. Women and rural communities with less economic and technological access to online means of communication have been disadvantaged the most. However, it is also recognized that some communities responded with resiliency and collaboration, showing that adaptive capacities are a real strength in facing unforeseen situations.

Executive summary

The relevance of biodiversity to global climate, health and social stability has been widely documented; its present state of deterioration and loss is an urgent call to change the way in which we live with species and ecosystems. This leads to a recognition of the importance of reformulating the institutions and various processes associated with biodiversity governance at the subnational, national and global levels that have a negative impact on its conservation and sustainable use. In other words, there is a need to design and implement new forms of governance that facilitate positive transformative changes in the state of the biodiversity and human groups in socioecologically vulnerable positions.

Governance for transformative change for biodiversity refers to all institutions, rules, processes, networks and stakeholders that formulate, participate in and implement decisions intended to change the current structures and paradigms that have a negative impact on biological diversity. ***Governance for transformative change*** involves multidimensional, multilevel and multi-stakeholder processes. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) proposes ***four approaches*** to make progress in these processes: (i) an ***integrative*** approach, leaving behind thinking in silos and addressing the entirety of biodiversity from a social, economic and ecological perspective that creates coherence in the implemented actions; an ***inclusive*** approach, for the equitable, effective and active participation of different relevant stakeholders and sectors, especially those generally excluded; (iii) an ***informed*** approach, intended to broaden capacities, integrate different forms of knowledge and close information gaps —and thus contribute to the resolution of power imbalances— between the stakeholders involved in biodiversity management; and (iv) an ***adaptive*** approach, with the aim of finding and implementing processes and arrangements consistent with the local ecological, social and institutional contexts as a strategy for improving sustainability and resilience.

Against this background, ten cases from eight countries in Latin America and the Caribbean were analysed in accordance with the three objectives of the Convention on Biological Diversity (CBD) (conservation, sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources) in seven sectors (agriculture, fishing, forestry, tourism, manufacturing, infrastructure and finance).

The experiences analysed show that the implementation of governance for transformative change for biodiversity is based, in turn, to two major interdependent transformative processes: one in biodiversity management and the other at the socioecological level.

(i) The ***changes in biodiversity management*** relates with the planning, implementation and monitoring of actions and involves transformations at five levels. These levels refer to: (1) ***the approach*** recognizing sustainable use and the fair and equitable participation on the resulting benefits as strategies for biodiversity conservation and social well-being; (2) ***the scale*** with a long-term view of the ecosystems, landscapes and territories; (3) ***the stakeholders*** through multi-stakeholder and multisectoral processes, prioritizing vulnerable groups and a perspective based on human rights and collective rights; (4) ***the knowledge*** based on co-creation between different forms of knowledge (from now on referred as "knowledge dialogue", transdisciplinarity and participatory processes from planning to monitoring; and (5) ***political, technical and financial support*** that provides a foundation for the above to integrate biodiversity into various sectors, including the public sector.

(ii) The ***socioecological changes*** that are the consequence of biodiversity management and are expressed in the transition from deterioration to conservation, recovery, restoration and sustainable use of species, ecosystems and their respective functions and services. These changes not only leverage, but also strengthen and provide continuity to local participation in the sustainable use of biodiversity, and foster the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. By providing concrete benefits, the recovery of species and the restoration of ecosystems enable the sustainability of systems of life, especially those that are directly dependent on the health of biodiversity. These include small-scale artisanal producers and gatherers, rural women and young people, indigenous peoples and local communities.

The cases analysed are clear examples of the possibility of reversing the deterioration of biodiversity while also contributing to the well-being of local communities and providing benefits to various sectors. For example, the leasehold communities in the ***Community Forest Management of the Maya Biosphere Reserve (Guatemala)*** started their biodiversity management with long-term territorial planning (25 years) on 533,131 hectares of forest of the reserve's multiple-use zone. The implementation of territorial planning allows for the sustainable use of the ecosystem with very low levels of wood extraction (on average, one tree per hectare in rotation periods of 25 years and 40 years among the management units). The result is the regeneration and conservation of the forest, a reduction in burning and deforested areas to less than 0.5% of the surface area of the leased zones, and the recovery of species of flora and fauna at risk of extinction. Income is also generated through timber and non-timber products from the restored forest, which are sold via a communal enterprise. This boosts job creation for local families (including women and young people) and the possibility of reinvesting the profits (up to 30%) in social projects on infrastructure, health and education for local communities.

Similar conservation results through sustainable use can be seen in other projects implemented with the participation and strengthening of multiple stakeholders, including local communities, civil society organizations and the public and private sectors. This is the case with the small-scale artisanal fisheries in the ***Network of Marine Areas for Responsible Fishing and Marine Life Territories (Costa Rica)***; the integration of biodiversity into productive subsectors through agroecology-based indigenous and rural agriculture in the ***Mainstreaming Biodiversity into the Mexican Agricultural Sector*** project; in the sustainable use initiative through production and added value, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources in the ***Women and the Environment (Mexico)*** initiative; and in the participatory research, conservation and sustainable use of mangroves and seagrasses in the project ***Mangroves, Seagrasses and Local Communities: Developing and Exchanging Experiences on the Comprehensive Management of Biodiversity and its Services in the Caribbean Region (MAPCO) (Colombia).***

The experiences studied also show the possibility of implementing governance practices for transformative change for biodiversity in the private sector. For example, the ***Wine, Climate Change and Biodiversity Programme (Chile)***, through participatory research involving private vineyards and academia, co-creates research, conservation and sustainable use of biodiversity that is reflected in product innovation, added value and market differentiation.

The cases also showcase that the involvement of the public sector and coordination with the private sector is key to having an impact on a large geographic scale, as shown by the ***Management of the São Paulo Biosphere Reserves (Brazil)***, covering 2,111,432 hectares. This initiative for the comprehensive management and conservation of the Atlantic Forest biome is carried out by subnational governments with the participation of a range of local and private stakeholders.

Despite the challenges involved in effecting paradigm changes in sectors such as finance, there are initiatives in the region to design and implement innovative funding mechanisms for the conservation and sustainable use of biodiversity with the participation of national and subnational public bodies, private companies, civil society, academia, and intergovernmental and local organizations. Examples are the ***Quito Water Protection Fund (Ecuador)***, a public-private financial initiative for the conservation of water recharge areas; the ***Works for Taxes Mechanism (Peru)***, intended to reduce the national biodiversity funding gap through direct investment from the private sector; and ***Insurance for the Protection of Beaches and Reefs (Mexico)*** for the protection of 160 km of the Mexican Caribbean coast in the State of Quintana Roo.

The experiences analysed indicate that:

- ***The sustainable use of biodiversity and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources contribute to biodiversity conservation when they combine the following approaches: ecosystem-based, territorial and landscape, biocultural, and transdisciplinary.*** The integrated application of these different approaches is possible through participatory multi-stakeholder processes and long-term territorial planning. Of particular note in the participatory processes is the inclusion of: (a) communities with roots in the territory and with systems of life that directly depend on biodiversity; (b) technical sectors (whether civil society, academia, national or subnational governments, or intergovernmental bodies of the United Nations) that support training, research and the co-creation of knowledge; and (c) the national or subnational public sector.
- ***The ownership of transformative processes for biodiversity is essential for the sustainability and resilience of its conservation and sustainable use***, which is achieved through (i) the ***adaptation of these processes to local contexts*** at the ecological, institutional and sociocultural levels; (ii) ***respect for human rights and collective rights***; (iii) the ***granting of long-term security in access to and use of ecosystems and their components to indigenous peoples, local communities and other stakeholders whose traditional ways of life depend on biodiversity*** (especially on access, use and, where relevant, land tenure and other ecosystem components, such as coasts, seas and forests); (iv) the ***creation and implementation of coherent regulatory frameworks*** that take into account the variety of stakeholders, in particular the most vulnerable; and (v) ***proactive coordination between public and private sectors and civil society***.
- ***Capacity-building involves more than providing information and being part of a process; it involves meaningful representativeness in decision-making processes and in their implementation and monitoring.*** This entails: (i) the co-creation of knowledge through processes adapted to local contexts and applied from planning through to monitoring; (ii) the integration of scientific, technical and traditional knowledge through knowledge-building dialogues; (iii) equity in participation, giving a voice and representation to marginalized groups (notably including indigenous peoples, local communities, women and young people); and (iv) the simplification of regulatory, technical and scientific information using means appropriate to the local context.

Despite the progress made, experiences of governance for transformative change for biodiversity are taking place in a ***challenging*** environment, characterized by the following:

- An absence of policies and strategic vision that connects the short, medium and long term;
- Limitations in the public sector owing to insufficient resources, insufficient staff or frequent turnover, and weak or non-existent inter- and intrasectoral coordination on biodiversity;

- Insufficient comprehensive and innovative financial mechanisms in place;
- A territorial, biocultural and transdisciplinary vision of the conservation and sustainable use of biodiversity that is still emerging in various sectors;
- Reduced creation of opportunities, and weak participation and visibility of indigenous peoples, local communities, women and young people in the sustainable management of biodiversity;
- The need for further strengthening of the fair and equitable sharing of the benefits arising out of the utilization of genetic resources among cross-border and local stakeholders.

These and other challenges have significantly increased with the pandemic owing to the interruption of processes, the reallocation of resources and the growth of digital and infrastructure gaps.

Table 1 contains a summary of the governance practices for transformative change for biodiversity that were identified in the cases analysed. These practices are organized according to their main approach; however, the experiences show that their contributions are interrelated. As a result, their ***implementation is complementary*** and requires a number of practices, in accordance with the local contexts, to bring about positive changes in the state of biodiversity and particularly in the socioeconomic conditions of those whose well-being depends on its condition and on access to it.

Table 1
Governance approaches and practices for transformative change for biodiversity, identified in ten experiences from Latin America and the Caribbean

Integrative	Inclusive	Informed	Adaptive
Coherence and effectiveness	**Equality, representation and active participation**	**Access to information and different knowledge systems**	**Contextualization, sustainability and resilience**
• Application of a territorial approach to conservation. • Spatial planning of biodiversity in the long term. • Granting territorial security and access to ecosystems and their components, especially for indigenous peoples and local communities. • Conservation through sustainable use. • Conservation through the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. • Design and implementation of other effective area-based conservation measures. • Integration of biodiversity into different sectors. • Transdisciplinary approach. • Establishment of innovative financial mechanisms for the conservation and sustainable use of biodiversity.	• Conservation through processes with a biocultural approach. • Consideration of the collective rights of indigenous peoples and local communities in the sustainable management of biodiversity. • Strengthening the recognition of and the roles and rights of women in sustainable biodiversity management through sustainable use. • Inclusion of young people in biodiversity-related processes. • Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in local processes and among local stakeholders. • Multi-stakeholder approaches. • Representative discussions for local dialogue and coordination between sectors. • Co-creation of knowledge based on knowledge-building dialogues.	• Simplification of complex information to facilitate participatory and multi-stakeholder processes. • Participatory monitoring and management of databases with local stakeholders to measure the achievement of objectives.	• Participatory capacity-building for adaptation to the local context. • Participatory planning. • Co-management of ecosystems. • Conservation of biodiversity through artisanal and small-scale sectors. • Control of invasive alien species through a comprehensive approach involving different stakeholders.

Source: Prepared by the authors taking into account the approach on governance for transformative change of the IPBES report (IPBES 2019a).

Introduction

Biodiversity and its functions are essential to the resilience of the planet, especially for reversing the climate, health and food crises, among others (IPBES, 2020; FAO, 2018). Despite acknowledgement of this importance, human-caused deterioration and loss of biodiversity continues to increase. To contribute to reversing this situation, comprehensive management[1] is proposed, alongside governance that transforms the deterioration into the conservation and sustainable use of biodiversity.

Recognizing that socioecological systems relating to biodiversity and its governance can take various forms, this work analyses experiences that provide lessons and inspiration for creating positive changes in different contexts and at different levels. It is hoped that the analyses will provide food for thought in the ongoing process of developing and implementing the new post-2020 global biodiversity framework.

On this basis, the purpose of this study is to identify governance practices for transformative change in the state of biodiversity through its conservation and sustainable use, as well as through the fair and equitable sharing of the benefits arising out of the utilization of resources; in other words, by implementing the Convention on Biological Diversity (CBD) objectives. To that end, this document is structured as follows.

Section I provides basic conceptual elements, focused on "governance" and "governance for transformative change" that contributes to reversing the loss and deterioration of biodiversity. Section II summarizes the relevant methodological aspects. Section III is a general overview of the transformative governance practices identified. Sections IV to VII describe and provide examples of the governance practices identified, in accordance with the approaches proposed by IPBES. Section VIII presents a qualitative analysis of the findings based on the frequency and performance of the governance practices identified. Section IX focuses on the strengths and challenges for implementation identified. Lastly, section X contains recommendations based on the findings of the study.

[1] Comprehensive biodiversity management refers to the planning, implementation, evaluation and monitoring of actions for its conservation and sustainable use, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Its objectives are to reverse biodiversity deterioration and loss, and therefore to restore ecosystem functions and services. In so doing, it aspires to the overall well-being of human and non-human communities.

I. Conceptual framework

A. Biodiversity governance and the urgent need for transformative change

Biodiversity governance is understood as the institutions, rules, processes and networks of stakeholders, both formal and informal, at different levels and both public and private, that have been established to develop, participate in and implement decisions and actions related to the conservation, control and use of and access to biodiversity among different stakeholders.[2]

Since the entry into force of the CBD in 1993, there have been almost three decades of experience of biodiversity governance at the international and national levels. Significant progress has been made in this period, including, for example, the creation of the Aichi Biodiversity Targets (2011-2020), which have guided the actions of countries parties to the CBD; the ratification of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, ratified by 136 States party to the Convention (as of June 2022); and the updating by 170 State parties of their national strategies and action plans on biological diversity. Moreover, in the decade from 2011 to 2020, the global rate of deforestation decreased by a third; there was an increase in the control and eradication of invasive alien species; terrestrial protected areas grew from 10% to 15% and marine protected areas from 3% to 7%; and the surface area of areas of particular importance to biodiversity grew from 29% to 44%. There is also more information on the state of biodiversity, and funding for biodiversity projects has doubled owing to the allocation of international resources (Secretariat of the Convention on Biological Diversity (SCBD), 2020).

Despite the progress made in the last two decades, the state of conservation and sustainable use of biodiversity remains at an alarming level of risk. Some 25% of flora and fauna are under threat, which means that there are around one million species at risk of extinction; domesticated varieties and breeds are disappearing; and the number of pollinating species has decreased (40% of bee species and 16.5% of pollinating vertebrates are under threat) (IPBES, 2019a and 2016). At the ecosystem level, 66% of

[2] This description is based on Chazdon and others (2020), De Castro, Hogenboom and Baud (2016), IPBES (2019a) and Lemos and Agrawal (2006).

oceans are affected by anthropogenic causes. For example, in Latin America and the Caribbean, in the Gulf of Mexico alone, it was reported in mid-2020 that dead or hypoxic (oxygen-deficient) zones had an extension of 20,121 km² as a result of pollution by excess nutrients (Tambutti and Gómez, 2020). At the global level, only 32% of fishing areas have adequate biological conditions, and 85% of wetlands and 32 million hectares of primary forests have disappeared. Before COVID-19, it was predicted that the level of land degradation together with climate change could lead to the forced migration of 50 to 70 million people by 2050 (Costello and others, 2016; IPBES, 2019a), among other socioecological impacts. In addition to this, there is contamination of land and water by extractive activities (such as large-scale mining and industrial agriculture; in the case of the latter, owing to the use of synthetic fertilizer and pesticides and to genetic homogenization) (FAO, 2019; IPBES, 2018a; Seddon and others, 2016). The impacts of biodiversity deterioration are both the cause and consequence of the intensity of the effects of climate change and the outbreak of pandemics, both of which are processes related to land-use change, large-scale industrial agricultural and livestock systems, and unsustainable patterns of production and consumption (IPBES, 2020 and 2019a).

There has been a similar pattern in the Americas. There is evidence of severe deterioration in the region's ecosystems, especially tropical forests, wetlands, mangroves and corals. The main causes are the expansion of unsustainable production systems, such as intensive industrial agriculture and extensive livestock farming, and urbanization, which lead to deforestation, degradation and the loss of habitats, changes in biogeochemical cycles, increases in different types of pollution, the eutrophication of ecosystems and the invasion of alien species, which together result in the loss and risk of extinction of populations and species. It is estimated that over half of the endemic biodiversity in the Caribbean is at risk of extinction, as well as more than 40% in Mesoamerica and around 25% in South and North America (IPBES, 2018b).

The state of biodiversity calls for an urgent vision and the scaling up of transformative actions for the conservation and sustainable use of biodiversity. Changing the trajectory of biodiversity loss and degradation will require working on its direct and underlying causes, including localized and long-distance social and ecological externalities, and fostering the governance of biodiversity and its ecosystem functions and services (IPBES, 2019a). In that context, CBD (Secretariat of the Convention on Biological Diversity, 2020) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES (IPBES, 2019a) acknowledge the need to make progress and implement governance for transformative change for biodiversity.

B. Features of governance for transformative change for biodiversity

In this analysis, we are adopting the approach and elements of governance for transformative change proposed by IPBES, for the following reasons: (i) they are specific to biodiversity; (ii) they are the result of an exhaustive assessment and review of research on the state of biodiversity and a discussion process between scientists and IPBES member States; and (iii) they are one of the bases of the post-2020 global biodiversity framework.

IPBES states that "transformative change" refers to the fundamental reorganization of an entire system through technological, economic and social factors, including paradigms, objectives and values. On that basis, **governance for transformative change for biodiversity** is when change to structures and goals is promoted in the design and implementation of institutions, rules, processes and networks of stakeholders to respond to, manage, and above all reverse the causes of negative impacts on biological diversity (IPBES, 2020). Governance for transformative change is intended to restore the integrity, functionality and resilience of biodiversity and, as a result, to restore equity, overall well-being and sustainability. This type of governance therefore involves a multidimensional, multilevel and multi-stakeholder approach to structural change that departs from current unsustainable models, which makes it deliberately and inherently political owing to its capacity to fundamentally transform power dynamics.

IPBES (2019a) describes governance for transformative change applying four key approaches: integrative, inclusive, informed, and adaptive, as described below.

- **Integrative**. The integrative approach avoids operating in silos that give rise to inconsistent and uncoordinated processes; it is aimed at reducing fragmentation and considers all socioecological systems relating to biodiversity. It therefore contributes to identifying and addressing synergies and trade-offs between the various kinds of objectives that emerge from governance processes for transformative change. The application of the integrative approach and practices helps to increase or create consistency and effectiveness in the design and implementation of norms, processes and networks of stakeholders in decision-making. Regarding biodiversity, the integrative approach contributes to resolving challenges relating to consistency, especially at the regulatory and policymaking levels (Rayner, Buck and Katila, 2010; Visseren-Hamakers, 2018).
- **Inclusive**. This refers to the active, full and effective participation of different kinds of stakeholders and the representation of their interests and needs, recognizing that their participation will make decisions more inclusive and legitimate. This therefore involves dialogue, negotiation, transparency, the incorporation of different value systems and knowledge, and decisions whose outcomes will be as equitable as possible. The inclusive approach means addressing asymmetries that can affect the participation and voice of the most vulnerable or disadvantaged groups or those with poor representation. Inclusive governance also involves recognition of and respect for collective rights holders (Brondizio and Le Tourneau, 2016; IPBES, 2019b), such as indigenous peoples and local communities, including women, young people and various small-scale producers. The inclusive approach is not aimed at participation itself, but at ensuring that the equality, appropriation, transparency and legitimacy that results from participation is present throughout the process (Biermann and Gupta, 2011; De Castro, Hogenboom and Baud, 2016).
- **Informed**. This approach acknowledges the importance of the different knowledge systems in the sustainable management, monitoring and evaluation of the state of biodiversity. It enables a broadening of perspectives still strongly based around natural sciences (examples of this are red lists, species richness, productivity, modelling, etc.). From this perspective, scientific knowledge is not the only relevant type and there are many other forms of knowledge and values, such as traditional ones. Moreover, this involves considering the ecological and social dimensions of biodiversity and resolving inequalities in access to information and capacity-building (IPBES, 2019b). Informed governance is intended to resolve information and power gaps by fostering an egalitarian dialogue for the co-creation of knowledge and joint decision-making with horizontal, transversal and bottom-up dynamics.
- **Adaptive**. This quality is intended to adapt the initiatives implemented to the local biophysical and organizational circumstances, with the aim of contributing to socioecological resilience through collective action (Walker and others, 2004). The latter is essential and forms the basis of adaptive governance, meaning collaboration between different stakeholders from their areas of action, resulting in multilevel dynamics (Folke, 2006). The flexibility and simplification of hierarchies leads to ecological and social resilience and adaptation (Folke and others, 2005). The adaptive quality of governance for transformative change is developed through the outcomes of the integrative, inclusive and informed approaches described above (Chaffin and others, 2016; IPBES, 2019b).

In view of the above, the purpose of governance for transformative change for biodiversity is for socioecological systems to be set up for the conservation and sustainable use of biodiversity. A ***socioecological system*** is understood as the interrelated set of human and ecological components and processes that determine the dynamics of the system. The socioecological approach is comprehensive and is aimed at identifying solutions for policies and practices relating to sustainability, adaptation and resilience (Biggs and others, 2022).

II. Methodological aspects

The study consists of analysing ten experiences from eight countries in the region of Latin America and the Caribbean (table 2) in reference to the approaches to governance for transformative change for biodiversity proposed by IPBES. Of these experiences, nine are part of a complementary study entitled *Experiences of biodiversity mainstreaming in the productive, economic and financial and financial sectors in Latin America and the Caribbean* (Alvarado, Tambutti and Rankovic, 2022)

Selection. The ten cases analysed were chosen from a broad group suggested by the high-level expert group on biodiversity in Latin America and the Caribbean convened by ECLAC. Of the proposed regional initiatives, a selection was made of those that fulfilled the following criteria:

- Addresses at least one of the three CBD objectives and/or the mainstreaming of biodiversity into one of the sectors analysed (agriculture, fishing, forestry, tourism, manufacturing or finance).
- Is in the process of implementation and, where possible, have a long track record that enables results and lessons learned to be identified.
- Information is available about the process implemented and its results.
- There is access to direct contact with the relevant stakeholders in each initiative.
- Represents a range of experiences, sectors, scales and countries and Latin American and Caribbean countries.

Information gathering. Information was compiled on each case in the second half of 2020 through (i) interviews with the institutional stakeholders responsible for implementation, as well as, in some cases, local stakeholders at the territorial level. The aim was to contextualize and expand the available (published) information on the implementation process, driving factors, components and participants, as well as the governance practices and the challenges encountered. The interviews also made it possible to identify the benefits generated at the ecological, social and economic levels, among others. Information was also complied through (ii) a review of the relevant literature to complement and support the information gathered during the interviews.

Table 2
Experiences in Latin America and the Caribbean of governance for transformative change for biodiversity that are included in the study

Country	Experience name	Short description
Brazil	Management of the São Paulo Biosphere Reserves[a]	Comprehensive conservation and management programme in the Atlantic Forest biome, implemented by subnational governments
Chile	Wine, Climate Change and Biodiversity Programme[a]	Scientific research programme on conservation and sustainable use of biodiversity applied in a participatory manner in agricultural production and wine manufacturing
Colombia	Mangroves, Seagrasses and Local Communities: Developing and Exchanging Experiences on the Comprehensive Management of Biodiversity and its Services in the Caribbean Region (MAPCO)	Research Project on the conservation and sustainable use of mangrove and sea grasses, with the active participation and inclusion of local communities and the regional public sector
Costa Rica	Network of Marine Areas for Responsible Fishing and Marine Life Territories[a]	Collective initiative on the conservation and sustainable use of biodiversity concerning small-scale and artisanal fishing
Ecuador	Quito Water Protection Fund (FONAG)[a]	Public-private financial mechanism for the conservation of water recharge areas through the conservation and sustainable use of biodiversity
Guatemala	Community Forest Management of the Maya Biosphere Reserve[a]	Initiative for the conservation and sustainable use of forests through the granting of long-term usage rights to local communities
Mexico	Mainstreaming Biodiversity into the Mexican Agricultural Sector[a]	State programme with international cooperation support intended to integrate biodiversity into agriculture in specific productive subsectors
Mexico	Women and the Environment[a]	Experience of fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in line with the Nagoya Protocol, produced and processed by a group of rural women
Mexico	Insurance for the Protection and Conservation of Beaches and Reefs[a]	Financial mechanism for the protection of reefs and beaches in a popular tourist area
Peru	Works for Taxes Mechanism (OxI)[a]	Financial mechanisms intended to reduce the national funding gap for biodiversity through the direct investment of taxes from private businesses

Source: Prepared by the authors.
[a] Cases shared with V. Alvarado, M. Tambutti and A. Rankovic, 2022. "Experiences of biodiversity mainstreaming in the productive, economic and financial and financial sectors in Latin America and the Caribbean", *Project Documents*, Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2022.

Analysis and review. The information gathered about each case was compiled in fact sheets (Catacora-Vargas, Alvarado and Tambutti, 2022, forthcoming), which were subsequently reviewed by the respective interviewees. The practices implemented were identified and analysed in relation to their contribution to governance for transformative change for biodiversity on the basis of the approaches proposed by IPBES (2019a) (presented in sections IV to VII of this document), in other words, based on the integrative, inclusive, informed and adaptive approaches. The consolidation of the information compiled was discussed in an internal working group composed by ECLAC and the Institute for Sustainable Development and International Relations. The initial and final version of this report was reviewed by the high-level group of Latin American and Caribbean biodiversity experts convened by ECLAC.

III. A general overview of governance practices for transformative change for biodiversity

A. Diversity and transdisciplinarity in implementing governance practices

The governance practices for transformative change for biodiversity identified in the case studies are brought together in diagram 1 in line with the main approach to which they contribute. The experiences show that the implementation of integrative, inclusive, informed and adaptive approaches is interrelated. There are two main interrelationships:

(i) *Complementarity*. For example, several practices under the adaptive approach, which result in the contextualization and search for sustainability and resilience, are complemented by those under the integrative approach, which contribute to the generation of coherence and effectiveness in the process and achievement of objectives.

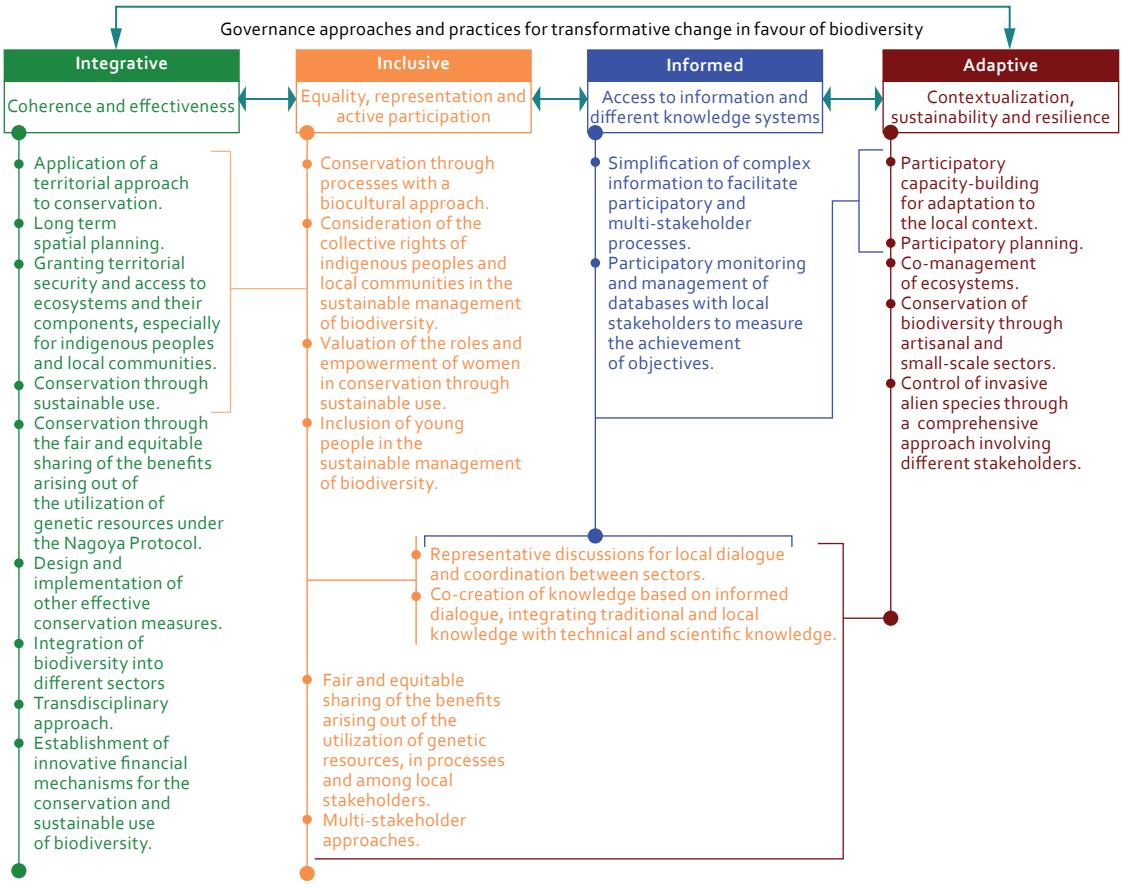
(ii) *Creating the appropriate conditions to make progress in implementing other practices.* This is clearer in the informed approach whose practices promote access to information and different knowledge systems, becoming one of the requirements for applying the inclusive approach, i.e., the search for the equity, representation and active participation of the groups involved.

These interactions are constant among governance practices for transformative change for biodiversity; several of them therefore contribute to different approaches, are implemented in parallel or sequentially, and contribute to the achievement of the stated objectives. The range of the identified practices is presented in table 3 and, in line with the elements of qualitative performance analysis (table 5), it can be seen that the greater the diversity of the practices, the greater the progress in the objectives of conservation and sustainable use of biodiversity, and of adaptation to the context and local appropriation.

The range of practices implemented also contributes to the transdisciplinarity of the initiatives. In other words, the more the biophysical aspects of biodiversity are complemented by the social, economic and cultural aspects related to its conservation and sustainable use, the greater the comprehensiveness of the initiatives, their local adaptation, the participation of a range of stakeholders (including groups that are usually underrepresented) and, as a result, local ownership (see diagram 2 and table 5). On the contrary,

experiences that focus only on biophysical or socioeconomic aspects apply a reduced set of governance practices and face more challenges in their implementation and appropriation by local stakeholders. The latter can be seen in two experiences in the financial sector with a strong emphasis on biophysical and investment-related issues, and less attention to social aspects. In addition, the territorial and biocultural approach to biodiversity conservation processes contributes to transdisciplinary and inclusive actions, advancing transformative governance.

Diagram 1
Practices leading to governance for transformative change for biodiversity, identified in the cases featured in the study



Source: Prepared by the authors on the basis of the findings of the cases analysed.

Table 3
Governance practices for transformative change for biodiversity

	Governance practices[a] for transformative change	Case/Country									
		Management of the São Paulo Biosphere Reserves	Wine, Climate Change and Biodiversity Programme	Mangroves, Seagrasses and Local Communities project (MAPCO)	Network of Marine Areas for Responsible Fishing and Marine Life Territories	Quito Water Protection Fund (FONAG)	Community Forest Management of the Maya Biosphere Reserve	Mainstreaming Biodiversity into the Mexican Agricultural Sector	Women and the Environment	Insurance for the Protection and Conservation of Beaches and Reefs	Works for Taxes Mechanism (OxI)
		Brazil	Chile	Colombia	Costa Rica	Ecuador	Guatemala	Mexico	Mexico	Mexico	Peru
Integrative	Application of a territorial approach to conservation	■		■	■	■	■		■		
	Spatial planning of biodiversity in the long term	■	■	■	■	■	■			■	
	Granting territorial security and access to ecosystems and their components, especially for indigenous peoples and local communities			■	■	■	■				
	Conservation through sustainable use	■	■	■	■	■	■	■	■	■	■
	Conservation through the fair and equitable sharing of the benefits arising out of the utilization of genetic resources								■		
	Design and implementation of other effective area-based conservation measures	■	■	■	■	■	■	■		■	
	Integration of biodiversity into different sectors	■	■	■	■	■	■	■	■	■	■
	Transdisciplinary approach	■	■	■	■	■	■	■	■	■	■
	Establishment of innovative financial mechanisms for the conservation and sustainable use of biodiversity					■				■	■

	Governance practices[a] for transformative change	Case/Country																			
		Management of the São Paulo Biosphere Reserves		Wine, Climate Change and Biodiversity Programme		Mangroves, Seagrasses and Local Communities project (MAPCO)		Network of Marine Areas for Responsible Fishing and Marine Life Territories		Quito Water Protection Fund (FONAG)		Community Forest Management of the Maya Biosphere Reserve		Mainstreaming Biodiversity into the Mexican Agricultural Sector		Women and the Environment		Insurance for the Protection and Conservation of Beaches and Reefs		Works for Taxes Mechanism (Oxl)	
		Brazil		Chile		Colombia		Costa Rica		Ecuador		Guatemala		Mexico		Mexico		Mexico		Peru	
Inclusive	Conservation through processes with a biocultural approach																				
	Consideration of the collective rights of indigenous peoples and local communities in the sustainable management of biodiversity																				
	Strengthening the recognition of and the roles and rights of women in sustainable biodiversity management																				
	Inclusion of young people in biodiversity-related processes																				
	Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in local processes and among local stakeholders																				
	Multi-stakeholder approaches																				
	Representative discussions for local dialogue and coordination between sectors																				
	Co-creation of knowledge based on knowledge-building dialogues																				
Informed	Simplification of complex information to facilitate participatory and multi-stakeholder processes																				
	Participatory monitoring and management of databases with local stakeholders to measure the achievement of objective																				
Adaptive	Participatory capacity-building for adaptation to the local context																				
	Participatory planning																				
	Co-management of ecosystems																				
	Conservation of biodiversity through artisanal and small-scale sectors																				
	Control of invasive alien species through a comprehensive approach involving different stakeholders																				

Source: Prepared by the authors on the basis of the findings of the cases analysed.

[a] Various practices indicated in the table contribute to multiples approaches; however, those related to the "informed" approach are notably conducive to inclusive and adaptive processes, which is reflected in the two-coloured cells.

B. Socioecological processes through governance for transformative change

The ten case studies show that, in Latin America and the Caribbean, a range of practices are being implemented that contribute to governance approaches for transformative change for biodiversity. These practices give rise to two main interdependent transformation processes or pathways: (1) those that create changes in biodiversity management; and (2) those that generate socioecological changes (diagram 2). The features of these two transformation processes are described below:

1. Changes in biodiversity management

These are the result of the following factors:

(a) A **territorial and biocultural approach** to conservation and sustainable use, as well as to fair and equitable sharing between local stakeholders of the benefits arising from the utilization of genetic resources. Through this approach, biodiversity conservation and the creation of social well-being become complementary.

(b) **Scale**, based around **ecosystems**, taking into account territorial and landscape-related aspects that include social and institutional elements, as well as biophysical aspects that affect biodiversity.

(c) **Stakeholders**, with a **multi-stakeholder vision** prioritizing vulnerable groups and strengthening the exercise of human rights and collective rights to contribute to overall well-being. This also includes the proactive participation of the public sector (both national and subnational), international bodies, civil society organizations, grassroot organizations, academia and the business sector.

(d) **Knowledge**, generated through **co-creation** with different stakeholders, applying transdisciplinary, participatory approaches and dialogues between the holders of different forms of knowledge, hereinafter called knowledge-building dialogues.

Integrating these factors can result in **policies, technical support and financing** that boosts the integration of biodiversity into different sectors.

2. Socioecological changes

These include two interdependent processes:

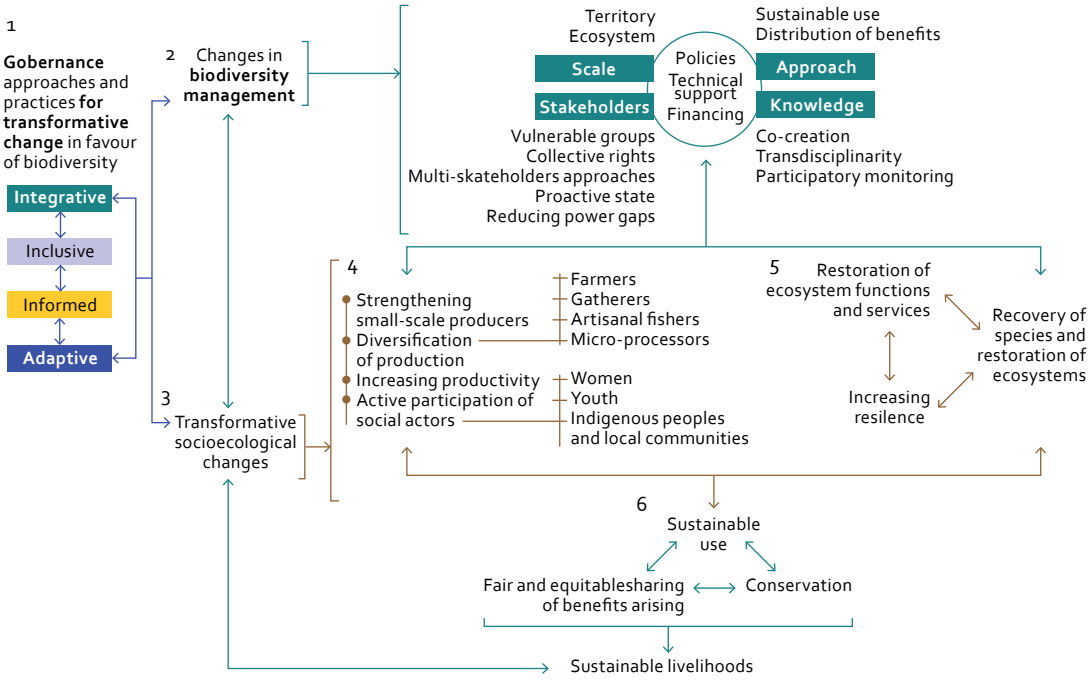
(a) **Ecological changes** related to the state of biodiversity. These consist of moving from deterioration to conservation, recovery of species or their populations, and restoration of ecosystems and their functions and services. In these processes of restoring biodiversity and its functions, participatory monitoring plays an important role and helps to strengthen the sociocultural dynamics of the ways of life of local people who work with or depend directly on biodiversity. The outcome is motivation for sustainable use that targets conservation.

(b) **Social changes** regarding the view of biodiversity and its management by local stakeholders. These changes give rise to processes that balance use with conservation; they also promote diversification of production and increase productivity as a result of restoring biodiversity and its ecosystem functions. Moreover, these changes are generally related to inclusion (for example, the inclusion of indigenous peoples, local communities, women and young people), social empowerment and, in some cases, the reorganization of local groups and economic sectors at different levels. This results in participatory decision-making processes, progress in implementing those decisions, knowledge creation (often co-created) and monitoring of the state of biodiversity.

The catalyst for these changes in biodiversity management and socioecological changes is the integration of territorial, biocultural, gender-based and rights-based approaches. This contributes to establishing and maintaining sustainable ways of life in which the conservation and sustainable use of biodiversity, together

with the fair and equitable sharing of benefits, become incentives. An important factor in the sustainability of these changes is the recognition by the various stakeholders of their concrete contributions to improving local ways of life. Conservation thereby ceases to be an impediment and becomes a strategy for enhancing the well-being of human groups, in particular for those who traditionally dependent on biodiversity.

Diagram 2
Summary of the processes identified in governance for transformative change for biodiversity in the experiences of Latin American and Caribbean countries



Source: Prepared by the authors on the basis of the findings of the cases analysed.
Note: 1. The governance approaches for transformative change for biodiversity and the corresponding practices are depicted in two main complementary pathways for change. 2. The first group of changes is in management at the level of the approach, scale, stakeholders and knowledge. 3. The other complementary group consists of socioecological changes that both result from and encourage the comprehensive management of biodiversity. 4. At the socioecological level, the change can be seen in the strengthening and participation of local stakeholders, generally those who are disadvantaged or poorly represented compared to others. 5. Through complementary territorial, biocultural, gender-based and rights-based approaches, the strengthened groups contribute to the recovery and restoration of species and ecosystems. 6. The outcome is progress in the implementation of the three objectives of the Convention on Biological Diversity, which contributes to the creation of sustainable lifestyles, with the ability to feed into and maintain socioecological management and systems favourable for biodiversity and social well-being.

A recurring element in the experiences analysed, that is worth emphasizing, is the sustainable use of biodiversity as a strategy for the recovery of species and the restoration and resilience of ecosystems. The results of this include an increase or recovery in populations of locally used species, which creates benefits and conservation dynamics through sustainable use.

The positive effects conveyed through reduced deterioration and losses in biodiversity are also drivers for implementing changes in biodiversity management to restore and conserve it. The activation of these drivers is not always spontaneous, but rather requires institutional and other support,[3] such as through training, analytical workshops, the facilitation of dialogue between different stakeholders, access to decision-making processes and information presented with locally adapted content and formats, among other things. The institutional support comes from multiple stakeholders, including national and international non-governmental organizations, academia, United Nations bodies, the national public sector and subnational government

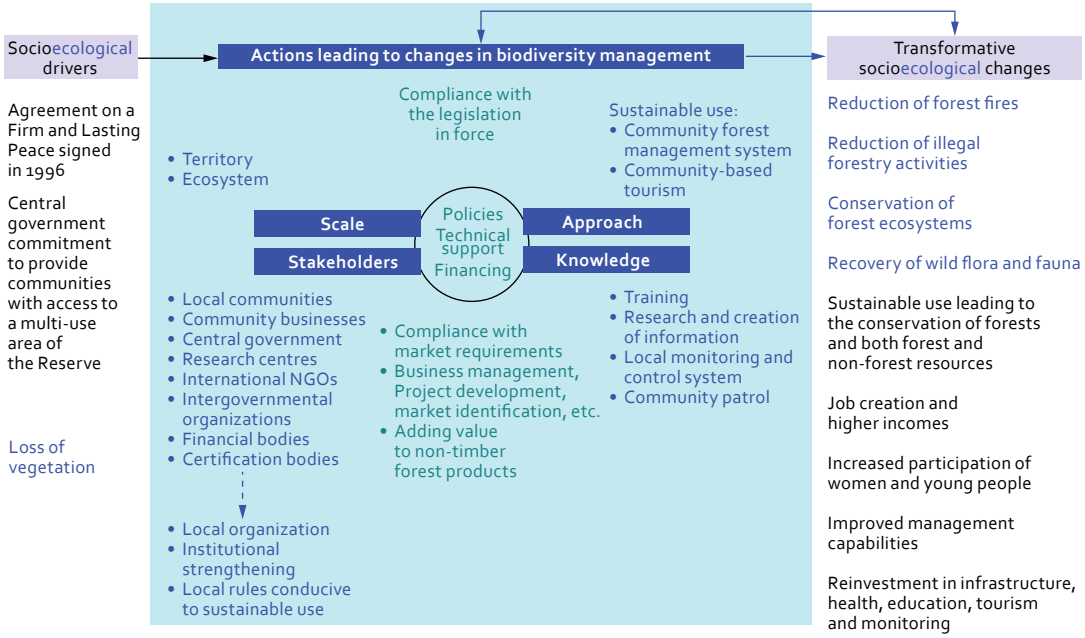
[3] "Institutional support" refers to third-party facilitation of processes in which local groups and organization participate, with the aim of supporting in the achievement of the established goals.

institutions, together with international cooperation. Informed processes encourage participation, reflection and learning with local stakeholders, as well as consideration of their socioeconomic realities and knowledge of biodiversity. This contributes to co-creation of knowledge based on knowledge-building dialogues. In this process, information and inclusion become a catalyst for strengthening local groups, such as public and private institutions and civil society and grassroots organizations. This, in turn, facilitates agreement and the implementation of social transformations linked to significant ecological changes, thereby creating a virtuous circle in the state of biodiversity (diagram 2). The cases show that the inclusion of minority or excluded groups in processes of developing regulations and public policies, as well as in coordinating actions, leads to improved capacities and greater balance in the exercise of power. Diagrams 1 and 2 and box 1 summarize three socioecological process and their drivers of transformative change for biodiversity.

Box 1
Socioecological processes in governance for transformative changes for biodiversity

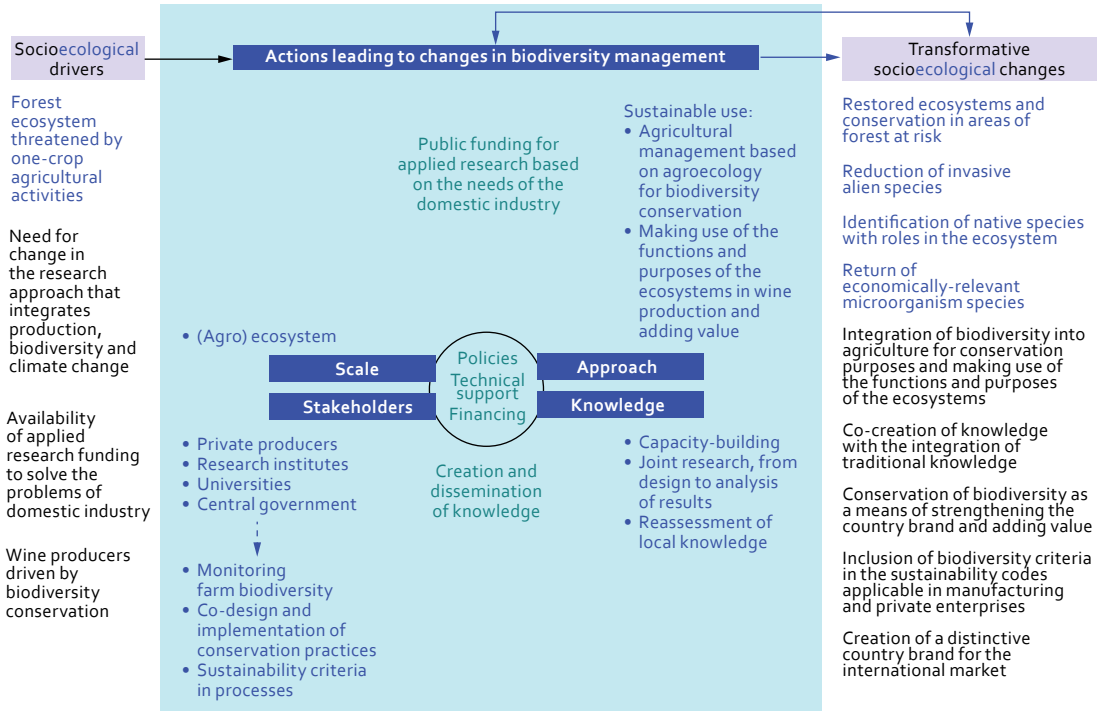
Change is generated through different types of drivers: ecological, social, economic, institutional, regulatory and/or political. In the case of the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) (diagram 1-A), the drivers are political, socioeconomic and ecological; in the context of the *Wine, Climate Change and Biodiversity Programme* (Chile) (diagram 1-B), the drivers are ecological and institutional; and in the process of the *Quito Water Protection Fund* (Ecuador) (diagram 1-C) they are socio-demographic, economic/productive, ecological and institutional. In these cases, the drivers create institutional support, ranging from training in technical and institutional aspects to participation in the development of regulations and the identification of funding. A shared element in the three cases consists of processes that strengthen local organization through training, reflection and participation in biodiversity management. The result is the design and implementation of agreed activities that can be scaled to suit territories (see diagram 1-A and diagram 1-C) or different sectors (see diagram 1-B). The specific activities carried out —such as biodiversity conservation combined with sustainable use and institutional strengthening, among others— become integral processes with social and ecological impacts. The outcomes include strengthened local organization in which groups are able to collectively design biodiversity management systems and plans; the institutionalization of community actions; the establishment of participatory monitoring and control systems; collaborative research; support and influence in the development of regulations that promote these processes; and others.

Diagram 1
A. Socioecological processes in biodiversity management in Community Forest Management of the Maya Biosphere Reserve (Guatemala)



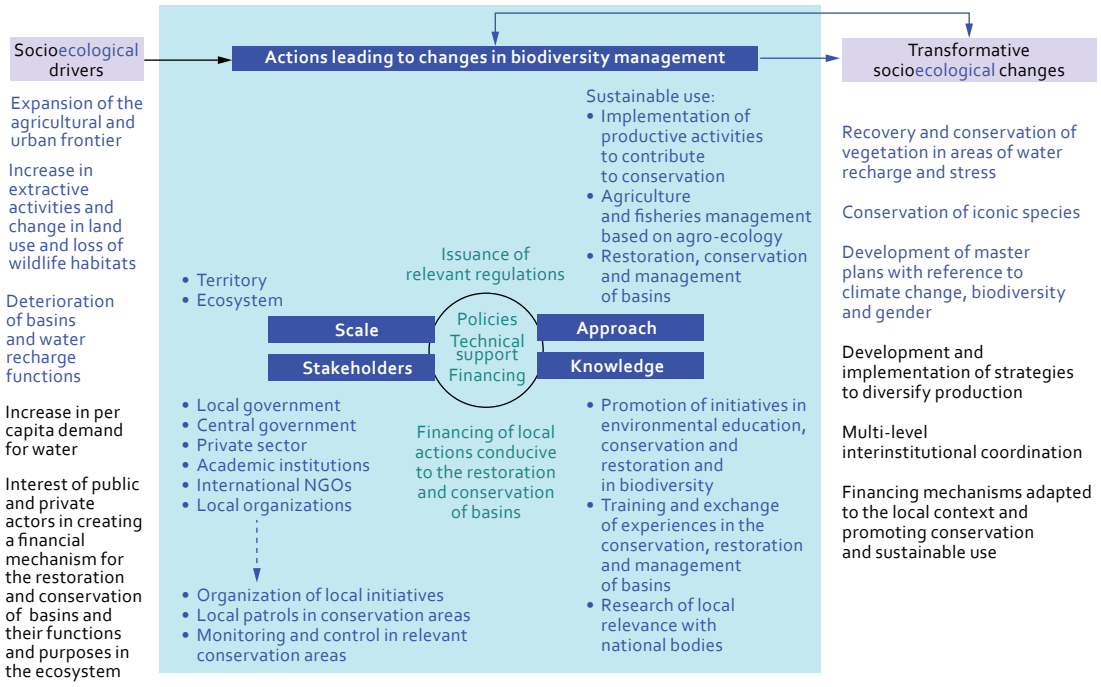
Source: Prepared by the authors on the basis of the findings of the cases analysed.

B. Socioecological processes in biodiversity management in the Wine, Climate Change and Biodiversity Programme (Chile)



Source: Prepared by the authors on the basis of the findings of the cases analysed.

C. Socioecological processes in biodiversity management in the Quito Water Fund (Ecuador)



Source: Prepared by the authors on the basis of the findings of the cases analysed.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

IV. Practices in the integrative approach: consistency and effectiveness

The **integrative approach** contributes to consistency and effectiveness in governance processes, and is therefore based on the design and implementation of comprehensive processes, taking into account biophysical, institutional, sociocultural, productive, economic and regulatory aspects. A broader description of the integrative approach can be found under the heading "Practices leading to governance for transformative change for biodiversity,identified in the cases featured in the study", and its relationship to the other approaches is shown in diagram 1.

This section describes the following practices identified in the experiences analysed:

A. Application of a territorial approach to the conservation and sustainable use of biodiversity.

B. Spatial planning for biodiversity in the long-term.

C. Granting land security, and access to and use of ecosystems and their components, especially for indigenous peoples and local communities.

D. Conservation through sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

E. Design and implementation of other effective area-based conservation measures.

F. Integration of biodiversity into different sectors.

G. Transdisciplinary approach to biodiversity.

H. Establishment of innovative financial mechanisms for the conservation and sustainable use of biodiversity.

A. Application of a territorial approach to the conservation and sustainable use of biodiversity

This approach, in addition to biophysical aspects, takes into consideration: (i) the inclusion of local stakeholders; (ii) their social dynamics; (iii) their economic and political structures; (iv) their institutions and forms of organization; (v) their identities; and (vi) their views and interests (Fernández, Fernández and Soloaga, 2019; López-Santos, Castañeda-Martínez and González-Díaz, 2017). The decision-making, implementation and monitoring processes for conservation and sustainable use include comprehensive actions with social, economic, biological and cultural components of life systems and ways of life, integrating broad objectives of social well-being. Box 2 provides an explanation of the process in the cases analysed.

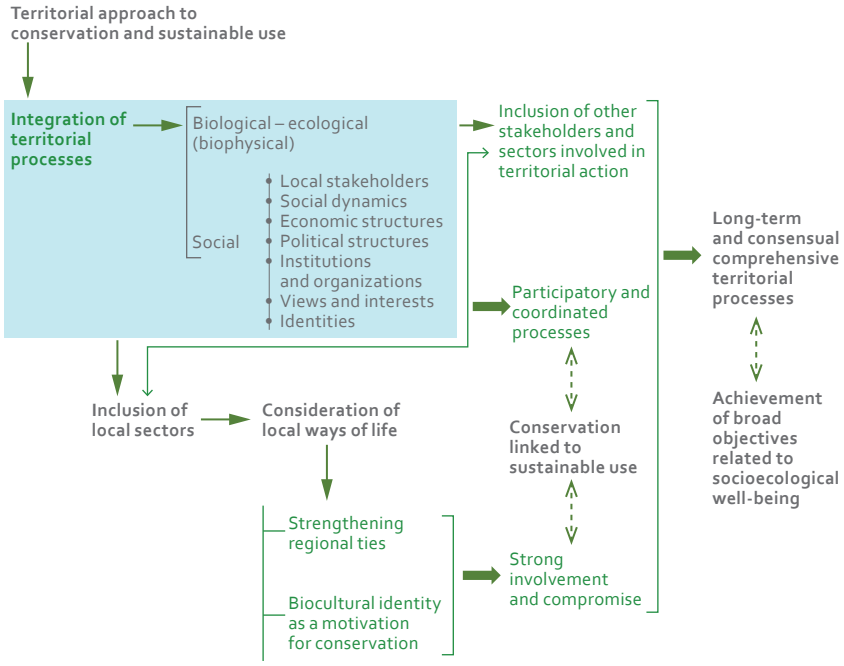
Box 2
Processes and characteristics of the territorial approach to the conservation and sustainable use of biodiversity

The projects or initiatives entitled *Network of Marine Areas for Responsible Fishing and Marine Life Territories Life* (Costa Rica), *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), *Quito Water Protection Fund* (Ecuador), *Management of the São Paulo Biosphere Reserves* (Brazil), *Women and the Environment* (Mexico) and *Mangroves, Seagrasses and Local Communities: Developing and Exchanging Experiences on the Comprehensive Management of Biodiversity and its Services in the Caribbean Region (MAPCO)* (Colombia) are implementing the approach of territorial appropriation in conservation and sustainable uses of biodiversity (see the diagram below), whose main characteristics are:

- Consideration of local ways of life, which strengthens territorial and biocultural identity, both of which are very powerful intangible factors in mobilizing commitment and local capacities for the conservation and sustainable use of biodiversity. This is particular clear in communities with strong cultural identities and dependence on biodiversity, such as small-scale fisherfolk and mollusc fishers involved in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* and the mangrove worker communities participating in the *MAPCO* project.
- Integration of biophysical factors, socioeconomic dynamics and local institutional organization in processes for the conservation and sustainable use of biodiversity. Through this integration, initiatives with a territorial approach have managed to restore ecosystems and recover species while contributing to sustaining traditional ways of life (see box 3).
- In line with the above, recognition and creation of processes based on the existing institutional structure in the territories.
- Identification and integration of the various sectors present in the territories, including those that are, in principle, opposed to or reluctant to engage with conservation (for example, the livestock sector). This enables multi-stakeholder and intersectoral territorial processes that facilitate the consideration and management of conflicts between stakeholders and sectors.
- Implementation of a concerted, long-term effort to achieve broad objectives relating to socioecological well-being (more than ten years in all cases mentioned in this box).

Diagram
Process created in the territorial approach to conservation and sustainable use of biodiversity

Implementing the territorial approach in biodiversity management (grey text) creates concrete results (green text) that influence the conservation and sustainable use of biodiversity. The thin arrows (→) represent direct results; the thicker arrows (➡) indicate results that integrate contributions from other previous processes. The two-way arrows (↔) indicate constant and iterative processes.



Source: Prepared by the authors on the basis of the findings of the cases analysed.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

B. Long-term spatial planning for biodiversity

This practice facilitates a comprehensive vision of terrestrial and marine landscapes and ecosystems (Rayner, Buck and Katila, 2010), which is strengthened by the integration of scientific, technical and traditional knowledge. Spatial planning and knowledge integration requires participatory processes for: (i) analysis of the present situation; (ii) zoning and planning for conservation and sustainable use, considering the legislation in force and local dynamics; and (iii) monitoring. The examples in box 3 show that zoning for the sustainable use of biodiversity is part of long-term participatory planning and monitoring, and that it contributes to reflection and shared governance. The benefits identified include capacity-building and increasing the knowledge of local stakeholders such as support agencies, both public and private.

Box 3
Participatory spatial planning of terrestrial and marine landscapes

- The leasehold communities in the Community Forest Management of the Maya Biosphere Reserve (Guatemala) project implement territorial planning for multiple-use zones that covers a minimum period of 25 years, with wood extraction equivalent to one tree per hectare every 25 years and 40 years. This facilitates forest regeneration and conservation processes, with less than 0.5% of the leased multiple-use zone harvested for timber (Carrera, 2018; Stoian and others, 2018).
- The *MAPCO* project (Colombia) for mangroves in the Gulf of Morrosquillo, in Santa Marta, has promoted spatial planning based on cartographic data and traditional local knowledge. This has involved the establishment of 13 managed plots with limits on the amount of wood extracted in each period (each period has a maximum duration of two years), creating planning for 26 years. This enables the regeneration of the plots, improved mangrove conservation and greater future economic security for communities that earn a living from using wood.[a]

Source: Prepared by the authors on the basis of the findings of the cases analysed and, in relation to the case from Guatemala, on the basis F. Carrera, *Autoevaluación de las concesiones forestales en Guatemala, 2018 and D. Stoian and others, Las concesiones forestales en Petén, Guatemala: Un análisis sistemático del desempeño socioeconómico de las empresas comunitarias en la Reserva de la Biósfera Maya*, Center for International Forestry Research (CIFOR), 2018.
[a] Information collected during an interview with staff of the Marine and Coastal Research Institute in August 2020.

C. Granting land security, and access to and use of ecosystems and their components, especially for indigenous peoples and local communities

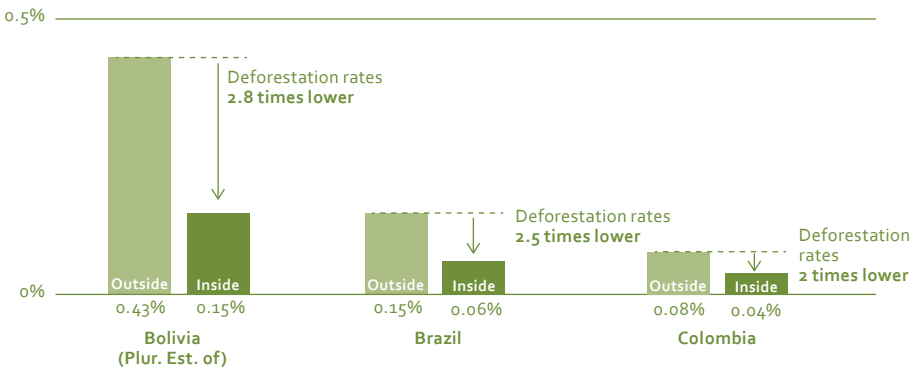
As mentioned previously, the territorial approach and spatial planning for the conservation of biodiversity through sustainable use involves long-term processes. Its successful implementation is affected by securing access to and/or tenure of the given land, and access to ecosystems and their components, especially for indigenous peoples and local communities. This enables long-term planning and the expression of local cultural identities (box 4). In addition, legal and regulatory guarantees of access, tenure and use of the territory and the components of ecosystems contribute to preventing conflicts that, in general, result in the loss of the values and attributes of biodiversity, owing to its over-exploitation or changes in its use, the displacement of indigenous peoples and local communities, migration processes and increased social vulnerabilities, among other processes. It is important for aspects of land tenure to be compatible with the principles of sustainability, to enable biodiversity to be safeguarded and to ensure respect for human rights (Norström and others, 2020).

The United Nations Declaration on the Rights of Indigenous Peoples covers, among other topics, the recognition of the right of indigenous peoples to the land and to their cultural relationship with it (General Assembly resolution 61/295 of 2007). The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (Human Rights Council resolution 39/12 of 2018) recognizes "the special relationship and interaction between peasants and other people working in rural areas, and the land, water and nature to which they are attached and on which they depend for their livelihood", also recognizing that access to, use of and management of land and natural resources should be equal. Moreover, the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* of the Food and Agriculture Organization of the United Nations (FAO) highlights the importance of appropriate governance of land, fisheries and forests under the framework of the Universal Declaration of Human Rights, and of safeguarding "legitimate tenure rights against threats and infringements" (Principle 3.1.2) (FAO, 2012, p. 3).

Box 4
Biodiversity conservation and security of land and ecosystem access for indigenous peoples and local communities

IPBES (2019a) has reported that the state of biodiversity conservation is better in territories managed by indigenous peoples than in other comparable territories, and that biodiversity deterioration processes there are slower, although pressures are increasing indigenous peoples' territories, especially as a result of activities such as industrial monocrop agriculture, mining, infrastructure and other factors. Fa and others (2020) arrive at the same conclusion, noting that 36% of undisturbed forests are in indigenous territories. The Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean/FAO (2021) reports similar findings, and using deforestation as indicator, mentions that in indigenous territories with secured tenure, there is greater forest conservation (see the diagram below). In addition, Ceddia, Gunter and Pazienza (2019), on the basis of a study carried out in different countries over a twenty-year period, indicate that in territories where indigenous peoples have property rights, increases in agricultural productivity have been observed, thereby reducing the pressure from agricultural expansion. The authors also state that the positive effects of land and territorial management by indigenous peoples are clear over the long term.

Diagram
Comparison of deforestation rates between 2000 and 2012, within and outside the forested land of indigenous peoples with secured land tenure



Source: Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean/Food and Agriculture Organization of the United Nations (FAO), *Forest Governance by Indigenous and Tribal People: An Opportunity for Climate Action in Latin America and the Caribbean*, Santiago, 2021, p. 42.

The improvement in the state of biodiversity has been noted in initiatives promoting local community management. For example, in the communities in the Network of Marine Areas for Responsible Fishing and Marine Life Territories (Costa Rica), in the communities participating in the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) and in the *MAPCO* project (Colombia). The improvement can be seen in the increase in species populations and the decrease in deforestation rates as result of prolonged cycles of rotational use, leading to ecosystem restoration. In these cases, one of the challenges concerns the security of land, water and ecosystems. For example, the female mollusc fishers that are part of the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* have no or limited right to access the sea. This hinders territorial planning and their ways of life , which reduces the possibility of fair and decent work. Security of access and use is also important in large-scale processes such as the Community Forest Management of the Maya Biosphere Reserve arrangement, where security in relation to the renewal of forest leases is a fundamental factor in providing continuity to life processes and systems based on sustainable use, restoration and conservation of forests.

Source: Prepared by the authors on the basis of the findings of the cases analysed and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, Bonn, Germany, 2019, J. E. Fa and others, "Importance of indigenous peoples' lands for the conservation of intact forest landscapes", *Frontiers in Ecology and the Environment*, vol. 18, No. 3, 2020, Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean/Food and Agriculture Organization of the United Nations (FAO), *Forest Governance by Indigenous and Tribal People: An Opportunity for Climate Action in Latin America and the Caribbean*, Santiago, 2021, and M. G. Ceddia, U. Gunter and P. Pazienza, "Indigenous peoples' land rights and agricultural expansion in Latin America: a dynamic panel data approach", *Forest Policy and Economics*, vol. 109, 2019.

D. Conservation through sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources

The sustainable use of biodiversity creates financial and non-financial benefits, which are distributed between local stakeholders (see subheading "Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in processes and among local actors") and with stakeholders from other countries (as in the case of the *Women and the Environment* initiative in Mexico), in the latter, in accordance with the Nagoya Protocol. The distribution of benefits and the processes established to guarantee participation, fairness and equality strengthen local ways of life and the territorial identity of which biodiversity is a part. The result is motivation for conservation through sustainable use. The attributes of fairness and equity in benefit-sharing, pursuant to the third objective of the Convention on Biological Diversity, are the result of processes that include recognition of the relevant stakeholders, particularly rights holders, as well as processes to strengthened their capacities to participate in decision-making and in the adaptation and application of knowledge and technologies, among others, suitable for restoring, protecting and conserving biodiversity. Box 5 identifies complementary elements of the relationship between conservation, sustainable use, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Box 5
Sustainable use and fair and equitable sharing of the benefits arising out of the utilization of genetic resources for the conservation of biodiversity

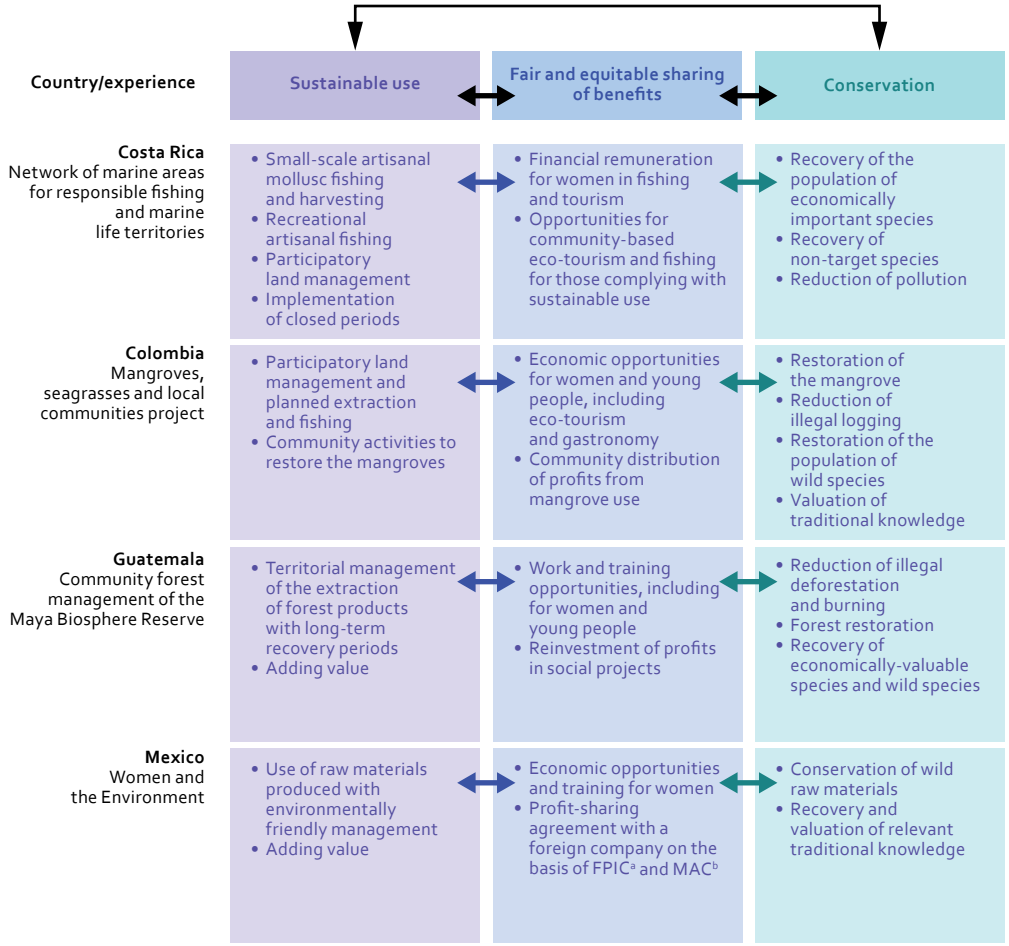
In the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), the *Women and the Environment* (Mexico) initiatives and the *MAPCO* project (Colombia), the conservation activities are directly linked to the sustainable use of biodiversity and the distribution of benefits in a fair, inclusive and equitable manner. In the case of Mexico, the distribution of benefits takes place among stakeholders from different countries following the provisions of the Nagoya Protocol.

The distribution of benefits occurs throughout the economic activities underpinning traditional ways of life. The benefit-sharing experiences among local stakeholders includes, for example, the payment of a salary for tasks carried out (as in the Network of Marine Areas *for Responsible Fishing and Marine Life Territories*, Costa Rica), the collective distribution of income (*MAPCO* project, Colombia) and the reinvestment of earnings in social projects (in the *Community Forest Management of the Maya Biosphere Reserve*, Guatemala). Part of the distribution of benefits is the creation of local biodiversity-related employment in areas such as adding value and ecotourism (which includes recreational artisanal fishing, landscaping, ornithology and local gastronomy, among other activities). Noteworthy in the sharing of benefits is the involvement of women, through productive activities generally seen as domestic and that were previously unpaid (such as preparing bait in case of small-scale artisanal fishing, and preparing of foods in gastronomic initiatives with local agrobiodiversity) (Ayales Cruz and others, 2019; Carrera, 2018).

In the *Women and the Environment* initiative (Mexico), which involves the provision of a genetic resource to a user in another country, the fair and equitable sharing of benefits arising out of the utilization of that resource includes the development of a financial instrument (between provider and user) based on the benefits derived from the commercialisation of the product obtained. This instrument is part of the mutually agreed terms established in accordance with the Nagoya Protocol, the Mexican law and the biocultural community protocol developed by the genetic resource providers. This protocol is based on the rights of the community with respect to the genetic resources in their territory and associated traditional knowledge. The implementation of this process has involved: revaluing local biodiversity and associated traditional knowledge; capacity-building to carry out the process of free, prior and informed consent, as well as negotiation with the user company; local organization; and sustainable management of the genetic resource by promoting its cultivation, through ecological management, instead of harvesting from the wild in order to conserve it.

The overall outcome in the four initiatives listed previously is the restoration of ecosystems and the recovery of the populations of economically valuable species, as well as of wild species with intrinsic value. The fair and equitable sharing of the benefits arising out of the sustainable utilization of genetic resources provides motivation for conservation and recovery of biodiversity that supports the economic dynamics of local ways of life (see the diagram below).

Diagram
Relationship between conservation, sustainable use and fair and equitable sharing of the benefits arising out of the utilization of genetic resources



Source: Prepared by the authors, on the basis of the findings of the cases analysed.

Source: Prepared by the authors on the basis of the findings of the cases analysed and, in relation to the cases from Costa Rica and Guatemala, on the basis of the information provided by I. Ayales Cruz and others, *Hacia una estrategia integral para el reconocimiento y formalización de la actividad productiva de las mujeres en las principales cadenas de valor de la pesca artesanal de pequeña escala, que recupere los conocimientos y prácticas tradicionales*, 2019 and F. Carrera, *Autoevaluación de las concesiones forestales en Guatemala*, 2018.

[a] FPIC-free, prior and informed consent.

[b] MAC-mutually agreed conditions.

E. Design and implementation of other effective area-based conservation measures (OECMs)

Other effective area-based conservation measures, such as geographic areas that complement protected areas, are managed so that: (i) they contribute to the *in situ* and long-term conservation of biodiversity and its ecosystem functions and services; (ii) local stakeholders play leading roles in processes; (iii) other public and private stakeholders work together, whether directly or indirectly, on the management of other effective area-based conservation measures (OECMs); and (iv) the importance of the socioeconomic, cultural, spiritual and other values of ecosystems, especially for local stakeholders, are integrated. Due to their features, they adapt to different social and ecological contexts, contributing to diversifying forms of conservation through the sustainable use of biodiversity and local forms of organization, beyond State or private formats such as protected areas or reserves.

Two kinds of OECM have been identified: (a) those managed by local stakeholders; and (b) those managed through joint management with public bodies and local stakeholders. In both cases, institutional support —whether from public bodies, civil society or international organizations— contributes to ensuring that the other OECMs align with national regulations, and to their planning and monitoring. Another shared feature is the diversity of types of conservation based around sustainable use, resulting in the restoration of habitats and wildlife corridors, the recovery of endangered species, improved connectivity for fragmented ecosystems, and the maintenance of the ecosystem functions and services. Box 6 provides examples of this.

Box 6
Other effective area-based conservation measures for the conservation of biodiversity through sustainable use in productive systems and the strengthening of traditional life systems

Through different objectives and processes and with a variety of stakeholders, the following OECMs promote sustainable use and give rise to conservation of biodiversity, strengthening local and traditional life systems that depend on its condition:

- The aim of the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) is to prevent deforestation and the expansion of the agricultural frontier into the multiple-use zone of the Reserve through activities that combine the conservation and sustainable use of the forest. The process is led by local communities managing nine active leases, as of 2020, that cover 533,131 hectares of forest. This is carried out with the support of international civil society, intergovernmental bodies in the United Nations system, academia and other international cooperation initiatives. The results include the protection of 44% of the Maya Biosphere Reserve, a reduction in forest burning, the reduction of deforested areas to less than 0.5% of the leased multiple-use zone and the recovery of wild species of flora and fauna. These outcomes have been achieved through the sustainable use of timber and non-timber products from the forest, which contributes to the creation of jobs and funds to be invested in social projects within local communities (Carrera, 2018).
- The *Wine, Climate Change and Biodiversity Programme* (Chile) is aimed at making conservation compatible with wine production through ecosystem-based innovations designed by academia and the private production sector. These innovations are intended to protect, use and add value to the native biodiversity of vineyards, while eliminating alien species. The aim of this is to minimize the impact of agriculture by integrating biodiversity and thereby strengthening ecosystem functions and services to improve resilience to climate change. These innovations include the establishment of wild vegetation corridors through the vineyards connected to the sclerophyll scrubland and forest,[a] which in turn contribute to the biological pest management in vineyards through native species of flora and fauna. A total of 31,571 hectares of sclerophyll scrubland and forest have been conserved as a result, equivalent to 2.7 protected hectares for each hectare under wine production out of the total area of the companies involved in the programme.[b] The "country brand" has also been strengthened with differentiated wines and marketing, contributing to commercialization (Barbosa and Villagra, 2015; IEB, 2017).

- The *management of the São Paulo Biosphere Reserves* initiative (Brazil) includes the conservation of more than 2 million hectares of the Atlantic Forest and an increase from 2% to 25% of the country's total marine territory under conservation with public sector engagement (Ferreira Lino, 2018). Participants in this initiative include the national and subnational governments, civil society, local communities and intergovernmental bodies in the United Nations system. The conservation strategies involve promoting economic activities (for example, biodiversity fairs) carried out in and with local communities. There are also organized awareness-raising campaigns for young people , and joint capacity building and research conducted by public entities, academia and civil society.

Source: Prepared by the authors on the basis of the findings of the cases analysed and F. Carrera, *Autoevaluación de las concesiones forestales en Guatemala*, 2018, O. Barbosa and P. Villagra, "Socio-ecological studies in urban and rural ecosystems in Chile", *Earth Stewardship: Linking Ecology and Ethics in Theory and Practice*, R. Rozzi and others (eds.), Springer, 2015, Institute of Ecology and Biodiversity (IEB), *Instituto de Ecología y Biodiversidad. 10 años*, 2017 and C. Ferreira Lino, "La Reserva de la Bióstica Mata Atlántica y la conservación del litoral, las islas y los ecosistemas marinos de Brasil", VIII Congreso de La Red Mundial de Reservas de la Biosfera Islas y Zonas Costeras, 2018.

[a] The sclerophyll shrubland and forest is typical of Mediterranean climates and considered a priority owing its rich biodiversity and its levels of reduction, largely owing to agricultural expansion.

[b] Outreach material entitled Wine, Climate Change and Biodiversity Programme. (REF:http://vccb.cl/en/quienes-somos/).

F. Integration of biodiversity into different sectors

From a practical perspective, this involves the inclusion of the objectives of restoring, recovering, conserving and sustainably using biodiversity in the sectoral processes of developing and implementing policies, rules, plans, investments and actions. This aims at making productive and financial practices more consistent with sustainability. Based on that, all of the experiences analysed integrate biodiversity into one of the following sectors: agriculture, fishing, forestry, tourism, manufacturing, infrastructure and finance. As multiple ecosystem functions and services are being re-established through the sustainable use of biodiversity, its integration into one sector (into fishing, for example) tends to product benefits in others (for example, in tourism and manufacturing). In addition, most of the experiences analysed are diversifying their productive activities to more than one sector, increasing opportunities to create well-being and direct and indirect employment. As a result, such processes also lead to intersectoral coordination, creating learning opportunities and transdisciplinary coordination at the institutional level (in many cases including the public sector).

Box 7 analyses three elements of governance that facilitate the integration of biodiversity into different sectors. The study "Experiences of biodiversity mainstreaming in the productive, economic and financial and financial sectors in Latin America and the Caribbean" (translation in progress), prepared by Alvarado, Tambutti and Rankovic (2022), provides detailed descriptions of the integration of biodiversity into the cases included in this report.

Box 7
Integration of biodiversity into different sectors through capacity-building, multi-stakeholder coordination and the implementation of coordinated actions

The cases analysed show that the integration of biodiversity into different sectors is facilitated by:

(i) *Capacity-building through inclusive and transdisciplinary approaches* to facilitate dialogue, decision-making, and the planning and implementation of the conservation and sustainable use of biodiversity.

The *Mainstreaming of Biodiversity into the Mexican Agricultural Sector programme* includes training on biodiversity in agricultural production, involving the participation of national government bodies working in agriculture and biodiversity, international cooperation, academia, civil society and the productive sector. The project promotes sustainable agriculture (agroecology, for example) and

adaptation to and mitigation of climate change. It also promotes the creation and diversification of economic opportunities that are as self-sufficient as possible, with minimal or no dependence on external input to improve economic efficiency. It also includes support for farmers for sustainable management and training in how to integrate biodiversity into agriculture. The results include the restoration and increase of soil organic matter (including improved fertility, productive potential and carbon capture) and the recovery of pollinators.

(ii) *Multi-stakeholder coordination* with public and private stakeholders from the sectors involved.

In the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the development and approval of management plans requires coordination between the public bodies responsible for fishing (Costa Rican Institute of Fisheries and Aquaculture (INCOPESCA) under the Ministry of Agriculture and Livestock (MAG)) and for biodiversity conservation (National System of Conservation Areas (SINAC) under the Ministry of the Environment and Energy), as well as local communities. This coordination involves direct dialogue between the Network and public bodies. The result is the integration of biodiversity into the fishing sector, mutual institutional learning and a transdisciplinary approach to reviewing the management plans. In addition, thanks to the political impact of the Network, the small-scale artisanal fishing sector has been included in discussions about national policies and regulations.

(iii) *Joint implementation* of actions where the different trained stakeholders and the numerous processes created during coordination converge.

The *Quito Water Protection Fund* (FONAG) (Ecuador) implements various strategies —on conservation, restoration, generation of information, education and awareness-raising, stakeholders' engagement and monitoring— to improve the state of biodiversity in agricultural, forestry, tourism and manufacturing activities. Its vision is to restore ecosystem functions of water basins to ensure the water supply of the Quito metropolitan area. The activities are carried out by local stakeholders with the support of the public sector, academia and civil society, with funding from a private commercial trust that benefits from the restitution of the water cycle in the restored and conserved ecosystems. The Fund's most senior decision-making body is the Trust Board, which is made up of the founding bodies (the Metropolitan Public Water and Sanitation Company (EPMAPS), which chairs the Board, and the Nature Conservancy) and adherent members (the Quito Electric Company (EEQ), the National Brewery (CN) S.A., the Swiss Agency for Development and Cooperation (SDC) and the Tesalia Springs Company S.A.). The Trust Board functions include defining the policies and principle with which the Technical Secretariat, the implementing body, must comply.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

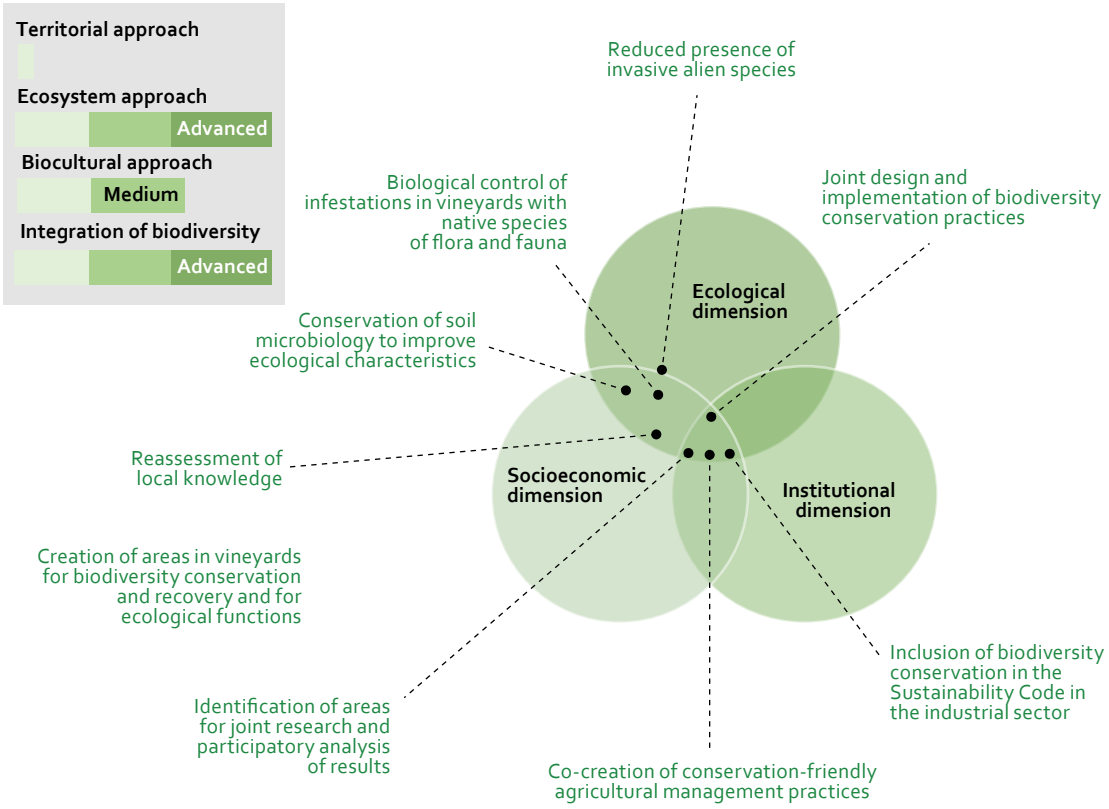
G. Transdisciplinary approach to biodiversity

This consists of creating interactions between different areas of specialization, leading to collaboration between disciplines and the co-construction of knowledge (Max-Neef, 2016; Nicolescu, 2010). This contributes to a comprehensive approach to understanding and managing the realities on the ground. In the experiences analysed, the transdisciplinary approach can be seen in: (i) the territorial approach where the local social, ecological and institutional elements converge; (ii) the implementation of conservation processes from social and biocultural perspectives; and (iii) the biodiversity mainstreaming into different sectors (box 8).

Box 8
Transdisciplinarity in implementing the territorial, biocultural and integration-based approach to biodiversity

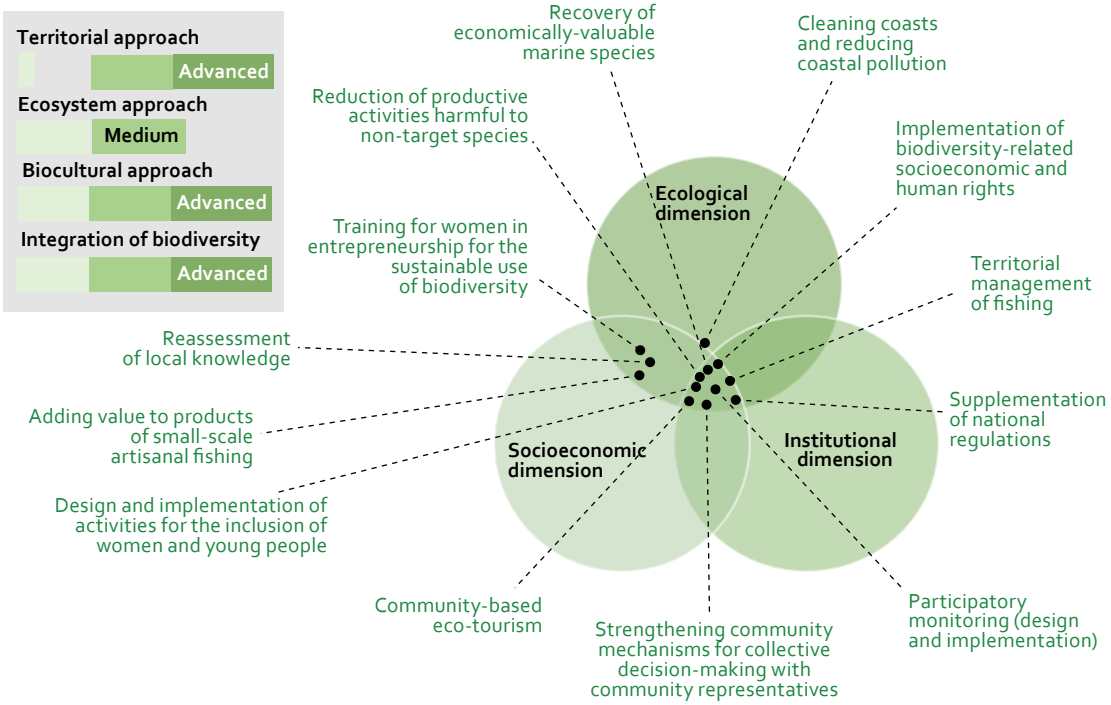
Diagrams 1, 2 and 3 illustrate activities that contribute to the transdisciplinary approach in three examples of governance for transformative change in favour of biodiversity. It can be seen that the more advanced the implementation of territorial, ecosystem-based, biocultural and integration-based approaches (see the box in the top left corner of each diagram), the greater the number of activities that contribute to the transdisciplinary nature of the experience (see the overlapping parts of the diagrams).

Diagram 1
Activities implemented in the Wine, Climate Change and Biodiversity Programme (Chile) that contribute to the transdisciplinary approach to conservation and sustainable use of biodiversity



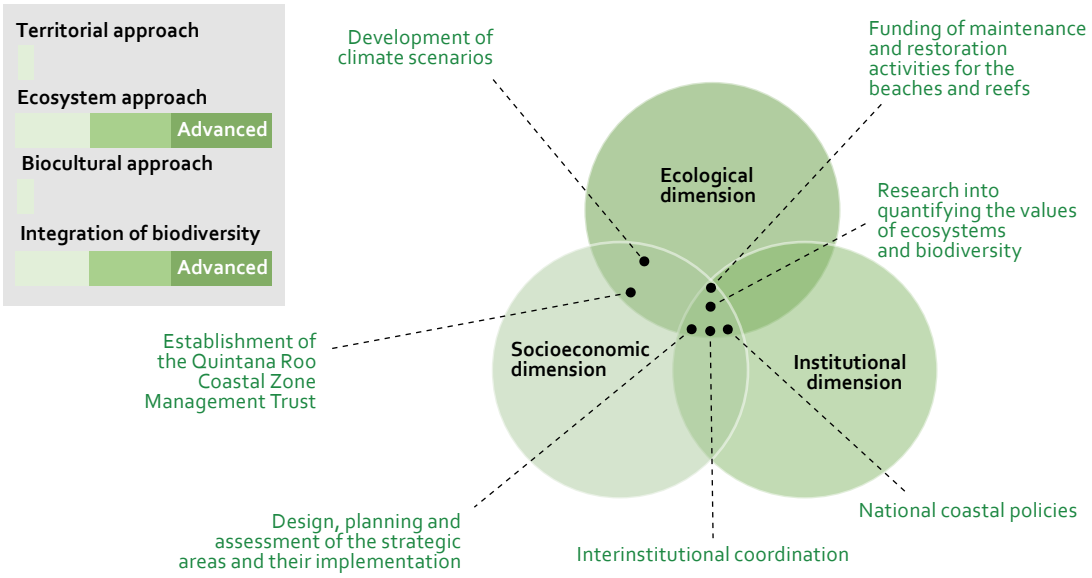
Source: Prepared by the authors on the basis of the findings of the cases analysed.

Diagram 2
Activities implemented in the Network of Marine Areas for Responsible Fishing and Marine Life Territories (Costa Rica) that contribute to the transdisciplinary approach to conservation and sustainable use of biodiversity



Source: Prepared by the authors on the basis of the findings of the cases analysed.

Diagram 3
Activities implemented in Insurance for the Protection of Beaches and Reefs (Mexico) that contributeto the transdisciplinary approach to conservation and sustainable use of biodiversity



Source: Prepared by the authors on the basis of the findings of the cases analysed.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

H. Establishment of innovative financial mechanisms for the conservation and sustainable use of biodiversity

The availability of funding is one of the most restrictive factors in the implementation of biodiversity initiatives. The most limited sources of funding are public budgets, in which, as a global average, between 0.14% and 4.6% of funds are allocated to biodiversity (Dobie and others, 2019). Prior to the COVID-19 pandemic, the worldwide total for biodiversity conservation oscillated between US$ 124 million and US$ 143 million, an amount lower than the US$ 451 billion invested in subsidies for agro-industry (not to mention subsides for fossil fuels) and the US$ 500 billion allocated annually to activities potentially harmful to biodiversity (Deutz and others, 2020; OECD, 2020). In this context, the design and implementation of innovative funding mechanisms has a positive impact on reducing the funding gap. Box 9 provides three examples of such mechanisms.

Box 9
Innovative funding mechanisms for biodiversity

- The *Works for Taxes Mechanism* (Peru) is focused on public investment for biodiversity and is jointly implemented by the national Government (through the Ministry of Economic Affairs and Finance, MEF; the Ministry of the Environment, MINAM, and the Private Investment Promotion Agency) and the private sector (organized through the Works for Taxes Partnership), with the support of intergovernmental organizations in the United Nations system (Biodiversity Finance Initiative (BIOFIN)/United Nations Development Programme (UNDP)). The initiative channels taxes from the private sector directly to finance and implement public projects related to biodiversity conservation, primarily with subnational governments, in coordination with and in relation to projects agreed on with the MEF and MINAM.
- The *Insurance for the Protection of Beaches and Reefs* (Mexico) is intended to protect 160 km of Mexico's Caribbean coastline in the State of Quintana Roo. It is implemented by subnational government bodies (the Government and Secretariat for Ecology and the Environment of the State of Quintana Roo), the national Government (through the National Commission of Natural Protected Areas (CONANP)), an international NGO (the Nature Conservancy) and the private sector. The financial protection insurance covers damage from hydro-meteorological events (such as hurricanes) and, in terms of comprehensive coastal-marine management, is intended to reduce economic, social and ecological losses that, in turn, have an impact on biodiversity.
- *FONAG* (Ecuador), legally known as the "Environmental Trust Fund for the Protection of Basins and Water" (*Fideicomiso Mercantil Fondo Ambiental para la Protección de las Cuencas y Agua*), is a private trust with a public-private implementation and aimed at generating financial resources for activities that contribute to providing water for human consumption. The activities financed are the conservation, restoration and/or regeneration of biodiversity in water supply zones for the Quito metropolitan area. To that end, it finances initiatives related to the conservation and sustainable use of biodiversity agreed with local stakeholders, including education, research and training. This mechanism is implemented jointly by private companies (National Brewery (CN) S.A. and the Tesalia Springs Company S.A.), the public sector (the Metropolitan Public Water and Sanitation Company (EPMAPS) and the Quito Electric Company (EEQ)), international partners (Swiss Agency for Development and Cooperation (SDC)), an international NGO (the Nature Conservancy) and local organizations that live in the target basins and ecosystems. Unlike other funding mechanisms, *FONAG* includes a territorial approach that makes it more transdisciplinary, with an increased multi-stakeholder and multilevel approach. For example, the conservation of basins includes the promotion of conversion to ecological agriculture and livestock production that integrates reforestation and capacity-building in agroecological management in accordance with the productive activities of local stakeholders, supported by educational processes (such as agroecological school gardens in rural communities).

Source: Prepared by the authors on the basis of the findings of the cases analysed.

V. Practices in the inclusive approach: equality, representation and active participation

As its name indicates, the inclusive approach contributes to establishing processes in which different stakeholders can participate in a fair, active and effective manner. Other elements of the inclusive aspect of governance for transformative change for biodiversity can be found under the heading "Features of governance for transformative change for biodiversity" and its relationship to the other approaches is shown in diagram 1.

The practices described in this section are:

A. Conservation through processes with a biocultural approach.

B. Consideration of the human rights and collective rights of indigenous peoples and local communities in the sustainable management of biodiversity.

C. Strengthening the recognition of and the roles and rights of women in sustainable biodiversity management.

D. Inclusion of young people in the sustainable management of biodiversity.

E. Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in local processes and among local stakeholders.

The following practices also contribute to the inclusive and informed approaches:

F. Multi-stakeholder approach.

G. Representative discussion for local dialogue and coordination between sectors.

H. Co-creation of knowledge based on knowledge-building dialogues.

A. Conservation through processes with a biocultural approach

The biocultural approach recognizes and integrates biodiversity and cultural diversity (ecological knowledge systems, practices, cultural identities and values, institutions and language) as a result of co-evolution processes between human communities and their ecological contexts (Norgaard and Sikor, 1999; Pilgrim and Pretty, 2010; Toledo and Barrera-Bassols, 2008). The biocultural perspective to conservation includes the socioecological and sociocultural dynamics of local stakeholders to identify and strengthen those that have positive effects on biodiversity. OECMs have significant potential to implement this approach due to their adaptation to local contexts. Box 10 provides examples of the implementation of the biocultural approach.

Box 10
The biocultural approach to biodiversity conservation and the strengthening of local ways of life

Eight of the experiences featured incorporate the biocultural approach to biodiversity management. This inclusion takes place in at least one of the following ways:

- *Including traditional practices and knowledge* in conservation activities, productive processes, and participatory planning and monitoring. This application of the biocultural approach makes possible the (re)valuation of knowledge and even of the knowledge-building dialogues, which, in turn, leads to the co-creation of other knowledge (as in the case of the *Wine, Climate Change and Biodiversity Programme*, Chile); however, these do not necessarily have an impact on strengthening local ways of life.
- *Designing restoration, recovery, conservation and productive diversification processes based on local ways of life*, with the involvement of stakeholders through:
  - *Strengthened local dynamics*, for example, the inclusion of the knowledge and skills of women in manufacturing handcrafts with non-timber forest products from conserved forests in the *Community Forest Management of the Maya Biosphere Reserve*, Guatemala.
  - *Social organization with a socioecological perspective*, such as the ecotourism initiatives in the communities in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica) that integrates the activities carried out by women in fishing and local gastronomy.
  - *Organizational and institutional strengthening through local uses and customs*, such as the communities participating in the *MAPCO* project (Colombia), collectively organize mangrove-conservation activities and have a community fund to distribute the income generated from timber harvesting among members of the community.
  - *Development of local instruments*, such as the biocultural community protocols under the *Women and the Environment* initiative. The *biocultural community protocols* are documents developed by and for the communities in which they establish: (i) collective knowledge on genetic resources; (ii) the respective customary rights; and (iii) procedures for the management, conservation, use and consent to access these genetic resources and the associated traditional knowledge (CONABIO/GIZ, 2017; IIED, 2012). As a process, the development of biocultural community protocols enable the community to recognize their local knowledge and its importance. As a product, they constitute an instrument to protect local genetic resources and regulate access to them through a free, prior and informed consent and mutually agreed terms with the potential users of such resources.

Source: Prepared by the authors on the basis of the findings of the cases analyzed and, in relation to the case from Mexico, on the basis of National Commission for the Knowledge and Use of Biodiversity/German Agency for International Cooperation (CONABIO/GIZ), "Protocolos comunitarios, biodiversidad y conocimiento tradicional", *Cuaderno de Divulgación*, No. 2, Mexico City, 2017 and International Institute for Environment and Development (IIED), "Biodiversity and culture: exploring community protocols, rights and consent", *Participatory Learning and Action*, No. 65, 2012.

B. Consideration of the human rights and collective rights of indigenous peoples and local communities in the sustainable management of biodiversity

The relationship between biodiversity and human rights is essential and involves ensuring the dignified enjoyment of the functions and services of biodiversity, such as the right to food (healthy and nutritious) and to a safe, clean, healthy and sustainable environment (Ituarte-Lima and Schultz, 2018; UNEP/OHCHR, n/d). Some of the rights recognized in different biodiversity-related multilateral agreements are:

- Rights established in the International Covenant on Economic, Social and Cultural Rights.
- Rights included in the International Covenant on Civil and Political Rights.
- Rights of indigenous peoples, included in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and in the Indigenous and Tribal Peoples Convention, 1989 (No. 169) of the International Labour Organization. The latter includes rights such as respect for the traditional management of land and territories (Art. 13) and free, prior and informed consent (Art. 16) even in the implementation of any legislative measure that affects indigenous peoples (Art. 19.) and in the approval of any project (Art. 32.2).
- Rights of peasants, under the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), which recognizes the rights to access and use natural resources of various rural communities whose ways of life depend on them. The UNDROP includes specific rights for rural women and girls.
- Rights of women under the Convention on the Elimination of All Forms of Discrimination against Women.
- Right to information and participation, in the case of Latin America and the Caribbean, under the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (known as the Escazú Agreement).
- Right of access to justice and compensation, in relation to the Guiding Principles on Business and Human Rights.

The collective rights identified in the exercise of governance for transformative change for biodiversity are: (i) the right to land security and access to ecosystems and their components (such as coasts and forests) for the long-term sustainable use of biodiversity ; (ii) the right to exercise traditional territorial ways of life; and (iii) the social, economic and political rights of women. Box 11 contains some findings in relation to collective rights for the sustainable management of biodiversity.

Box 11
Collective rights for the sustainable management of biodiversity

In the experiences analysed, the collective rights identified that empower local stakeholders to sustainably manage biodiversity are based around:

- *The right to land and territories,* that refers to the security and access to ecosystems and their components for the long-term sustainable use of biodiversity. This right is related to the rights of indigenous peoples, and the rights of peasants and other rural workers (see, for example, UNDROP, under articles 4, paragraph 2(h)[a] and Article 17[b]). Recognition of the right to land, coastal or marine territory and its components is a key factor in planning, organizing and implementing the long-term sustainable use and conservation of biodiversity, in particular in communities whose ways of life depend on it. These include the communities participating in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) and the *MAPCO* project (Colombia) (see box 2).

- *The right to cultural life, traditions and believes*. This right is linked to the biocultural perspective (developed under the heading "Conservation through processes with a biocultural approach") and to social, economic and cultural rights, to the rights of indigenous peoples and to the rights of peasants and rural workers. The cultural life is expressed, among others through traditional strategies for the conservation and sustainable use of biodiversity. Respecting it enables the exercise and strengthening of social dynamics based on the components, functions and services of biodiversity. Moreover, it is conducive to the (re)evaluation of traditional knowledge[c] associated to genetic resources, as seen in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), the *Women and the Environment* initiative (Mexico) and the *MAPCO* project (Colombia).

Source: Prepared by the authors on the basis of the findings of the cases analysed.

[a] Article 4, paragraph 2 (h) "To equal access to, use of and management of land and natural resources, and to equal or priority treatment in land and agrarian reform and in land resettlement schemes".

[b] For example, art. 17 of UNDROP states that: "Peasants and other people living in rural areas have the right to land, individually and/or collectively, in accordance with article 28 of the present Declaration, including the right to have access to, sustainably use and manage land and the water bodies, coastal seas, fisheries, pastures and forests therein, to achieve an adequate standard of living, to have a place to live in security, peace and dignity and to develop their cultures". In turn, article 17, paragraph 3 indicates that: "States shall take appropriate measures to provide legal recognition for land tenure rights, including customary land tenure rights not currently protected by law, recognizing the existence of different models and systems. States shall protect legitimate tenure and ensure that peasants and other people working in rural areas are not arbitrarily or unlawfully evicted and that their rights are not otherwise extinguished or infringed. States shall recognize and protect the natural commons and their related systems of collective use and management".

[c] Traditional knowledge refers to the biodiversity and genetic resources-related knowledge, innovations and practices of indigenous peoples and local communities that has been developed through their historical experience, adapted to local circumstances and passed on from generation to generation (SCBD, n.d.).

C. Strengthening the recognition and rights and roles of women in the sustainable management of biodiversity

Rural women take on essential roles in various activities in biodiversity management, such as in agriculture, forestry, fishing, wildlife harvesting, water management and tourism. In general, there is recognition of the importance of women to managing the conservation and sustainable use of biodiversity, as well as in the associated knowledge they hold and continuously implement. However, two challenges remain at the local level: (i) the invisibility of their contributions and work; and (ii) conditions that weaken their agency in the sustainable management of biodiversity. As regards the first challenge, in four of the experiences analysed, processes are carried out to highlight, acknowledge and remunerate the work done by women. This contributes to a shift away from their productive activities being seen only as care work. As regards the second challenge, capacity-building and the participation of women in decision-making spaces was identified. Box 12 provides additional information on this point.

Activities to showcase and empower women are important but remain insufficient to resolve complex contextual issues, such as land access and tenure, discrimination and violence. Of the initiative analysed, only the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica) specifically addresses the issue of women's access to territories and ecosystems, conducting activities to raise awareness of the social, economic and political rights of women among local stakeholders (including women themselves) and public bodies.

Box 12
Visualizing and acknowledgement of women's work in the sustainable use of biodiversity

Territorial, and therefore cultural, tourism is one way of including women in biodiversity-related economic activities. In the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), women participate in tourism activities that showcase their work (such as setting bait and preparing fishing lines), showing that their tasks have a productive value. This activity has allowed them to be part of local fishing cooperatives. In the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) and the *MAPCO* project (Colombia), women participate in tourist routes by preparing traditional foods using local agricultural biodiversity.

The visualization and acknowledgement of the role of women are related to the exercise of the various social, economic, cultural, civil and political rights, among them the right to information and participation, and the right to be free from discrimination. Sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources are concrete examples of the exercise of these rights by women, as seen in three of the cases:

(i) The *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica) addresses women's rights through the rights to association, secured access to the territories (i.e., coasts), dignified work, recognition of the economic contribution of domestic and care work, participation in consultation and decision-making processes, and representation. Concrete examples are the formalization of equal gender representation in the Network's coordination; the representation and participation of communities' women in the annual planning workshops; the inclusion of women in paid work in responsible small-scale artisanal fishing; and the obtention of official permission, from the Government of Costa Rica, for women from the Chomes Cooperative for Female Mollusc Workers (CoopeMoluChomes R.L.) to gather certain mollusc species. As well as making women more visible, these activities improve their self-esteem and autonomy, and their roles within their communities. An important driver of these dynamics has been training in women's rights and workshops to create women-led enterprises.

(ii) In the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), women participate in processes to add value to non-timber forest products, in tourism activities, and in training and empowerment processes, and hold executive positions in community forest enterprises.

(iii) The *Women and the Environment* initiative (Mexico) is led and mainly implemented by women. With the support of the local university and the "Strengthening human resources, legal frameworks and institutional capacities to implement the Nagoya Protocol" UNEP-GEF project, they organize for: (i) training on technical topics to implement the fair and equitable sharing of the benefits arising out of the utilization of genetic resources; (ii) the production of raw materials; (iii) the development of commercial projects to transform medicinal and cosmetic products; (iv) the coordinated elaboration of community biocultural protocols; (v) the holding of a free, prior and informed consent processes with local communities; and (vi) the joint writing of a document on mutually agreed terms for a the access to and distribution of benefits between *Women and the Environment* and a private foreign company (establishing the conditions for the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in accordance with the Nagoya Protocol).

Source: Prepared by the authors based on the findings from the cases analysed.

D. Inclusion of young people in the sustainable management of biodiversity

The participation of young people in biodiversity-related processes is of profound importance and, in recent years, has been discussed under the CBD framework in terms of intergenerational equity. Intergenerational equity is an inherent part of sustainability, especially in regard to responsibility to future generations; however, its effective implementation is influenced by the current socioeconomic, political and ecological challenges that reduce the opportunities to include young people. Examples of these challenging processes identified in the cases analysed are policies with limited consideration of new generations, the socioeconomic effects of the COVID-19 pandemic, the effects of climate change, gaps (especially rural) in access to information and communication technologies, and the predominance

of entrepreneurship over other economic models, resulting the devaluation of rural dynamics that are largely maintained by biodiversity management.

The literature on this subject proposes the following elements for policies with a focus on intergenerational equity: (i) the projected quantity and quality of ecosystems; (ii) population dynamics; (iii) the substitution of ecosystem functions and services; (iv) technological change; (v) institutions; and (vi) political restrictions (Glotzbach and Baumgärtner, 2012). Box 13 provides a summary of some of the practices identified to create opportunities and encourage young people to get involved in biodiversity-related processes.

Box 13
Initiatives to include young people in the conservation and sustainable use of biodiversity

The projects financed by the Quito Water Protection Fund (*FONAG*) (Ecuador) and those carried out under the *Management of the São Paulo Biosphere Reserves* (Brazil) include training activities for young people in different areas that contribute to the conservation and sustainable use of biodiversity. In the case of the *São Paulo Biosphere Reserves*, a programme for young people has been developed with the aim of supporting improvements to the socioeconomic conditions of those who live in the reserves through the implementation of local initiatives. The programme also includes young people in visits, exchanges and the organization of awareness-raising events on the importance of the reserve.

The *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica) and the *MAPCO p*roject (Colombia) involve young people through the following activities:

- Technical support from the professions pursued by young people. In the experiences cited, the children of fisherfolk and mollusc fishers with backgrounds in environmental management and commercialization act as local technical facilitators hired by the supporting institutions or by the local organizations.
- Communications technology management, especially in the COVID-19 pandemic context.
- Linking art (such as music and videos) with the creation of materials to raise awareness of local activities related to the conservation and sustainable use of biodiversity.

In a study on the involvement of young people in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (PROCASUR/IFAD, 2015), they said that being taken into account in local processes relating to the conservation and sustainable use of biodiversity motivated them and gave them a sense of responsibility. In that regard, the areas for participation identified by those young people are:

- Using information and communication technologies to build partnerships between the Network's management areas and public and private stakeholders and promote exchanges of information.
- Creating forums for discussion between young people, as well as between them and other stakeholders (such as adults, women and indigenous peoples).
- Disseminating information on the criteria for responsible management and economic and cultural well-being that provides young people with guidance on access to social and economic assets, community participation and other matters.
- Influencing processes to create public policies to strengthen community governance of responsibly managed areas and other effective area-based conservation measures, with input from young people.

Despite these efforts, it remains challenging for young people to participate in ensuring the intergenerational continuity of local processes. The *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), the *Women and the Environment* initiative (Mexico) and the MAPCO project (Colombia) promote spaces for young people with the aim of creating local opportunities related to the sustainable use of biodiversity that include participation in: (i) training, consultation and planning processes; (ii) technical and value-adding activities; (iii) fire patrol activities; and (iv) training in the use of geographical information tools. The aims are to create motivation and build capacities to ensure the continuity of local activities, presence in the territories and reduce migration. A shared feature of the initiatives identified is their territorial approach and its implementation by communities with biocultural roots.

Source: Prepared by the authors on the basis of the findings of the cases analyzed and, in relation to the case from Costa Rica, on the basis of PROCASUR/International Fund for Agricultural Development (IFAD), *La pesca responsable: un activo económico, social, ambiental y cultural para la juventud. Comunidades pesqueras y gobernanza comunitaria de los espacios marino-costeros en Costa Rica 2015*, 2015.

The following **inclusive** governance practices also apply the ***adaptive approach***, in line with diagram 1.

E. Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in local processes and among local stakeholders

Under the CBD framework, the Nagoya Protocol establishes the procedures for access to genetic resources and for the fair and equitable sharing of the benefits arising out of their utilization among providers and users located in different countries. Under this protocol, the *Women and the Environment* initiative (Mexico) is carrying out a negotiation process with a foreign company to access and use a local medicinal plant. The other experiences analysed (Colombia, Costa Rica and Guatemala) clearly show the importance of also implementing processes for fair and equitable sharing between different local stakeholders (box 14). While the Nagoya Protocol does not provide elements relating to these dynamics at national level, the principles of participation, free, prior and informed consent and justice and equity in the distribution of benefits on which it is based are a fundamental pillar for setting up locally agreed processes, the visibility and inclusion of different stakeholders (especially women, indigenous peoples and local communities) and motivation for sustainable use. The experiences analysed show that, at the national level, processes for requesting consent for access to genetic resources among local stakeholders need to be strengthened.

Box 14
Implementation of fair and equitable sharing of the benefits arising from local processes of sustainable utilization of genetic resources

The *Network of Marine Areas for Responsible Fishing and Marine Life Territories (Costa Rica), the Community Forest Management of the Maya Biosphere Reserve* (Guatemala) and the *MAPCO* project (Colombia) are some of the initiatives that implement the fair and equitable sharing of the benefits arising out of the utilization of genetic resources among the community stakeholders that take part in small-scale artisanal fishing, the use of forest resources and mangrove harvesting, respectively. Equity in the sharing of the financial and non-financial benefits involves acknowledging the various stakeholders participating in the gathering/fishing processes; creating opportunities and conditions for using and adding value to biological and genetic resources; and in reinvestment in social works with benefits for the whole community. Regarding the latter, in the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala), the community-owned company responsible for commercializing timber and non-timber products reinvests up to 30% of its profits into local social projects relating to education, health, housing, infrastructure and other areas (Carrera, 2018).

Based on the experiences of various communities in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories*, sharing benefits involves recognizing the roles and contributions of stakeholders that are normally invisible and paying them a fair and decent salary. This is the case of women in the sustainable use of biodiversity (for example, harvesting different types of molluscs at specific times of year to reduce the negative impacts on their populations) and value-adding processes (such as scale removal of fish).

In the *MAPCO* project, benefit sharing among local stakeholders is practiced through the communal distribution of the income generated from the wood sale of the sustainably managed mangroves, generating motivation for implementation of and participation in collective mangrove conservation.

Source: Prepared by the authors on the basis of the findings of the cases analyzed and, in relation to the case from Guatemala, F. Carrera, *Autoevaluación de las concesiones forestales en Guatemala*, 2018.

F. Multi-stakeholder approach

All of the experiences considered in this study implement multi-stakeholder processes, i.e., they involve various groups and sectors. This is related to the transdisciplinary and knowledge-building dialogue approaches (see heading "Transdisciplinary approach to biodiversity" and "Co-creation of knowledge

based on knowledge-building dialogues") as each stakeholder participates in line with their field of knowledge and expertise. In the cases analysed, the enabling factors for the multi-stakeholder approach are: (i) identifying shared interests or needs; (ii) building the capacities among different stakeholders (see heading "Participatory capacity-building for adaptation to the local context"); (iii) simplifying information and adapting communication formats to suit the range of participants (see heading "Simplification of complex information to facilitate participatory and multi-stakeholder processes"); (iv) adapting processes to the contexts and circumstances of the stakeholders, facilitated by the application of the territorial approach; (v) supporting local stakeholders in the above areas (mainly through civil society organizations, public bodies, international cooperation organizations and academia); and (vi) building trust.

The results observed in the multi-stakeholder process are: (i) understanding and aligning the visions and priorities of the participating sectors; (ii) creating proposals collectively; (iii) establishing synergies; (iv) fostering ownership of processes; and, as a result of the above, (v) making progress towards reducing gaps in information and in decision-making capacities and power. One example of the last point is the *Wine, Climate Change and Biodiversity Programme* (Chile), with the co-creation of knowledge and joint definition of research topics by academic researchers and field workers. Another example is the *Women and the Environment* initiative (Mexico), in which the gaps are reduced by strengthening knowledge and building capacities in order to negotiate for the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The results of the multi-stakeholder approach are conducive to other inclusive, informed and adaptive processes. The following practices contribute to the inclusive approach, as well as the informed and adaptive approaches (see diagram 1).

G. Representative discussions for local dialogue and coordination between sectors

Representative discussions refers to inclusive and consensual mechanisms for creating collective positions and opinions, which are then used in coordination processes with other sectors. They involve local dialogue processes and negotiation between sectors. The representative discussion requires capacity-building for the spokespersons and the groups they represent. This is therefore related to collective learning, institutional and organizational strengthening and the creation of legitimacy (Canto Chac, 2008). Some of the experiences analysed use representative discussion for various purposes, including influence in policy development; market access; and obtaining some kind of certification or guarantee for their activities, among others. In these processes, the representative discussion (with male and female community leaders) is the strategy for dialogue and coordination between the public and private sectors (e.g., for the purchase or provision of services). This, in turn, involves training in the means and contents of the areas to harmonize. Training processes are requested by local stakeholders and/or promoted by support institutions (civil society organizations, research bodies or intergovernmental organizations).

H. Co-creation of knowledge based on knowledge-building dialogues

The ***co-creation* of knowledge** consists of collaborative and transdisciplinary processes that, to reach their aims, must be contextualized, pluralistic and aimed at the achievement of shared and interactive objectives (Norström and others 2020). ***Knowledge-building*** dialogues refers to the integration of different forms of knowledge —for example, academic, technical, indigenous, peasant and other— through inclusive processes that enable stakeholders to exchange and co-create analyses, methodologies, tools and more (Ishizawa, 2016; Leff, 2006). Knowledge-building dialogue contributes to a more comprehensive understanding of contexts, factors, sectors, processes and solutions. As regards biodiversity, it also contributes to the reassessment of relevant traditional knowledge. The experiences analysed involve

academia, civil society and/or the public sector alongside local stakeholders (indigenous peoples and local communities, peasants, rural women and others) who carry out various processes involving the co-creation of knowledge and knowledge-building dialogue. A shared result is a change in the behaviour of the stakeholders involved in relation to the importance of biodiversity and its management for conservation and sustainable use (examples in box 15).

Box 15
Co-creation of knowledge through knowledge-building dialogues on integrating biodiversity into agriculture and the management of marine territories

- The *Wine, Climate Change and Biodiversity Programme* (Chile) includes a process for the co-creation of knowledge between academia (led by the Institute of Ecology and Biodiversity (IEB)) and the private agricultural and wine manufacturing sector. Together they established research topics on vineyard biodiversity and practices for its conservation or sustainable use; they analysed the results; they designed and implemented management practices favourable to biodiversity on the basis of the results of their research; and they also evaluated the level of conservation of biological diversity and its influence on wine production. One example is research on the effects of conservation of native flora and organic production management on yeast abundance and diversity in the wine grapes harvested, as well as their respective effects on wine production properties and reduction of processing costs. To that end, training spaces were created for everyone working in the vineyards, from the owners and managers to field workers. The design and implementation of the research areas was carried out in the same vineyards. The management team and workers participated in analysing the results, which facilitated dialogue between scientific, technical and traditional knowledge, as some of the workers had local agricultural knowledge. The positive outcomes were: (i) innovation in agricultural practices and management that conserve native biodiversity within the vineyards, alongside adapt to the productive and administrative processes already in place; (ii) capacity-building throughout the organizational structure; (iii) positive changes in behaviour towards biodiversity, seeing it as a component that creates benefits in management and production; (iv) ownership of research and conservation processes; and (v) recognition of the relevance of traditional knowledge in academic and technical research; and (vi) adaptation of scientific research to the needs of local production.
- The *MAPCO* project (Colombia) involves the definition, implementation and design of spatial plans for mangrove and seagrass areas in academia (led by the Marine and Coastal Research Institute (INVEMAR)), the public sector (through Autonomous Regional Corporations), civil society (foundations) and local communities (mangrove workers, fisherfolk and indigenous peoples). This makes it possible to integrate scientific, technical and traditional knowledge about species, access routes and mangrove maintenance. For example, the design of reed maintenance (or "pruning" the mangrove roots) involved the integration of local knowledge to identify the priority areas for cutting and to avoid the entry of salt water into the mangroves. Training, planning and monitoring sessions were held to that end. The results of the process include: (i) participatory design and monitoring; (ii) capacity-building in the sectors involved; (iii) recognizing the value of traditional and local knowledge; (iv) the appropriation of activities for the conservation and sustainable use of mangroves; and (v) positive changes in the behaviour of the stakeholders involved in relation to the conservation and sustainable use of biodiversity in local ways of life.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

VI. Practices in the informed-process approach: access to information and the integration of different knowledge systems

The approach that creates **informed** processes is based on knowledge and data sharing and co-creation. Other elements of this approach are indicated under the heading "Features of governance for transformative change for biodiversity". As shown in diagram 1, of the four approaches of governance for transformative change for biodiversity, the informed-process approach has the most interaction with others, especially the inclusive and adaptive approaches. The practices in the **inclusive approach** that contribute to informed processes are described above under the headings "Representative discussions for local dialogue and coordination between sectors" and "Co-creation of knowledge based on informed dialogue". The practices in the **informed-process approach** that contribute to the **adaptive approach** are presented later under the headings "Participatory capacity-building for adaptation to the local context" and "Participatory planning".

The following practices will be described below:

A. Simplification of complex information to facilitate participatory and multi-stakeholder processes.

B. Participatory monitoring and management of databases with local stakeholders to measure the achievement of objectives.

A. Simplification of complex information to facilitate participatory and multi-stakeholder processes

Implementing different governance practices for transformative change —such as the multi-stakeholder approach, the co-creation of knowledge, representative discussions, participatory planning and monitoring, among others— requires the simplification of the language used and the relevant scientific, technical and regulatory information to facilitate the inclusion and effective participation of different stakeholders, in particular rights holders, in the sustainable management of biodiversity. This practice, which could be considered obvious, is essential and is implemented in all of the cases analysed. Diagram 3 shows examples highlighting the roles of academia and (local and international) NGOs in this process. The limited involvement of local governments may be partly because of information on territorial processes, the scarce resources and insufficient personnel to implement this practice.

Diagram 3
Examples of the simplification of complex information to promote multi-stakeholder processes and participation in governance for transformative change for biodiversity

Country/Experience	Facilitator	Simplified information	Recipient	Objective
Brazil/ Management of the São Paulo Biosphere Reserves	Multi-stakeholder council	Regulatory and technical information about managing forest ecosystems	Central government and subnational governments	Boost projects for the conservation and sustainable use of the Atlantic Forest
	Local NGOs	Technical information about the importance of the Atlantic Forest	Local communities	Encourage participation in conservation and sustainable use of the forest
Chile/ Wine, Climate Change and Biodiversity Programme	Academia	Technical information about biodiversity values	Private company (vineyards)	Implement joint research on the conservation of native biodiversity
	Academia	Technical information about monitoring biodiversity on farms	Private company (vineyards)	Carry out joint monitoring integrating different types of knowledge
Colombia/ Mangroves, Seagrasses and Local Communities project	Academia	Scientific information about mangrove monitoring	Subnational governments	Support and monitor local mangrove management
	Academia	Scientific information about mangrove monitoring	Local communities (mangrove workers)	Conserve and make sustainable use of mangroves
Costa Rica/ Network of Marine Areas for Responsible Fishing and Marine Life Territories	Local NGO	National regulations in the fisheries sector	Local communities (fishermen and women)	Influence policy in the fisheries sector
	Local NGO	Voluntary FAO guidelines on responsible governance of land, fisheries and forests	Local communities (fishermen and women)	Participatory design of a local monitoring system
Ecuador/ Quito Water Protection Fund	Academia	Scientific information on the relationship between biodiversity and water supply	Central government	Implement projects to restore biodiversity in basins
	Central government	Scientific information on the relationship between biodiversity and water supply	Local communities	Implement local projects to restore biodiversity in basins
Guatemala/ Community Forest Management of the Maya Biosphere Reserve	International NGO	Technical information about monitoring biodiversity	Local communities (forest leaseholders)	Participate in forest monitoring processes
	Community business	Business management and adding value to non-timber products	Women and young people from local communities	Build capacities to participate in community-based economic activities
Mexico/ Mainstreaming Biodiversity into the Mexican Agricultural Sector	Central government and UN bodies	Technical information about the functions and purposes of biodiversity in agriculture	Public officials and researchers	Participate in studies on the relationship between agriculture and biodiversity
	Central government	Technical information about biodiverse agriculture	Local communities (farmers)	Integrate biodiversity into agriculture
Mexico/ Women and the Environment ABS[a] FPIC[b] MAC[c]	UN body	Regulatory information about the Nagoya Protocol	Local communities (providers of genetic resources)	Implement an ABS[a], FPIC[b] and MAC[c] process
	Academia	Technical information about product processing	Members of the organization	Build capacities in the aggregation of biodiversity products
Mexico/ Insurance for the Protection and Conservation of Beaches and Reefs	International NGO	Technical information about financial mechanisms	Central government	Implement and maintain reef and beach insurance
	International NGO	Technical information about restoring reefs and beaches	Central government	Carry out technical monitoring of reefs and beaches
Peru/ Public investment in biodiversity through the Works for Taxes mechanism	UN body	Technical information about conserving biodiversity	Private business (different sectors)	Participate in financial mechanisms
	Private business	Mechanisms for investment in biodiversity	Private business (related sectors)	Motivation to participate in financial mechanisms

Source: Prepared by the authors on the basis of the findings of the cases analysed.
[a] ABS: access and benefit-sharing.
[b] FPIC: free, prior and informed consent.
[c] MAC: mutually agreed conditions.

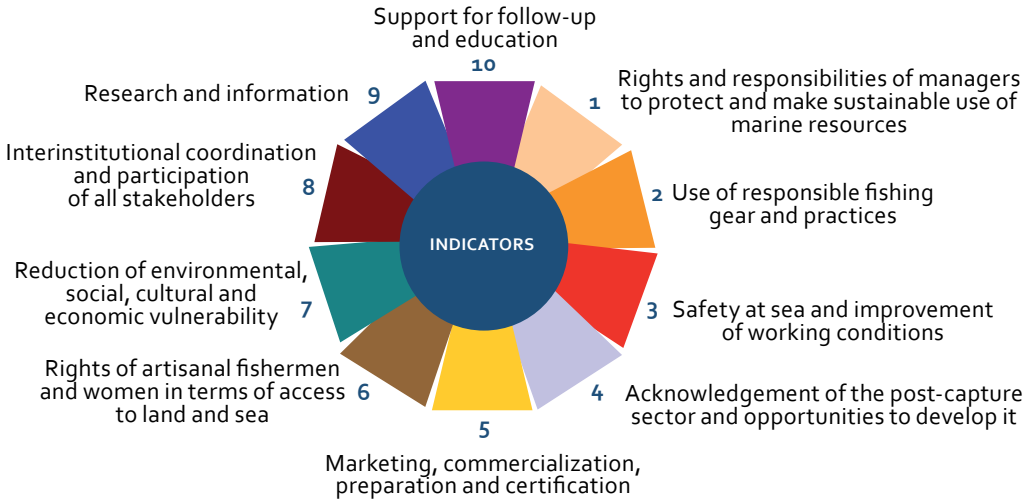
B. Participatory monitoring and management of databases with local stakeholders to measure the achievement of objectives

Monitoring is implemented in all the cases included in this study. However, participatory monitoring involving all relevant stakeholders was only identified in half of them (table 3). This is limiting as participatory monitoring acts as a tool for follow-up, learning and collective planning. The other limitation is that monitoring is focused mainly on biological indicators, and, to a lesser extent, on socioeconomic ones. Box 16 lists some of the participatory monitoring approaches identified.

Box 16
Participatory monitoring approaches in cases of governance for transformative change for biodiversity

- In the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the monitoring methodology and tool were designed with community representatives and the support institution, CoopeSoliDar R.L. The tool (diagram below) consists of ten qualitative indicators that include sea-related rights and responsibilities, research and access to information, land access, communication, protection and sustainable use in small-scale artisanal fishing, the types of fishing gear used, coordination, follow-up and evaluation, among others. The qualitative evaluation identifies progress in three general categories (no progress, some progress and satisfactory) in each community. Evaluation is annual and the records enable comparative analysis, consideration of the internal and external factors that influence progress and setbacks under each indicator, and the planning of activities for each community and the Network as a whole.

Diagram
Depiction of the participatory monitoring tool of the Network of Marine Areas for Responsible Fishing and Marine Life Territories (Costa Rica)



Source: Adapted by the authors, from I. Ayales Cruz and others, *Fortaleciendo la gobernanza marina desde las comunidades de pesca artesanal: áreas marinas de pesca responsable y la visión desde sus protagonistas en el mar*, 2013.

- The *Wine, Climate Change and Biodiversity Programme* (Chile) involves monitoring of: (i) collaboratively defined research; and (ii) results at the productive, economic and ecological levels (for example, in biodiversity conservation) of practices developed jointly. The monitoring consists of recording quantitative and qualitative data in the field by the academic support institution (IEB) and vineyard staff.
- In the *MAPCO* project (Colombia), participatory monitoring concerns the state of mangrove conservation in terms of the species recovered, the regeneration of the ecosystem and other biophysical aspects (such as water salinity). The academic support institution (INVEMAR) and local communities of trained mangrove workers participate in the monitoring. Data is collected in the field by local communities and, on several occasions, also by relevant regional public bodies.

Source: Prepared by the authors on the basis of the findings of the cases analysed.

VII. Practices in the adaptive approach: contextualization, sustainability and resilience

The **adaptive approach** to governance for transformative change for biodiversity prioritizes ensuring that processes are suited to existing conditions, whether local, national, regulatory or other. Regarding this objective, participation is a cross-cutting feature and such adaptations are considered central to achieving socioecological resilience and sustainability. Under the heading "Features of governance for transformative change for biodiversity", there are some other characteristics of this approach, while diagram 1 illustrates its relationship with other governance approaches.

This section describes the following practices under the adaptive approach:

A. Participatory capacity-building for adaptation to the local context

B. Participatory planning

C. Joint management of ecosystems

D. Conservation of biodiversity through artisanal and small-scale sectors

Despite having only been identified in one of the cases analysed, this section includes, owing to its importance:

E. Control of invasive alien species through a comprehensive approach involving different stakeholders

A. Participatory capacity-building for adaptation to the local context

Capacity-building enables stakeholders, especially local ones, to participate proactively in different processes. The results include multi-stakeholder processes, capacity-building for participatory dialogue, the co-creation of knowledge and the co-management of ecosystems. These processes, in turn, improve the capacities of participating stakeholders and sectors (including local communities) in sustainably managing biodiversity, landscapes and territories. All of the experiences analysed, apart from those that have an approach based solely on creating financial mechanisms (table 3), apply different participatory methodologies and processes for capacity building. Box 17 contains examples of participatory capacity-building methodologies applied by communities and local stakeholders.

Box 17
Examples of participatory capacity-building methodologies involving local stakeholders, based on experiences of governance for transformative change for biodiversity

The following are some examples of participatory capacity-building processes adapted to local contexts and identified in the cases analysed:

- *Guided analyses of national and international regulatory instruments*. This creates understanding of regulations through joint analysis with local stakeholders and provides input for the joint design of informative materials in simple language. The challenge is keeping the interpretations faithful to the content of the instruments analysed.
- *Participatory research.* This consists of local stakeholders being co-creators of the formulation of research questions, design and implementation in the field and joint analysis of the results. This methodology is implemented with the active involvement of academia, although it is not limited to it. Because it is carried out in real production contexts, it provides research with the following attributes: (i) being adapted to the local context; (ii) maintaining rigorous scientific and technical standards in the conservation and sustainable use of biodiversity and the resulting monitoring; (iii) contributing to aims of restoring and conserving biodiversity in the local ecological and social conditions; and (iv) integrating elements of sustainable production and use.
- *Establishing "learning sites".* This consists of identifying local experiences that can be visited to provide examples of conservation and sustainable use of biodiversity and the effects of restoring the ecosystem functions and services.
- *Peer exchange*. This involves mutual visits to learn about the realities of other communities or similar groups, their activities in the conservation and sustainable use of biodiversity, and the challenges they face. Processes such as "peasant to peasant" or "fisher to fisher" exchanges are implemented as part of this methodology.

The latter two methodologies —learning site and peer exchange— have particular strengths as they are based on the real experiences of local stakeholders (and not of institutions). These strengths include: (i) they facilitate and, in some cases, accelerate the scaling up of practices for the conservation and sustainable use of biodiversity by building on the experiences of others, which is a significant motivating factor; (ii) they make it possible to visualize the importance of biodiversity and the forms of conserving and sustainably using it; (iii) they help to identify the problems of others and assess one's own strengths; and (iv) they create interrelated and empathic processes with regard to similar ecosystems and socioecological dynamics. The logistical and financial organization needed to mobilize stakeholders to carry out mutual group visits is a common challenge.

- *"Learning by doing".* This is an effective methodology for building capacities and changing management and behaviours to create lived experiences onsite. This approach is particularly useful in technical tasks, such as monitoring and data collection. Constant reflection is needed for the process to achieve its objectives.

In the implementation of all of the above-mentioned methodologies, institutional support was identified from public bodies and other sectors (such as academia and national and international civil society organizations).

Source: Prepared by the authors on the basis of the findings of the cases analysed.

B. Participatory planning

Planning is an activity found in the ten experiences analysed; however, planning with participatory features is carried out in eight of them, based around long-term territorial planning (addressed under the heading Spatial planning of biodiversity in the long term "), co-creation of knowledge (describe under the heading "Co-creation of knowledge based on informed dialogue") and capacity-building (under the heading "Participatory capacity-building for adaptation to the local context"). The cases that implement participatory planning begin with collective reflection to: (i) recognize the local challenges and strengths in sustainably managing biodiversity; (ii) identify the starting points for joint processes; (iii) define the required training topics; and (iv) start creating a shared vision. Participatory monitoring and evaluation are where the greatest weaknesses lie, and the related information gaps can be seen in most of the initiatives described (see "Participatory monitoring and management of databases with local stakeholders to measure the achievement of objectives").

C. Co-management of ecosystems

This is one of the forms of participatory governance in which the public sector and local stakeholders design and implement a management plan (De Castro, Hogenboom and Baud, 2016) stressing in a rather technocratic approach, the need for effective state institutions to achieve development in a global context of liberalized markets (Demmers, Fernández Jilberto and Hogenboom, 2004. One example of joint management of biodiversity launched by the public sector is biosphere reserves (as with the *Community Forest Management of the Maya Biosphere Reserve*, Guatemala, and the *Management of the São Paulo Biosphere Reserves*, Brazil). Another example are OECMs. While public bodies are involved to differing extents in the initiatives analysed, not all of them entail co-management in the sense of coordination and collaboration in the conservation and sustainable use of biodiversity; in fact, there are cases with limited interaction with the public sector for the implementation of national regulations, and others with strained relationships. Box 18 includes examples of co-management through OECMs.

Box 18
Co-management of ecosystems for the conservation and sustainable use of biodiversity

- The *Quito Water Protection Fund (FONAG)* (Ecuador) mobilizes financial resources to restore and conserve areas of hydrological recharge in order to provide drinking water to the Quito metropolitan area. The co-management is implemented by public bodies under the national government (the Ministry of the Environment, Water and Ecological Transition), the Quito regional government (the Quito Metropolitan Public Water and Sanitation Company (EPMAPS) and *FONAG*), the private sector (founding members of *FONAG*) and local communities (a broad heterogenous group including peasants, indigenous peoples and local communities, producers at different scales, local schools, etc.) (FONAG, 2019). The approach of co-managing biodiversity occurs through planning, funding, implementation and monitoring of activities in conservation, restoration, sustainable use, research and education (in environmental matters). In this initiative, the co-management is driven by public institutions and funding bodies. Over time, this has resulted in a mixed approaches of top-down processes (for example, the identification of conservation areas) and bottom-up processes (with proposals made to *FONAG* by local stakeholders).
- In the *Management of the* São Paulo *Biosphere Reserves* (Brazil), the co-management of biodiversity is carried out by the national government (National Council for the Atlantic Forest Biosphere Reserve), municipal governments (committees and subcommittees for managing the reserve), civil society (represented by various NGOs and networks) and the local population. The co-management is led by the National Council for the Atlantic Forest Biosphere Reserve and municipal subcommittees, with the latter responsible for multi-year planning for the reserves. Local stakeholders are represented in these committees as advisers. Beyond the co-management, national government and municipal bodies are responsible for designing and planning the strategic directions of the reserves, generating information, carrying out projects, following up on the implementation of international biodiversity-related commitments, and coordinating with other financial mechanisms and public and private institutions (Ferreira Lino and de Oliveira, 2017). Accordingly, co-management in this initiative begins in public bodies with a top-down approach, with the participation of local stakeholders in specific consultation spaces.
- The communities of mangrove workers participating in the *MAPCO* project (Colombia) are part of a co-management process with subnational authorities (Regional Autonomous Corporation of the Sinú and San Jorge Valleys), state technical support bodies for research and training (such as INVEMAR) and communities of mangrove workers. In this case, the co-management begins with recognition of the importance of regional public sector participation and is based around planning, joint monitoring of the state of the conservation and sustainable use of mangroves, and strengthening of local capacities.

Source: Prepared by the authors on the basis of the findings of the cases analyzed and, in relation to the case from Brazil, on the basis of C. Ferreira Lino and N. M. de Oliveira (coords.), *Anuário Mata Atlântica 2017: Convenção da Diversidade Biológica/Metas de Aichi-CDB 2020-A Mata Atlântica e as Metas Nacionais de Biodiversidade para 2020. Balanço, Destaques e Estratégias*, São Paulo, 2017.

D. Conservation of biodiversity through artisanal and small-scale sectors

In the cases analysed, five have an approach centred entirely on artisanal and small-scale sectors (fisherfolk, farmers and leaseholders in community forest management). Another two apply a mixed approach with sectors of differing sizes. In the cases with small-scale artisanal sectors, restoration and conservation are carried out through sustainable use by managing large areas of ecosystems (see "Conservation through sustainable use and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources"). The relevance of these sectors is as follows:

- Artisanal and small-scale management leans towards diversification instead of simplification and specialization. For instance, in the *Network of Marine Areas for Responsible Fishing and Marine Life Territories* (Costa Rica), the communities manage approximately 70 commercial species that rotate throughout the year, enabling the constant recovery of fish populations. In the *Mainstreaming Biodiversity into the Mexican Agricultural Sector* programme (Mexico), agricultural biodiversity is encouraged in agroecological production systems which are inherently biodiverse. In the *Community Forest Management of the Maya Biosphere Reserve* (Guatemala) initiative, activities for the sustainable use of the forest include timber and non-timber forest species, with value added to both.
- The direct dependence on biodiversity of lifestyles involving artisanal and small-scale production drives the conservation and sustainable use of species and ecosystems. This motivation is strengthened when the socioeconomic benefits of recovering and restoring biodiversity are made clear in terms of total job creation, contribution to income and the possibility of preserving traditional cultural dynamics.

E. Control of invasive alien species through a comprehensive approach involving different stakeholders

Invasive alien species are one of the five main direct causes of biodiversity loss, threatening native species and ecosystem functions (IPBES, 2019a). Controlling this phenomenon is highly challenging, and countries generally lack the necessary capacities to implement timely and successful strategies, which is why the best way of managing such species is to prevent their introduction (Early and others, 2016). Box 19 briefly describes the experience of reducing the introduction of alien species in biodiverse wine-manufacturing systems with the participation of producers and through adaptation to local conditions.

Box 19
Control of alien species in vineyards through management focused on restoration and use of native biodiversity

All alien species have a real or latent potential to become invasive. The *Wine, Climate Change and Biodiversity Programme* (Chile) implemented practices for their control with various local stakeholders. The process included the participatory identification of alien species, with subsequent field analysis of their effects on ecosystem functions and services, and their elimination (using biodiversity corridors) and replacement with functional native species in the productive system. The identification of native species with ecosystem functions similar to the alien species was the result of a collaborative process between vineyards, the private sector and academia for experimentation and innovation. This resulted in the development of differentiated commercial products to avoid using alien species, such as a special mixture of native species of plants used as a cover crop between the rows of vines. This product replaced an imported product that used exotic species (Barbosa and Villagra, 2015).

Source: Prepared by the authors on the basis of O. Barbosa and P. Villagra, "Socio-ecological studies in urban and rural ecosystems in Chile", *Earth Stewardship: Linking Ecology and Ethics in Theory and Practice*, R. Rozzi and others (eds.), Springer, 2015.

VIII. Frequency and qualitative performance of governance practices

A. Frequency of implementing the practices of governance approaches for transformative change

Box 4 qualitatively presents the frequency of implementation of governance practices for transformative change for biodiversity, in line with the objectives of the CBD and the sectors considered in the study.

As regards the CBD objectives, the experiences and practices are focused on sustainable use as a conservation strategy, while the experiences on fair and equitable sharing of the benefits arising out of the utilization of genetic resources, as established by the third CBD objective and the Nagoya Protocol, remain limited. This is not only due to the composition of the selected cases, but also to the availability of information in the region.

In terms of sectors, the cases dealing with agriculture, fishing, forestry, tourism and, to a lesser extent, manufacturing all include different governance practices for transformative change for biodiversity. Tourism is noteworthy in this context owing to its capacity to adapt to the circumstances of local communities; the motivation that it creates in processes to restore, conserve and sustainably use ecosystems; and the job opportunities it provides to local stakeholders, including women, young people and groups dedicated to the sustainable use of biodiversity in an artisanal and small-scale manner.

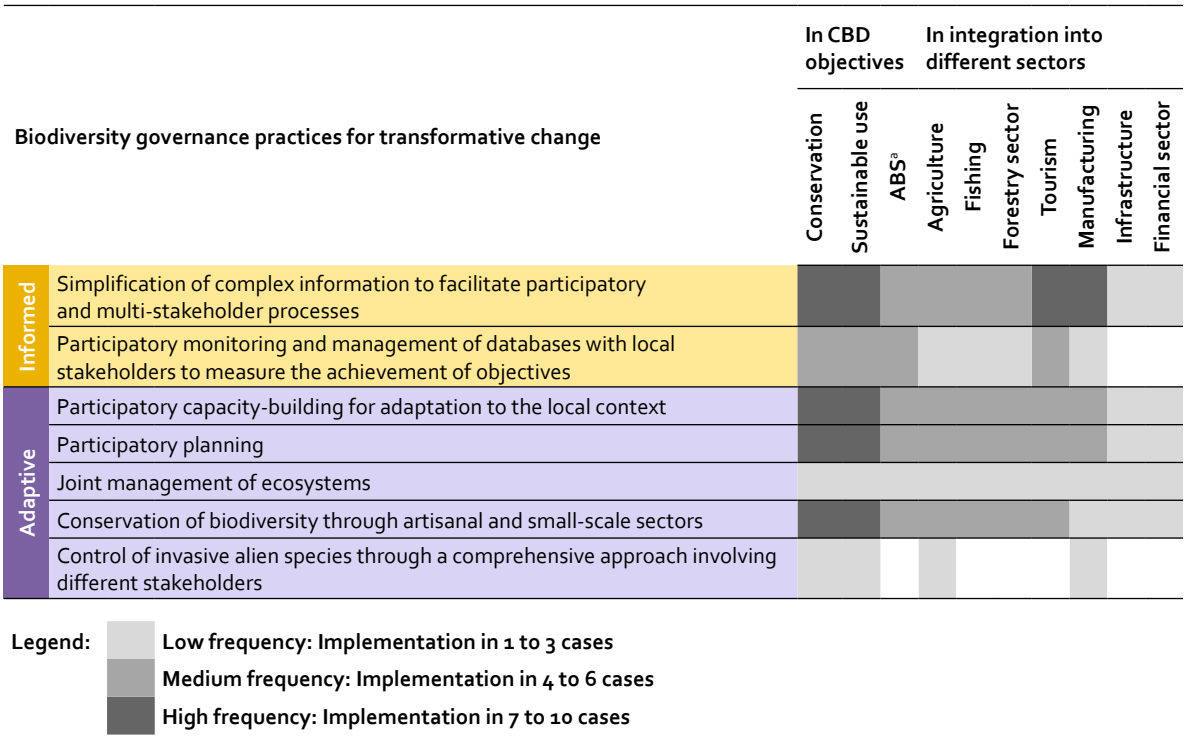
Two of the initiatives of the infrastructure and financial sectors integrate fewer and a smaller range of governance practices for transformative change, as their approach is not fully transdisciplinary (i.e., they have a limited territorial, biocultural and participatory planning approach), and instead has a biological and economic emphasis. In addition to this, they have a short-to-medium time scale for implementation and a strongly top-down design (table 3). However, although the comprehensive and transdisciplinary management of initiatives in the infrastructure and financial sectors require strengthening, they are innovative in the mechanisms they use and they have a significant influence at the landscape level. One exception to these limitations is the case of the *Quito Water Protection Fund FONAG* (Ecuador), which has been implemented for 20 years, includes various sectors, has a transdisciplinary approach and is based on knowledge of ecosystems and their functions and services.

Most of the practices identified are integrative and inclusive (table 3). However, in terms of the frequency of implementation, the practices are centred on the integrative and informed approaches (table 4), in relation to conservation and sustainable use and the tourism sector. This is linked to the importance of integrative practices, such as the territorial approach, sustainable use for conservation (including the design and implementation of OECMs), the transdisciplinary approach and long-term spatial planning. For their part, among practices under the informed approach, the simplification of complex information stands out and, as a result, the multi-stakeholder approach; representative discussion with local stakeholders in decision-making processes; the co-creation of knowledge based on knowledge-building dialogues; and participatory planning and participatory capacity-building.

Table 4
Frequency of different governance practices for transformative change for biodiversity, their relation to CBD objectives and the integration of biodiversity into different sectors

	Biodiversity governance practices for transformative change	In CBD objectives			In integration into different sectors						
		Conservation	Sustainable use	ABS[a]	Agriculture	Fishing	Forestry sector	Tourism	Manufacturing	Infrastructure	Financial sector
Integrative	Application of a territorial approach to conservation	High	Medium	Low		High	High				
	Spatial planning of biodiversity in the long term	High	High			High	High		Low		Low
	Granting territorial security and access to ecosystems and their components, especially for indigenous peoples and local communities	Medium	Medium					Medium	Low		Low
	Conservation through sustainable use	High	Medium		Medium	Medium	Medium	High	Medium		
	Conservation through the fair and equitable sharing of the benefits arising out of the utilization of genetic resources										
	Design and implementation of other effective area-based conservation measures	High	Medium		Medium	Low	Medium	Medium			
	Integration of biodiversity into different sectors	High	Medium		Medium	Medium	Medium	High	Medium		
	Transdisciplinary approach	High	Medium		Medium	Medium	Medium	High	Medium		
	Establishment of innovative financial mechanisms for the conservation and sustainable use of biodiversity										
Inclusive	Conservation through processes with a biocultural approach	High	Medium		Medium	Medium	Medium	Medium	Medium		
	Consideration of the collective rights of indigenous peoples and local communities in the sustainable management of biodiversity	Medium	Medium					Medium	Low		
	Strengthening the recognition of and the roles and rights of women in sustainable biodiversity management	Medium	Medium					Medium	Low		Low
	Inclusion of young people in biodiversity-related processes	Medium	Medium					Medium	Low		
	Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, in local processes and among local stakeholders	Medium	Medium					Medium	Low		
	Multi-stakeholder approaches	High	Medium		Medium	Medium	Medium	High	High		Low
	Representative discussions for local dialogue and coordination between sectors	Medium	Medium					Medium	Low		
	Co-creation of knowledge based on knowledge-building dialogues	High	Medium		Medium	Medium	Medium	Medium	Medium		Low

Legend:
- **Low frequency: Implementation in 1 to 3 cases**
- **Medium frequency: Implementation in 4 to 6 cases**
- **High frequency: Implementation in 7 to 10 cases**



Source: Prepared by the authors on the basis of the findings of the cases analysed.

[a] ABS refers to the third objective of the Convention on Biological Diversity (CBD) on the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The qualitative frequency indicated in table 4 includes the case of *Women and the Environment* (Mexico), which implements the Nagoya Protocol (i.e., sharing among stakeholders located in different countries). It also includes benefit-sharing among local stakeholders, a practice identified in the experiences in Colombia, Costa Rica and Guatemala.

The increased frequency of implementing integrative practices, in turn, contributes to regulatory consistency and to the full and effective participation of stakeholders. This also contributes to sustainability and to various goals and targets under the 2030 Agenda for Sustainable Development. In addition, all of the cases simplify technical and scientific information in order to share it with other stakeholders; however, information about monitoring adapted to local contexts is less common. The latter is a constraint because it is an influential factor for scaling up governance in regulatory frameworks for transformative change for biodiversity.

Inclusive practices are implemented less often in the cases studied, despite the biocultural approach and biodiversity conservation through artisanal and small-scale sectors (in the adaptive approach) being relatively common. The less frequent use of inclusive practices is linked to the still-limited consideration of human and collective rights (particularly those of indigenous peoples and local communities), the recognition of women's roles and of the importance of strengthening them, the inclusion of young people, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources (including among local stakeholders). It is noteworthy that, in the agriculture, fishing and forestry sectors, these practices show lower frequency of implementation despite the importance of women to those sectors and the relevance of the exercise of the various collective rights of indigenous peoples and local communities.

B. Qualitative performance of governance for transformative change for biodiversity

Governance approaches for transformative change and their respective groups of practices (indicated in diagram 1) are strategies to achieve the broader goal of improving the state of biodiversity, reducing its deterioration and preventing its loss. This is a fundamental goal that relies on other procedural goals to ensure long-term care for biodiversity. In that regard, the procedural objectives are focused on:

- **Strengthening adaptation to the local context**, taking into account biophysical and social factors where biodiversity is conserved and sustainably used. Comprehensive and transdisciplinary procedures are needed to achieve this objective and are secured under the territorial and biocultural approaches.
- **Guaranteeing the inclusion of different stakeholders**, appreciating that each of them fulfils different and complementary roles necessary to fostering transformative change for biodiversity.
- **Ensuring equity for excluded groups**, recognizing, on the one hand, the direct dependence of marginalized groups on biodiversity and its functions and services, and, on the other hand, that without inclusion and social equality, the conservation and sustainable use of biodiversity will face challenges that could lead to even greater deterioration. Among the groups excluded are rural women and rural young people, indigenous peoples and local communities, peasants, small-scale artisanal fisherfolk, pastoralists, gatherers and others.
- **Contributing to local appropriation** of processes for conservation, sustainable use of biodiversity and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. This involves developing a sense of ownership over the governance processes and the results they produce. The inclusive, informed and adaptive approaches are of vital importance in that regard.
- **Carrying out participatory monitoring and evaluation**, designing and implementing methodologies that provide information, in formats suited to different stakeholders, regarding changes in the state of biodiversity and the related objectives for social well-being. Visualizing these changes is both a stimulus and a strengthening factor for continuing with transformative governance processes for improving the state of biodiversity.
- **Integrating diversity into the governance practices implemented**, so that the processes are conducted in a transdisciplinary, inclusive and comprehensive manner. This is a cross-cutting objective aimed at achieving the above goals.

Owing to their importance, these procedural objectives for advancing in transformative change in the state of biodiversity were used as qualitative evaluation criteria for the performance of the governance practices analysed (table 5). The **achievement of conservation objectives** is recorded as advanced (in 5 of 10 cases) or very advanced (in 3 of 10 cases), which indicates the links between the positive status of biodiversity and the implementation of the governance practices for transformative changes. The other two experiences that are rated as having average progress or as beginning to progress for this criterion have been implemented for only a short time, which indicates that the objectives of improving the state of biodiversity are influenced by the length of time for which initiatives have been implemented and are generally achieved over the medium and long-term.

Regarding the criteria related to local processes, an advanced rating has been observed in **local adaptation** (in 6 out of 10 cases), **the inclusion of different stakeholders** (5 out of 10 cases) and **local appropriation** (6 out of 10 cases). On the other hand, progress in the **equity of excluded groups** is generally average (5 out of 10 cases). Progress in **participatory monitoring and evaluation** tends to be average (4 out of 10 cases) or advanced (4 out of 10 cases). The **application of a range of governance practices** is advanced (in 5 out of 10 cases) or very advanced (2 out of 10 cases).

The cases that have average or low diversity of governance practices implemented are those that started relatively recently or that have a sectoral rather than a territorial or transdisciplinary focus. Regarding the latter, by combining the information from table 3 (on the governance practices for transformative change implemented in each case studied), table 4 (on the frequency of implementation of the governance practices identified in the study) and table 5, we can see that:

- The combination of different practices from the integrative, inclusive, informed and adaptive approaches leads to better performance in transformative governance for biodiversity. This is because it makes it possible to implement a range of methods adapted to local contexts, promote the inclusion of different stakeholders, facilitate equity with excluded groups present in the territories and bring about local appropriation.
- The full and active participation of different stakeholders and the equity of excluded groups are relevant in generating local ownership of the processes implemented, and are even more decisive than other factors in adaption to local contexts (for example, technical adequacy in monitoring processes). As described in previous sections, the inclusive processes are related to the territorial, biocultural and transdisciplinary approaches (such as informed dialogues and the co-creation of knowledge), which takes the form of progress in governance, contributing to transformative changes for biodiversity.
- Equity of excluded groups —in particular, rural women, rural young people and indigenous peoples and local communities— registers the least progress. This is consistent with the lower frequency of implementation of inclusion practices related to these groups (table 4). The cases analysed indicate that, in relation to women, the main challenges are social structures that remain deeply sexist, the difficulty of recognizing care work as productive work (including by the women themselves) and the implementation of processes adapted to their time and obligations. As regards young people, the main challenges in ensuring their inclusion are their growing estrangement from rural dynamics and sectors that depend on biodiversity, along with their changing interests towards managing technologies (especially digital ones). Indigenous peoples and local communities, owing to their social and institutional structures, require longer, more complex processes involving more support staff (internal and external) that are not easy to fund.
- Participatory monitoring and evaluation are the criterion with the second least progress. What has been detected in the case studies is the predominantly technical approach to monitoring, which is restricted to a specific group of stakeholders, or the lack of consideration of its importance and, therefore, the absence of a system to implement it.

Table 5
Qualitative performance evaluation of the cases studied in relation to governance approaches for transformative change for biodiversity

Evaluation criteria	Description	Management of the São Paulo Biosphere Reserves	Wine, Climate Change and Biodiversity Programme	Mangroves, Seagrasses and Local Communities project (MAPCO)	Network of Marine Areas for Responsible Fishing and Marine Life Territories	Quito Water Protection Fund (FONAG)	Community Forest Management of the Maya Biosphere Reserve	Mainstreaming Biodiversity into the Mexican Agricultural Sector	Women and the Environment	Insurance for the Protection of Beaches and Reefs	Works for Taxes Mechanism (OxI)
		Brasil	Chile	Colombia	Costa Rica	Ecuador	Guatemala	Mexico	Mexico	Mexico	Peru
Achievement of objectives	Contribution to improving the state of biodiversity	◕	◕	●	●	◕	●	◑	◕	◕	◔
Adaptation to the local context	Comprehensive consideration of biophysical and social circumstances	◑	◕	◕	◕	◕	◕	◑	◕	◑	◑
Inclusion of different stakeholders	Involvement of local stakeholders, civil society, academia, and the public and private sectors	◑	◕	●	◕	◕	◕	◕	◑	◔	◑
Equity with excluded groups	Active participation of women, young people from rural areas, indigenous peoples and local communities, smallholder farmers, artisanal fisherfolk, pastoralists, gatherers and other small-scale producers	◑	◑	●	●	◑	◑	◕	◑	◔	◔
Local appropriation	Creation of a sense of ownership over the initiative	◑	◕	◕	◕	◕	◕	◕	◑	◔	◔
Participatory monitoring and evaluation	Design and implementation of methodologies and data production by the entities driving the initiative and local stakeholders	◑	●	◕	◕	◑	◕	◕	◑	◑	○
Range of governance practices	Quantity, variety and transdisciplinarity of approaches and practices implemented	◕	◕	●	●	◕	◕	◕	◔	◔	◔

Qualitative performance evaluation guide: ○ No activity ◔ Initial ◔ Low ◑ Average ◕ Advanced ● Very Advanced

Source: Prepared by the authors on the basis of the findings of the cases analysed.

IX. Strengths and challenges in the implementation of governance approaches and practices for transformative change for biodiversity

A. Strengths identified in the experiences analysed

The strengths identified in the implementation of governance processes for transformative change for biodiversity illustrate important lessons learned that can feasibly be implemented on other, larger scales and diverse ecosystems, territories or landscapes. They also show that the three CBD objectives are mutually supportive and contribute to improving the state of biodiversity conservation and socioeconomic well-being, from a comprehensive perspective. Below, we indicate the general and cross-cutting strengths identified in the studies included in this report:

- Progress in **sustainable use as an effective conservation strategy**, with strong emphasis on OECMs, which facilitates adaptation to local socioeconomic contexts.
- The **territorial approach**, with important elements of the biocultural and transdisciplinary perspectives, enabling the comprehensive design and implementation of biodiversity conservation and sustainable use by taking into account not only ecological, but also socioeconomic, cultural, and organizational aspects of local contexts.
- Consideration of **human and collective rights**, which is linked to the **security of tenure and long-term access to or use of land, ecosystems** (such as coastal areas and the sea) **and their components**. This enables the continuation of traditional ways of life and the sustainable use of biodiversity. The recognition of collective rights, alongside the implementation of OECMs, shows positive impacts on the conservation of biodiversity through its sustainable use, the inclusion of marginalized groups (especially indigenous peoples and local communities, women and young people) in decision-making, providing certainty over the long term and enabling fair and equitable sharing of benefits arising out of biodiversity use, including genetic resources.

- Implementation of **locally adapted multi-stakeholder processes**, including the participation of the public sector of national and subnational governments, academia, national and international civil society, United Nations bodies, financial entities and local communities (especially artisanal and/or small-scale productive sectors, with varying levels of participation of indigenous peoples and local communities, women and young people). This leads to multi-stakeholder processes, to the co-creation of knowledge and knowledge-building dialogues, implemented under the principles of the inclusion of stakeholders and sectors together with their knowledge; respect for the diversity of local circumstances; strengthening of disadvantaged and less represented sectors; recognition of different human rights, such as ecological, economic, social, cultural and political rights; and implementation of territorial and biocultural approaches, in particular when involving local groups whose ways of life depend directly on biodiversity.
- **Participatory processes throughout management cycles: from planning activities to evaluation and monitoring**. These participatory processes are possible through training applying inclusive methods that build on the knowledge of the stakeholders involved. This not only strengthens and consolidates knowledge, but also creates processes of self-reflection and appropriation of local initiatives for the conservation and sustainable use of biodiversity, as well as adaptive management processes.
- **Mainstreaming of biodiversity into different sectors**, productive, economic and financial, especially in those that depend largely on healthy biodiversity and ecosystems (e.g. agriculture, fishing, forestry and tourism).
- Despite being reduced in the cases studied, the implementation of **processes to share the benefits arising out of the utilization of genetic resources**, which takes place at two levels: among local stakeholders, who contribute to creating equity in the distribution of ecosystem functions and services, particularly with the most vulnerable stakeholders; and among stakeholders from different countries, in line with the Nagoya Protocol, involving deliberative decision-making processes, capacity-building and improved agency for locally adapted biodiversity management aimed at its conservation and sustainable use. Achieving both requires some prior actions, such as the resolution of disputes between stakeholders, the provision of transparency and accountability mechanisms, and ensuring that access to and use of biodiversity contributes to sustainability (Rudolph and others, 2020).
- Although incipient and still facing challenges, **innovation and the implementation of financial mechanisms for biodiversity as a transformative pathway** were identified in the region, through which we can see that when the territorial and ecosystem-based approach is used, greater financial stability is achieved and these mechanisms make an integral contribution to conservation through sustainable use.
- **Strengthening of the local and social fabric**, which is the result of synergies between the positive elements mentioned above. This strengthening takes the form of the development or improvement of internal organization mechanisms and interaction with other sectors for the sustainable management of biodiversity and territories.

B. Limitations of the experiences and contextual challenges

Table 6 summarizes the internal limitations in their development and implementation and the contextual challenges they face, mentioned by the stakeholders interviewed during the study and others identified during the case analyses. They are organized in line with the CBD objectives and the governance approaches for transformative change.

Table 6
Limitations and contextual challenges identified that affect the achievement of CBD objectives and the implementation of governance approaches for transformative change for biodiversity

Limitation (L) /Challenge (C)	CBD objective affected				Governance approach affected			
(C) High turnover of staff of public bodies	■	■	■		■		■	■
(C) Centralization of public procedures that enable support for or implementation of biodiversity projects	■	■			■	■		■
(C) Lack of coordination between institutions with complementary functions	■	■	■		■			■
(L)/(C) Public responsibilities in biodiversity without sufficient allocation of funds	■	■			■			
(C) Insufficient recognition in public and financing policies of the role of biodiversity and lack of integration into different sectors	■	■	■		■	■	■	■
(C) Little representation of the environmental sector in public investment	■	■			■			
(C) Regulatory frameworks that make indigenous peoples and local communities with a history of living in territories and sustainably using biodiversity illegal	■	■	■		■	■	■	■
(C) Regulations without a territorial approach	■	■	■		■	■		■
(C) Regulations and public policies that tend to focus on a single species or a single sector	■	■			■			
(C) Illegal markets for wild flora and fauna threatening the conservation and sustainable use of biodiversity	■	■			■			■
(C) Markets and economic dynamics that disrupt the sustainable use of biodiversity	■	■			■	■		
(C) Pressures from unsustainable activities in indigenous and local community territories	■	■			■	■		■
(L) Limited creation of opportunities and involvement of young people	■	■			■	■		■
(L) Reduced inclusion of indigenous peoples; complexity of the issues that concern them	■	■	■		■	■		■
(L) Insufficient recognition and participation of women	■	■	■		■	■	■	■
(L) Limited generation of decent work and fair remuneration involving the use of biodiversity	■	■	■			■		
(C) Still-limited experiences of the fair and equitable sharing of benefits arising out of the utilization of genetic resources	■	■	■		■	■	■	■
(C) Insufficient spaces for representative dialogue for grassroots sectors	■	■	■		■	■	■	
(C) Limited negotiation capacity among local stakeholders	■	■	■		■	■		■
(L) Little, incomplete or discontinued monitoring, documentation and dissemination of results in comparison to the wealth of positive results and experiences	■	■			■		■	■
(L) Monitoring with a strong biological focus and limited consideration of socioeconomic aspects	■	■	■		■	■	■	■
(C) Deepening of the digital gap by COVID-19	■	■			■	■	■	
(L) Reliance on external research capabilities	■	■	■			■		■
(L)/(C) Weak recognition of the usefulness of transdisciplinarity and knowledge-building dialogues in the sustainable use of biodiversity in financial mechanisms	■					■		■
(C) Separation of sustainable use from biodiversity conservation strategies	■	■			■	■		■

Source: Prepared by the authors on the basis of the findings of the cases analysed.
Nota: ABS refers to the third objective of the Convention on Biological Diversity (CBD) on the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The indications on challenges in table 6 includes the case of *Women and the Environment* (Mexico), which implements the Nagoya Protocol (i.e., among stakeholders located in different countries). Table 6 also includes benefit-sharing among local stakeholders, a practice identified particularly in the experiences in Colombia, Costa Rica and Guatemala.

As regards the CBD objectives, all directly or indirectly affect conservation and the sustainable use of biodiversity. They are reflected to a lesser extent in processes for the fair and equitable sharing of benefits arising out of the utilization of genetic resources; however, the latter is because of the still incipient accumulation of experience and, as a result, its scarce representation in the cases analysed. This can therefore be considered a knowledge gap rather than a limitation.

In relation to governance approaches for transformative change, the limitations are concentrated in the implementation of the inclusive and adaptive approaches, which involve more complex processes of managing local and regulatory contexts. However, as mentioned previously, the inclusive approach also has important limitations relating to the effective participation of indigenous peoples and local communities, young people and women, especially in decision-making and benefit-sharing processes. This is also influenced by the scarce consideration of socioeconomic effects in monitoring the effects of biodiversity conservation and use; for example, in remuneration and the creation of decent work.

The most salient limitations and challenges are summarized below.

- **Integrative approach**:
  - **Institutional** challenges in the public sector include limited management capacity owing to high staff turnover, which hinders the continuity of the processes implemented; the centralization of coordination and public procedures that local organizations must follow to register or renew their authorizations to use biodiversity; incomplete or sometimes non-existent coordination between bodies with complementary functions, which is common in public entities in the environmental and productive sectors (e.g., the agriculture and livestock sectors); and the assignment of public responsibilities in biodiversity without the allocation of sufficient funds and personnel for their implementation.
  - **Public funding** remains scarce, one of the causes being the failure to mainstream the environmental sector into the public investment structure. In turn, the lack of public funding is linked to insufficient recognition of the importance of ecosystems and of the integration of biodiversity into the public policies of various sectors. This prevents the inclusion of the wide-ranging benefits of protecting biodiversity in public administration, such as job creation, preventing outbreaks of disease and adapting to and mitigating climate change.
  - At the **regulatory** level, the absence of territorial, biocultural and human rights-based approaches to conservation is a dominant challenge, which can break the link between local stakeholders and biodiversity. Another limitation consists of regulations focused merely on species, whether their protection or economic development, which creates a lack of consistency with ecosystem-based approaches to conservation, recovery and restoration, and with a comprehensive vision of socioeconomic well-being.
  - At the level of **markets and economic dynamics**, on the basis of interviewees' statements, one challenge is the illegal market for wild flora and fauna, while others include pressures from industrial and extractive activities (e.g., mining and corporate tourism) that alter the territorial dynamics and hamper processes for the sustainable use of biodiversity. Another related challenge is unsustainable activities (such as the large-scale exploitation of species and deforestation-based agricultural systems), which have negative impacts on ecosystems, landscapes and indigenous territories.
- As regards the **inclusive approach**:
  - **The inclusion of relevant stakeholders**. Indigenous peoples and local communities continue to enjoy limited participation in biodiversity-related processes. One reason for this is the complexity of issues related to their organization, territories and rights. In the case of women, despite the efforts and progress made, they continue to be held back and they deal with insufficient recognition of their contributions, which are generally confused with care work, and, in that regard, with reduced or non-existent remuneration. Young people have restricted involvement and fewer opportunities for the conservation and sustainable use of biodiversity, even in the initiatives involving the work and participation of rural young people.

- **Insufficient spaces for balanced dialogue**, especially in processes to develop biodiversity regulations that affect ways of life, and in negotiations with private sectors. Added to this is the need to improve the capacity for discussion, negotiation and access to information of the representatives of local stakeholders or others involved (not necessarily local).
- **Heterogeneous stakeholders with different opportunities for involvement**. This heterogeneity can be seen between and within sectors and groups of stakeholders. Training and strengthening are required to create deliberative processes that are as egalitarian as possible. In view of gaps in information, funding and means of communication (especially during a pandemic and with physical distancing), establishing deliberative processes is a constant and complex challenge.

- **Informed approach**:
  - **Little, incomplete or discontinued monitoring** in comparison with the degree of positive outcomes of the cases analysed and the wealth of experiences on sustainable use of biodiversity and its integration into different sectors. This results in a partial consideration of the transformative approaches in place in decision-making processes and in strategies to scale up and out successful experiences.
  - **Monitoring with a strong biological focus and limited consideration of socioeconomic aspects**, which avoids the socioeconomic dimension and its role in achieving robust conservation, sustainable use and the fair and equitable sharing of benefits arising out of the utilization of genetic resources.
  - COVID-19, owing to the **suspension of in-person gatherings** (such as meetings and workshops) for interaction and collective strengthening. Secondly, **digital gaps** between stakeholders owing to inequality in Internet access (whether because of connectivity, the ability to have a smartphone or other device and/or the availability of resources to pay for the service). On the other hand, digital gaps are also internal, i.e., within countries (the difference between the urban and rural sectors) and at the local level. Women's reduced or non-existent access to consistent means of communication stands out here.

- **Adaptive approach**:
  - **Reliance on external research capacities**, for example, technical or infrastructure-related expertise (such as specialized laboratories). This dependence is evident in the monitoring of the results, the study of the effects of the recovery of species and the restoration of ecosystems and their functions, and the biochemical profiling of genetic resources. This points to the need for training and technology transfer for research on biodiversity and genetic resources.
  - The still **weak recognition and implementation of transdisciplinary approaches and knowledge-building dialogues** in the conservation and sustainable use of biodiversity. This limitation has been noted in public and financial sector institutions in particular.
  - **Insufficient integration of the conservation and sustainable use of biodiversity in public policies**, as they are still seen as separate and even contradictory processes. This leads to reduced consideration of biodiversity in economic and social well-being sectors.

Despite the limitations and challenges, the experiences analysed show that governance for transformative change for biodiversity is feasible and clearly contributes to improving the state of biodiversity and the socioeconomic well-being of the stakeholders or economic sectors that depend on or work directly with it. The cases studied bear witness to the fact that "living in harmony with nature" (the CBD vision for 2050) is possible if comprehensive and inclusive processes are created that respect different ways of life and sociocultural dynamics, and in which societies actively participate with responsible attitudes towards biodiversity. The governance practices compiled in this report provide guidelines for this. While some are already known and implemented, fostering synergies among them, together with greater institutional support, would enhance their positive results.

X. Recommendations and final remarks

The group of cases presented in this report is but a small sample of the experiences of governance for transformative change for biodiversity that have been developed in Latin America and the Caribbean, which deserve to be identified, systematized and disseminated with the participation of the stakeholders involved. Acknowledging and analysing these experiences will contribute to strengthening them by raising their visibility and will also allow for the scaling-up of approaches, practices and lessons learned to support biodiversity from a South-South learning perspective.

The sustainable use of biodiversity, ecosystems and their components as a strategy for comprehensive and multidimensional well-being and socioecological resilience merits greater effort owing to its capacity to positively transform the state of ecosystems, their functions and socioeconomic conditions. This is related to the importance of rethinking processes that focus primarily on the biological dimension of conservation in order to lead to a recognition of the positive role that human communities can play. In other words, it involves a paradigm shift away from a purely biological vision and towards a socioecological vision of biodiversity conservation and management. This vision entails integrated socioecological processes based on territorial, biocultural and, therefore, transdisciplinary approaches in the design and implementation of biodiversity conservation initiatives. This will contribute to ensuring inclusion and equity for stakeholders who are generally disadvantaged and who directly depend on biodiversity to sustain their livelihoods, and will make ecosystem boundaries an integral part of the productive, economic and financial sectors.

Human and collective rights need to be integrated into processes for the conservation and sustainable use of biodiversity and into the establishment of processes for access and fair and equitable sharing of the benefits arising out of the utilization of genetic resources and the use of ecosystems and their components. The rights of indigenous peoples and local communities stand out, in addition to those of other rights holders whose traditional ways of life are directly related to biodiversity and who have contributed to conservation, in many cases without receiving due recognition. Experiences indicate that the integration of human rights in biodiversity protection initiatives contributes to reversing the deterioration of biodiversity and to its conservation in the long term.

The sustainability of transformative governance for biodiversity and its positive impacts on ecosystems, species and humankind requires participatory and long-term planning. Ensuring participation and long-term planning is fundamental and, at the same time, involves secured access, use and/or tenure

of ecosystems and their components (e.g., land, forest, coasts or others) for the stakeholders who have traditionally managed and safeguarded them, and who still depend on them today. Indigenous peoples and local communities, small-scale and artisanal producers, women and young people have a fundamental role in participatory and long-term management under a territorial, biocultural and transdisciplinary approach. In this context, one of the recommended actions is guaranteeing knowledge-building dialogues for the co-creation of actions to be implemented, from planning to monitoring.

Transformative processes for biodiversity require active and strengthened participation of multiple stakeholders and sectors, including those from the public sector (national subnational, and local), the private sector and social stakeholders (such as indigenous peoples and local communities, women and young people). Significant progress has been made highlighting the importance of public-private partnerships to foster multi-stakeholder processes that have been very successful in practically all cases. However, there is also a need for increased effort to create spaces for active participation, where social stakeholders have a voice and representation in technical, organizational and regulatory decision-making, among others. Achieving this requires capacity-building through processes and methodologies that are adapted to local contexts in terms of their content, formats and training modalities.

The processes of fair and equitable sharing of the benefits arising out of the utilization of genetic resources deserve greater attention and increased efforts. Although international biodiversity agreements explicitly focus on benefit-sharing among actors from different countries, the experiences analysed show that progress also needs to be made in processes involving local and national stakeholders. One example that stands out is the recognition and inclusion of rural women in the fair and equitable sharing of benefits. A concrete way to achieve this is to provide fair remuneration for the tasks they carry out.

In general, **there is a need to foster increased involvement of young people in territorial governance processes for transformative change for biodiversity**. This will be made possible by including them, especially those from rural areas, in the processes for reflection, planning, decision-making and monitoring of different local, subnational and national initiatives that are recognizing the value of traditional ways of life linked to biodiversity and the role of young people in them (for example, with their digital skills, motivation to diversify production and the new skills that many acquire), and by ensuring decent remuneration for the work carried out in conservation and sustainable use of biodiversity and the redistribution of the corresponding profits, among other strategies to improve living conditions and reduce the emigration.

The public and private financial sectors play a very relevant role in the development of projects and programmes for biodiversity mainstreaming in different sectors when the activities they support are developed and reviewed using the principles of socioecological well-being of the 2030 Agenda. In the region, the financial sector is engaging in biodiversity initiatives, and to strengthen them, there is a need to advance in the promotion of inclusive and effective participation, a multi-sectoral approach and institutional transparency and accountability.

Process monitoring needs to be explicitly and continuously included in initiatives promoting governance for transformative change for biodiversity, in such a way as to allow regular and participatory evaluations of biophysical, socioeconomic and sociocultural parameters that contribute to decision-making processes. Participatory monitoring is essential and involves the active exercise of knowledge-building dialogue and the co-creation of knowledge, which means a transdisciplinary, transparent and utilitarian approach that corrects power imbalances by democratizing access to information and to decision-making spaces.

The implementation of governance for transformative change for biodiversity and the lessons learned will be catalysed and enhanced by a proactive public sector, open to public-private and intra/intersectoral dialogues. Similarly, institutional strengthening of the public sector in matters related to biodiversity is fundamental for facilitating the allocation of resources, ensuring sufficient and trained personnel (especially in comprehensive approaches) and carrying out intersectoral coordination.

The framework for governance for transformative change for biodiversity, as proposed by IPBES (through the integrative, inclusive, informed and adaptive approaches), fosters orderly and comprehensive analysis. Through its implementation in this study, it is recognized as an approach with a vision of human communities as part of ecosystems. Its application in different contexts will contribute to designing, implementing and evaluating processes and experiences that lead to positive ecological and social change to achieve progress towards sustainable development.

The findings on governance for transformative change for biodiversity are relevant to a wide range of issues under the three CBD objectives and in the post-2020 global biodiversity framework, but they are also important for other objectives affected by the state of biodiversity, in particular the Sustainable Development Goals of the 2030 Agenda. There are numerous examples: climate change adaptation and mitigation; health and pandemic prevention; reduction of desertification; access to information, public participation and justice on environmental issues; indigenous peoples' rights; farmers' rights; the rights of peasants, fisherfolk, gatherers and other rural workers; women's rights and the elimination of different forms of discrimination; and many others. The possibility of influencing governance for transformative change for biodiversity is as broad as the strategies and practices available to achieve it; nevertheless, its implementation will require multiple obstacles to be addressed. With the scaling-up of governance for transformative change, it will be possible to multiply and sustain these strategies and practices, and also to contribute to achieving structural changes in the factors that negatively affect biodiversity and to current and future social and economic well-being. The cases studied in Latin America and the Caribbean provide lessons and inspiration for this effort, and show progress towards well-conserved biodiversity and ecosystem health, while simultaneously contributing to the well-being of human communities and to socioecological resilience.

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ECLAC has compiled a set of representative experiences of governance for transformative change for biodiversity in Latin America and the Caribbean that can serve as a model for applying the integrative, inclusive, informed and adaptive approaches proposed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services for the implementation of the new post-2020 global biodiversity framework and as practical solutions that will enable progress towards multidimensional sustainable development.

The cases analysed show pathways towards structural change across a range of dimensions and in various locations, which can be replicated and scaled up. Their implementation will mean advances in consistency, effectiveness and equity and in the representation and active participation of different stakeholder groups, in particular the most vulnerable, whose livelihoods and ways of life often depend on biodiversity. The implementation of these approaches will also foster progress in access to information, in the integration of knowledge systems, in appropriation and in adaptation to local conditions. At this critical juncture characterized by a range of socioeconomic and environmental crises, it is hoped that this study will serve as inspiration and as a guide for the implementation of comprehensive solutions.

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