Handbook on Convention on Biological Diversity (CBD) for small-scale fishing communities

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Contents

Figures and charts

Acronyms

ABNJ	Area Beyond National Jurisdiction
ALDFG	Abandoned, lost or otherwise discarded fishing gear
BAP	Biodiversity Action Plan
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CHM	Clearing house mechanism
CMS	Convention on Conservation of Migratory Species
COP	Conference of the Parties
CTF	Conservation trust funds
EBSA	Ecologically and biologically significant areas
ECOSOC	United National Economic and Social Council
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization of the United Nations
FWO	Fishworker Organization
GEF	Global Environment Facility
GPA	Global Programme of Action
GPML	Global partnership on marine litter
ICCA	Indigenous peoples' and communities conserved areas and territories
ICMAM	Integrated coastal and marine area management
IPLC	Indigenous peoples and local communities
IUCN	International Union for Conservation of Nature
LMMA	Locally managed marine areas

MAPP	Marine plan partnership
MPA	Marine Protected Areas
MSP	Marine spatial planning
NBSAP	National Strategic Action Plan
NGO	Non-governmental organization
OECM	Other effective area based conservation measures
SBI	Subsidiary Body on Implementation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SSF	small-scale fisheries
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change

Glossary

Biological diversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.

Biological resources: All genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

Ecosystem approach: A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Ex-situ conservation: Protection of life forms outside their natural habitat, for example, in a collection of seeds. This preserves the germplasm in a concentrated form, like in a bank.

Framework convention: A legally binding international treaty establishing broader commitments for its member countries. Since it provides only a framework, it leaves the specific targets and their details to the national government. This respects both their national sovereignty and promotes international cooperation.

Indigenous people: People whose ancestors already inhabited a place or a region or country when persons from another culture or ethnic background arrived there (for example, when colonisers conquered these territories and settled there). They are people living in conformity with their own social, economic and cultural customs, having not adopted the norms of other people.

In-situ conservation: Protecting germplasm—life forms that comprise resources, such as fish and plants—in its natural habitat. This is an ecosystem approach, focused on maintaining favourable conditions for genetic resources to thrive and survive, remaining useful for long.

Precautionary approach: Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Protected area: A geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.

Sustainable use: The use of living resources—components of biological diversity—in a way that does not cause their long-term decline, maintaining their potential to meet the needs and aspirations of not just the present generations but also the future generations.

Traditional knowledge: The know-how, skills and practices generated, sustained and passed on over generations within a community. This knowledge is often an inherent part of the community's culture and identity.

Foreword

Small-scale fisheries contribute to a large percentage of the total capture fish production in the world, especially in developing countries. For hundreds of years, fishing communities have sustainably managed fishery and other natural resources, contributing to global nutrition and food security, as well as to the livelihoods of millions of people dependent on the sector. They are thus essential to sustainable development. Finally in 2014, recognizing the importance of the sector, the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (the SSF Guidelines), developed through a bottom-up participatory process, was adopted by the FAO Committee on Fisheries (COFI). These Guidelines recognize that the health of the aquatic ecosystems and its associated biodiversity, are the fundamental basis for the livelihoods of marine and inland fishing communities and contribute to their overall well-being. This makes the Convention on Biological Diversity (CBD) highly relevant to these communities and their fisheries.

The International Planning Committee for Food Sovereignty (IPC) is the world's largest alliance of small-scale food producers, including peasants, artisanal fisher folks, pastoralists and herders, nomads, indigenous peoples and indigenous organizations, forest dwellers, landless people, urban producers, rural workers. The IPC represents more than 6,000 national organizations and 300 million small-scale food producers. Through this platform, they aim to defend the interests of those who supply 70 per cent of global food production and yet, at the same time, continue to suffer from food insecurity, malnutrition and the non-recognition of their fundamental role in

feeding the planet. Those constituencies are represented by specific civil society organizations (CSOs), both regional and global. Together with consumer movements, support NGOs and other grassroots organizations, they aim at advancing the food sovereignty agenda at the global and regional level. The constituency of fisher folks (the IPC working group on fisheries) advocated and made it possible to achieve the SSF Guidelines in 2014. The key role played by the IPC in developing the SSF Guidelines was acknowledged by COFI when, two years later, with the establishment of the FAO SSF Umbrella Programme and the Global Strategic Framework in support of the implementation of the SSF Guidelines (SSF-GSF), the IPC Working Group on Fisheries was identified to act as the SSF-GSF Advisory Group. It is now important that the IPC Working Group on fisheries can mainstream the Guidelines beyond FAO to increase the benefits to the fisheries communities.

Since 2004, fishworker organizations (FWO) have been engaging in national and international processes of the CBD relevant to SSF communities. It is critical that the provisions of the CBD are better understood, especially in the context of the implementation of the SSF Guidelines and the human rights-based approach.

This Handbook developed by ICSF and Crocevia describes the various components of the CBD, and their links to the SSF Guidelines and the Sustainable Development Goals (SDGs). It provides a broad overview of CBD programmes, targets and commitments on aquatic, marine and coastal biodiversity, with illustrative examples and recommended actions for FWOs and civil society.

In the last meeting of the Conference of the Parties (COP), the decision-making body of the CBD) before the Covid-19 pandemic, governments

decided to develop a 'Post-2020 Global Biodiversity Framework,' that will have a set of milestones and action targets, with the aim of conserving and valuing biodiversity by 2030. The Parties also called for putting in place tools and solutions to implement these targets and to mainstream biodiversity in all sectors, including fisheries, ensuring biodiversity is sustainably used to meet people's needs. This handbook hopes to help fishing communities and their supporters understand the past processes, and to help negotiate a just and equitable outcome from upcoming actions to put biodiversity on a path to recovery for the benefit of the planet and people.

We hope this handbook is useful for fishworker organizations, non-profit organizations as well as others working on issues related to biodiversity conservation and sustainable use. The handbook is intended to be used for training organizations and individuals to engage in the CBD process. As we move towards the 2030 goals, it is essential to understand the need to move towards an inclusive process, recognizing that degradation and loss of biodiversity are often a result of exclusionary decision making, affecting the lives and livelihoods of small-scale fishing communities, including indigenous peoples.

Why this handbook?

Small-scale fisheries (SSF) operate in both marine and inland waters, accounting for over half of the total fish catch in developing countries. The bulk of this catch—90 per cent—is destined for local consumption and is a primary source of essential nutrients. The sector employs the vast majority of workers along the fisheries value chain, notably in developing countries, often among poor and vulnerable riparian and coastal communities. A large percentage (over 90 per cent) is in developing countries. The SSF sector shapes and supports various social systems, resources and values.

All this depends, in turn, on the diversity of life forms in both marine and freshwater ecosystems. In freshwater fisheries, especially, species diversity increases productivity. Being crucial for the stability and resilience of food sources, biodiversity is vital to food security. Fishing communities—including indigenous peoples—rely directly on rivers, lakes, ponds, floodplains, wetlands, mangroves and the seas for their food and livelihoods. Environmental degradation can unleash disasters upon entire communities.

In recent decades, multiple challenges have confronted small-scale fisheries—large-scale fishing operations; competition for resources with other sectors (such as tourism, aquaculture, agriculture, mining, energy and infrastructure development); and overexploitation of resources. These and many more factors threaten habitats and ecosystems.

In addition, customary practices and rules have often been overwritten with centralized resource management systems in most countries. These processes often exclude traditional communities from democratic

decision making. When conservation measures inhibit their customary sustainable use of fishery and other natural resources, they can have grave consequences for food security, livelihoods and the enjoyment of their human rights. Most of the biodiversity in the world coincides with territories traditionally inhabited by indigenous peoples and local communities. It is thus important to recognize that traditional knowledge and tenure rights are central to the conservation and sustainable use of biodiversity.

As the Food and Agriculture Organization of the United Nations (FAO) has noted, the mainstreaming of biodiversity and protecting ecosystem functions are the founding principles for sustainable food production. Understanding how biodiversity, food production and livelihoods are linked is critical to success of all efforts to manage all three, especially given the diverse nature interactions involved. For SSF and conservation to work together, small-scale and artisanal fishing communities need greater understanding of the connectedness between fisheries, sustainable development and biodiversity. This handbook is a guide to those connections, one that explains the centrality of the Convention on Biological Diversity (CBD) to maintaining marine, aquatic and terrestrial ecosystems and to securing sustainable small-scale fisheries.

This guide will also support the participation of the small-scale fisheries in the processes of the CBD and to holistically implement the SSF Guidelines.

Structure of the handbook

The handbook is organized into nine chapters. The first chapter introduces the Convention on Biological Diversity (CBD), its history and its main components. Briefly describing the CBD's decision-making and technical bodies, this chapter explains how small-scale fishing communities and their representatives can engage at the international and national level, in the conservation and sustainable use of biodiversity. In doing so, it is important to keep in the mind the links between the CBD and other United Nations bodies, processes, and international law and standards. The SSF Guidelines and the SDGs are especially relevant in the context of fisheries and biodiversity.

The introduction is followed by detailed information on seven thematic areas: Marine and coastal protected areas, including other effective area-based conservation measures (OECM) and ecologically and biologically significant areas (EBSA); marine spatial planning; marine debris, litter and pollution; inland aquatic biodiversity; traditional knowledge and its importance in resource management; human rights and sustainable use of biodiversity; and gender and biodiversity.

Each section provides a brief overview of the theme, its connections to the SDGs, the SSF Guidelines, and their relevance to small-scale fisheries. Each chapter also provides guidance on the modes and issues that small-scale fishing communities and their organizations can engage with in the CBD, both at the national and international level. The latter is especially important in the context of the draft global biodiversity targets, which will be negotiated at the next UN Biodiversity Conference, scheduled to take place in China in 2021. The final chapter summarizes these draft targets and lists important issues, processes and activities for civil society to follow up and take action.

Chapter 1

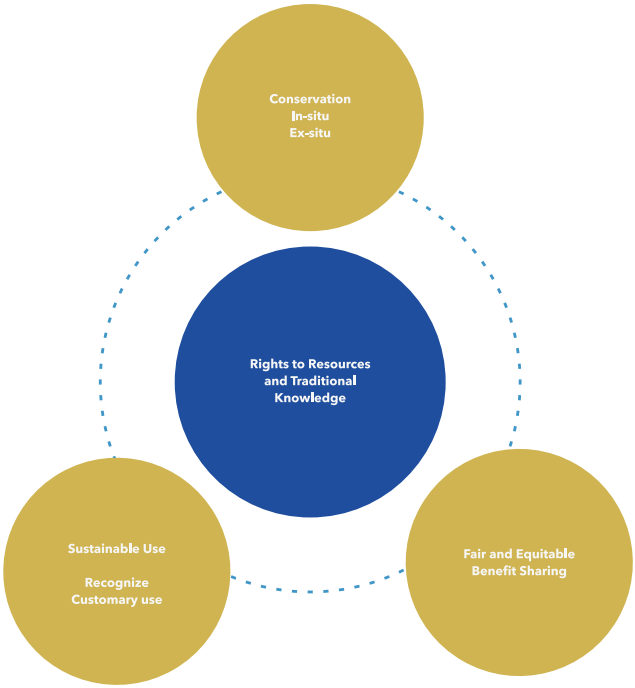
Introduction

Convention on Biological Diversity: Background

By the late 1980s, there was a growing realization that unfettered economic development was damaging the natural resources that support all life. Human activity needed regulation to prevent widespread damage to the environment. To this end, heads of governments met under the United Nations to devise a plan of action at the 1992 Earth Summit in Rio de Janeiro, Brazil.

The summit created three legally binding international treaties—the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (UNFCCC), and the Convention to Combat Desertification (CCD). The summit also agreed on a non-binding action plan for sustainable development called Agenda 21. This process further created the 17 'Sustainable Development Goals' (SDGs) also called Agenda 2030, adopted in 2015 at the Sustainable Development Summit.

The CBD's objectives include—conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. It provides a framework to regulate access of users to genetic resources and transfer of appropriate technologies, taking into account all rights to those resources and technologies. While meeting these objectives, the CBD recognizes the traditional knowledge, innovations and practices of indigenous peoples and local communities.



The convention entered into force on 29 December 1993 and currently has 196 member countries. When it comes to a country's biological resources, the CBD's jurisdiction stays within the national limits. For its processes and activities, it extends beyond national jurisdiction. The convention provides for two types of conservation methods.

The first, in-situ conservation– is the protection of biodiversity in its natural surroundings. When such protected areas are notified, governments of contracting Parties[1] are required to develop guidelines for their selection, establishment and management. In all this, the main

objective is both the conservation and sustainable use of the biological resources. The CBD also calls for sustainable development in adjacent areas.

Traditional knowledge is a critical component of in-situ conservation. The CBD encourages all countries to respect, preserve and maintain the knowledge of indigenous peoples and local communities, promoting its wider application with their free, prior and informed consent.

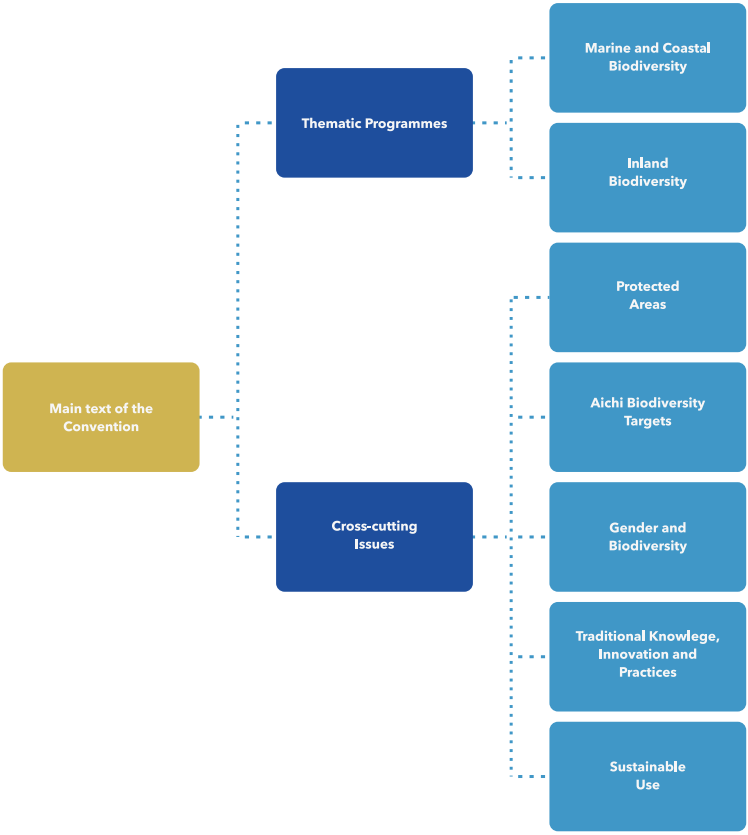
Under the second manner called ex-situ conservation, life forms are protected outside their original or natural habitat, for example, in a collection of seeds, pollen, sperm or individual organisms.

How it works

The CBD is a framework convention; it provides a broad set of guidelines, strategies and goals for member countries to implement it. This includes protocols on specific issues, for example, on biosafety and on the utilization of genetic resources.

Among the seven thematic programmes adopted in the convention's initial years were those on marine and coastal biodiversity, inland waters and island biodiversity. Furthermore, the Conference of the Parties (COP) identified cross-cutting issues corresponding to the main text and objectives of the convention. These also link the various programmes under the main themes.

As of November 2020, up to 28 such issues have been identified, bringing in several principles, guidelines and other tools for the CBD's implementation, including gender and biodiversity, protected areas, sustainable use of biodiversity and traditional knowledge.


Main text of the Convention
Thematic Programmes
Cross-cutting Issues
Marine and Coastal Biodiversity
Inland Biodiversity
Protected Areas
Aichi Biodiversity Targets
Gender and Biodiversity
Traditional Knowlege, Innovation and Practices
Sustainable Use

International level

Once every two years, representatives of CBD member countries assemble for a Conference of the Parties (COP), its top decision making body; they are joined by observers, non-parties, NGOs, civil society groups and implementation partners.

By 2020, 14 COPs had been held. The rules of procedure governing its structure and functioning were laid down in 2000. All decisions are taken by consensus; each contracting 'party' or member country has voting rights and is expected to implement the COP's decisions.

The COP creates subsidiary bodies to assist its functioning. For example, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) that meets periodically to provide recommendations on the thematic programmes and cross-cutting issues. Open-ended ad hoc working groups and Technical Expert Groups are also created for specific matters. The twelfth Conference of the Parties (COP XII) created a Subsidiary Body on Implementation (SBI), to review progress in implementation of the Convention, and give strategic advice to enhance implementation as well as to strengthen the means of implementation. A clearing-house mechanism (CHM) was established to supports the convention with scientific and technical cooperation and dissemination of information.

National Level

The CBD asks its member countries to create national biodiversity action plans and strategies to implement the provisions and targets of the Convention, developed by national focal institutions and available on the CBD website (SCBD, 2021). Periodically, national reports highlighting the implementation of its provisions are submitted to the convention's Secretariat and presented to the Conference.

The COP calls for inclusive reporting, with the active participation of NGOs, indigenous peoples and local communities.

In most countries, the national focal points—who represent the Parties in the CBD and prepare national action plans and reports—are their ministries or departments in charge of the environment, climate change and natural resources, including those that regulate fisheries and aquatic resources. Some countries have national focal points dedicated to particular programmes of work, for example, on protected areas.

Indigenous peoples and local communities in the CBD

The CBD recognizes the importance of indigenous peoples and local communities (IPLCs), including women, youth and non-governmental organizations, in implementing its objectives. It emphasizes full and effective participation of IPLCs in not only its deliberations but also the workings of its subsidiary bodies.

The convention does not define 'local communities'. This is set down in the UN Permanent Forum on Indigenous Issues, which states that communities considered or described as local or traditional occur on all inhabited continents and may include peoples of indigenous descent. They are culturally diverse but all of them have long associations with land and water and have traditionally lived on or used these resources. They have accumulated knowledge, innovations and practices on the sustainable management and development of their territories[2].
The CBD has a voluntary funding mechanism to provide for the participation of IPLCs in its deliberations. It covers all meetings of Convention and its subsidiary bodies, in addition to relevant technical

expert and liaison groups meetings. The fund gives special priority to developing countries and Small Island Developing States (SIDS).

Participation of small-scale fishing communities

Fishworker organizations (FWOs) have participated in COPs and meetings of other CBD bodies since 2004. Their influence is important for the adoption of a transformative and a gender inclusive approach towards conservation and sustainable use of aquatic and coastal ecosystems.

It is equally important that FWOs and NGOs participate in the national level processes, including the development of national reports, strategic action plans and programmes[3].

Why is participation important?

Almost 72 per cent of countries did not mention indigenous peoples and local communities in their national action plans, according to a recent CBD report (SCBD, 2018). Only a few countries have actually involved these communities in the implementation of their plans; they include Bolivia, Brazil, Mexico, New Zealand, Sweden and Venezuela.

This has serious consequences. Conservation measures can often have negative impacts on small-scale fishing communities, denying them access to resources, leading to loss of livelihoods, poverty, food insecurity and marginalization. These adverse effects result from a lack of engagement with the communities who depend on these resources.

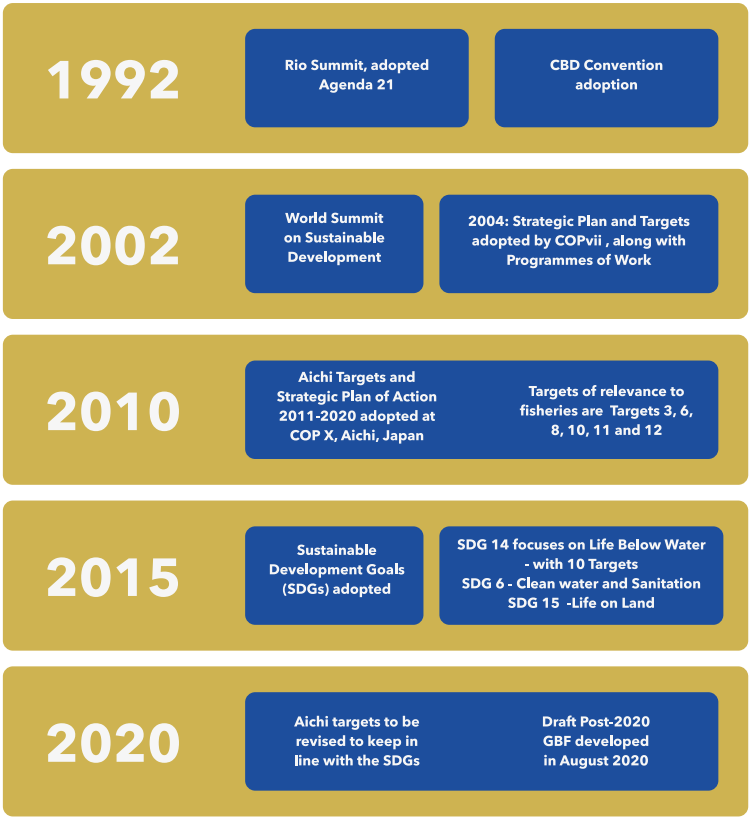
Along with conserving biodiversity for present and future generations, it is essential to recognize the rights of those who have had long-standing relationships with these resources.

To this end, indigenous peoples and local communities must be a part of the CBD processes, alongside other civil society groups. Reports such as the Local Biodiversity Outlook (FPP, 2020), prepared by civil society, must be encouraged and integrated into the official Global Biodiversity Outlook report of CBD.

Sustainable development

The CBD is intrinsically linked to sustainable development and works with other UN organizations towards this end. The draft global biodiversity targets, which will be negotiated by Parties and adopted in 2021, directly link the biodiversity agenda to the achievement of the Sustainable Development Goals (SDG).

Although all 17 SDGs are interlinked and important to small-scale fishing communities, three are particularly relevant in the context of biodiversity. First, SDG 14 ('Life Below Water'), with its mission to conserve and sustainably use the oceans, seas and marine resources, includes a target to provide access of small-scale artisanal fishers to marine resources. SDG 15 ('Life On Land'), for the sustainable use of terrestrial and inland freshwater ecosystems, has a bearing on both riparian and coastal fishing communities. In addition, SDG 1 ('No Poverty'), SDG 2 ('Zero Hunger'), SDG 5 ('Gender Equality') SDG 6 ('Clean Water and Sanitation') and SDG 12 ('Responsible Production and Consumption') are all relevant to fishing communities, and also prominently feature in the new biodiversity targets.


1992
Rio Summit, adopted Agenda 21
CBD Convention adoption
2002
World Summit on Sustainable Development
2004: Strategic Plan and Targets adopted by COPvii , along with Programmes of Work
2010
Aichi Targets and Strategic Plan of Action 2011-2020 adopted at COP X, Aichi, Japan
Targets of relevance to fisheries are Targets 3, 6, 8, 10, 11 and 12
2015
Sustainable Development Goals (SDGs) adopted
SDG 14 focuses on Life Below Water - with 10 Targets
SDG 6 - Clean water and Sanitation
SDG 15 -Life on Land
2020
Aichi targets to be revised to keep in line with the SDGs
Draft Post-2020 GBF developed in August 2020

Human rights and the environment

Human rights include the right to life, health, food and water. All of these depend on services provided by ecosystems. That, in turn, depends on the health of the ecosystems and biodiversity. Protecting the human rights of indigenous peoples and local communities has demonstrated improvement in the protection of ecosystems and biodiversity. This is now recognized in various international legal instruments.

SSF Guidelines

After a rigorous participatory and consultative process, the first international instrument dedicated to small-scale fisheries , the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication' (the SSF Guidelines), was adopted in 2014. These guide States, fishing communities and other stakeholders in the participatory development and implementation of ecosystem-friendly policies, strategies and legal frameworks for fisheries globally.

The SSF Guidelines also call for greater public awareness and to achieve sustainable utilization, prudent and responsible management, and conservation of fisheries resources consistent with the 1995 FAO Code of Conduct for Responsible Fisheries and other related instruments. The Guidelines are based on the human rights-based approach. They call for fostering non-discriminatory participation of small-scale fishing communities in transparent and responsible decision-making processes, especially for management, conservation and development

of small-scale fisheries.

The SSF Guidelines recognize the importance of the health of the aquatic ecosystems, and its associated biodiversity, for the well-being of the small-scale fishing communities. They call for holistic and integrated approaches, recognizing the importance of the ecosystem approach to fisheries resource management. The SSF Guidelines have specific sections dealing with the equitable and participatory management of protected areas and the importance of traditional knowledge to sustainable fisheries conservation and management.

The SSF Guidelines have some other components relevant to biodiversity. For example, Para 6.7: "States should take steps with a view to the progressive realization of the right of small-scale fishers and fish workers to an adequate standard of living and to work in accordance with national and international human rights standards. States should create an enabling environment for sustainable development in small-scale fishing communities. States should pursue inclusive, non-discriminatory and sound economic policies for the use of marine, freshwater and land areas in order to permit small-scale fishing communities and other food producers, particularly women, to earn a fair return from their labour, capital and management, and encourage conservation and sustainable management of natural resources."

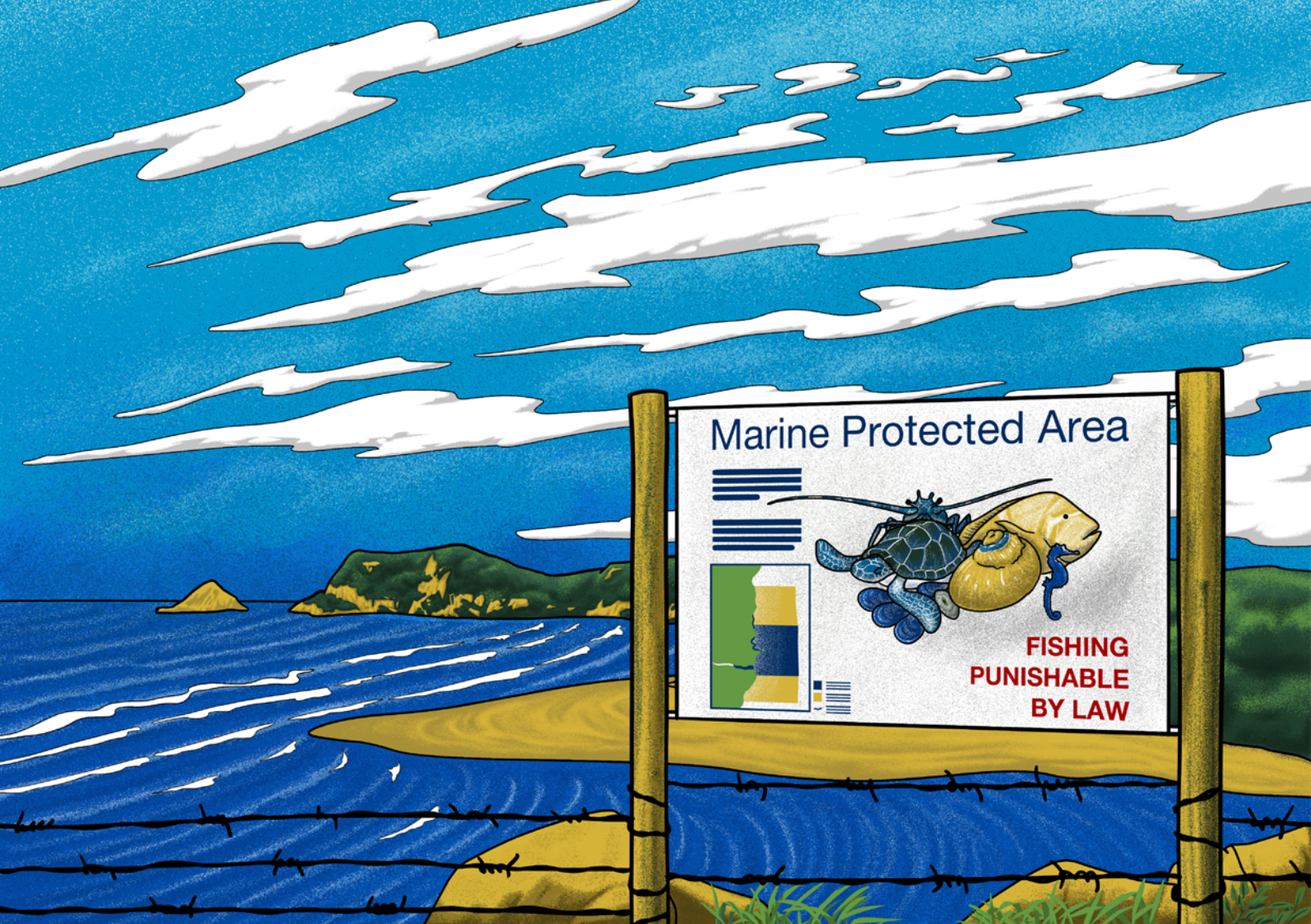
Likewise, Para 11.6 of the guidelines: "All parties should ensure that the knowledge, culture, traditions and practices of small-scale fishing communities, including indigenous peoples, are recognized and, as appropriate, supported, and that they inform responsible local governance and sustainable development processes. The specific knowledge of women fishers and fishworkers must be recognized and

supported. States should investigate and document traditional fisheries knowledge and technologies in order to assess their application to sustainable fisheries conservation, management and development."

Biodiversity in other treaties

Some other international treaties also have a bearing upon biodiversity: the 1972 Ramsar Convention on Wetlands; the 1979 Convention on Conservation of Migratory Species (CMS); the 1973 Convention on International Trade of Endangered Species; and the 1972 World Heritage Convention.

The United Nations Convention on the Law of the Sea (UNCLOS) applies to the utilization and conservation of marine living and non-living resources, and the management of the marine environment in both, the Exclusive Economic Zones (EEZ) of States and the Area Beyond National Jurisdiction (ABNJ). The CBD specifically requires its member countries to implement the convention with respect to the marine environment, consistent with their rights and obligations under the Law of the Sea.


Marine Protected Area
FISHING
PUNISHABLE
BY LAW

Chapter 2

Marine and coastal protected areas

Marine protected areas (MPA) are area-based management tools designed for diverse objectives, including the conservation of aquatic biodiversity and ecosystems, protection of endangered species, sustainable extractive use and as reserves of socio-cultural importance.

MPAs are useful to implement ecosystem-based approaches to marine resource management, as well as precautionary approaches. The design of MPAs involves managing the pressures from human uses, by adopting a degree of protection that can range from strict protection with no permitted activities to multiple use areas where a range of activities are allowed, with regulations. Area-based management is recognized in a variety of binding and non-binding legal instruments. Under national laws, MPAs are known by different names—sanctuary, reserve, national park and national reserve, among others.

Marine and coastal protected areas (MCPAs), first introduced in the CBD in 2004, are described as "any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna, and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings."

The marine and aquatic conservation agenda

In 2004, the Parties to the CBD decided to set up protected areas, including in marine and coastal ecosystems. In the Aichi Biodiversity

Targets, adopted in 2010, Target 11 calls for the protection of at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas by 2020, especially areas of particular importance for biodiversity and ecosystem services. It calls for ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, integrated into the wider landscapes and seascapes.

Consequently, the extent of MPA coverage has increased ten-fold to 7.68 per cent between 2000 and 2020[4]. (But these areas are not evenly distributed. A total of 17,326 MPAs cover 17.61 per cent of national waters and only 1.18 per cent of the high seas.)

If effectively implemented, Target 11 is closely linked to other Aichi targets, on sustainable fisheries management, coral reef protection, the prevention of species extinction, enhancing ecosystem services and the recognition of traditional knowledge and practices of IPLCs.

Small-scale fishing communities are often threatened by the loss of both, biodiversity and access to their fishing grounds. Over the years, numerous studies have shown that measures taken to protect the ecosystems cannot be successful without taking into account the social, cultural and economic components of the communities dependent on them. The focus on achieving the quantitative targets for protected areas has taken attention away from their effectiveness, equitable governance, and social and cultural impacts, including their benefits to IPLCs.

Scientific criteria for determining the ecological representativeness and connectedness of MPAs do exist. However, there are few widely used criteria to assess how effectively and equitably the protected areas are

managed. Examples from around the world—from India, Indonesia, Thailand and South Africa, among others—show that current MPA management measures undermine existing customary and communal fisheries tenure rights in many parts of the world (ICSF, 2010).

While the benefits from designating MPAs can be wide ranging, the costs are most often borne by those relying on the resources inside these areas. One common reason for this is that their power to influence decision making is very low.

In order for protected areas to be effective and equitable, their costs (related to restrictions on users) and benefits (related to the achievement of conservation objectives) should be fairly distributed. This process includes the recognition of the importance of local cultures and ways of life, and the rights of local people to participate in the decision-making processes (UNE, 2019).

Governance in MPAs

Four types of governance regimes are recognized in MPAs: One, governed primarily by the State under a clear legal framework; two, governed by the State with significant decentralization and/or influence from private organizations; three, governed primarily by local communities under collective management; and, four, governed primarily by the private sector and/or NGOs granted rights of property and management.

The locally managed marine areas (LMMAs) network is based on the objective of transferring management to local authorities to rebuild and maintain resources through community-based adaptive management, combining fisheries management and biodiversity conservation.

In the case of **Costa Rica**, responsible marine fishing areas (RMFAs) are declared where government and local fishing communities work together to agree on rules and decisions to manage an area. There are eleven formally recognized RFMAs; these aim to implement the SSF Guidelines. Shared governance recognizes the rights of the small-scale fishing community, linking marine conservation with comprehensive fisheries management and development. Besides this, Costa Rica has Marine Reserves as well as Marine Management Areas.

A similar example is the Pemba Channel Conservation Area declared in **Zanzibar** by the coastal community to protect and sustainably use octopus resources. Mozambique has also a network of areas designated under LMMAs that are locally managed.

Traditional use areas—these have some priority uses and offer fishers protection from negative impacts on traditional uses—can be included in OECMs. These are often managed under customary tenure and particular groups rely upon them for food and livelihood. In the **Soloman Islands**, 58 officially designated MPAs are managed by indigenous peoples and local communities. Their customary tenure is integrated in the management of these MPAs.

In **Japan**, fishery MPAs are voluntary, autonomous and self-managed small areas for both biodiversity protection and fisheries sustainability. The country has over 1,100 community-based MPAs called Saotumi; 30 per cent of these are managed by fishing communities (SCBD, 2018b).

In **Canada**, an Inuit impact and benefit agreement established a cooperative management board and an Inuit stewardship program for Tallurutiup Imanga, a marine conservation area declared in 2019. Canada has also adopted an Operational Guidance for identifying other effective area-based conservation measures in its marine environment, based on five broad criteria.

In **France**, the Iriose Marine Park, covers 3,500 sq km off the western tip of Britanny. Fishermen supported the formation of the park, as they see the park as a tool to protect the marine environment, including from land-based threats, and have sought and achieved proper representation in the management process.

In northwest of **Spain**, Galicia, a bottom-up process was initiated and implemented, with shared governance system set up for a marine protected area. The main objective of the protected area was to help the small-scale fishers in the management of the resources, balancing the social and economic needs of the communities with the maintenance of healthy ecosystem.

The last COP (COP XIV), adopted a voluntary guidance on effective governance models for management of protected areas, including equity, taking into account work being undertaken under Article 8(j) and related provisions. It calls for governance arrangements that are specific to the protected areas, socially inclusive, respectful of rights and effective in delivering conservation and livelihood outcomes. Good governance principles (one of which is equity), are to be integrated into management of all protected areas. Principles include recognition and accommodation of customary tenure and governance systems in protected areas, transparency and accountability, fair dispute and conflict resolution, besides full and effective participation.

What are other effective area-based conservation measures?

Other effective area-based conservation measures (OECM), introduced in Aichi Target 11 for the first time, make it possible to include other conservation measures focusing not just on protection, but also on sustainable use as part of the 'Protected Area' regime.

In 2018, an OECM was officially defined as "a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and, where applicable, cultural, spiritual, socio-economic, and other locally relevant values."

Many scientists and civil society groups have welcomed the OECM designation, noting that it can help achieve Target 11 (FAO, 2019). Under this, it could include the locally managed marine areas (LMMA), indigenous and community conserved areas and territories (ICCA), along with measures such as spatial fishery management measures and sectoral area-based management approaches (such as the 'particularly sensitive sea areas' designated by the International Maritime Organization). This will also provide a space for areas with sustainable use to be included within the framework. This framework can contribute to meetings several objectives and targets, including biodiversity conservation, sustainable use and enhancing the benefits from nature to people.

How will OECMs work?

The International Union for Conservation of Nature (IUCN) recently published draft guidelines for recognizing and reporting OECMs. It recommends the inclusion of LMMAs but rules out other fisheries management measures such as spatial closures and gear restrictions.

There is no clarity, as yet, whether Parties might consider, for example, a reserved zone for artisanal fishers using small-scale, non-towed gear as OECMs. For them to be recognized as conserved areas, governments may have to first clarify the mandates of their fisheries and environment ministries. It remains unclear whether this will strengthen the capacities of indigenous peoples and local communities to manage these areas.

MPAs and the Sustainable Development Goals

SDG 14 ('Life Below Water') recognizes the need to combine biodiversity conservation and sustainable use. It sees a clear role for people and the equitable sharing of costs and benefits.

SDG Target 14.5 focuses on marine protected areas: "By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information." The indicator is focused on just the coverage of protected areas, failing to provide any information on the qualitative aspects of MPAs.

In the draft text of CBD's post-2020 global biodiversity framework, one of the action targets, seeks to expand the coverage of protected areas including marine, to 30 per cent of the planet (includes seas and oceans, wetlands) by 2030, focusing on areas of particular importance to biodiversity (SCBD, 2020).

EBSA: Ecologically or Biologically Significant Area

In 2008, the CBD introduced scientific criteria for the identification of areas to be designated as ecologically or biologically significant areas (EBSAs)[5]. The existing process in CBD only provides guidance for the description and identification of these areas, not their management. The CBD does, however, ask Parties to develop measures to ensure conservation and sustainable use of EBSAs, including through area-based management tools. Some countries have not only identified EBSAs, they have also designated them as protected areas.

As in MPAs, social and cultural criteria are also important to consider in the identification and management of EBSAs. Subsequent COPs have called for the integration of traditional scientific, technical and technological knowledge of indigenous and local communities. These aspects are to be developed with the full and effective participation of indigenous peoples and local communities.

The CBD's Sustainable Ocean Initiative (SOI) focuses on assisting parties in achieving a balance between conservation and sustainable use of marine and coastal biodiversity. It seeks increased participation of IPLCs and uses capacity building for integrating traditional knowledge into the entire EBSA process (SCBD, 2012).

EBSAs and fisheries

India's Draft National Fisheries Policy, 2020 calls for development of fisheries management plans by adopting the ecosystem approach in fisheries. It focuses on species-specific and area-specific management plans, including EBSAs and vulnerable fisheries ecosystems as well as protection of endangered species.

Many countries have identified EBSAs as part of their national environmental policy or plan. They include Japan, South Africa and Brazil.

Relevance to small-scale fisheries

The SSF Guidelines say:
"States should facilitate, train and support small-scale fishing communities to participate in and take responsibility for, taking into consideration their legitimate tenure rights and systems, the management of the resources on which they depend for their well-being and that are traditionally used for their livelihoods. Accordingly, States should involve small-scale fishing communities—with special attention to equitable participation of women, vulnerable and marginalized groups—in the design, planning and, as appropriate, implementation of management measures, including protected areas, affecting their livelihood options. Participatory management systems, such as co-management, should be promoted in accordance with national law." (5.15)

SSF Communities: Things to watch for

- The draft Post-2020 Global Biodiversity Framework proposes an increase in protected areas coverage to 30 per cent by 2030. This expansion must be undertaken cautiously. Recognizing that conservation and livelihoods are linked, fishing communities should not be displaced and lose their rights to traditional fishing grounds. Sustainable use zones must be identified and equitable managed, not only no-take zones.
- A large number of existing MPAs are in near-shore or inter-tidal regions, with a disproportionate impact on small-scale fisheries. The interests of all ecosystem stakeholders must be taken into account while declaring MPAs.

- Biodiversity conservation is not merely a game of numbers. Qualitative and managerial matters must get as much attention as quantitative targets in MPAs. This includes governance, full and effective participation, effectiveness and equitable management. States must include these aspects in their National Reporting to the CBD.
- States can consider the OECM designation, including spatial fisheries management measures, when declaring new conserved areas.
- Full and effective participation of indigenous peoples and local communities, including women, must be sought during the design, planning and management stages of all protected areas. Traditional knowledge must be incorporated in conservation.
- Given the increasing shift from MPAs to EBSAs, its processes must ensure effective and full participation of indigenous peoples and local communities at every stage, in letter and in spirit.
- Area-based management is merely one tool for fisheries conservation and management. It must not be the only tool.
- In national operations related to CBD, the ministries/departments of environment and natural resources are the focal points. In all matters related to marine and coastal ecosystems, they must coordinate and cooperate with agencies in-charge of fisheries and oceans.

Human rights and MPAs

In 2013, a legal battle began between the South African government's agencies on one side and the recreational fishers of Langebaan, an MPA in South Africa, on the other. The fishers argued that the management of the MPA affected their livelihoods and their custom of traditional net

fishing; they claimed it was not based on scientific evidence but on racial discrimination. In 2016, a South African high court ruled that the fishers were discriminated against, based on race and irrational information, and that their historical claim to traditional fishing rights must be recognized. It ordered all sides to sit and negotiate new terms in light of the social imperatives.

The historic judgment, which drew from the Bill of Rights in the South African Constitution, recognized the human rights of fishers in matters of biodiversity conservation and management (Sunde, 2017).

Financing conservation

Several financing mechanisms exist for protected area management. These include GEF funds, conservation trust funds (CTFs), endowment funds, sinking funds, revolving funds, or debt-for-nature swaps, short-term donor support, government budget allocations, and taxes and revenues from tourism.

Sustainable finance for MPAs has been a key issue for a decade. Substantial funds have come forth for the creation of large MPCAs, especially from large NGOs. Often, these MPCAs are declared as no-take zones or strict reserves. Prominent initiatives include the Coral

Triangle Initiative financed by the environmental NGOs, or the the Seychelles Blue Economy initiative by the World Bank.

Major funds support the creation or expansion of MPAs, such as the WCS MPA Fund, created towards achieving the Aichi targets of protecting 10 per cent of the coastal and marine waters by 2020. It had operated in 29 countries by 2019. The fund was expected to create more than one million sq km of new protected areas[6]. Other organizations funding MPAs include Blue Finance.

The Seychelles government stuck a deal with the non-profit TNC to set up two large MPAs. It was a debt-for-conservation deal under the Blue Economy investment plan (UNE, undated). Its protected area got increased from 0.04 per cent to 30 per cent.

2004 (COP VII)

Programme of Work on Marine and Coastal Biodiversity adopted, Programme Element 3 - focuses on marine and coastal protected areas

Programme of Work on Protected Areas adopted, with Programme Element 2 focusing on Governance, Participation

Targets of atleast 10 per cent of the marine and coastal ecosystems to be covered as protected area adopted as part of the strategic plan , to achieve the targets of WSSD

2006 (COP VIII)

Expanded the scope of MCPAs further to extend to areas beyond national jurisdiction as well

2008 (COP IX)

Introduced the Scientific Criteria for the identification of ecologically and biologically significant areas (EBSAs), as part of the PoW on marine and coastal biodiversity

2010 (COP X)

Review of the PoW on marine and coastal biodiversity

Identify EBSAs through scientific criteria, and integrate traditional knowledge of IPLCs

Identify EBSAs through scientific criteria, and integrate traditional knowledge of IPLCs

Integrate social and cultural criteria to identify EBSAs

Aichi Target 11 adopted on Protected areas

Other effective area based conservation measures is part of Target 11 on protected areas

2012 (COP XI)

Development of manual on traditional knowledge to help in identification and description of EBSAs

Socially and culturally significant marine areas to have enhanced conservation and management measures

Chapter 3

Marine spatial planning

Small-scale fishing communities engaged in marine capture fisheries have been traditional inhabitants of coastal areas for centuries. Over the years, the number of users of coastal and marine space has increased as the uses of resources has multiplied, extending from fishing to tourism, shipping, and industrial activities; the new 'Blue Economy' or 'Blue Growth' paradigm also has the potential of increasing industrial and infrastructure development in coastal and marine areas. Given competing uses of limited coastal space, it is critical to the survival of fishing communities that their tenure rights to coastal lands and waterfront areas are secured, ensuring access to their fisheries and for accessory activities like housing, fish processing and marketing.

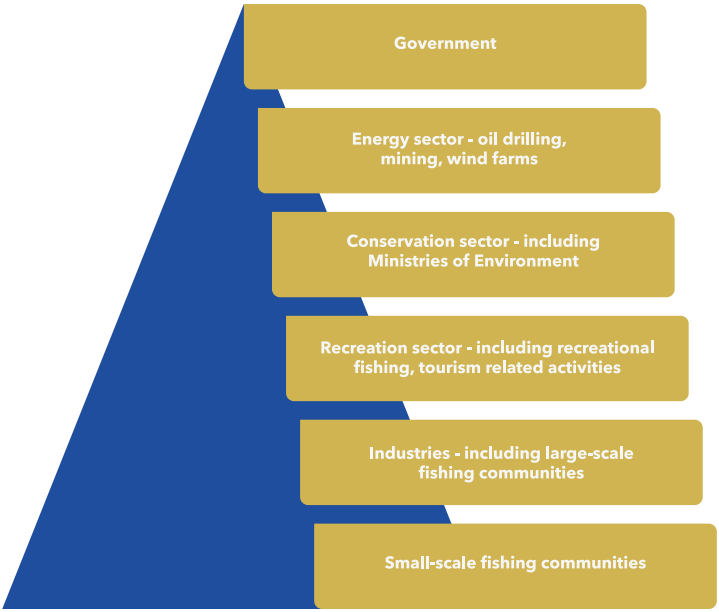
Several customary tenure systems exist in coastal and near-shore areas. Often, these are not recognized formally. With intensifying competition for space and resources, social and political turf wars are emerging, including contestation about knowledge.

The Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) defines Marine Spatial Planning (MSP) as "a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives"[7]. It focuses on setting goals, objectives, and developing a process that helps improve collaboration among multiple users of the marine and coastal environment, combining the interests of sustainable use and biodiversity conservation. MSP is envisioned as being ecosystem-based, area-based, integrated, adaptive, strategic and participatory in nature.

UNESCO has emphasized MSP since 2006 because of its practical experience in sea use management matters[8]. In 2010, MSP was introduced into the CBD's process. The experiences and learnings from the use of MSP were compiled along ecological, economic, social, cultural and other principles; its applicability to area-based management tools was also assessed (SCBD, 2018c). MSP is no substitute for integrated coastal area management; rather, it builds on it. It does not limit itself to coastal waters. This planning framework improves the process of decision-making; it must not be mistaken for a single tool.

All planning exercises begin with setting up goals. Strategic goals, however, are general in nature and have to do with achieving the vision. For plans to be effective, they must respond to clearly stated, specific objectives. The measure of success depends upon linked metrics, indicators and targets that have been agreed upon in advance.

Next, limitations must be taken into account, such as institutional barriers, environmental or ecological considerations, social constraints and economic limitations. The MSP process is data-driven and requires a range of data. Large-scale planning is often top-down; its success depends on its integration with local, bottom-up planning approaches. So, traditional uses of marine and coastal space are often put against new economic activities such as wind farms, mining or deep sea oil drilling. According to the CBD, MSP—when used as a participatory tool for the ecosystem approach—can help achieve the Aichi Biodiversity Targets.



MSP's success depends on multiple governance paths that can combine several kinds of knowledge—traditional, scientific, ecological, local, and international—to ensure diverse participation. Powerful stakeholders often have a greater influence on decisions, marginalizing traditional resource users like those in the small-scale fisheries sector. This leads to the disenfranchisement of the most vulnerable stakeholders. MSP must address the multiple, cumulative and potentially conflicting uses of the sea.

The full and effective participation of indigenous peoples and local communities is essential to the development and implementation of MSP. This must be linked with existing efforts to manage and conserve marine and coastal biodiversity. MSP processes also need integration with strategic environmental assessments, environmental impact assessments, pollution control, fisheries and other economic activities like tourism. MSP can be used to define spaces for various developments, for example, industry, infrastructure and land reclamation.

Countries that have integrated MSP with various development sectors include **Norway**, **South Africa**, **China**, **USA** and members of the European Union. **The Netherlands** and **Belgium**, for example, have detailed MSPs that are applicable to their national marine waters in their entirety.

A few countries have MSPs for specific provinces. Australia has developed an MSP specifically for the Great Barrier Reef Marine Park. **Kiribati** has a plan customised to the Phoenix Island Protected Area.

About 70 countries/territories have MSP initiatives in varying stages of plan revisions and adaptations, says MSPglobal. The ten steps of the planning process include engaging stakeholders, monitoring and adapting the spatial management process accordingly.

Brazil's environment ministry has implemented a course on MSPs. The EU is establishing an MSP framework for its member States. **Mexico's** national policy for ocean and coast includes MSP.

MSP in the Aichi Targets...

When implemented right, MSP can help achieve the following Aichi targets:

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Target 6: By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification, are minimized, so as to maintain their integrity and functioning.

...and the Sustainable Development Goals

SDG 14.2 focuses on sustainably managing and protecting marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans, by 2020.
The Target 14.7 focuses specifically on Small Island Developing States (SIDS) and Least Developed Countries (LDCs) and calls for an increase in the economic benefits to them from the sustainable use of marine resources.

Target 14.b is specific to small-scale artisanal fishers, calls for providing them access to marine resources and markets.

The SSF Guidelines

"States should, as appropriate, develop and use spatial planning approaches, including inland and marine spatial planning, which take due account of the small-scale fisheries interests and role in integrated coastal zone management. Through consultation, participation and publicizing, gender-sensitive policies and laws on regulated spatial planning should be developed as appropriate. Where appropriate, formal planning systems should consider methods of planning and territorial development used by small-scale fishing and other communities with customary tenure systems, and decision-making processes within those communities." (10.2)

Relevance for SSF communities

The SSF Guidelines calls for developing specific spatial planning approaches including marine spatial planning (MSP). Marine and coastal planning is based on the ecosystem approach to management, adaptation, zoning, and frameworks of integrated coastal and marine area management (ICMAM). When MSP follows this, retaining a comprehensive, science-supported, and area-based character, taking into account social, cultural and traditional uses, it helps promote sustainable development.

Community-led management

Costa Rica: The Marine Areas of Responsible Fishing are community-based marine and indigenous peoples' territories where power and decision-making efforts are shared with government. These areas are mapped using participatory mapping processes; these are considered for further management.

Senegal: An association created with local fishermen reviews and implements local traditional practices for the enforcement of marine zoning and management plans, including sacred areas where no fishing is allowed, and areas for non-motorized fishing.

Chile: Marine and coastal areas for indigenous people were created since 2008 through a regulation. In 2015, Chile began granting rights to indigenous communities in the south-central region, where they are using community-based planning approach to recover and manage their marine resources (SCBD, 2018c).

India: The lives and livelihoods of fishing communities are at risk due to competition from industry and infrastructure on the coast. They have started drawing upon their customary knowledge and new satellite mapping techniques to assert their rights to land and livelihood (Mukul Kumar et al, 2014). The land use maps of Urur/Olcott Kuppam, Tamil Nadu map fishing grounds and living spaces, socio-cultural activities, infrastructure and demographics to document the uses of the commons, involving women, youth and children. These have informed the local integrated coastal management process, and empowered communities to oppose harmful industries on the coast.

Canada: The Marine Plan Partnership (MAPP) is a successful example of collaborative marine spatial planning between First Nations governments and the British Columbia provincial government. It incorporates cultural values and activities and resource management priorities, with the protection of First Nations governance and economy (Diggon et al, 2019).

Chapter 4

Marine debris, litter and pollution

Coastal and marine ecosystems are essential to the lives and livelihoods of small-scale fishing communities. From the waters that are home to multitudinous species and habitats and the base for their fisheries, to the shoreline, where fishing communities live, land and process their catch, and mend their nets and craft, these areas are crucial for sustaining their lives and cultures. Pollution of the beaches and the seas threatens both the food security and livelihood of fishing communities. This is often in the form of marine debris, litter and effluents released into the waters.

Marine debris comprises any persistent, manufactured or processed solid material discarded, disposed or abandoned into the sea. Mostly, it is glass, metal, paper and plastic. While most materials are found in small quantities, plastics are increasingly found in large quantities. The UN says each year about eight million tonnes of plastics end up in the ocean—a full garbage truck dumped into the sea every minute (UN News, 2019). States have expressed growing concern about this and adopted resolutions on marine litter, plastic debris and microplastics.

This pollution largely comes from the land, from solid waste dumped in the sea, and sewage and effluents from urban areas and industries. But, waste from ships and fishing vessels adds to it. Dredging near ports and harbours also contributes major pollutants[9]. Such debris is commonly found along shorelines and in estuaries and in high seas—from the sea surface to the ocean floor.

Abandoned, lost or otherwise discarded fishing gear (ALDFG), also called 'ghost gear', constitutes almost 10 per cent of the total marine plastic pollution. It threatens marine life—46 per cent of the species on the IUCN Red List of Threatened Species have been impacted

by discarded gear. Increasingly, mariculture and other aquaculture activities also pollute. There's also a hidden threat: Marine debris can disperse invasive alien species and other pathogens at sea. Episodes of acute pollution can degrade the marine ecosystems, requiring SSF communities to temporarily stop fishing. Persistent pollution can force them to change their occupation itself.

The CBD process has paid attention to marine debris, litter and pollution since 2010. The Aichi targets mention it specifically.

Aichi targets

Target 6: "By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits."

Target 8: "By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity"

It is important to prevent the discard, disposal, loss or abandonment of any persistent, manufactured or processed solid material at sea or along the coasts. Forums working on this problem include the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities, and the Global Partnership on Marine Litter (GPML), a multi-stakeholder global platform to share knowledge and experience. Moreover, several regional conventions and action plans address the debris problem.

Instruments focusing on marine debris

- Rio + 20 Declaration (2013): "Significant reduction of marine litter until 2025."
- UN SDG 14.1 (2015): "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."
- A voluntary practical guidance, adopted in 2016, on preventing and mitigating the impacts of marine debris on marine and coastal biodiversity and habitats.
- UN Environment Assembly's resolution on marine litter and microplastics (adopted in 2014, 2016, 2017 and 2019).
- The Honolulu Strategy provides a global framework for prevention and management of marine debris, especially to reduce ecological, human health, and economic impacts of marine debris globally.

- The G7 countries also have an Action Plan to Combat Marine Litter (2015)
- Other International efforts to prevent marine pollution by wastes include the 1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (or the London Convention), the 1996 Protocol to the London Convention (the London Protocol) and the 1978 Protocol to the International Convention for the Prevention of Pollution from Ships.

The UNEP Regional Seas Programmes have specific plans for marine litter management for the respective regions. Government of Korea adopted the Regional Plan on Marine Litter Management in 2008 for the North West Pacific Region. Government of Korea introduced a buyback program known as Purchase Program encouraging fishers to bring back marine litter collected during fishing activities for financial incentives. This is integrated into the National Basic Plan of Marine Litter Management. Such regional litter management plans also exist for the Wider Caribbean Region. Korea also has a litter collection points through floating receptacles and clean fishing community program, which helps fishing communities generate less ghost fishing gear (NOWPAP MERRAC, 2015).

UNEP recently gave Europe's Young Champion of the Earth award to a fifth generation fisherman from the Greek Port of Piraeus. He has founded a startup to train and incentivize the local fishing community to collect plastic from the sea[10].

What do the SDGs say?

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

The SSF Guidelines say,

"States and other relevant parties should take steps to address issues such as pollution, coastal erosion and destruction of coastal habitats due to human-induced non-fisheries-related factors. Such concerns seriously undermine the livelihoods of fishing communities as well as their ability to adapt to possible impacts of climate change." (9.3)

Relevance to small-scale fishing communities

Marine debris and litter are transboundary problems; their impact spreads over large areas. Fishers in Indonesia have reported fouling of propellers and snagging of gear due to debris in the seabed. Ghost fishing nets also cause huge losses to fisheries (Secretariat of the Convention on Biological Diversity and the Scientific and Technical Advisory Panel—GEF, 2012).

Fishing communities already incur great costs to keep their coasts clean from debris. SSF communities need to focus on waste management infrastructure in harbours/landing centres, as well as on the disposal of fishing gear. Managing marine debris and litter requires cooperation of all stakeholders. The focus needs to be on developing sustainable practices and products, sustainable consumption patterns, and reducing discharge of microplastics into the marine environment. While a lot depends on solid waste management in coastal areas, it is difficult to implement in areas with spatial limitations—islands, small coasts, isolated regions. In such places, a reduction in plastic waste is essential. In the Philippines a trial programme for community solid waste management along the coasts and rivers successfully involved the local government (Wynne, Andrew L., et al, 2018).

Chapter 5

Inland aquatic biodiversity

Inland waters include lakes, rivers, ponds, streams, groundwater, springs, cave waters, floodplains, as well as bogs, marshes and swamps. They exist on farms, forests, dry and sub-humid lands, and mountains. Inland waters, estuaries and inshore coastal areas are ecologically connected.

Biodiversity: All life forms depending upon inland water habitats comprise its biodiversity. Several live in the water, like fish; there are many 'terrestrial' animal species like waterbirds and semi-aquatic ones like crocodiles; and a large number of plant species like mangroves live on the margins of water bodies. Inland water species are highly endemic because they cannot move easily between different areas; this leads to high genetic diversity in them. The wetland ecosystem being highly diverse and complex, its health is critical to maintain the services from its biodiversity. Freshwater represents only 3 per cent of the Earth's total water. Of this, 99 per cent is in the ice-caps or in underground aquifers. Only one per cent—that is, 0.03 per cent of the planet's total water—is available as liquid surface freshwater. And it is home to about 30 per cent of the 29,000-odd species recorded so far[11].

Food security: The total volume of inland capture fisheries was at the highest in 2018 at 12 million tonnes (FAO, 2020); this was 12.5 per cent of the total capture fisheries production. In the case of a country like Bangladesh, it accounts for 65 per cent of its capture fish production. The figure is 25 per cent for Africa, contributing towards food security and nutrition. Inland aquaculture production—mostly farmed freshwater fish—was 51.3 million tonnes in 2018. In some countries with low production, inland fisheries sustain local food security, which is why their conservation and sustainable use is critically important. Basins of large rivers like the Mekong and Amazon are home to a large number

of SSF and farming communities. However, fisheries are often ignored in national water management policies as compared to agriculture and other industries.

Threats: The biggest threat is water resource development projects—for water supply and sanitation, irrigation, hydropower, flood control and navigation. Pollution and groundwater extraction also take a heavy toll, besides climate change, invasive alien species, unsustainable land-use practices and desertification. Land-based activities generate land erosion and nutrient runoff, damaging inland waters and the seas. For a long time now we have been losing wetlands resources at a rate three times faster than any other ecosystem, leading to a global population decline in 81 per cent of freshwater species. Alteration of river flow, changing fish habitat and blocking fish migration routes often result from developmental activities. Without healthy inland water ecosystems, there's simply no way to accomplish poverty eradication, economic growth and environmental sustainability. The effects of climate change are also acutely felt in freshwater ecosystems.

CBD and the Ramsar convention

A lot of coordination and harmonization is required between CBD and its leading partner in inland water ecosystems: The Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat. They focus on watershed/river basin management/integrated

land and catchment management approaches, and sustainable use of inland water ecosystems including in transboundary catchments.

What are wetlands?

The Ramsar Convention defines wetlands as "Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres."

CBD and Inland water biodiversity

Inland water biodiversity: guiding principles
Adopted 1998, revised 2004

To promote conservation and sustainable use of inland water biodiversity;
To apply ecosystem approach to the management of inland water ecosystems; and
To support indigenous peoples and local communities to re-establish, develop and implement traditional approaches and/or adaptive management approaches to conserve and sustain the use of the biological diversity of inland water ecosystems.

The CBD emphasizes not only the fair and equitable sharing of benefits from inland aquatic biodiversity, but also the traditional knowledge associated with it. It calls for the scientific, technical and technological knowledge of indigenous communities and all relevant stakeholders—with their participation and prior informed consent.

A lot depends on the coherence between the gamut of policies on land use and water use. Integrated water resource management plans are the best way forward, acknowledging the inter-connectivity of different ecosystems. This can be done by designating protected areas, developing networks of wetlands within river basins. Globally, about 15 per cent of the total open surface waters—both seasonal and permanent—were protected in 2015. This is close to the Aichi Target 11 that calls for 17 per cent to be protected on the terrestrial side (Bastin et al, 2019).

How they got it right!

Thailand's Salween basin showed a dramatic increase recently in fisheries richness, density and biomass, as compared to adjacent areas. This resulted from the creation of freshwater reserves by 23 separate communities in one branch of the basin. The indigenous Pgagayaw communities organized and managed this, independent of any government support, throughout the Ngao river and its branches (Nevada Today, 2020).

Cambodia has over 500 community fisheries institutions with nearly 200,000 members, with women making up 30 per cent of them. They work by a set of internal rules based on calculation of sustainable yields. This has improved both the fish stocks and the standard of living, helping eradicate poverty in fishing communities.

A number of communities—indigenous and local—have protected wetlands as part of their traditional practices. In **Nepal**, the religious and spiritual values of the Kirant indigenous peoples have protected lakes and wetlands. Some governments have acknowledged such customs.

The **Malaysian** government recognizes the tagal system in the Sabah province; it has now been adapted to other river co-management regimes. This is now linked with the Melangkap community protocol; it includes strict adat rules and defines free, prior, and informed consent processes. The protocol has helped the community avert the diversion of a sacred site for building of a road; it regulates tourism, too, establishing a benefit-sharing system for the community's ecotourism project (FPP, 2020).

In **Brazil's** Amazon, the *pirarucu* fish (Arapaima spp) co-management system has helped the indigenous communities, as well as in restoring the wild population of the species. Introduced in 2000s, the system has also brought revenue and helped empower indigenous women.

Kenya's Tana Delta Management scheme supports local communities taking on more responsibility for their environment, especially wetlands. Community-based organizations are strengthened and trained for resource management, advocacy, business planning and resource development. The formation of cooperative societies has improved the value chain of fish products, enhancing household incomes (Wetlands International, 2015).

The CBD's programme of work employs the ecosystem approach. It includes both urban and rural situations with regard to water management.

Given the impact of climate change on inland waters, adaptation and mitigation capacities of wetlands are priorities areas to focus on. The increased risk from natural disasters will make them vulnerable to both flooding and drought, leading to cascading changes in the ecosystem.

Aichi targets

Aichi Target 14: "By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous peoples and local communities, and the poor and vulnerable."

Aichi Target 7: "By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity."

Aichi Target 8: "By 2020, pollution, including from excess nutrients has been brought to levels that are not detrimental to ecosystem function and biodiversity."

Post 2020 framework

The CBD's post-2020 framework should give explicit importance to water, wetlands and aquatic ecosystem services. In the draft framework, the Goal B aims that by 2030, "nature contributes to sustainable diets and food security, access to safe drinking water, and resilience to natural disasters for at least [X] million people".

Draft Target 1 says: "By 2030, [50%] of the land and sea areas globally are under spatial planning addressing land/sea use change, retaining

most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them."

Target 10 says: "By 2030, ensure that, nature based solutions and ecosystem, approach contribute to regulation of air quality, hazards and extreme events and quality and quantity of water for at least [X million people]."

Sustainable Development Goals

Several SDGs relate to inland water biodiversity. For example, Goals 3 (Good health and well-being), Goal 6 (Clean water and sanitation), Goal 12 (Ensure sustainable consumption and production patterns including for natural resources), Goal 15 (Life on land), Goal 14 (Life below water) and Goal 13 (Climate action). Target 15.1 is specific to ensuring the conservation, restoration and sustainable use of inland freshwater ecosystems and their services by 2020, in line with obligations under international agreements.

The importance of inland fisheries to poverty alleviation and food security is underrepresented in all arenas. SDG 15, for example, focuses more on habitat and species, failing to emphasize sustaining harvests of fish for food or income. Conservation dominates the discourse on freshwater biodiversity. Even SDG 6 focuses more on water withdrawal, not on the spatial dimensions of flow critical to inland fisheries, especially migratory species (Funge-Smith et al, 2019).

SSF Guidelines and inland aquatic biodiversity

The SSF Guidelines are relevant to small-scale fishing communities both in marine and inland waters, and as such, their recommendations apply to capture fisheries in both contexts. The Guidelines, thus, call on States to protect the tenure rights of inland fishers, fish workers and their communities to fishery resources and to adjacent land (2.2).

Recognizing the importance of co-management in effectively engaging diverse resource users, the SSF Guidelines recommend involving small-scale fisheries through participatory arrangements for resource management, including through spatial planning approaches (5.16).

It also calls on States to harmonize policies affecting the health of marine and inland waterbodies and ecosystems, including of fisheries, agriculture and other uses, in order to enhance sustainable livelihoods (10.2).

Agenda for SSF and biodiversity conservation

- Customary tenure rights of sustainable small-scale fishing communities to freshwater and aquatic living resources should be recorded, recognized and protected.
- Full and effective participation of indigenous peoples and local communities is required in developing sustainable fisheries. Identify governance models that work best for both, communities and ecosystems.

- Promote equitable sharing of inland water resources between various users, including fishers and fish farmers through participatory local decision-making bodies.
- Develop fair and equitable benefit sharing mechanisms[12],
- Linkages between the various inland water ecosystems should be recognized.
- Water management should be integrated with sustainable agriculture, energy and industries. Recognize how SSF communities are affected by upstream pollution, run-off from agriculture fields, developmental activities such as dams, pollution from industries, reclamation of wetlands and their impacts on the inland water ecosystems.
- Introduction of any non-native species or invasive alien species, which threaten native fish, is higher in inland water ecosystems than in any other ecosystem. Native, indigenous fish are often found to have higher nutritional value, and are essential for nutritional security of SSF.

Chapter 6

Traditional knowledge and resource management

Traditional knowledge of fishing communities has been legally recognized in fisheries management and development, including in the 1995 Code of Conduct for Responsible Fisheries (Article 6.4[13] and Article 12.12[14]). The CBD refers to the knowledge, innovations and practices of indigenous peoples and local communities (IPLC) as traditional knowledge, which is transmitted either orally from generation to generation, or through local languages, community laws, rituals, cultural values, proverbs, folklore, songs, stories and various practices such as agriculture or breed selection. UNESCO uses 'local and indigenous knowledge' to include non-indigenous local communities.

Traditional small-scale fishing (SSF) communities accumulated knowledge of the management of their resources within—and specific to—their cultural context. With its extensive work on traditional knowledge, the CBD tries to include it in the conservation and management of biological diversity.

Traditional knowledge in CBD

The Preamble to the convention recognizes traditional knowledge. It states: "...Recognizing the close and traditional dependence of many IPLCs embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components..."

Says Article 8 (j): "Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices..."

This must be read in conjunction with Article 10 (c) that requires all parties to: "Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements."

Each time traditional knowledge is used, the process of obtaining free and prior informed consent must be initiated for acquiring the approval of the holders of that knowledge. The CBD reflects this, especially, in relation to its Article 15.5, dealing with 'Access to Genetic Resources and Benefit Sharing'. It seeks integration of traditional knowledge with scientific, technical and technological knowledge, as also the exchange of information among IPLCs.

Traditional knowledge is a cross-cutting issue in the CBD framework; it applies to several thematic programmes. Marine and coastal biodiversity programme emphasizes integration of traditional knowledge both in the designation, planning and management of MPAs, marine spatial planning and EBSAs.

Glossary of key terms and concepts

Article 8(j) and related provisions of CBD, adopted in 2018 at the COP 14 in Egypt:

Traditional knowledge: The knowledge, innovations and practices of IPLCs embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

Customary sustainable use: Utilization of biological resources in accordance with traditional cultural practices, compatible with conservation or sustainable use.

Customary law: Comprises customs accepted as legal requirements or obligatory rules of conduct; practices and beliefs so vital and such intrinsic parts of a social and economic system that they are treated like laws.

Prior and informed consent: This is also called 'free, prior and informed consent' or 'approval and involvement'. Here, 'free' implies that the holders of traditional knowledge are not pressured, intimidated, manipulated or unduly influenced; that their consent is obtained without coercion. 'Prior' connotes seeking consent or approval sufficiently in advance of any authorization to access traditional knowledge. 'Informed' means that the holders are made aware of all relevant aspects such as: the intended purpose of the access to traditional knowledge; its

duration and scope; a preliminary assessment of the likely economic, social, cultural and environmental impacts, including potential risks; personnel likely to be involved in the execution of the access; and procedures of the access and benefit-sharing arrangements. 'Consent' or 'approval' is the agreement of the holders to grant access to their traditional knowledge to a potential user; it includes the right not to grant consent or approval. 'Involvement' refers to the full and effective participation of IPLCs in decision-making processes related to access to their traditional knowledge. Consultation, and full and effective participation are crucial components of a consent or approval process (SCBD, 2018d).

Men and women of coastal communities possess several categories of traditional knowledge. They include: technical knowledge, fisheries knowledge, ethological knowledge, taxonomic knowledge, ecological knowledge, biodiversity-related knowledge, therapeutic knowledge, geological knowledge, astronomical knowledge, wave and tidal knowledge, climatological knowledge, nutritional knowledge and culinary knowledge. It encompasses certain types of customary practices and institutions; knowledge about natural calamities, disaster protection and mitigation measures; and knowledge about conflict resolution within and across sectors (SCBD, 2019).

Aichi Target 18

"By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the convention with the full and effective participation of indigenous and local communities, at all relevant levels."

The programme of work on Article 8(j) and related provisions was adopted in 2000; it was reviewed in 2010. A Plan of Action for the retention of traditional knowledge, innovations and practices was adopted in 2004. Three indicators help assess the status and trends of traditional knowledge: one, linguistic diversity; two, land-use changes and land tenure; and, three, the practice of traditional occupations. A specific working group focuses only on the working of Article 8(j) (ICSF, 2017) established in 1998, with a specific set of national focal points as well. IPLC representatives have a direct interest in the functioning of the working group; all decisions are taken with their involvement, which is financed through a voluntary fund set up by the parties. The Sustainable Oceans Initiative has made several efforts to involve IPLC representatives in workshop sessions focused on incorporating the traditional ecological knowledge and sociocultural knowledge of coastal communities in marine spatial planning and management.

National measures

A June 2019 analysis of the sixth national reports submitted by 96 countries found that 82 of them included references to the contribution of IPLCs, a threefold increase from 2014. Central American countries emphasize these provisions for indigenous peoples, though not for local communities. (Often, fishing communities are not considered indigenous peoples.) Yet elements of Article 8j are often not built into their national biodiversity action plans or strategies. A number of governments have adopted specific laws, policies and administrative arrangements for protecting traditional knowledge, emphasizing that the prior informed consent of knowledge-holders must be attained before their knowledge can be used by others.

Guidelines and tools

The Akwé: Kon: This is a set of guidelines adopted in 2004. They provide a framework to ensure the full involvement of IPLCs in the assessment of their interests, their cultural, environmental and social concerns, especially any possible negative impacts. These also guide the inclusion of traditional knowledge, innovations and practices as part of the impact-assessment processes, promoting the use of appropriate technologies. (The name comes from a Mohawk term meaning 'everything in creation': the practical title is: 'Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely

to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities'.)

The Tkarihwaié:ri: In Mohawk, this means 'the proper way'. The 2010 guidelines direct the models of code for ethical conduct for research, access to use, exchange and management of traditional knowledge (SCBD, 2011). (The practical name is: 'The Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity'.)

The Mo'otz Kuxtal: Adopted in 2018, this means 'roots of life' in Mayan language. (The working title: 'Voluntary Guidelines for the development of mechanisms, legislation or other appropriate initiatives to ensure the "prior and informed consent", "free, prior and informed consent" or "approval and involvement", depending on national circumstances, of indigenous peoples and local communities for accessing their knowledge, innovations and practices, for fair and equitable sharing of benefits arising from the use of their knowledge, innovations and practices relevant for the conservation and sustainable use of biological diversity, and for reporting and preventing unlawful appropriation of traditional knowledge'.)[15]

The Rutzolijirisaxik: These 2018 guidelines get their name from the Kaqchikel Mayan word meaning 'returning to one's place of origin'. They facilitate the recovery of traditional knowledge relevant for the

conservation and sustainable use of biological diversity to the original knowledge holders. Where applicable, they facilitate the equitable sharing of benefits arising from the use of traditional knowledge, in particular through mutually agreed terms (SCBD, 2018e). (Working title: 'Voluntary Guidelines for the Repatriation of Traditional Knowledge Relevant for the Conservation and Sustainable Use of Biological Diversity'.)

The Global Plan of Action on Customary Sustainable Use of Biological Diversity: Adopted in 2016.

Governments seek the active involvement of IPLCs, to apply their knowledge and technologies in the conservation and sustainable use of forests, agro-biodiversity, inland waters, coastal and marine ecosystems, rangelands and eco-tourism.

SDGs and traditional knowledge

SDG 2 mentions traditional knowledge. While the SDGs link traditional knowledge with food security, this is often not the case in the CBD framework.

The Indigenous Navigator is a participatory monitoring tool; it enables indigenous peoples to generate data on trends in recognition of their rights in development, to analyse their situation, and to develop

strategies to address their concerns. It also allows them to track the implementation of international policy instruments, including the SDGs, equipping them to hold states accountable and to engage confidently with key stakeholders and demand policy change. To date, the experiences of indigenous communities from 11 countries have been collated through the Indigenous Navigator[16].

Sustainable Development Goal 2: 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture'.

2.5: "By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed."

Post-2020 framework

The current draft, circulated in August 2020, links traditional knowledge with benefit sharing. Its implementation mechanisms call for a greater need to protect the knowledge.

Draft Post-2020 framework

Target 12: "By 2030, increase by [X] benefits shared for the conservation and sustainable use of biodiversity through ensuring access to and the fair and equitable sharing of benefits arising from utilization of genetic resources and associated traditional knowledge."

Target 19: "By 2030, ensure that quality information, including traditional knowledge, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research."

The implementation support mechanisms call for: "Knowledge generation, management and sharing for effective biodiversity planning, policy development, decision-making, implementation and transparency and responsibility including: (i) Greater protection of traditional knowledge and recognition of its contributions to the conservation and sustainable use of biodiversity".

The joint efforts between various international processes need to be intensified and broadened, especially between CBD and UNESCO, and the recently established UNFCCC local communities and indigenous peoples platform. The IPLCs' capacity building will help the implementation of the Nagoya Protocol. A new and fully integrated programme of work on Article 8(j) and related provisions is also needed within the post-2020 framework.

Relevance to SSF communities

SSF Guidelines

The objectives of the SSF Guidelines mention: "...to enhance public awareness and promote the advancement of knowledge on the culture, role, contribution and potential of small-scale fisheries, considering ancestral and traditional knowledge, and their related constraints and opportunities.

The guiding principles to the SSF Guidelines say: "Respect of cultures: recognizing and respecting existing forms of organization, traditional and local knowledge and practices of small-scale fishing communities, including indigenous peoples and ethnic minorities encouraging women leadership and taking into account Art. 5 of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)."

11.4: "All parties should recognize small-scale fishing communities as holders, providers and receivers of knowledge. It is particularly important to understand the need for access to appropriate information by small-scale fishing communities and their organizations in order to help them cope with existing problems and empower them to improve their livelihoods. These information requirements depend on current issues facing communities and concern the biological, legal, economic, social and cultural aspects of fisheries and livelihoods."

11.6: "All parties should ensure that the knowledge, culture, traditions and practices of small-scale fishing communities, including indigenous peoples, are recognized and, as appropriate, supported, and that they inform responsible local governance and sustainable development processes. The specific knowledge of women fishers and fish workers must be recognized and supported. States should investigate and document traditional fisheries knowledge and technologies in order to assess their application to sustainable fisheries conservation, management and development."

11.7: "States and other relevant parties should provide support to small-scale fishing communities, in particular to indigenous peoples, women and those that rely on fishing for subsistence, including, as appropriate, the technical and financial assistance to organize, maintain, exchange and improve traditional knowledge of aquatic living resources and fishing techniques, and upgrade knowledge on aquatic ecosystems."

SSF communities: what they need

- Ensure that parties recognize both, local and traditional knowledge, so that during legal processes, local fishing communities' knowledge is also taken into account, not just that of indigenous peoples.
- Ensure full and effective participation of the IPLCs in all processes, including traditional knowledge with free, prior informed consent of the holders of such knowledge, especially in decision-making and policy planning.
- Ensure that traditional knowledge is respected, preserved and maintained for both conservation and sustainable use.
- Encourage the equitable sharing of the benefits arising from the utilization of traditional knowledge, with the Nagoya Protocol now in place.

Recognition of traditional knowledge

A study among fishing communities of Central America shows that traditional knowledge has been used to improve marine spatial planning, frame new policies based on the human rights approaches to fisheries, and to develop better governance tools for community-managed protected areas. In Costa Rica, traditional knowledge was used in the mapping of the sites used for fishing, leading to the design of Responsible Fishing Area for Tarcoles.

In the wildlife refuge of Cuero y Salado in **Honduras**, fishing communities have used their knowledge, along with the scientific information, to develop participatory management options for the protected areas.

In **Nicaragua**, the Miskitu indigenous people have maintained the practices of ancestral use of this resource, especially in the Cayos Miskitus Biological Reserve. Here, important management efforts for sustainable use have been developed since 2005 in collaboration with the Ministry of Environment and Natural Resources (FPP, 2020).

In **Indonesia's** Aceh Province, the four-centuries-old fisheries system of *Panglima Laot* (Sea Commander) is now legally recognized and adapted in formal fisheries management system. *Sasi Laot* is another traditional resource management system for corals, ornamental fish, reef fish and shellfish.

More than 40 different cultural groups of people exist in the Arctic region, including the Sami people of Finland, Sweden, Norway and Northwest Russia; and the Inuit in Russia, Alaska, Canada and Greenland. They account for about 10 per cent of the total population. They have sound knowledge and relationship with their lands that is, in the case of the Bering Strait, recognized by the formal fisheries management system.

The Skolt Sami of **Finland** have developed adaptive measures to preserve Atlantic Salmon numbers in response to rising water temperatures and reduced catch rates. They harvest alternate species such as pike (Quinn, 2019).

In **Malaysia**, the indigenous communities of Sabah have followed principles of sustainability and inter-relationship of all things. They have developed systems to manage freshwater river resources (Halim et al, 2012).

In the Budj Bim Landscapes in southeast **Australia**, the Gunditjmara communities have managed the declining, culturally significant *kooyang* (short-fin eel) for years (Smith et al, 2019).

In **New Zealand**, Maori knowledge systems have helped in historical translocations of culturally significant species including eel, freshwater mussels, *kauri* snail species, and *toheroa* clam species, adding information to studies and conservation translocations (Rayne et al, 2020).

Chapter 7

Human rights and the environment

Human rights include the right to live in a healthy, safe, clean and sustainable environment. The Rio Principles state that "Human beings are the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.". Taking into account the various human rights treaties, we get a human rights framework that's integrated into the environmental and sustainable development frameworks. About 155 countries have legally recognized the right to a healthy and sustainable environment (Ituarte-Lima, 2018).

This includes halting the expansion of unsustainable and inequitable models of economic growth, including large infrastructure projects, which harm both biodiversity and human rights. The Post-2020 framework draft clearly recognizes this. It states that "biodiversity, and the benefits it provides, is fundamental to human well-being and a healthy planet". The human rights approach to biodiversity conservation is inclusive, it does not discriminate on gender, race, age or religion (SCBD, 2020). Studies have shown that the right to a healthy environment leads to better implementation of regulations, to better environmental conditions, to stronger protection for species and habitat.

The 2017 report of the UN Special Rapporteur on Human Rights emphasizes the importance of the human rights obligations to biodiversity conservation and sustainable use. It highlights the role of ecosystem services and biodiversity for the full enjoyment of human rights; any degradation and/or loss of biodiversity undermines human rights. Biological diversity is also linked with food security, including through species richness in the case of freshwater fisheries (UN, 2017).

The integration of human rights into biodiversity frameworks depends on making environmental information public and facilitating public participation in the decision-making process, provided the public's rights to expression and association are protected. The failure to protect environmental human rights defenders is an outstanding problem, especially those who find the negative impacts of developmental projects.

Indigenous peoples constitute only five per cent of the world's population, but their territories encompass about 22 per cent of the world's land area; it hosts 80 per cent of the planet's biodiversity (FAO, undated). Human rights bodies have constantly brought attention to the forced displacement of IPLCs for biodiversity conservation. All too often, protected areas result in their marginalization, poverty, loss of livelihoods, food insecurity and their killings. Human rights include the right of territory for those who have long standing traditional relationships with their lands.

The Special Rapporteur calls for mainstreaming obligations of conservation and sustainable use into broader development policies and measures. This is a part of the 'Theory of Change' in the post-2020 draft document of August 2020. It seeks a transformation in the approach to biodiversity conservation and human rights. Adopted in 2016, the 'Cancun Declaration on Mainstreaming the Conservation and Sustainable Use of Biodiversity for Well-being' is a commitment from the states to work at all levels to mainstream biodiversity by establishing effective institutional, legislative and regulatory frameworks incorporating full respect for nature and human rights.

The CBD's preamble says: "...conservation of biological diversity is a common concern of mankind", "aware that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing population...", "…contribute to peace for humankind" (UN, 2017).

The Rationale for the Strategic Plan of Action 2011-2020 says ecosystem services are essential for human beings for food security, health, clean air and water, local livelihoods, and economic development; it is essential for the achievement of the Millennium Development Goals, including poverty reduction.

While there are links between human rights and biodiversity conservation, these are not explicitly stated in the national biodiversity action plan, or translated into actions such as equal participation for all, or into developing equitable benefit sharing mechanisms. Implementation of these linkages between human rights and biodiversity conservation is often neglected.

The preamble and vision of the 2030 Agenda for Sustainable Development says its goals are meant to realize human rights of all and to achieve gender equality. That all human beings can fulfil their potential in dignity and equality, and in a healthy environment. It calls for economic, social and technological progress that occurs in harmony with nature.

The human rights framework of SSF Guidelines

The SSF Guidelines support responsible fisheries and sustainable social and economic development, with an emphasis on small-scale fishers, fish workers and other vulnerable people. These are entirely based on a human rights-based approach.

1.2: "These objectives should be achieved through the promotion of a human rights-based approach, by empowering small-scale fishing communities, including both men and women, to participate in decision-making processes, and to assume responsibilities for sustainable use of fishery resources, and placing emphasis on the needs of developing countries and for the benefit of vulnerable and marginalized groups."

3.1: "These Guidelines are based on international human rights standards, responsible fisheries standards and practices and sustainable development according to the United Nations Conference on Sustainable Development (Rio+20) outcome document 'The future we want', the Code and other relevant instruments, paying particular attention to vulnerable and marginalized groups and the need to support the progressive realization of the right to adequate food."

Human rights and dignity: "...recognizing the inherent dignity and the equal and inalienable human rights of all individuals, all parties should recognize, respect, promote and protect the human rights principles and their applicability to communities dependent on small-scale fisheries, as stipulated by international human rights standards: universality and inalienability; indivisibility; interdependence and interrelatedness; non-discrimination and equality; participation and inclusion; accountability and the rule of law. States should respect and protect the rights of defenders of human rights in their work on small-scale fisheries."

"All non-state actors including business enterprises related to or affecting small-scale fisheries have a responsibility to respect human rights. States should regulate the scope of activities in relation to small-scale fisheries of non-state actors to ensure their compliance with international human rights standards."

Equity and equality: "...promoting justice and fair treatment–both legally and in practice–of all people and peoples, including equal rights to the enjoyment of all human rights. At the same time, differences between women and men should be acknowledged and specific measures taken to accelerate de facto equality, i.e. using preferential treatment where required to achieve equitable outcomes, particularly for vulnerable and marginalized groups."

Advocacy agenda for small-scale fishing communities

- Ensure that aquatic and marine biodiversity conservation and sustainable use measures are integrated with a human rights framework, recognizing equity and equality. That they take into account food security, livelihoods, health and safety.
- Ensure the participatory rights and decision-making rights, including other procedural rights, are protected, in all biodiversity legal frameworks.
- Recognize and involve traditional governance systems/institutions for effective sustainable use and conservation.
- Develop coordination frameworks between national commissions for human rights and national ministries in charge of environment, fisheries and the oceans.

Chapter 8

Gender and fisheries

Gender is a collection of several elements: socially-constructed expectations of characteristics, aptitudes, behaviours and power relations associated with being a women or man. It affects the use and sustainable management of biodiversity. Gender roles differ by race, ethnicity, class, caste, religion, age and economic considerations. When it comes to use and management of biodiversity, the decision-making power of women and men are different, as are their priorities, knowledge and labour responsibilities.

Women in several parts of Asia and Africa often develop knowledge of aquatic and marine ecosystems. They manage post-harvest activities and the harvest of sedentary or near-shore species like seaweed. Their knowledge of the uses and management of these species is different. In most circumstances, however, men dominate decision-making processes. Women are more vulnerable to biodiversity loss, climate change and natural disasters; naturally, any benefit sharing mechanisms for biodiversity use affects them more. This owes to the unequal access and control over resources.

FAO estimates that 59.51 million people are engaged in the primary sector of capture fisheries and aquaculture. Women account for 14 per cent of the total; 19 per cent in aquaculture and 12 per cent in capture fisheries. Half the workers in post-harvest operations are women. Fish value chains run through the active involvement of women, providing labour in both commercial and artisanal fisheries. It is not just numbers either; greater attention is required to understand their roles and responsibilities, their access and control over resources and assets, their power to make decisions, their decision-making process and access to leadership. Gender perceptions are deeply rooted and are different within and between cultures (FAO, 2020).

Men are predominant in African fisheries, with women essentially—though not exclusively—more active in downstream operations like post-harvest handling, selling fresh fish, processing, storage, packaging and marketing. These women make up 58 per cent of the actors in the post-harvest activities of the seafood value chain.

For generations, women were responsible for feeding their families in small-scale fishing (SSF) communities. Food security and livelihood are deeply linked to biodiversity. Women in traditional fishing communities possess vital traditional knowledge and technical expertise on how natural resources may be sustainably managed. But biodiversity policies continue to be framed without heeding to the working conditions and vast store of information women of SSF communities have on marine and coastal biodiversity.

Gender in the Convention

The CBD's preamble recognizes the "...vital role of women in the conservation and sustainable use of biological diversity and affirming the need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation".

The cost of neglect

Disregarding gender often tends to aggravate poverty and harm conservation (UNE, 2017). An example from the Pacific islands illustrates this, in which women—active in agriculture—were not involved in the coastal resource management. Agricultural activities had an adverse impact on the coastal resources, especially on the reefs (through sedimentation). For conservation to be effective, it is critical to empower women and other vulnerable groups to participate as equals.

Gender equality is a matter of fundamental human rights and social justice—and crucial for sustainable development. There must be greater appreciation of the linkages between gender equality, poverty alleviation, human well-being and biodiversity conservation.

Gender: front and centre

The UN Economic and Social Council (ECOSOC) defined the concept of gender mainstreaming in 1997. "Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in any area and at all levels. It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal of mainstreaming is to achieve gender equality."

The CBD process

The COP adopted a Gender Plan of Action in 2008. It defines the role of the CBD secretariat to stimulate and facilitate efforts to overcome constraints and take advantage of opportunities to promote gender equality. This was the first time the CBD framework made gender issues a prerequisite for environmental conservation and sustainable development. (Gender mainstreaming had been discussed in international legal frameworks earlier, including in Agenda 21.) The lack of disaggregated data on gender is a big lacunae in all fields. Fisheries is no exception, despite the recognition, monitoring and development of indicators on gender.

The 2008 plan was revised and updated in 2014, dwelling on the role of gender issues in accomplishing the Aichi Biodiversity Targets and the Strategic Plan for Biodiversity 2011-2020. This requires all countries undertake specific actions to integrate gender issues in the implementation of the convention and in the national biodiversity strategies and action plans—and report back on it, too. It lists possible actions for member nations; it includes reviewing existing policies, identifying the gender differences in, say, policies related to tenure and use rights, local governance and decision-making. It also calls for the inclusion of biodiversity concerns into national gender policies and action plans.

Post 2020 framework

The 'theory of change' in the draft post-2020 framework acknowledges the need for appropriate recognition of gender equality, gender-responsive approaches and the full and effective participation of indigenous peoples and local communities. It lists enabling conditions for the attainment of the societal objectives. This includes: gender equality, gender-responsive approaches and empowerment of women and girls.

Target 20 gets specific: "By 2030, ensure equitable participation in decision-making related to biodiversity and ensure rights over relevant resources of indigenous peoples and local communities, women and girls as well as youth, in accordance with national circumstances." Even so, the post-2020 framework does not adequately address the concerns on gender inequalities and equity.

The Gender Plan of Action is also being revised, based on reviews and consultations; a draft outline of the new gender plan of action for the post 2020 period has been circulated for consultation and comments.

Sustainable Development Goals

1.b: "Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions"
2.2: "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons"
2.3: "By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment"

Goal 5: 'Achieve gender equality and empower all women and girls'
5.5: "Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life"
5.a: "Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws"
5.b: "Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women"
5.c: "Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels"

SDG 5 is very relevant to the empowerment of women in fishing communities. In many poorer communities that depend on fisheries and aquaculture, improving conditions and equality along the value chain has wide-ranging benefits for society as a whole.

Relevance to small-scale fishing communities

SSF Guidelines

The Guiding Principles state: "Gender equality and equity is fundamental to any development. Recognizing the vital role of women in small-scale fisheries, equal rights and opportunities should be promoted."

8.1: "All parties should recognize that achieving gender equality requires concerted efforts by all and that gender mainstreaming should be an integral part of all small-scale fisheries development strategies. These strategies to achieve gender equality require different approaches in different cultural contexts and should challenge practices that are discriminatory against women."

The Gender section of the SSF Guidelines addresses issues related to tenure, women's participation in decision-making processes and access to technology.

Agenda for action:

- Ensure that disaggregated data on gender is collected at all levels and on all issues, especially on tenure.

- Ensure policies and plans for conservation and sustainable use of biological diversity are gender friendly and offer equal space for participation of women.
- Ensure that women's traditional knowledge is taken into account, including their practices and uses of resources. Both women and men must get equal importance when developing benefit-sharing mechanisms.
- Promote equal opportunities and rights for women in all aspects related to aquatic and marine biodiversity.

There is increasing recognition for gender issues within the fisheries management frameworks. Still, information on gender issues in aquatic and coastal ecosystems is poor in terms of quality and quantity. Biodiversity frameworks must acknowledge and address these issues.

Women fishworkers and their knowhow

India: Women seaweed collectors in the Gulf of Mannar National Park in India's state of Tamil Nadu organized themselves into a small union to help their work[17]. The park management authorities neglected their presence inside the park and traditional dependence on seaweed. This adversely affected the women's livelihood for a number of years. Yet the women, acknowledging the need to practice sustainable use, developed a set of rules among themselves, including the number of days to harvest seaweed, areas to harvest and the method to follow. After many years of

struggle, their contribution was recognized in 2014, when efforts began to legalize their work. However, this is yet to be completed.

South America: In countries like Ecuador, Mexico and Nicaragua, women collect shellfish from mangroves; this is a substantial source of livelihood (Yepez, 2009). Obviously, it is they who suffer the adversities from destructive development activities, like reclamation. The result is the loss of livelihood for a number of families. Policy decisions do not even consider their plight.

Philippines: In the Philippine island of Calawit, part of the Calamianes group in the Western Palawan province, 15 women from the indigenous (and traditionally male-led) Tagbanwa group were given more than 130 hectares of ancestral waters to harvest a clam called the windowpane oyster. The Tagbanwa elders and the tribe's executive committee signed off on the resolution; it was a part of the Ancestral Domains Sustainable Development and Protection Plan. The women now manage and control the area in terms of managing the harvest. This is also in line with the Philippines Magna Carta for Women, adopted in 2009, calling for empowerment of women, including equal rights, protection and opportunities available to every member of the society (Chan, 2020). In another part of the Philippines, women's informal roles are not recognized; they are not part of any formal fisher organizations that channel finances, leading to greater gender inequalities (SCBD, 2020b).

Madagascar: In the small village of Kobalava, in Madagascar's northeast, places where women traditionally fished on foot are now part of an MPA. Fishing is disallowed in these areas, except in certain zones around the islands. Fishing on foot, diving, trapping and the use of small-meshed nets are banned in shallow waters close to the islands. It is a similar story in many parts of Madagascar. Conservation organizations have redefined the role of these fisherwomen with alternative land-based livelihoods. They are not included in the village-based marine resource management associations, even though they were traditionally allowed to participate in village meetings (Merrill, 2016). So women tend to fish illegally at night, facing safety risks.

Chapter 9

Post-2020 Global Biodiversity Framework

The Aichi targets, adopted in 2010, are due for a complete revision. A Post-2020 Global Biodiversity Framework was to be adopted in 2020, a stepping stone towards the 2050 vision of 'Living in harmony with nature'. COP 14 adopted a comprehensive and participatory process for the preparation of the post-2020 global framework.

It includes an open-ended inter-sessional working group (OEWG), with two chairs to negotiate the framework. There have been comprehensive consultations, including global, regional and thematic consultation meetings. There have been two meetings of the OEWG. Then there were regional consultations for Asia-Pacific, Africa, Western Europe, Central and Eastern Europe, and Latin America and Caribbean.

There were two consultation workshops of biodiversity-related conventions—Bern I and Bern II. Other thematic consultations were held on access and benefit sharing, biosafety, ecosystem restoration, marine and coastal issues, area-based conservation, resource mobilization, monitoring reporting and review, capacity building and sustainable use. This process was gender-responsive process, developing a new gender plan of action for the post-2020 period.

A draft of the post-2020 Global Biodiversity Framework is in circulation. It is based on the theory that transformative action is taken to place tools and solutions for implementation and mainstreaming, reducing the threats to biodiversity and ensuring that biodiversity is used sustainably. These would require certain enabling conditions and adequate means, including finances, capacity and technology.

The theory of change acknowledges the need for appropriate recognition of gender equality, women's empowerment, youth, gender-responsive approaches and full and effective participation of indigenous peoples and local communities in the implementation of the framework, especially in partnership with other organizations, based on the human rights-based approach.

The draft theory of change is backed by a vision, 2050 Goals, 2030 Mission, 2030 Milestones, 2030 action targets, enabling conditions, responsibility and transparency, and outreach awareness and uptake.

The proposed indicators and monitoring approach for the framework has headline indicators, component indicators and complementary indicators. One of the targets is to ensure benefits—including nutrition, food security, livelihoods, health and well-being—for people, especially for the most vulnerable, through sustainable management of wild species of fauna and flora by 2030 (Target 8); this includes fisheries.

The headline indicators for this include the percentage of the population in traditional employment as well as number of people using wild resources for energy, food or culture (including fishing). The components of the goals and targets include sustainable management of aquatic wild species of fauna and flora (again, including fisheries). The component indicator talks about average income of small-scale food producers. These are the only indicators considering food and nutrition as also income (SCBD, 2020c).

These indicators must be in line with the SDGs, especially SDG 14.b. The role of small-scale producers in sustainable food systems—even during the current crisis—must get its due recognition. This indicator is directly

linked to the SSF Guidelines. Its poor implementation suggests only half of the countries in the world have adopted specific initiatives to implement the SSF Guidelines. It is often put down to a lack of financial resources and organization among small-scale fishers and fishworkers.

The draft framework links SDG indicators with other targets.

In the draft Post-2020 Global Biodiversity Framework, the targets and goals have been linked to specific SDG goals and targets. The table below shows some of the important targets and indicators relevant to SSF communities (SCBD, 2020d):

Targets	Component Indicators	Complimentary Indicators
Target 1: By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them.	1.1.1. Number of countries using ecosystem-based approaches to managing marine areas (SDG indicator 14.2.1)	1.1.1.3. Habitat patches located within marine protected areas or integrated coastal zone management (ICZM) 1.1.1.4. Other spatial management plans (not captured as ICZM or marine spatial planning in SDG 14.2.1) 1.1.1.5. Number of countries using ocean accounts in planning processes
Target 2. By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30 per cent of the planet with the focus on areas particularly important for biodiversity.	2.1.6. Area of Protected areas and other effective area-based conservation measures meeting their documented ecological objectives (Protected areas effectiveness) 2.1.7. Area of protected areas and other effective area-based conservation measures in each of the four governance types	2.1.1.9. Number of protected areas that have completed a site-level assessment of governance and equity (SAGE) 2.1.1.14 Extent of indigenous peoples and local communities' lands that have some form of recognition

Targets	Component Indicators	Complimentary Indicators
Target 4. By 2030, ensure that the harvesting, trade and use of wild species of fauna and flora is legal, at sustainable levels and safe.	4.1.2. Proportion of fish stocks within biologically sustainable levels (T4.0.2) by fish type	4.1.1.1. Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing (SDG indicator 14.6.1). 4.1.1.2. Sustainable watershed and inland fisheries index 4.1.1.4. Marine Stewardship Council Fish catch
Target 6. By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human heal	6.1.5. Plastic debris density by location (beach litter, floating debris, debris in the sea column, debris on the sea floor) 6.1.6. Ingested plastic and entanglement	
Target 8. By 2030, ensure benefits, including nutrition, food security, livelihoods, health and well-being, for people, especially for the most vulnerable through sustainable management of wild species of fauna and flora	8.1.1. Average income of small-scale food producers, by sex and indigenous status (SDG indicator 2.3.2)	8.1.1.1. Proportion of fish stocks within biologically sustainable levels (SDG indicator 14.4.1) 8.1.1.2. Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing (SDG indicator 14.6.1)

Targets	Component Indicators	Complimentary Indicators
Target 12. By 2030, increase by [X] benefits shared for the conservation and sustainable use of biodiversity through ensuring access to and the fair and equitable sharing of benefits arising from utilization of genetic resources and associated traditional knowledge	12.0.1 Numbers of users that have shared benefits from the utilization of genetic resources and/or traditional knowledge associated with genetic with the providers of the resources and/or knowledge 12.0.2 Number of access and benefit-sharing permits or their equivalent granted for genetic resources (including those related to traditional knowledge) 12.0.3 Extent to which legislative, administrative or policy frameworks to ensure fair and equitable sharing of benefits have been adopted*	
Target 14. By 2030, achieve reduction of at least [50%] in negative impacts on biodiversity by ensuring production practices and supply chains are sustainable	14.0.1 Potential population and species loss from terrestrial and marine human modification*	

Targets	Indicators
Target 20. "By 2030, ensure equitable participation in decision-making related to biodiversity and ensure rights over relevant resources of indigenous peoples and local communities, women and girls as well as youth, in accordance with national circumstances." The headline indicators under this mention only the following:	20.0.1: Land tenure in the traditional territories of indigenous peoples and local communities 20.0.2: Population with secure tenure rights to land 20.0.3: Extent to which indigenous peoples and local communities, women and girls as well as youth participate in taking decisions related to biodiversity.

Currently, the indicators talk only about the rights to land, however, it is important to also include IPLCs' tenure and access rights to traditional fishing areas in line with the SSF Guidelines. It is equally important to ensure that traditional knowledge of IPLCs is used only with their free, prior informed consent, where they are seen as equal partners in biodiversity conservation and management, and not just as providers of information. Draft target 2 calls for declaring at least 30 per cent of the planet, including in aquatic ecosystems, as protected areas. Since 2010, local communities have been highlighting the need to move away from the quantitative approach to declaring protected areas, and the need to have qualitative targets, taking into account the rights of indigenous peoples and local communities, including women and youth. The current draft targets reverse some progressive elements of the Aichi targets.

Overall, most targets and indicators have a terrestrial orientation. SSF communities must lobby for their rights to also be included, especially from an aquatic, coastal and marine ecosystem perspective. The targets and the indicators should recognize the role of small-scale fishing communities and indigenous peoples to restore, conserve, protect and co-manage local aquatic and coastal ecosystems, and their contributions to food security and livelihoods.

As we move towards 2022, declared the International Year of Artisanal Fisheries and Aquaculture, it is imperative that the Post-2020 Global Biodiversity Framework is linked to the SDGs, especially those that take into account the concerns of small-scale fishers and fishworkers.

Notes

1. Governments that have signed and ratified the Convention

2. Refer to 'The Concept of Indigenous Peoples,' by the Secretariat of the Permanent Forum on Indigenous Issues, Department of Economic and Social Affairs, United Nations. (Document No.PFII/2004WS.1/3/Add.1.) An understanding of the concept of "indigenous and tribal peoples" is contained in article 1 of the Convention concerning Indigenous and Tribal Peoples in Independent Countries, No. 169, adopted by the International Labour Organization in 1989.

3. The national focal point for each country is available along with country profiles at the CBD website. https://www.cbd.int/countries/

4. Every two years, UNEP-WCMC releases the Protected Planet Report on the status of the world's protected areas and recommendations on how to meet international goals and targets. The database also collects information on the world's marine protected areas (MPA). See: https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas

5. Ecologically and biologically significant areas are geographically or oceanographically discrete areas that provide important services to one or more species/populations of an ecosystem or to the ecosystem as a whole, compared to other surrounding areas or areas of similar ecological characteristics, or otherwise meet the criteria as identified in annex I to decision IX/20.

6. The Wildlife Conservation Society (WCS) works in Arctic Beringia, Argentina, Bangladesh, Fiji, Gabon, Honduras, India, Indonesia, Myanmar, Malaysia, Nicaragua, Tanzania, amongst others. See: https://mpafund.wcs.org/Overview

7. The IOC-UNESCO's MSPglobal, a joint initiative of IOC/UNESCO and DG MARE of the European Union, was founded following the 2nd International Conference on MSP in 2017. (The first conference was in 2006.) This initiative continues to contribute towards improving transboundary cooperation where MSP already exists and promoting MSP processes in areas where it is yet to be implemented. See: http://msp.ioc-unesco.org/about/marine-spatial-planning/

8. See the IOC-UNESCO's MSPglobal initiative: http://msp.ioc-unesco.org/about/marine-spatial-planning/

9. The management of dredging material waste, is also included in the 1972 London Convention.

10. This, from Piraeus, Greece, is one of many examples around the world of local fishing communities collecting plastic from the sea, allowing fish stocks and ecosystems to recover. See: https://www.ekathimerini.com/260307/article/ekathimerini/community/fifth-generation-piraeus-fisherman-named-europes-young-champion-of-the-earth

11. Inland waters was adopted as a CBD thematic area at the fourth meeting (1998) of the Conference of the Parties (COP) in Bratislava, Slovakia. See: https://www.cbd.int/waters/background/

12. Access and benefit-sharing policies can include issues of biotrade, genetic heritage, genetic and digital sequence information, biochemicals, derivatives and derived products, and knowledge, innovations and practices associated with genetic resources, including traditional knowledge. See: https://www.voices4biojustice.org/wp-content/uploads/2017/12/ABS-Scope-Policy-Brief-1.pdf

13. See Chapter 6 of the SSF Guidelines (6.4): Conservation and management decisions for fisheries should be based on the best scientific evidence available, also taking into account traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors. States should assign priority to undertake research and data collection in order to improve scientific and technical knowledge of fisheries including their interaction with the ecosystem. In recognizing the transboundary nature of many aquatic ecosystems, States should encourage bilateral and multilateral cooperation in research, as appropriate.

14. See Chapter 12 of SSF Guidelines (12.12): States should investigate and document traditional fisheries knowledge and technologies, in particular those applied to small-scale fisheries, in order to assess their application to sustainable fisheries conservation, management and development.

15. See the decision of the thirteenth meeting (2016) of the COP and related notifications and documents regarding the Programme of Work of the CBD on Article 8(j): https://www.cbd.int/decisions/cop/13/18/6

16. The Indigenous Navigator is a tool for assessing the realisation of the rights of indigenous peoples. See: https://indigenousnavigator.org/

17. The seaweed collectors in the Gulf of Mannar Marine National Park off the south Indian state of Tamil Nadu have been struggling for their livelihoods since their activities were greatly curtailed by the declaration of a marine national park in 1986. See: https://www.icsf.net/en/cds-videos/EN/article/20-women-seaweed-c.html?limitstart=0

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Further reading

Introduction to the CBD

CBD Handbook: https://www.cbd.int/convention/refrhandbook.shtml

CBD in a Nutshell by Global Youth Biodiversity Network: https://www.cbd.int/youth/doc/cbd_in_a_nutshell.pdf

CBD Basics Video: https://www.youtube.com/watch?v=ItTXQNMfb-c

CBD for NGOs: https://www.cbd.int/ngo/

CBD Alliance: http://www.cbd-alliance.org/en/mission-and-vision

International Indigenous Forum for Biodiversity (IIFB): https://iifb-fiib.org/

Forest Peoples Programme: https://www.forestpeoples.org/en/resources?Publications%5B0%5D=language%3Aen

Marine and coastal protected areas

Locally Managed Marine Areas: https://lmmanetwork.org/

Governance of Protected Areas: https://youtu.be/CgpiJMuEN0U

Marine Protected Areas: Local and Traditional Fishing Community Perspectives: https://mpa.icsf.net/

Enabling Effective and Equitable Marine Protected Areas: https://wedocs.unep.org/bitstream/handle/20.500.11822/27790/1/MPA.pdf

Social impacts of marine protected areas in South Africa on coastal fishing communities: https://www.openchannels.org/literature/21874

Marine Spatial Planning

MSP in a nutshell: https://www.grida.no/resources/11413

Marine Spatial Planning: http://indigenousoceans.ca/en/marine-spatial-planning/

Marine Spatial Planning: A step by step approach: http://www.mspglobal2030.org/wp-content/uploads/2019/03/Marine-spatial-planning-a-step-by-step-approach.pdf

Marine debris, litter and pollution

Secretariat of the Convention on Biological Diversity and the Scientific and Technical Advisory Panel—GEF (2012). Impacts of Marine Debris on Biodiversity: Current Status and Potential Solutions, Montreal, Technical Series No. 67, 61 pages.
https://www.cbd.int/doc/publications/cbd-ts-67-en.pdf

Solid waste and litter management
https://www.unenvironment.org/cep/solid-waste-and-marine-litter-management

Inland aquatic biodiversity

Global freshwater biodiversity atlas
http://atlas.freshwaterbiodiversity.eu

Voice4biojustice
https://www.voices4biojustice.org/#:~:text=Voices%20for%20Biojustice%20focuses%20on,NTFPs)%2C%20and%20biodiversity%20conservation.

Benefit sharing in river basins
https://www.iucn.org/theme/water/our-work/current-projects/bridge/benefit-sharing

Inland waters
https://www.cbd.int/waters/inland-waters/
https://www.cbd.int/waters/case-studies.shtml

Traditional knowledge and resource management

Salt of Life: Traditional knowledge and wisdom of satoumi
https://www.youtube.com/watch?v=YcB81t1FHzg

Human rights and the environment

Ituarte-Lima, C., and Schultz, M., (eds.) 2018. Human right to a healthy environment for a thriving Earth: Handbook for weaving human rights, SDGs, and the post-2020 global biodiversity framework, SwedBio/ Stockholm Resilience Centre, International Development Law Organization, Office of the High Commission of Human Rights-Special Procedures, UN Environment and Natural Justice https://swed.bio/wp-content/uploads/2019/06/ FinalHandbookHumanRightsBiodiversityCILMSeds2019.pdf

Report of the Thematic Workshop on Human Rights as enabling condition in the post-2020 Global Biodiversity Framework 18 – 20 February 2020, Chiang Mai, Thailand https://www.cbd.int/post2020/doc/WS-HR-CBD-post2020-GBF-Report-en.pdf

Human Rights and Environment https://www.ohchr.org/EN/Issues/Environment/SREnvironment/ Pages/AboutHRandEnvironment.aspx#:~:text=A%20safe%2C%20 clean%2C%20healthy%20and,unable%20to%20fulfil%20our%20 aspirations. https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/ HealthyEcosystems.aspx

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Special Procedures for Communication, https://www.ohchr.org/EN/HRBodies/SP/Pages/Communications.aspx

Why do human rights matter to the Conservation on Biological Diversity https://swed.bio/videos/why-do-human-rights-matter-to-the-convention-on-biological-diversity-cbd/

Gender and biodiversity

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The Post-2020 Global Biodiversity Framework

International Year of Artisanal Fisheries and Aquaculture
http://www.fao.org/artisanal-fisheries-aquaculture-2022/en/

Post-2020 Global Biodiversity Framework
https://www.cbd.int/conferences/post2020

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