



Addressing Gender Issues and Actions in Biodiversity Objectives



Convention on
Biological Diversity

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I. INTRODUCTION

The biodiversity challenge: bringing everyone on board

According to the Chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), “We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide. ...it is not too late to make a difference, but only if we start now at every level from local to global.” The global assessment report on biodiversity and ecosystem services released by IPBES in 2019 indicates that we need to urgently deploy all available measures in order to build on successes and make a step change in the right direction. Strengthening implementation of the Convention on Biological Diversity (CBD), from international to local levels, can help us get there. In 2020, the global community is expected to agree to a new global biodiversity framework, building on the Strategic Plan for Biodiversity 2011-2020 and its 20 Aichi Biodiversity Targets.

Gender as a game-changer to accelerate progress towards achieving biodiversity objectives

The stakes are high, and it is therefore critical to ensure that both women and men have the opportunity to contribute to supporting biodiversity goals. In many parts of the world, specific daily roles for women and men mean that they have specialized knowledge in different areas of biodiversity, and also different priorities. This means both women and men have a lot to contribute to biodiversity and ecosystem management. But biodiversity policy and programming in many contexts still offer fewer opportunities to build on women’s specific roles and capacities compared to those of men. Gender-based differences in priorities are not always addressed, perhaps because of assumptions that men’s and women’s priorities are the same.

Dependence on their natural environments means that when biological resources are depleted, women and men can end up being vulnerable in different ways. Furthermore, women are often more vulnerable than men. This is partly because women’s roles can often be “invisible” compared to that of men and so policies, programmes and related initiatives may not fully take into account the differences in how women and men use and contribute to biological resources. Such “**gender gaps**” often (though not always) disadvantage women compared to men, also because of underlying socio-cultural norms that may hinder women’s equal access to natural resources and decision-making related to them. Biodiversity policy and programming are therefore also important entry points for **women’s empowerment**, where women are supported to overcome gender gaps and fulfil their potential – including to promote biodiversity goals.

Living in Harmony with Nature – from global to local action

National biodiversity strategies and action plans (NBSAPs) are a key instrument for Parties to translate global commitments into national targets and action. Integrating gender considerations in NBSAPs is a critical means of ensuring gender issues are addressed in implementation of the Convention at the national level, and in national efforts to achieve biodiversity goals and targets. Gender-responsive NBSAP implementation can help provide new insight and solutions to address biodiversity loss – and to help us move closer to the 2050 vision of “*Living in Harmony with Nature*” – wherein, “By 2050, biodiversity is valued, conserved, restored and widely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”

Box 1: Contributions of biodiversity to the achievement of SDG 5

Women play a vital role in managing biological resources, and are disproportionately affected by the loss of biodiversity and ecosystem services. Biodiversity loss and degraded ecosystems can perpetuate gender inequalities by increasing the time spent by women and children in performing certain tasks, such as collecting valuable resources including fuel, food and water, and reducing time for education and income generating activities.

Ensuring equal rights to land, inheritance and natural resources is an important measure in enabling women to promote sustainable agricultural and land management practices, especially as women become increasingly responsible in agriculture due to male emigration in many cases. Secure tenure rights can provide incentive and capacity to commit to conservation measures. With land title, women can have access to support services that would enhance their capacity to manage the land in a sustainable way that contributes to biodiversity conservation.

Source: Secretariat of the Convention on Biological Diversity. Undated. Biodiversity and the 2030 Agenda for Sustainable Development. Technical note.

Biodiversity and gender in the 2030 Agenda and Multilateral Environmental Agreements (MEAs)

At the national level, many governments face challenges in responding to multiple global commitments, which call for action on numerous fronts. The 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) is a universal framework that provides opportunities for coordination and synergies in the implementation of commitments under numerous multilateral instruments. Biodiversity and ecosystems feature prominently across many of the SDGs and associated targets and are at the centre of many economic activities, particularly those related to crop and livestock agriculture, forestry, and fisheries. Globally, nearly half of the human population is directly dependent on natural resources for its livelihood, and many of the most vulnerable people depend directly on biodiversity to fulfil their daily subsistence needs. Integrating gender dimensions, including building on the unique capacities and knowledge of women as well as men, can help countries to deliver on SDGs 14 and 15 for life under water and life on land.

Integrating gender dimensions into efforts to achieve biodiversity objectives also offers opportunities to contribute towards Sustainable Development Goal 5 to achieve gender equality and women's empowerment. Targets under SDG 5 address the need for women's full and effective participation and equal opportunities for leadership at all levels of decision-making, as well as the need for equitable access, ownership and control over land and natural resources – issues which have particular relevance for the implementation of the Convention.

Similarly, there are also synergies in integrating gender in work to implement the CBD and other multilateral environmental agreements (MEAs), in particular to address climate change and land degradation and desertification. Women's participation in climate / environmental decision-making processes, for example, is a common priority for the "Rio Conventions"¹.

Structure and Purpose of this Guide

Recognizing that the Aichi Biodiversity Targets address a broad range of issues critical for implementation of the Convention, and have been reflected in many countries' national targets and NBSAPs, the topics addressed in the Aichi Biodiversity Targets are put forward as the 'biodiversity objectives' addressed in this document. While new goals and targets for biodiversity are being defined by the global community, it is likely that many of the same themes will be reflected in the next set of global and national commitments.

This Guide aims to give biodiversity professionals working towards achieving different biodiversity objectives, goals and targets some concrete ideas for what they can do to step up progress. By applying a “**gender lens**” – or addressing gender-based differences, gaps and empowering women in particular to overcome these gender gaps and fulfil their potential through measures to achieve biodiversity objectives and implement NBSAPs – we can accelerate progress for biodiversity as well as gender equality. Key gender issue(s) and suggested actions together with examples are presented for a range of biodiversity objectives. A suggested overall checklist of actions is given below.

How to use this Guide

For each biodiversity objective, the guide sets out key gender issues that influence the achievement of the objective, and describes actions that can be taken to realize more sustainable and gender-responsive biodiversity outcomes. Examples are provided to illustrate the types of challenges faced and opportunities for positive results.

Biodiversity professionals may refer directly to the topics² that are most relevant to their work. The interlinkages between the various biodiversity objectives mean that it would be helpful to look at gender issues and actions related to multiple objectives in the document. The key point is that gender issues are interrelated, as are biodiversity objectives themselves.

Gender and biodiversity linkages

Considering gender issues in relation to biodiversity involves identifying the influence of gender roles and relations on the use, management and conservation of biodiversity. The roles of women and men in the management of biodiversity, and the rights and access of men and women (such as to land, biological resources, ecosystem services), vary between and within countries and cultures. However, in most circumstances, there are gender-based differences and inequalities (or gaps) which stem from cultural norms, and which tend to favour males.

Gender roles and responsibilities, as well as inequalities in rights and access, form the foundation on which other gender differences and inequalities related to biodiversity (knowledge, needs and priorities, risk and vulnerabilities, and decision-making power) emerge. While gender differences and inequalities influence the use and conservation of biological resources, changes in the availability and management of biodiversity may affect women and men in different ways, which can perpetuate or alleviate inequalities. Figure 1 presents some links between gender and biodiversity.

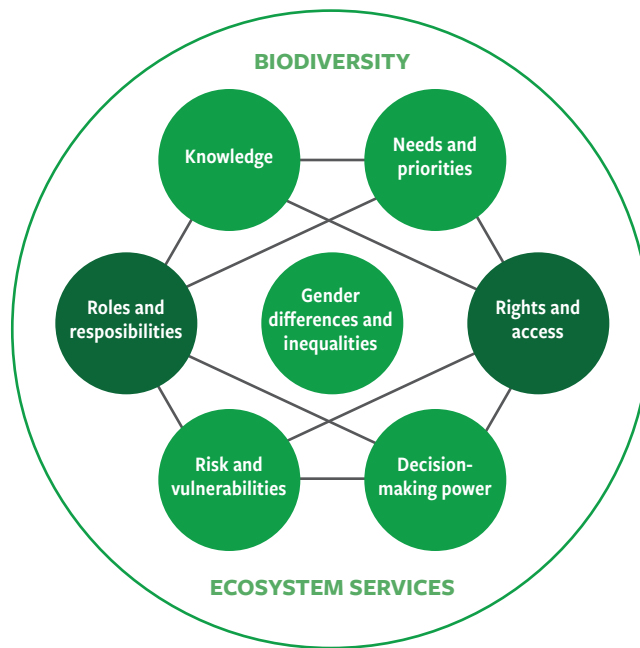


figure 1: Key links between gender and biodiversity

To summarize some issues highlighted by the above framework:

Different roles and responsibilities of women and men, or their “gender roles”, define what is considered appropriate for women and men to do within a society and therefore the nature of their relationship with biodiversity and ecosystems. Gender gap: the roles of women are often less visible than those of men.

Different knowledge of biodiversity and ecosystems is held by women and men as a result of their specific roles. Gender gap: women’s knowledge is often undervalued or overlooked, compared to that of men.

Needs and priorities with regard to biological resources and ecosystems services differ between women and men. Gender gap: women’s needs and priorities are often undervalued or overlooked, compared to those of men.

Inequalities in rights and access to natural and other resources between women and men, such as land and finance, are prevalent across many contexts. Gender gap: women are often disadvantaged compared to men.

Decision-making power with regard to biodiversity and ecosystem management is often concentrated amongst men. Gender gap: women’s capacities to contribute to biodiversity goals diminishes and their vulnerabilities increase if they have less voice.

Risks and vulnerabilities to the loss of biodiversity and ecosystems, or in regard to initiatives to combat this loss, are different for women and men as a result of their different roles, lack of access to natural and other resources and lack of voice in decision-making. Gender gap: in many contexts, women are more vulnerable than men.

The next section presents some practical implications for integrating gender dimensions into biodiversity and ecosystems policy and programming.

II. OVERVIEW OF BIODIVERSITY-GENDER OPPORTUNITIES TO SUPPORT THE ACHIEVEMENT OF OVERARCHING BIODIVERSITY OBJECTIVES

By identifying women's and men's different **capacities** (such as knowledge, including traditional knowledge) and **vulnerabilities** (such as food insecurity when biological resources disappear), it is possible to identify more sustainable pathways to achieve biodiversity objectives. Some key entry points are given below.



Some key implementation actions are relevant to all biodiversity objectives, and these have been condensed into the “checklist” below.

Box: Checklist for Addressing Gender Considerations in Biodiversity Objectives

- Carry out “**gender analysis**” based on sex-disaggregated data as well as qualitative research to clarify women’s and girl’s gender roles, priorities and knowledge in relation to those of men’s and boy’s and in the context of biodiversity, so that they move from being invisible and ignored to visible and valued.
- Include a “**gender action plan**” and/ or **integrate gender actions into the main results framework**. These actions should be based on gender analysis, with measurable outputs in line with the CBD Gender Plan of Action.
- Promote **equal access to natural resources**, including land and water, so as to incentivize women as well as men to manage these resources more sustainably.
- Ensure that women and men enjoy **equal participation and voice** in key institutions, decision-making processes, policies and programmes about biological resources, so that they can bring their expertise to bear and so that they may enjoy **equal benefits** from ecosystem services.
- Allocate gender **expertise and finance** to make gender-responsive biodiversity management a reality.

The following sections present entry points for integrating gender equality and women’s empowerment for a range of biodiversity objectives.

III. BIODIVERSITY-GENDER ENTRY POINTS BY BIODIVERSITY OBJECTIVE



UNEP Widen Collective

Addressing the underlying causes of biodiversity loss by mainstreaming biodiversity

AWARENESS OF BIODIVERSITY INCREASED

Issues

- **Biodiversity can mean different things to women and men because of their daily roles and social norms.** In rural areas, women often depend on harvesting biological resources as food, medicine and for small-scale livelihoods activities. For example, due to differences in use, women in Madre de Dios, Peru, like in many forest-neighbouring communities, tend to value fruits and other non-timber forest products more than men, while men attribute more value to timber species.³
- **Women and men may have different attitudes in relation to biodiversity.** For instance, a study of undergraduate students across 14 Latin American, North American and European countries found that female respondents had stronger environmental attitudes and behaviours than male respondents.⁴



Actions

- **Conduct sex-disaggregated assessments of awareness of biodiversity issues.** This is a fundamental reporting standard but can also help refine messages for women and men of different ages and backgrounds well beyond 2020.
- **Target women and men differently in sensitization campaigns and promote equal access to education.** Women and men may access information through different channels. In many rural communities, women do not participate as fully as men in public spaces and decision-making processes and may not be able to move far from home. They may also access different technologies, and have lower literacy levels than men. For instance, community radio may be more effective for reaching women in communities where women are less literate and spend most time near home, rather than cellphone messages or posters in public spaces, which may be more accessible by men. Failure to consider these factors can mean not reaching half a country's population. For instance, in Setiu Wetland, Malaysia, local women were found to be significantly less aware of marine turtle conservation efforts in the area than men, mainly because their domestic obligations prevented them from participating in awareness programs.⁵ Finally, it is also important to ensure that girls as well as boys are targeted in longer-term environmental education campaigns in schools and for biodiversity-related higher level studies (see biodiversity objective Sharing Information and Knowledge, p. 46).
- **Collaborate with ministries for gender and women's groups for outreach.** Outreach to women in particular may be easier through partnering with organizations that can connect with women's groups, so as to gain insights into gender-biodiversity issues and as potential implementation partners. For instance, in its Fifth National Report to the Convention, the role of the Ministry of the Promotion of Women and Gender Equality in Equatorial Guinea was highlighted in biodiversity-related awareness-raising campaigns during International Women's Day and African Women's Day in order to target women and women's groups.

Issues

- **Women’s “biodiversity values” are overlooked in national policy and programming.** Women and men may hold different values concerning biodiversity. For instance, in Spain, women attach more value to the regulating services of ecosystems, such as soil erosion control, while men value more their provisioning services, such as their contributions to livestock raising.⁶ Women’s limited participation in key decision-making processes and natural resource management, farming and political institutions, as well as a lack of gender analysis based on sex-disaggregated data, are also key factors for their being overlooked in biodiversity policy and programming. Women’s perspectives are overlooked in the formal processes that lead to the inclusion of biodiversity values in national and local strategies and planning processes. For example, a study in Canada found that women made up less than 20% of all Canadian forest sector advisory committees.⁷ This kind of gender imbalance means that men’s interests are more likely to dominate in forest planning. Moving on from processes to policies, a study showed that only 56% of national biodiversity strategies and action plans (NBSAPs) were found to contain gender keywords; many of these with limited references; this represents missed opportunities to integrate gender into biodiversity policy, with possible missed opportunities in programming.⁸

Actions

- **Identify gender differences in values attached to biodiversity.** Conduct sex-disaggregated assessments of the number and types of ecosystem services people associate with ecosystems to identify gender differences in biodiversity values.
- **Promote equal representation in key institutions.** Put measures in place to ensure that women and men from different socio-economic, ethnic, age and religious groups are equally represented and respected in relevant institutions, including at senior levels. These can include outreach to encourage more women to join, as well as eligibility criteria and meeting times/venues that do not inadvertently discriminate against either sex. Targets (different from quotas; quotas refer to a minimum proportion of participation) may catalyze more equal participation but should be supported by capacity development of both women (to build competences they may not have had equal opportunities to develop, such as public speaking) and men (why such measures are needed). Equally important are measures to promote an organizational culture that enables women and men to enjoy equal respect and voice.
- **Reach out to gender stakeholders during policy and programming.** As well as promoting equal representation in key institutions, it is important to ensure consultation with relevant stakeholders when policies and programmes are being developed. This includes connecting with gender and sector professionals as they develop gender and sectoral policies e.g. in land, water and agriculture. For example, Nepal and the Dominican Republic ensured gender balance in community and national stakeholder consultations in revising their NBSAPs.⁹
- **Promote equal rights to natural resources.** Ensure that biodiversity and other poverty alleviation and sectoral policies and programmes address gender gaps in access to natural resources. This is likely to incentivize better management and alignment with international commitments. In countries where NBSAPs do not integrate gender dimensions, sectoral and poverty alleviation strategies also



offer important opportunities to integrate gender into relevant policy. Objectives, actions and indicators should reflect different priorities and needs of women as well as men and make the most of opportunities to challenge gender stereotypes for benefits in biodiversity and across other areas such as climate change, nutrition and poverty alleviation. Collecting sex-disaggregated data on biodiversity use and management for planning and reporting on progress helps to track progress in equal rights.

- **Allocate adequate resources.** Introduce gender-responsive budgeting by allocating adequate and, if necessary, dedicated funds to implement gender-responsive actions, and ensure adequate gender expertise is available for policy and programming development.

INCENTIVES REFORMED

Issues

- **Efforts to remove negative subsidies/ implement positive incentives disproportionately impact women and undermine biodiversity gains.** This is because of underlying differences in daily roles, which are often less understood and documented (“invisible”) in the case of women. Unequal access to resources and capacity development such as from agricultural extension services, are also factors. In Ethiopia, farmers were found to be more likely to adopt soil conservation measures and plant trees if they

had legal rights to their land, and knowledge about these rights. Although most women and men benefited from land registration, a gender gap in knowledge negatively affected the adoption of sustainable farming techniques by women – with negative consequences for biodiversity.¹⁰ Similarly, the government of Uganda discovered that incentives to grow vanilla as a cash crop were not translating into more production, despite the provision of training and inputs. This was because men owned the crop and controlled the revenues, but women were providing most of the labour. Men were able to continue producing other cash crops, while women had to neglect their subsistence crops. Burdened by the new labour responsibilities and not receiving any revenue, the women had sabotaged the crop by nipping the buds.¹¹

Actions

- **Conduct gender impact assessment and address negative impacts.** Assess the potential impacts of planned actions on women and men by analyzing gender roles and relations; this may need firsthand and site-specific research and consultations, as women’s roles are often not documented. Ensure that “positive mechanisms” work for both women and men based on an understanding of their different needs and priorities.
- **Remove barriers to access natural resources.** Ensure both women and men benefit from positive incentives by recognizing land and water rights of both, so that both men and women can access associated benefits.

SUSTAINABLE PRODUCTION AND CONSUMPTION

Issues

- **Gender differences in access to energy affect sustainable consumption and production.** Globally, consumption and production patterns tend to vary by gender. In developing contexts, the different energy uses of men and women impact differently on sustainable production and consumption. For example, rural women and girls are often primarily responsible for collecting fuel at the community level, with implications for depleting forest resources as well as for their safety while collecting, and health risks from smoke inhalation. Poor women also tend to participate in the informal economic sectors (for example, the food sector), which relies heavily on biomass as its main energy source. Women generally have less access to energy-related services than men; studies from Africa, show that women-headed businesses generally face more impediments than men in accessing grid electricity.¹² In other words, women in developing contexts may have less access to sustainable energy than men, and therefore end up contributing to unsustainable practices. Gender differences also exist in terms of energy usage in developed contexts. For instance, a study revealed that single men in Sweden consume 22% more energy than single women.¹³ Gender stereotypes reinforced through marketing of goods such as beauty products and cars also contribute to unsustainable consumption.¹⁴
- **Unequal voice in consumption decisions.** While women make most household purchases, their control over household finances and decision-making is not necessarily proportional: for instance, studies have found that 71% of women in rural Pakistan make food purchase decisions, but only 17% have decision-making power over major household purchases.¹⁵ Women’s decision-making in consumption (and production) is also limited by low representation in senior government positions and



on corporate boards: in 2015, women held 14.7% of the board seats of about 3,400 companies across all industries in all countries.¹⁶ Women's ability to make household decisions is enhanced while they are working. A study in Nepal showed a significant positive association between women's age and autonomy and household decision making.¹⁷ Types of household decision making include: own health care, making major household purchases, making purchases for daily household needs and visits to her family or relatives. Rural women are significantly less likely to take part in decision making than urban women. Highly educated women are more likely to take part in decision making in their own health care.

- **Women lack influence in production.** Both women and men play important roles in production, with women representing the majority of the workforce in a number of sectors. Yet, women often lack access to the resources, technical knowledge, property rights and decision-making power needed to influence changes toward sustainable production. For example, 70% of cotton planters and 90% of cotton harvesters in India are women. Yet their contributions are seldom acknowledged; they rarely own the land they work on, they are paid less than men, excluded from training and they are also less involved in decision-making.¹⁸

Actions

- **Give women as well as men equal access to clean energy.** Build an understanding of women's energy priorities and develop related access and services for women as well as men, so as to reduce dependence on unsustainable alternatives.¹⁹

- **Target women and men differently in initiatives to achieve sustainable consumption and production.** Sensitization campaigns and incentives need to make use of sex-disaggregated data to understand preferences. An example of a gender-specific incentive scheme is the W+ Standard, which offers a certification scheme to measure the impacts of environmental and economic projects on women. Projects that contribute to women’s empowerment receive W+ units, which are tradable to organizations and companies, notably those with funding earmarked for the promotion of gender equality.²⁰
- **Promote equal participation in decision-making.** Encourage women’s participation in formulating sustainable management plans, and to increase their representation on corporate boards. Promote more equitable decisions on consumption and production at the household level, for example by using “household methodologies” that encourage joint and equitable planning at the household level.²¹
- **Establish gender-responsive procurement policies.** As major purchasers of goods, governments, corporations and other stakeholders have considerable influence over global production and consumption. Sustainable and gender-responsive public procurement policies could support decisions that promote both biodiversity and gender equality. Setting mandatory goals and criteria for women’s participation in companies, and capacity development for women-owned sustainable businesses are some ways to facilitate the participation of women-owned and sustainable businesses in public or corporate procurement processes.²²
- **Empower women to contribute to sustainable production.** Build the capacities of disadvantaged value chain actors, such as women producers, to be agents of change. For example, the organisation CottonConnect, which partners with clothing retailers and brands to create more sustainable cotton supply chains, has established a gender programme in India. Training in agronomic and business skills as well as in health, education and labour rights, have given women the means to improve their livelihoods and also influence production toward greater sustainability. After three years, yield had increased by 16% and profit by 41% for participating women, who had also reduced their water consumption by 15%, their use of chemical fertiliser by 20% and their use of chemical pesticides by 43%.²³



Reducing direct pressures on biodiversity and promoting sustainable use

HABITAT LOSS HALVED OR REDUCED

Issues

- **Gender inequalities in access to land and natural resources as well as farming inputs.** There are typically differences between women and men in their access to and dependence on natural resources, including forest products, as a source of livelihoods.²⁴ Women typically control less land than men and the land they control is often of poorer quality and their tenure is insecure. Women farmers are less likely than men to use modern inputs such as improved seeds, pest control measures and mechanical tools. Finally, women have less education and less access to extension services, which make it more difficult to gain access to and use some of the other resources.²⁵ These factors also prevent women from adopting new technologies as readily as men do. These differences translate into different kinds of pressures on natural habitats. For example, women farming already marginal lands with poor quality inputs may not have the means to carry out sustainable agricultural practices, even if they understand the benefits. And if men cannot access relevant capacity development as well as better quality inputs, this may contribute to land degradation on a larger scale, because they tend to have more access to better quality land. Finally, if men are more involved in cash crops, they may not fully appreciate the importance of forests, as women are generally more involved in obtaining food, water and income from forests.

■ **Unequal voice in community based natural resources management (CBNRM).** Formal and informal community based natural resources management institutions do not always ensure proper representation of the different groups that make up a “community”.²⁶ Unless active measures are in place to promote equitable representation, more powerful groups tend to dominate, such as men over women and richer over poorer community members. This means that community members do not have equal access to information and resources. For example, “eco-development committees” were formed in the villages surrounding Rajaji National Park in the Indian Himalayas to foster the participation of local communities in forest protection and promote alternative livelihoods. However, a survey revealed that only about half the women knew about these committees, and that only 11% had attended meetings. The survey also revealed that 70% of women were willing to steal biomass from the adjacent national park, and that 80% were not aware of the reasons for the establishment of the national park.²⁷ Unequal voice in CBNRM therefore weakens the potential for sustainable NRM strategies.²⁸

Actions

■ **Carry out gender analyses of access to/ use of land and natural resources.** Sex-disaggregated data is fundamental to such analysis, which also considers the environmental and social implications of differences. Where sex-disaggregated data is missing in official statistics, programmes and projects can contribute by collecting it and therefore help to make “visible” women’s roles as well as those of men. However, qualitative analysis, such as through focus groups, is also important to highlight issues that may not be captured in official statistics. For example, national forest assessments do not necessarily reflect women’s informal use of forest products, yet this is essential to understand the full range of stakeholder interests and the real value of its ecosystem services.²⁹ Gender analysis helps identify stakeholders and appropriate interventions for sustainable natural resources management. For example, Namibia is now collecting sex-disaggregated data through its CBNRM Programme. Data show that in 2012, 30% of conservation management committee members were women, and that women were mainly involved in the management of indigenous plants. Gender analysis should consider constraints, capacities and gender gaps for women and men, that are holding back more sustainable practices.



- **Engage both women and men in natural resources management.** Ensure the equitable participation of both women and men in natural resources management groups as well as in community consultation activities so that their distinct needs and priorities, as well as their specific knowledge, are taken into account. Equitable engagement is important for both social equity and habitat loss reduction, since it can support the development of appropriate rules and promote better compliance. For example, leasehold forestry in Nepal integrates gender considerations in all aspects.³⁰ Leasehold forestry involves leasing state-owned degraded forest blocks to groups of poor households for 40 years, during which the groups commit to regenerate and sustainably use the forest resources. Both husband and wife from the leasehold households are included in planning, capacity development and training activities. Assessments revealed that the vegetation cover of leasehold forest blocks, which were mainly planted with fodder species and trees to produce non-timber forest products, increased from an average 32% to 90% after seven years.³¹ The increase in fodder availability provided more feed for livestock, which allowed households to shift to stallfeeding and reduce pressure on the forest in the longer term. Importantly, the increase in animal feed led to reduced fodder collection times for women, which facilitated their participation in meetings and trainings, and allowed them to take part in income-generating activities.³²

SUSTAINABLE MANAGEMENT OF AQUATIC LIVING RESOURCES

Issues

- **Lack of recognition of women's roles in coastal resources management and fisheries.** Fisheries are often considered a male-dominated sector, and the contribution of women is often not well understood and undervalued. This leads to lost opportunities in fishery management, and perpetuates gender inequalities. Women play an important role in every stage of the value chain in small-scale fisheries, yet the widespread perception remains that men alone are responsible for fishing, and that women are only processors and marketers of fishery products.³³ For example, women's roles in harvesting aquatic species such as seafood from shorelines ("gleaning") is rarely considered "fishing" by male fishers, and instead is regarded as 'gathering' for food provisions.^{34, 35} Women often harvest different species than men, and tend to use distinct fishing gear, methods, and focus on specific eco-zones, such as sea grass beds and mangroves, which are often zones critical for juvenile fish as well as carbon sequestration.³⁶ *"If only men fish in the open sea and only women fish in coastal mangroves, they will inevitably have different sets of environmental knowledge and experiences."*³⁷ Coastal and marine ecosystem management should be based on a comprehensive understanding of the full range of fishing practices undertaken by both women and men in order to be effective and equitable.
- **Unequal voice in fisheries and coastal resources management.** Women are often underrepresented in fisheries governance institutions from community through to national and international levels, due to factors such as social norms that assign women responsibility for domestic work as well as other cultural norms that limit their ability to participate in public life.³⁸ This results in limited attention to meeting their priorities and building on their knowledge. This in turn contributes to making women more vulnerable to marginalization and poverty.³⁹ For example, in the Philippines, women's informal roles in fisheries means that they are often not included in formal fisher organizations; this lack of data led to a perpetuation of gender inequalities when development finance was therefore channeled into formal institutions and women were systematically denied access to decision-making about coastal resources.⁴⁰



- **Lack of sex-disaggregated data.** In this sector in particular, there is limited sex-disaggregated data available for fisheries and aquaculture⁴¹, which can contribute to an inaccurate understanding of human pressures on marine and coastal ecosystems as outlined above. This has implications for scientific knowledge, management and access rights. The lack of attention to women's roles in small-scale fisheries could also lead to an undervaluation of the economic and social benefits that women provide.⁴² As such, neither the positive nor the negative aspects of women's fisheries-related activities are taken into account. For example, a review of 106 small-scale fisheries case studies found that quantitative data on the catch size of women fishers was largely absent, mainly due to the underestimation of women's roles and participation. This was found to lead to an underestimation of the total catch, as well as an underestimation of the diversity of animals and habitats targeted by fishers. This information gap complicated the management of species mainly harvested by women, such as clams and other marine invertebrates, for which biological and life-history data was lacking.⁴³

Actions

- **Carry out gender analysis of fish value chains and coastal resources management.** Such analysis helps to draw out the different roles and contributions of women and men within fish value chains⁴⁴ and highlight relationships between key actors.⁴⁵ In particular, they can help to reveal the distribution of potential and actual benefits in relation to resource ownership, by different actors. This is important for targeting assistance to promote more sustainable coastal resources management and sustainable fisheries.

■ **Empower women and men for more sustainable fisheries and coastal resources management.**

There is now increasing evidence that engaging women as well as men helps improve the natural resource base.⁴⁶ The FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the context of Food Security and Poverty Eradication (2015) recommend considering gender roles and relations in the processes of securing fishing tenure rights, through engaging small-scale fishing actors in co-management for more sustainable fisheries, enhancing access to credit and extension services, and developing technologies adapted to both men's and women's work. These guidelines also serve as a basis for implementation at national and local levels; FAO and others have produced further detailed guidance.⁴⁷ Another example is from Djibouti, where one project is working to protect the coral reef system and mangroves, and to expand options for sustainable artisanal fishery livelihood systems, especially for women and young people. The project assesses the impact of climate change on coastal habitats and marine ecosystems, while supporting the resilience of marine and coastal areas, including maintaining water quality. Specific actions include a coastal zone co-management system and participatory plans to restore coastal habitats affected by climate change. These engage and benefit communities through employment linked to restoration, including through women's groups.⁴⁸

- **Produce sex-disaggregated statistics and carry out gender analysis.** Ensure that women's participation in small-scale and industrial fisheries, both in harvest and post-harvest activities, is included in national statistics to support decision-making that addresses issues faced by women, and to strengthen their rights. Statistics could also include information such as fish and invertebrate species and aquatic plants harvested as well as fishing and harvesting techniques used, disaggregated by sex. Moreover, it is important to produce data on women's participation in fisheries management and decision-making, which is generally lacking from current national statistics.⁴⁹ Gender analysis that includes qualitative assessments and primary research into women's informal roles is especially important in this area, given the tendency for these to be "invisible" in statistics.

SUSTAINABLE AGRICULTURE, AQUACULTURE AND FORESTRY

Issues

- **Gender inequalities in access to land and natural resources as well as farming inputs.** As for other biodiversity objectives, women's roles in agriculture, aquaculture and forestry are often unrecognized despite comprising more than 40% of the agricultural labour force in developing countries,⁵⁰ and 47% of the total global fisheries workforce when all parts of the fishing cycle are counted.⁵¹ Women in particular are key to conserving agricultural biodiversity⁵² and their engagement can improve the natural resource base when engaged in fisheries and coastal management (see the biodiversity objective Sustainable Management of Aquatic Living Resources, p. 20). They also make up almost a quarter of workers in the forestry sector globally.⁵³

Yet, women generally do not own the land they work on; only 10-20% of all landowners in the global south are women – and they have limited access to inputs such as capacity development, credit, extension services and technologies, which are also often inadequate to their needs.⁵⁴ Agricultural extension agents, often male in many countries, may be prohibited from interacting with women for cultural reasons, or reach out to male farmers alone because they assume that women do not play an important role in farming,⁵⁵ or assume that knowledge and information will be shared with other



household members. In some cases, training is open to both women and men, but timing and distance do not take women's roles into account and prevent women from participating. Finally, as outlined in respect to Habitat Loss Halved or Reduced (p. 18), despite their prominent roles, women are often excluded from agriculture, aquaculture and forestry-related decision-making.

The implications of these gender gaps include a lack of knowledge, inputs, voice and incentives (e.g. because of insecure access to land, water or coastal resources) for women to invest in more sustainable agriculture that conserves biodiversity.

Actions

- **Carry out gender analysis of policies and programmes related to agriculture, aquaculture and forestry.** Build on existing sex-disaggregated data, and check for possible gender bias in statistics through consultations with key stakeholders including women's groups. Collect data where this is missing. Gender analysis should consider constraints, capacities and gender gaps for women and men that are holding back more sustainable practices.
- **Promote equitable access to natural resources, inputs and decision-making.** Possible actions are similar to those for related to reducing or halving habitat loss, above. Consider tackling the different constraints faced by women and men in accessing the knowledge, inputs and natural resources needed for more sustainable agriculture, aquaculture and forestry management. As well as constraints, identify and address gender gaps, but also the different capacities of women as well as men in their roles as natural resource managers and users.

For instance, land tenure reforms that reduce gender barriers to land ownership in Rwanda have led to a substantial increase in soil conservation investment in structures such as bunds, terraces, and check dams, particularly from female-headed households.⁵⁶ With regard to institutions, in Latin America, Africa and Asia, forest management groups with a significant proportion of women have performed better in respect to collaboration, solidarity, conflict resolution and collective action, and also in terms of forest health and productivity.⁵⁷

- **Build on traditional knowledge systems and blend with appropriate technologies.** The distinct traditional knowledge of women and men can offer sustainable strategies for scaling up and/ or blending with technologies that also work for women and men. For example, in Niger, a programme to improve the food and nutrition security of rural people built on traditional systems such as *zai*⁵⁸ and *demi-lunes* (half-moons)⁵⁹ targeted women (37%) as well as men and youth for activities ranging from land rehabilitation, alternative income generation and local seed banks, through to clean cooking stoves to reduce pressure on land and improve agricultural productivity, using “kits” and training. The programme results included increased biodiversity and a gradual return of wildlife such as rodents, birds, reptiles and mammals related to the improvement of habitat quality, as well as woody species. Soil cover increased by up to 70% in some places, allowing much greater agricultural productivity, and carbon sequestration is estimated at over 6,142,000 tonnes of CO₂ equivalents. Incomes rose between 40% and 90%, contributing to reduced migration of males and thus easing the burden on women and families.⁶⁰

POLLUTION REDUCED

Issues

- **Gender-based constraints to reducing pollution from agriculture.** Agriculture is a major polluter of water, introducing harmful excess nutrients, pesticides and other pollutants into the water cycle. Women make up over 40% of the world’s agricultural labour force⁶¹ and their roles in many countries involve water management at the household level. Yet women are less likely to have access to organic/ inorganic fertilization inputs, soil fertility techniques and knowledge on their proper use⁶², exacerbated by limited access to agricultural extension services and clean energy. Women are also not always involved in local water resources management associations or projects despite their key role. A lack of land property rights can also act as disincentives to adopt pollution-reducing techniques that require greater investment in time, money and labour, and women’s access to land globally is generally less than that of men. For instance, the probability of adopting alley farming, an agroforestry technique, was significantly lower for women than men farmers in Cameroon, where women have less access to extension services as well as less secure tenure rights than men.⁶³ All of these gender gaps represent missed opportunities to engage women as well as men in less polluting practices.
- **Gender issues in urban pollution.** Cities and their immediate surroundings are also major sources and victims of pollution. In Delhi, one of the world’s most polluted cities, for example, transport is the biggest contributor to air pollution and GHGs, which harm local public health and the global environment.⁶⁴ Gender analysis can help identify opportunities for women and men to contribute to more sustainable practices in urban and peri-urban areas with potential downstream benefits, as well as reduce their own exposure to pollution.

Actions

■ Address gender-based constraints to reducing pollution from agriculture, and build on women's capacities as well as that of men's. Possible interventions include the following.

- (a) Collect/ analyse sex-disaggregated data and qualitative information when designing agricultural policies and programmes to identify specific constraints and opportunities for both women and men. For example, the gender analysis in the Program Framework Document of a Global Environment Facility – World Bank programme for sustainable cities notes that “(i)n many parts of the world, pollution problems, biodiversity and other types of natural resource losses... are disproportionately borne by women and girls. These impacts affect both the quality of their daily lives, and their long-term prospects for economic advancement. For this reason, attention to gender issues is an important priority ...” Inclusive planning conversations were planned with all participating cities and implementing agencies during various phases of the project to give gender considerations “prominent and persistent coverage”.⁶⁵ Safeguards procedures for various programmes offer entry points to integrate gender and environmental analyses to reduce pollution.
- (b) Build on women's acknowledged roles in agrobiodiversity, water management and as farmers, by targeting women and men with capacity development, extension services and agricultural inputs (including finance) relevant to their specific needs in order to help them reduce pollution and their vulnerability to it, through more sustainable practices. For example, support for energy-efficient and clean-burning cookstoves in Ethiopia has helped reduce pressures on forests, diminish indoor air pollution and its associated health impacts, as well as eased the burden of firewood collection on women and children.⁶⁶

In Sao Tome, a project to improve river basin management had a clear focus on gender based on a recognition of women's roles and use of rivers; women's equal participation in capacity development and groups was promoted and the project also worked towards a groundwater quality monitoring system being “established and operational by trained locals, comprising a gender balance of women and men”. At the end of the project, women had decided to clean the river every week.⁶⁷ In Sri Lanka, one training participant in a pesticides action project went back to her community and started campaigning about pesticide impacts on health and the environment. She inspired the women in her community to learn ecological agriculture. She became a community leader and today continues to pursue the promotion of ecological agriculture.⁶⁸

- (c) Support women's equal access to land to promote greater uptake of pollution control measures, particularly in relation to excess nutrients and use of chemicals. For example, a project in Senegal aiming to restore and strengthen the resilience of the Lake de Guiers Wetland ecosystems will also support women's advocacy for greater access to land.⁶⁹
- (d) Target women and men through differentiated communications strategies, and avoid assumptions that targeting men alone will mean that key information reaches women.
- (e) Enhance equitable participation in decision-making in key institutions such as forest user groups and water user associations, and/ or target women-only organizations in these fields in order to ensure their priorities and knowledge – including their different traditional knowledge – are taken into

account, as well as to promote access to investments and capacity development for both women and men to reduce pollution.

- (f) Promote win-win strategies that reduce waste as well as reduce gender gaps. In Cameroon, an initiative to promote integrated sustainable urban development and environmentally sound management of municipal solid waste aims to create job opportunities for women as well as men, while reducing and eliminating exposure risk to persistent organic pollutants, lead, and other toxics.⁷⁰

- **Identify and act on entry points in sustainable urban development.** Initiatives to reduce the environmental footprint of cities also offer entry points to reduce pollution as well as improve gender outcomes. For example, in South Africa, gender is being mainstreamed in a project that is developing an urban integrated bio-degradable waste management strategy. The project will identify options for waste separation technologies appropriate to the City of Johannesburg that take resilience and gender into account, and will ensure the waste management strategy is gender sensitive. It also targets women as well as men in sustainable local urban farming production, which is likely to help reduce the nutrient load of the water system.⁷¹ A project in Laos to combat climate change in cities through sustainable transport, has developed a Gender Action Plan, aiming to provide economic opportunities for women through employment, safe and comfortable transport, and voice through project decision-making.⁷²

INVASIVE ALIEN SPECIES PREVENTED AND CONTROLLED

Issues

- **Women farmers are on the front line of dealing with alien species.** As highlighted under previous biodiversity objectives, women make up over 40% of the world's agricultural labour force. However, they tend to be underrepresented in invasive species management initiatives, which may undermine the success of eradication efforts. Invasive species management programmes rarely systematically account for the differentiated involvement of women and men in alien species introduction (import, translocation and cultivation) and management (control or eradication).⁷³ This often leads to a lack of engagement of women in planning, awareness-raising, and implementation. The success of invasive species management is then jeopardized, since women's knowledge does not inform planning, women's awareness of the importance of invasive species' control is not raised, and women do not access positive incentives, such as employment in eradication programs, which could impact their support for such programs.
- **Equitable benefits related to invasive species.** The commercialization of invasive species can help control their spread locally, but over-reliance on such activity can act as a disincentive for long-term eradication.⁷⁴ Harvesting and transforming invasive alien species can provide a source of livelihood for women, men, or both in local communities, but can also create a dependency on the availability of such species. Attention should be paid to who benefits from the use of invasive species, what is the extent of their reliance on that particular resource, and who is vulnerable to the spread/eradication of invasive species when implementing commercialization programs. Alternative incentives targeting both women and men may need to be developed in order not to create disincentives for long-term eradication. For example, in order to mitigate the invasion of *Lantana Camara* in Malai Mahadeshwara Hills Wildlife Sanctuary in India, men from a local tribal community were trained to make furniture out of lantana. About 80% of these men's livelihood now depends on the availability of lantana, calling into question their incentive to eradicate it.⁷⁵

Actions

- **Sensitize both women and men.** Target both women and men when conducting awareness-raising and capacity development campaigns on invasive alien species. Women and men are more likely to be willing to take action to control invasive alien species when they have equal access to information on their impacts. For example, in Viet Nam, a key strategy to tackle alien invasive species was through the practical implementation of guidance on improved plantation and forestry development practices by the rural population of target districts, especially female farmers. This training was part of a project strategy to promote sustainable and equitable forest management.⁷⁶
- **Promote equal benefits from invasive alien species management.** Consider and engage both women and men in all phases of invasive species management programs, from data collection to employment for species control, in order to enhance the effectiveness of such programmes. Commitments to engage women in invasive species management can have positive impacts on both biodiversity and gender equality. For instance, in South Africa, the Working for Water Programme focuses on removing alien invasive plants from water catchments and providing employment to local community members, aiming to recruit 60% women as staff. Since 1995, more than one million hectares of invasive plants have been removed and about 20,000 people, of which 52% are women, have benefitted from employment and training.⁷⁷

ECOSYSTEMS VULNERABLE TO CLIMATE CHANGE

Issues

- **Missed opportunities in coral reef management.** Coral reefs are a source of food and livelihoods for approximately 500 million people globally.⁷⁸ In many coastal communities, while men are the main deep-water fishers, women are often involved in near-shore artisanal fishing and are active in harvesting aquatic resources from intertidal zones,⁷⁹ mainly as a protein-rich food source, but also for complementary income. Women often interact directly with fragile ecosystems such as coral reefs and mangroves, and therefore have a stake in their management. Yet the links between women's livelihoods, food security and vulnerable ecosystems such as coral reefs are generally overlooked by government and conservation officials, which can endanger food security and lead to unsuccessful management interventions.⁸⁰ For instance, fisherwomen in the Comoros mainly fish in reefs and keep between 40% to 100% of their catch for household consumption, with any remainder typically sold in markets. This allows for men's deeper water catches to be entirely sold.
- **Gender differences in impacts of conservation efforts.** Depending on the local context, women and men may not have the same opportunities to shift fishing grounds or to diversify their livelihoods. Because of their reliance on reef fish stocks, women from coastal communities can be particularly affected by harvesting restrictions and other coral reefs protection measures, which can then spur illegal harvesting or inadvertently favour the fishing activities of men. For example, in Madagascar, the no-take zones of some Marine Protected Areas of most or all shallow reef areas allowed only limited fishing on foot, which is the sole fishing method practiced by women. While men could continue fishing by shifting gears and fishing grounds, women had to abandon fishing in some villages and in others they resorted to fishing illegally on foot at night. This not only undermines the conservation initiative but poses safety risks for women.⁸¹

- **Women’s lack of participation in decision-making.** The lack of recognition of the role of fisherwomen has led to their exclusion from fisheries management bodies and fisheries development projects. However, research has demonstrated that women sometimes organize themselves into informal working groups, and are willing to implement regulations to increase the sustainability of their fishing practices.⁸² Women are generally also underrepresented in national bodies.

Actions

- **Assess capacities and gender roles.** Conduct gender analysis, based on sex-disaggregated data, where available, on resource use by women and men in order to assess the different sources of human pressures on vulnerable ecosystems, such as mangroves and coral reefs, and to identify opportunities for sustainable management. Where such data is not available, consider collecting it as part of the project and also support its uptake at the national level. Complement statistics with qualitative research with women and men to gain insights into key issues and opportunities. For example, an attempt at quantifying the number of reef fishers worldwide estimated that 28% of small-scale fishers fish on coral reefs and that of those, at least a quarter are gleaners, usually women and children.⁸³ This fact has significant implications for potential interventions and alternative livelihoods initiatives in Marine Protected Areas and similar. An example of a gender-sensitive analysis is given below.

“Within the larger Suva area, seagrass beds are widespread in the reef flats, back reef regions and mud flats, often in a mosaic of patchy meadows along Laucala and Suva Bay. ... These areas are exposed to various impacts such as waste runoff from industries and residents, coastal erosion, siltation from rivers, storm surges, litter and coastal development that affect the distribution and growth of seagrass meadows. This habitat type, however, also provides wave attenuation and sediment stabilization, helping to maintain water quality, and providing habitat for species of important economic and subsistence value. Seagrass meadows are efficient recyclers of nutrients and help support a large biomass of species, especially those of fisheries importance. Additionally, they provide nursery and breeding grounds for many juvenile and adult fish species. For example, green turtles and many predatory fish use seagrass meadows as a feeding habitat. These areas are often used by local fishermen and women who glean the shallow inshore mudflats, seagrass beds and reef tops for shellfish and other marine organisms. Therefore, the loss of seagrass meadows can affect the food availability for many coastal communities.”⁸⁴

- **Engage both women and men in ecosystem management.** Build on the knowledge and capacities of women and men in coastal communities, and support the engagement of women in coral reef management as well as decision-making. This could help to enhance food security and the sustainability of coastal fishing practices, including in the management of Marine Protected Areas. Women’s reliance on fragile ecosystems such as coral reefs and mangroves can also make them powerful allies in the restoration, conservation and sustainable management of such ecosystems. For example, women’s organizations on Chira Island, Costa Rica, took the lead in restoring local mangroves to develop new attractions for tourists, to improve their stock of clams and cockles, and to improve their husband’s fisheries, even if no men from the community initially supported the initiative.⁸⁵ In the “Coral Triangle”, the six countries of the Coral Triangle Region – Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands and Timor-Leste – launched the ‘Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security Women Leaders Forum’ in 2014. The objective is to engage women in marine

management; the initiative provides a peer-learning network for women leaders involved in sustaining marine resources like coral reefs. It identifies women conservationists and supports them to be more engaged in decision-making processes in order for their skills and perspectives to be reflected in coastal and marine resources management in the region.⁸⁶

- **Design livelihood alternatives that respond to the needs of women and men.** Pay attention to women's and men's current livelihoods, and how these are likely to be affected by conservation initiatives. Consider opportunities to empower both women and men when developing alternative livelihood opportunities to reduce pressures on coral reefs and other vulnerable ecosystems. An increase in women's economic contribution to household income through alternative means can participate in reducing fishermen's pressures on marine resources. For example, the Suganthi Devadason Marine Research Institute combined the development of alternative livelihood options with awareness-raising activities on the ecological importance of coral reefs in order to reduce pressures on the reefs of the Gulf of Myanmar in India. The creation of income-generating activities for women helped reduce the pressure of fishers. In addition, women, who displayed substantially lower levels of awareness at the beginning of the programme, became the most effective educators for male fishers and children on coral reef conservation following their engagement.⁸⁷ In Djibouti, the coastline of over 350 km on the Red Sea boasts biodiverse marine ecosystems in its mangroves, coral reefs, and seagrass beds. The "Programme to reduce vulnerability to climate change and poverty of coastal rural communities"⁸⁸ is working to protect Djibouti's coral reef system and mangroves, while expanding options for sustainable artisanal fishery livelihoods, especially for women and youth. A coastal zone co-management system and participatory plans are being developed; these will benefit communities through employment linked to rehabilitation, including women's groups.



Improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity

PROTECTED AREAS

Issues

- **Differential impacts of protected areas and conservation initiatives.** Women and men are often affected differently by protected areas and conservation initiatives⁸⁹. Impacts on women are not always “visible” because women’s access may be undocumented as it is often informal and for domestic use, or small-scale income generation activities. A lack of consideration for these differences is likely to lead to (i) problems with the acceptability of and compliance with protected area regulations⁹⁰ as well as (ii) unintended violations of the rights of indigenous and local women to livelihoods or adequate compensation – which, in turn means they may be less engaged in and supportive of conservation measures.⁹¹
- **Unequal participation in decision-making:** Women often face cultural barriers to participation in decision-making from the household and community through to national decision-making. In addition, the devolution of protected area management to local communities tends to disadvantage women as it is often based on existing land tenure rights.⁹² For example, studies on the Marine Extractive Reserve of Corumbau, Brazil, have found that women have limited participation in management because of restricted access to information, disillusionment because their specific needs are ignored, marginalization of their views when they do contribute, and mobility restrictions by their husbands and due to childcare responsibilities.⁹³ Women are therefore often underrepresented in protected areas management, which limits the effectiveness of these efforts. For example, a review of marine conservation projects in Madagascar found that women were 17 times less likely to be involved in decision-making concerning marine resource management. Major impediments were the biases of conservation managers about women’s roles in fishing communities, and suitability as leaders.⁹⁴

Actions

- **Carry out gender analysis of the different impacts of protected area and conservation measures on both women and men.** As outlined for other biodiversity objectives, ensure that both formal and informal uses of such areas is taken into account and that opportunities to close gender gaps in access to natural resources are identified.
- **Ensure equitable management of protected areas.** Address women’s and men’s different needs, interests and perceptions in protected area conservation, as well as the gendered distribution of costs and benefits in local communities. This could be done through gender-differentiated compensation schemes that mitigate costs,⁹⁵ or measures to facilitate women’s or men’s access to equitable benefits. For example, the Congo’s Virunga National Park supports equal opportunity and access to traditionally male-dominated activities including the employment of female rangers. This strategy has yielded positive conservation results, and helped re-cast women from victims of human rights violations to full actors in the reconstruction of the Democratic Republic of the Congo.⁹⁶ Equitable management includes



equitable outreach and sensitization on conservation benefits of protected areas. A study conducted in Kenya suggested that guided visits to protected areas for women as well as men from local communities may help reduce fear of unfamiliar wild animals, especially for women, and therefore increase support for wildlife protection.⁹⁷ In the Philippines, community-based marine protected areas management was found to be more successful where women were involved in information and education campaigns.

Address barriers to women's participation, such as through gender training and reducing women's time constraints in order to facilitate their involvement in protected areas management. Support women's groups that contribute to the development of community-based protected areas to promote better outcomes for equity and conservation.

REDUCING RISK OF EXTINCTION

Issues

- **Gender differences in wildlife-based livelihoods.** Sustainable wildlife management practices need to consider the roles and livelihoods of women and men to understand the needs, values and beliefs that drive hunting behaviours. Many households, particularly in rural areas in the developing world, depend on wildlife as a source of protein and income. Wildlife management strategies tend to concentrate on men's behaviours and needs, since bushmeat hunting is generally a male-dominated activity. Yet, women are integral to the bushmeat supply chain in many contexts, either directly as hunters, such as among the Martu,⁹⁸ or as bushmeat vendors and processors. For example, in Yaoundé, Cameroon, 84.3% of workers in markets and restaurants selling bushmeat in 2006 were women.⁹⁹

- **Gender differences in human-wildlife conflicts.** The costs of human-wildlife conflicts, particularly intangible costs such as increased workload, decreased food and economic security, often go unaddressed in wildlife conservation initiatives. This negatively influences attitudes toward wildlife and likely leads to the legal and illegal killing of wild animals.¹⁰⁰ Women are generally more disadvantaged than men, largely due to the gender division of labour. Women are often responsible for home-based agriculture and small livestock rearing, and therefore must deal with the damage from wildlife such as crop raiding by elephants.¹⁰¹ Importantly, these often ‘invisible’ impacts in the form of time, workload and safety of women, often go unnoticed by public officials.¹⁰²
- **Gender gaps in species management.** In many regions, women are held back from engaging in decision-making, mainly due to cultural norms as well as time constraints. Household responsibilities often severely limit the time many women can devote to participation in wildlife management consultations, committees and boards, which are rarely designed with these constraints in mind. For example, in the Canadian Arctic, the percentage of women on hunting and wildlife management boards ranges from 0% to 20%, depending on the region. Factors contributing to lower representation of women in these management roles include higher status given to men as hunters as compared to women as fishers; deference given to male elders; and the lack of reimbursement for costs of caring for children or elders, for which women are primarily responsible.¹⁰³

Actions

- **Analyse the roles of women and men in illegal wildlife trade supply chains.** Identify the roles of both women and men in illegal wildlife trade supply chains to avoid overlooking stakeholders and entry points for interventions. Curbing the over-exploitation of threatened species requires identifying and understanding drivers and therefore the stakeholders involved. Interventions, such as alternative livelihoods, need to be designed with both women and men in mind. For example, in Kashmir, a conservation project aims to protect the critically endangered Tibetan antelope (*Pantholops hodgsonii*), still illegally hunted for its fur despite its protected status. Instead of solely focusing on the poachers, the project supports women weavers to stop using antelope wool in weaving pashmina shawls. Women weavers used to rely on middlemen, who illegally bought antelope wool from poachers, but the project provided weavers with other sources of wool as well as direct market linkages to sell their shawls.¹⁰⁴
- **Assess impacts of species protection plans on women and men.** This involves both identifying differences as well as inequitable costs arising from the protection of threatened species. For example, a gender assessment found that in the Ca Mau area of Viet Nam, forest protection and conservation measures make it more difficult for poor women to collect fuelwood and non-timber forest products for daily subsistence. Women in Ca Mau mention that it is much harder to collect crabs or *kèo* fish (*Goby fry*).¹⁰⁵ Plans should target women as well as men to improve the effectiveness of species conservation efforts e.g. through alternative compensation options, such as in-kind benefits like fuel. This may prove more effective in compensating negative impacts on women than direct monetary payments¹⁰⁶ and can lessen retribution killing of wildlife. In Central Asia, efforts to protect the elusive snow leopard’s habitat will proactively target women, such as through ecotourism development and other permanent and seasonal jobs for local women. The project analysis further identifies the importance of taking care to avoid potentially limiting women’s ability to use, develop and protect environmental services. The project will also ensure their participation in a consortium of partners for snow leopard conservation.

- **Empower women as well as men to participate in species management.** Also, both women and men should benefit from livelihood opportunities linked to species conservation in order to encourage broad community support and to promote gender equality. The employment of women from local communities in the all-female Black Mambas Anti-Poaching Unit of the Balule Nature Reserve in South Africa has contributed to local livelihoods while improving conservation outcomes. The female rangers take part in anti-poaching patrols, outreach, and community education programs. Since its inception, the Black Mambas have contributed to a 76% reduction in poaching on the reserve.¹⁰⁷ In Brazil, a project to strengthen the conservation of endangered species aims to empower women as agents of change in order to achieve both environment and gender equality benefits. This will be carried out in a participative manner, including separate consultations for women/ men and youth. The project has a number of gender-responsive provisions, including the *Bolsa Verde* Program, a national grant program whose beneficiaries must commit to keep the vegetation cover of the area where the family is living, and adopt sustainable practices to protect environmental resources and ecological processes. Women are priority recipients of grants, which can mobilize substantial federal resources to relieve women and their families from endemic poverty, which is threatening conservation. All consultation and capacity building will be designed to ensure that at least 30% of participants are women. In Ecuador, a project to diminish illegal wildlife trade in the Yasuní Biosphere Reserve has been led by a local women's group, which is engaging communities to reduce illegal overharvesting and improve food security. Strengthening women's leadership while allowing for the participation of both women and men has generated broad community support for alternative income generating activities, limiting bushmeat hunting to subsistence needs, and conserving some highly threatened species.¹⁰⁸

SAFEGUARDING GENETIC DIVERSITY

Issues

- **Gender differences in species conservation.** Women and men often make distinct contributions to *in-situ* conservation of genetic diversity, choosing different varieties of plant and animal species. These are not always recognized. In many settings, women cultivate and gather various local plant species for household and subsistence use while men focus on cash crops for income generation. Women are also more likely to keep indigenous poultry and small ruminants rather than large livestock.¹⁰⁹ Women in developing countries typically have primary responsibility for home gardens,¹¹⁰ which play an important role in household food security and often contain high agro-biodiversity.¹¹¹ Culinary uses often drive women to maintain a variety of landraces in their home gardens. For example, women in West Asia maintain a high number of cereal, legume and fruit tree landraces, which are seen as better suited for the preparation of traditional meals, jams, and syrups than their commercial counterparts.¹¹² When it comes to wild relatives, women again play a key role in their conservation. For example, in Armenia's Erebuni State Reserve, rich in biodiversity, it is mainly women who pass down their knowledge of crop wild relatives through the generations.¹¹³
- **Seed management.** Women traditionally play an important role in seed selection and management, particularly indigenous and local community women in many countries.¹¹⁴ For instance, women farmers in Jordan and Lebanon are responsible for 75% and 100% of seed selection, respectively.¹¹⁵ Women's knowledge and practices therefore play an important role in preserving local plant genetic diversity.

Actions

- **Support women as well as men in traditional *in-situ* conservation.** Support the work of indigenous and local women who safeguard traditional species, notably through seed selection, cultivation, animal rearing, and food preparation, as viable strategies to limit genetic erosion. This starts with gender analysis based on sex-disaggregated data where available, and participatory consultations. For example, community consultations are recommended by Bioversity International in their manual on conserving crop wild relatives: “*community groups to be involved (include) women, elders and youth – pay close attention to ensuring the participation of women as they may not hold formal positions in the community, but do bring a unique and important perspective to the table. Separate consultations with women may be required.*”¹¹⁶ An example of concrete measures is the organization of annual seed fairs by national research institutes and NGOs in the Peruvian Andes; they have stimulated the conservation and use of plant genetic resources. Both women and men from farming communities are invited to display their best varieties and showcase the diverse range of their crops, as well as to exchange seeds. Through contests, the fairs reward farmers, both women and men, whose knowledge and practices substantially contribute to the *in-situ* conservation of genetic diversity.¹¹⁷
- **Promote equal land tenure.** Create policies that recognize the land rights of women to support conservation efforts. In 2003, Viet Nam implemented a land law that ensures that both spouses’ names are included on documents registering land tenure rights. With this joint title, women are not only protected in case of widowhood, separation or divorce, they are also given more power in resource management and decision-making,¹¹⁸ and thus can have greater control over the preservation of genetic diversity.



UNEP Widen Collective



Enhancing the benefits to all from biodiversity and ecosystem services

ECOSYSTEM SERVICES

Issues

- **Gender issues with regard to ecosystem services.** Ecosystem services encompass provisioning (including food and water), regulating (for example carbon sequestration), supporting (such as nutrient cycling) and cultural services¹¹⁹. Both women and men in many countries rely on ecosystem services in their daily roles, but women tend to have fewer alternatives. For instance, in Asia and Africa, women are usually the main collectors of wild plant food from forest ecosystems, while men tend to focus on harvesting timber and wild meat.¹²⁰ Inequalities between women and men in access, control and ownership of land and natural resources, as well as socio-cultural barriers to economic opportunities for women, increase women's dependency on access to some ecosystem services. This subsequently increases their vulnerability to ecosystem degradation and access restrictions as a result of conservation schemes. For example, in Uganda, women were found to be more impacted from wetland degradation than men due their use of wetlands for firewood, handicraft materials, water and herbal medicine.¹²¹ In this context, the conservation of wetlands would be particularly beneficial for women, as long as their needs for fuel, handicraft materials, water and herbal medicine are taken into account.
- **Unique knowledge of women and men with regard to regulating and supporting ecosystem services.** The different gender roles of women and men, including indigenous women and men, also mean that they have different knowledge and skills, which offer diverse solutions to address ecosystem degradation and biodiversity loss, making them both important actors in ecosystem restoration and biodiversity management.¹²² For example, among the Rarámuri, an indigenous people of Mexico, women have more knowledge of medicinal plants, while men have more knowledge of plants used in construction and making tools and handicrafts. However, both have similar knowledge of plants used as food and firewood. Women and men were also found to attach different value to certain plant species, implying differences in their priorities for ecosystem management.¹²³

Actions

- **Conduct gender analysis in ecosystem services use.** Analyse sex-disaggregated data and consult women and men to understand how women and men depend on ecosystem services. The aim is to identify gender differences as well as gender gaps, and the distribution of costs and benefits of ecosystem degradation and restoration options. This data then needs to inform restoration interventions to ensure they are “gender-responsive”¹²⁴. The development of equitable payment for ecosystems services that work for upstream and downstream communities, women and men, relies on just such an understanding.
- **Support equitable participation in ecosystem management institutions.** Implement policies to ensure the equitable participation of women and men in ecosystem management, such as through mandatory quotas and training. This will help ensure that their distinct priorities and knowledge are taken into account, making interventions more equitable as well as effective. In India and Nepal, for example, forest management groups with larger proportions of women recorded greater improvements in forest health conditions and more sustained levels of firewood – a provisioning ecosystem service primarily the responsibility of women¹²⁵. Similarly, other forest management group studies in India and Nepal have found that including women in resources management improves governance and conservation outcomes (regulating and supporting ecosystems services)¹²⁶.



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- **Improve women's land rights.** Women's unequal access to land and all the ecosystems services associated with it (water, food, natural resources for livelihoods activities) and the right to have a say in governance structures, is a major impediment to equitable ecosystem services. Enforcement of equal land rights would therefore contribute significantly to equitable as well as sustainable ecosystem services. Awareness campaigns on women's legal rights that target both women and men, including local leaders, are useful tools to promote the enforcement of such rights.¹²⁷ In Kenya, Landesa, a rural development institute, saw an increase in the usage of women's rights principles by elders in land dispute mediation after conducting a women's rights awareness raising campaign that targeted local leaders, women and youth. Following this initiative, community members also elected their first group of women elders to join the panel of men in resolving disputes.¹²⁸

ECOSYSTEM RESTORATION AND RESILIENCE

Issues

- **Gender-specific knowledge.** Women and men have different and often specialized knowledge of species, ecosystems and biodiversity, which can have an impact on the effectiveness of conservation and restoration efforts. Including these different perspectives can help to enhance the effectiveness of restoration and climate change mitigation and adaptation activities,¹²⁹ as well as efforts at combating desertification.¹³⁰ For example, in Honda Bay, in the Philippines, women and men value and hold knowledge about different marine resources and habitats. Women typically have specialized knowledge of intertidal and near-shore species of fish and crustaceans that thrive in mangrove ecosystems, which are also mainly used for subsistence purposes. Conversely, men give more importance to and know more about fish in off-shore coral reefs and that have greater commercial value. As a result of the higher economic value of men's catches, men's spatial needs and knowledge are usually more highly regarded than women's. This in turn contributes to the undervaluation of women's perspectives on the conservation and restoration of ecosystems,¹³¹ which could lead to greater environmental degradation and biodiversity loss in blue carbon ecosystems such as mangroves.
- **Different needs result in different breeds.** Women and men often rely on different resources for their daily activities, which are determined by their gender roles. For example, in Burkina Faso, women and men recognize different varieties of the shea tree; women often value types that have culinary and medicinal uses whereas men prioritize the functions of shade provision and improvement of soil fertility. These preferences influence which breeds are selected for cultivation, and taking these preferences into account can determine the effectiveness of restoration efforts with benefits for the entire community.¹³²
- **Unequal land rights.** According to the 2019 OECD Social Institutions and Gender Index, in 123 countries, traditional, religious and customary laws and practices limit women's freedom to claim and protect their land assets.¹³³ This can have significant implications for dryland management and efforts to combat desertification because women then lack incentives to invest in sustainable land management. For example, in the dryland regions of Burkina Faso, Niger, Senegal and India, where women have more limited access to and control over land than men, field experiences in these regions found insecure land tenure to be a disincentive to maintain soil quality and invest in land rehabilitation. It also limited their access to credit, institutions and extension services that would support combating desertification.¹³⁴

Actions

- **Promote equal participation in restoration and conservation.** Support the active involvement of women and men in all aspects of restoration and conservation efforts, from design to implementation and evaluation, including in capacity development and in REDD+¹³⁵ initiatives. This helps to ensure that the knowledge, preferences, ideas, and contributions of women and men inform ecosystem restoration and conservation. For example, the Azraq Oasis Restoration Project in Jordan applied a gender-responsive approach to wetland restoration. This involved taking into account the distribution of tasks, activities, and rewards between women and men, their relative representation and influence, and the benefits and costs arising from the gender-specific allocation of tasks. This analysis helped to identify potential for women’s and men’s involvement, uncovered gender inequalities, and ultimately led to more successful restoration outcomes.¹³⁶
- **Recognize women’s land rights.** Recognize and enforce women’s land tenure and property rights. Formal recognition needs to be accompanied, in most contexts, by awareness-raising and legal literacy campaigns to ensure the enforcement of equal access to land property rights at the local level.¹³⁷ For instance, Burkina Faso’s Ministry for the Promotion of Women and Gender organized an advocacy campaign on equitable access for women and men to rural land ownership. The campaign was directed toward traditional leaders as well as state administrative authorities.¹³⁸

ACCESS TO AND SHARING BENEFITS FROM GENETIC RESOURCES

Issues

- **Women’s vital role recognized in the Nagoya Protocol.** In its preamble, the Protocol recognizes “*the vital role that women play in access and benefit-sharing and affirm[s] the need for the full participation of women at all levels of policymaking and implementation for biodiversity conservation.*” Article 22.5.j of the Protocol emphasizes the need to enhance indigenous and local communities’ capacity, particularly those of women within those communities, in relation to access to genetic resources and traditional knowledge associated with genetic resources.
- **Under-recognition of women’s roles with regard to access and benefit-sharing (ABS).** As outlined in biodiversity objective Safeguarding Genetic Diversity, (p. 34, above) women and men often hold different and complementary knowledge about local biodiversity, with women playing a particularly important role in plant genetic resources management in many areas. Yet, their knowledge of such matters often goes unacknowledged due to women’s low levels of participation in market-oriented production and in public decision-making processes.¹³⁹ This, in addition to restrictive customary practices, “gender-blind” policies and time constraints, can therefore lead to the exclusion of women from consultations on ABS legislation, capacity development events on the Nagoya Protocol, the development of community protocols and other key processes regarding the use of and access to genetic resources.¹⁴⁰
- **Access to benefits.** Gender gaps that disadvantage women in tenure and usage rights for land and natural resources, compounded with other socio-cultural barriers, often limit women’s access to benefits.¹⁴¹ In Bangladesh, 80% of the rural population relies on medicinal plants for their primary

health care needs. The government is encouraging the production of medicinal plants for economic development, commercial export, and domestic use. Women, however, face persistent barriers in access to education, training, land ownership and credit, which limit their ability to benefit equitably from these initiatives.¹⁴² Security and harassment issues can also limit mobility, which in turn hinders women's ability to access markets and extension services.¹⁴³

Actions

- **Identify women's and men's unique knowledge.** Carry out gender analysis and encourage sex-disaggregated data with regard to ABS and traditional knowledge relating to genetic resources. This would facilitate the recognition of their contributions and equal rights to the use of this knowledge and its derived benefits.¹⁴⁴
- **Support equitable participation:** Article 12.3 of the Nagoya Protocol requests Parties to support, as appropriate, the development by indigenous and local communities, including women within these communities, of: (a) community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge (b) minimum requirements for mutually agreed terms (MAT) to secure the fair and equitable sharing of benefits arising from the utilization of traditional knowledge associated with genetic resources (c) model contractual clauses for benefit-sharing arising from the utilization of traditional knowledge associated with genetic resources.

In this context, facilitate the participation of women in discussions and negotiations relating to the effective implementation of the Nagoya Protocol at local and national levels. This should include full and effective participation in national consultations for the processes of adopting ABS policies and laws, as well as national and local awareness-raising and capacity-building workshops on the Protocol and the significance of genetic resources and access to traditional knowledge. Support, in the form of legal technical assistance for example,¹⁴⁵ can also promote the full participation of women and men in developing community protocols or procedures for access and use of Traditional Knowledge, based on Prior Informed Consent and Mutually Agreed Terms for the equitable sharing of benefits.¹⁴⁶ Full and effective participation is taken to mean not just ensuring physical participation, but also that women and men are able to freely voice their concerns and priorities.

- **Build the capacities of women and men.** (i) Provide training for women as well as men at the local level to help them understand their rights in relation to ABS, and articulate their priorities effectively. This kind of capacity development should be based on a gender analysis of the different roles of women and men in target communities. (ii) Build the capacities of indigenous and local community women. In contexts where gender barriers to participation and access to benefits exist, this may promote equitable engagement in local and national ABS processes.¹⁴⁷ (iii) Support capacity development for civil society and government as well as private sector actors in gender-responsive implementation of ABS and the Nagoya Protocol. For example, from 2009 to 2013, the Latin America and Caribbean branch of the Indigenous Women's Biodiversity Network, with support of the CBD Secretariat and funding support from the governments of Spain and Japan, provided capacity building on the Convention and on ABS in several regions for the women's network. The training, in which 80% of participants were women, resulted in increased participation by indigenous women, notably in the elaboration of the CBD 2015-2020 Gender Plan of Action, and an increase in their awareness and understanding of the ABS process under the CBD.¹⁴⁸





Enhancing implementation through participatory planning, knowledge management and capacity building

BIODIVERSITY STRATEGIES AND ACTION PLANS

Issues

- **Women often have less presence and influence in biodiversity policy and planning processes.** Women and men are equally important stakeholders to engage in national biodiversity planning processes, including NBSAP revisions, particularly as they often have different knowledge, experiences, needs and priorities related to biodiversity (see other biodiversity objectives above). For instance, local women in Brazil were found to be significantly more proficient than men in identifying, naming and describing the medicinal value of plant species, notably due to their roles as primary healthcare givers¹⁴⁹. Yet in many contexts women's participation in planning and policy processes lag behind those of men, and in some contexts, social norms are overtly unsupportive of women's participation in public processes. In others, a lack of attention to gender issues can result in unintended gender bias in policy instruments such as NBSAPs. For example, programmes and activities for land management may exclude women, who have limited formal ownership and control over land in many countries.

Actions

The 2015-2020 Gender Plan of Action under the Convention includes mainstreaming gender in NBSAPs as an objective for Parties. A number of actions can contribute to this objective and biodiversity policy and planning more broadly.

- **Compile sex-disaggregated data and undertake gender analyses.** Use sex-disaggregated data and conduct baseline analysis of gender norms, roles and relations to identify the gender issues relevant to biodiversity policy. Include measures to address issues identified in NBSAPs and other policies, where possible. Consider also the effects of biodiversity loss as well as of planned biodiversity activities on women and men in order to promote an equitable distribution of costs and benefits resulting from biodiversity-related interventions. For instance, in its 2015-2030 National Biodiversity Strategy, Ecuador has a strategic objective relating to the fair and equitable distribution of the benefits of biodiversity and associated ecosystem services, with consideration for gender and intercultural specificities. The national results and targets for this objective are linked to Aichi Biodiversity Target 16 on the ratification and enforcement of the Nagoya Protocol¹⁵⁰.
- **Ensure equitable participation and equal benefits.** Equally engage women and men in decision-making and in action related to the development, implementation, monitoring and evaluation of NBSAPs and other biodiversity policies and plans. Gender-balanced, full and effective participation, may require special measures to facilitate women's involvement, but can support women's and men's knowledge, needs and priorities to be reflected. A pilot project to integrate gender considerations in NBSAPs, generously supported by the Government of Japan, enabled workshops with women's groups in Brazil,

Mexico and Uganda to enhance their awareness of and ability to participate in biodiversity planning processes. The pilot project resulted in the drafting of gender-responsive revised NBSAPs.¹⁵¹ NBSAP and other policy budgets should also take into account the priorities of both women and men, and apply gender-responsive budgeting (see biodiversity objective Mobilizing Resources from All Sources, p. 47).

TRADITIONAL KNOWLEDGE

Issues

- **Rich traditional knowledge and use of ecosystems.** Both women and men from indigenous peoples and local communities (IPLCs) are important actors in informing ecosystem and biodiversity conservation, since they often use different components of biodiversity depending on their gender roles. Customary uses of biodiversity by women and men from IPLCs are closely connected with traditional knowledge, as these practices are learned, maintained and applied in a hands-on setting through customary sustainable use and transmitted orally. For instance, indigenous women are known to have special knowledge regarding the collection of seeds, while indigenous men have specific knowledge regarding hunting. For example, in the Colombian Amazon, women and men are thought to possess complementary gender knowledge systems, which are separate but equally valued and necessary for the existence of the community.¹⁵² Elder women and men therefore assume important roles within communities. Yet women's knowledge, innovations and practices are often overlooked in modern policy development because women from IPLCs may not often be included in decision-making processes.

Actions

- **Adopt gender-responsive indicators related to traditional knowledge, innovations and practices.** Indicators with a gender perspective, including sex-disaggregated data, can help support the recognition and integration of traditional knowledge and customary practices of indigenous women as well as men, in the implementation of the Convention. COP Decision XIII/28 provides a list of specific and proxy indicators as part of a flexible framework for assessing progress in achieving the Aichi Biodiversity Targets.¹⁵³ For Target 18 (Traditional Knowledge), the framework identifies two sex-disaggregated indicators of the SDGs (indicators 5.A.1 and 1.4.2 on secure land tenure rights, by sex) as specific indicators to assess trends in land-use change and land tenure in the traditional territories of indigenous and local communities, a proxy indicator for traditional knowledge adopted in Decision X/43.¹⁵⁴
- **Promote equal participation of women and men from IPLCs.** The full and effective participation of IPLCs should include indigenous and local community women at all levels of decision-making. Such action is emphasized in international obligations such as the United Nations Declaration on the Rights of Indigenous Peoples, as well as decisions and guidelines under the CBD, such as the Akwé: Kon Voluntary Guidelines¹⁵⁵ and the Tkarihwaié:ri Code of Ethical Conduct¹⁵⁶, and the Plan of Action for the retention of traditional knowledge, innovations and practices¹⁵⁷. The Programme of Work on Article 8(j) and related provisions¹⁵⁸, Plan of Action on Customary Sustainable Use of Biological Diversity¹⁵⁹ and Mo'otz Kuxtal Voluntary Guidelines¹⁶⁰ also emphasize women's participation.



- Grassroots organizations and networks can provide possible entry points for women’s effective engagement and influence in processes related to biodiversity. For instance, the Equator Prize winner, Pacari Network, is a coalition of 47 Brazilian community-based organizations and provides a space for often marginalized groups, particularly indigenous and Afro-Brazilian groups, to participate in promoting the cultivation and sustainable use of medicinal plants, preserving traditional ecological knowledge and health traditions and protecting the biodiversity of Brazil’s Cerrado biome. The network is made up of 90% women and focuses on undertaking participatory research, building capacity, exchanging information, and participating in public policy formulation¹⁶¹.

SHARING INFORMATION AND KNOWLEDGE

Issues

- **Gender differences in biodiversity knowledge.** As outlined for other objectives, the specific roles, capacities and vulnerabilities of women and men with regard to biodiversity protection need to be better understood. Yet this context-specific “gender analysis” of gender differences, gender gaps and opportunities to promote biodiversity and gender equality is not yet the norm in biodiversity policy and programming. Studies tend to ignore gender as an important variable, leading to a bias toward male informants and knowledge in data collection and analyses.¹⁶² In addition, overlooking the participation of women in natural resources use, such as fishing, has been found to lead to an underestimation of the types and amount of species harvested.¹⁶³ Such biases in field studies can thereby lead to inaccurate results and persistent knowledge gaps.
- **Equal participation in biodiversity knowledge management.** According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), women account for only 30% of the world’s scientific researchers, and this proportion is even lower in higher decision-making levels.¹⁶⁴ A combination of factors, including different social expectations of boys’ and girls’ capacities in sciences, a lack of role models for girls, as well as unsupportive work environments, can discourage women and girls from pursuing careers in Science, Technology, Engineering and Maths (STEM) fields.¹⁶⁵ Their underrepresentation negatively impacts biodiversity information; for example, in some cultural contexts, female informants may not be comfortable interacting with male researchers, resulting in reporting bias and women’s knowledge being overlooked. The underrepresentation of women in science may also mean that the perspectives of men are likely to dominate, which may further limit the contributions of women scientists.¹⁶⁶

Actions

- **Account for women’s and men’s knowledge, uses and practices.** Ensure the inclusion of women’s and men’s perspectives, including traditional knowledge, in scientific and social research relevant to biodiversity. For instance, a participatory plant breeding project coordinated by the Center for Chinese Agricultural Policy has shown the potential of establishing a partnership between formal plant breeders and local male and female farmers. Joint learning has contributed to the recognition by researchers, policy makers and others of the value of local knowledge and experimental skills of women and men farmers, including a recognition of the knowledge and expertise of women plant breeders. The project

has resulted in improved varieties and increased diversity of maize species, among other outcomes related to positive changes in attitudes, skills, partnerships, innovation and policy influence.¹⁶⁷

- **Promote equal participation of girls and women in Science, Technology, Engineering, and Mathematics (STEM) fields related to biodiversity.** For example, the proportion of women researchers more than doubled from 1980 to 2005 at the Brazilian Agricultural Research Corporation as a result of active measures to encourage women’s participation, in addition to non-discriminatory recruitment policies.¹⁶⁸ In the Republic of Korea, the Government sets targets to support women in STEM, provides childcare centers for women in research, awards fellowships and gives visibility to women’s scientific accomplishments.¹⁶⁹

MOBILIZING RESOURCES FROM ALL SOURCES

Issues

- **Budgets are not “gender-neutral”.** Financial allocations are often thought of as being “gender-neutral” or having the same implications for women and men. In fact, the different gender roles of women and men as well as their often unequal access to resources and services, mean that financial allocations affect women and men differently.¹⁷⁰ For example, a budget for training may not automatically provide for childcare to look after children or socially acceptable venues and delivery approaches, yet without these measures women may be unintentionally excluded from training opportunities. In the Asia Pacific region for example, social norms and the poor acknowledgement of the role of women in agriculture mean that female farmers are often deprived of training in new crop varieties and technologies as well as access to agricultural extension services.¹⁷¹ This in turn limits the success of sustainable farming programmes, and possibly leads to greater ecosystem degradation and biodiversity loss.

Actions

- **Adopt gender-responsive budgeting.** This involves accounting for the specific needs and interests of both women and men when conceiving and implementing budgets, and it is an important strategy to support gender equality and make the financing of biodiversity efforts more efficient.¹⁷² The impacts of budgets, including for activities under NBSAPs, should not disproportionately disadvantage either women or men¹⁷³, although gender gaps may require dedicated financing to help close them. For instance, the Government of Liberia allocated US\$500,000 to micro-credit projects to support women’s empowerment in the budget of its NBSAP.¹⁷⁴ Activities to promote gender equality could also be planned and budgeted through NBSAPs or other biodiversity policies. Mainstreaming biodiversity into the budgets of ministries responsible for gender is another possible strategy; the Government of Canada, for example, has adopted a feminist international assistance policy which focuses on gender equality as its primary development priority. The policy promotes gender-responsive programming for environment and climate action in developing countries¹⁷⁵.

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