

Gender-Responsive Implementation of Biodiversity and Nature Conservation Treaties

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7.1 INTRODUCTION

This chapter explores gender dimensions of biodiversity and nature conservation. It discusses the need for gender-responsive implementation of biodiversity and nature conservation treaties, the gaps in gender-responsive implementation of conservation initiatives in the Middle East and North Africa (MENA) region, and innovative approaches for addressing such gaps.

Climate change is driving a worrying decline in biodiversity through environmental changes that disturb and threaten species and their natural habitats.¹ As temperatures rise, rainfall patterns change, and water levels rise in the oceans, the planet is gradually losing its biodiversity as more plant and animal species face a heightened risk of extinction. Further, marine, freshwater, and terrestrial ecosystems are changing as diseases increase, plants and animals die, and diverse species lose their sources of food. The prevailing threats to biodiversity are projected to continue growing.² Some of the countries in the MENA region that are highly vulnerable to the climate-induced loss of marine biodiversity include Libya, Oman, Iraq, and Syria.³ On land, drought is driving rapid biodiversity loss in the MENA region. The region is the driest part of the world, only having a mere 2 percent of the world's renewable water resources according to the International Water Management Institute.⁴ Extended periods of drought in the region accelerate biodiversity loss as animals and plants that lack the ability to cope with extreme temperatures and lack of water can no longer survive.⁵

¹ Damilola S. Olawuyi, *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2022) 1–15.

² Ibid.

³ Razieh Namdar, Ezatollah Karami, and Marzieh Keshavarz, “Climate Change and Vulnerability: The Case of MENA Countries” (2021) 10 *International Journal of Geo-Information* 11, 794 www.mdpi.com/2220-9964/10/11/794 accessed September 23, 2023.

⁴ International Water Management Institute, “Planning for Drought in MENA” (2022) www.iwmi.cgiar.org/2022/08/planning-for-drought-in-mena/ accessed September 23, 2023.

⁵ Ibid., 3.

To halt the gradual loss of biodiversity due to climate change, resource over-exploitation, and other causes, the MENA region is looking to coordinated interventions to save its natural environment from further degradation, protect ecosystems, and promote nature-based solutions. MENA countries are signatories to the wide range of biodiversity and nature conservation treaties adopted globally to fight against climate change through nature conservation and biodiversity restoration interventions.⁶ Despite progress made in biodiversity and nature conservation across the region, a lack of clear and comprehensive gender mainstreaming in biodiversity and nature conservation efforts remain a key problem and a barrier to sustainable progress.⁷ The Convention on Biological Diversity (CBD) acknowledges the importance of integrating women's knowledge of biodiversity and its conservation in biodiversity programs.⁸ Yet the ability of women to access the land, finance, technologies, and programs needed to take part in and influence decision-making on biodiversity conservation and education, including to become biodiversity entrepreneurs, remain limited across the MENA region.⁹ The MENA region is often cited in studies as the region where women are more vulnerable to the disproportionate impacts of climate change and biodiversity loss but are less likely to play key roles in addressing such impacts due their underrepresentation in formal political structures.¹⁰ Lack of gender balance in the leadership or management of biodiversity programs may limit the full consideration of the intersectionality of the effects of climate change, such as the loss of biodiversity, and gender.¹¹ To speed up the implementation of nature and biodiversity treaties, draw from the knowledge and contribution of all members of society, unlock more of their benefits to nature and biodiversity, and ensure the equitable distribution of the benefits of biodiversity and nature, there is a need to address extant gender gaps in the design and implementation of biodiversity programs in the MENA region.¹²

⁶ Olawuyi (n 1).

⁷ Sally Abi Khalil, "If Women Don't Lead, We'll Lose the Battle Against Climate Crisis" (Reliefweb 2022) <https://reliefweb.int/report/world/if-women-dont-lead-well-lose-battle-against-climate-crisis> accessed September 23, 2023.

⁸ Convention on Biological Diversity, "Addressing Gender Issues and Actions in Biodiversity Objectives" (2020) www.cbd.int/gender/doc/cbd-towards2020-gender_integration-en.pdf accessed September 23, 2023.

⁹ Jamal El-Ouahi and Vincent Larivière, "On the Lack of Women Researchers in the Middle East and North Africa" (2023) 128 *Scientometrics* 1 <https://link.springer.com/article/10.1007/s11192-023-04768-5> accessed February 13, 2024.

¹⁰ IISD, "Climate Response for Drylands Must Include Women" (June 17, 2023) <https://sdg.iisd.org/commentary/guest-articles/climate-response-for-drylands-must-include-women/> accessed February 13, 2024; see also Rolla Khadduri et al., "MENA Regional Overview: Gender and Equality" <https://manniondaniels.com/wp-content/uploads/2022/12/MENA-overview-Gender-and-Equality.pdf> accessed February 13, 2024.

¹¹ El-Ouahi and Larivière (n 9).

¹² Damilola S. Olawuyi, *Environmental Law in Arab States* (Oxford University Press 2022) 6.

This chapter explores the gender dimensions of biodiversity and nature conservation and uses two approaches to gender-responsive implementation to demonstrate how they can be harnessed to promote the gender-responsive implementation of conservation initiatives in the MENA region. The chapter is divided into five sections. After this introduction, Section 7.2 explores the gender dimensions of biodiversity and nature conservation, highlighting the linkages between gender and biodiversity to infer the elements of a gender-responsive approach to biodiversity and nature conservation. Section 7.3 explores some of the international laws that recognize the linkages between gender and biodiversity, including the resolutions of the conventions that bind the countries in the MENA region in their commitment to protecting nature and biodiversity. Section 7.3 also explores the gender responsiveness of the implementation approaches of nature and biodiversity programs in the MENA region and identifies some gaps in the involvement of women in driving nature and biodiversity conservation efforts in the region. Section 7.4 outlines some recommendations to make the implementation of nature and biodiversity conservation programs in the MENA region more gender inclusive. Section 7.5 is the concluding section.

7.2 GENDER DIMENSIONS OF BIODIVERSITY AND NATURE CONSERVATION

Gender responsiveness focuses on addressing the root causes of gender-based marginalization and exclusion in the design and implementation of biodiversity programs. In many societies, due to prevailing structures of inequality in access to education, financing, land, and formal political and decision-making structures, women are often underrepresented in the formulation and implementation of nature conservation and biodiversity programs.¹³ The drivers of systemic gender inequality and their implications of biodiversity and nature conservation are examined in this section.

7.2.1 *Gender-Based Differences in the Value of Biodiversity and Nature Conservation Knowledge*

Many societies operate under a system of privilege, which controls its members' access to the sources of power.¹⁴ These sources of power include education and information, economic participation, the ownership of resources, and position on

¹³ Khadduri et al. (n 10). See also Damilola S. Olawuyi, "Gender, Indigeneity and the Search for Environmental Justice in Post-colonial Africa" in Carmen Gonzalez, Sara Seck, and Sumudu Attapattu (eds), *Cambridge Handbook of Environment Justice and Sustainable Development* (Cambridge University Press 2021).

¹⁴ Megan Jones and Jennifer Solomon, "Challenges and Supports for Women Conservation Leaders" (2019) 1 *Conservation Science and Practice* 6, 36 <https://conbio.onlinelibrary.wiley.com/doi/pdf/10.1111/csp2.36> accessed September 23, 2023.

the social hierarchy. Inequalities in access to the sources of power usually lead to limited access to power as well. Therefore, inadequate access to education and economic opportunities in many countries and societies often translates to limited access to resources, which in turn leads to a lower social status.¹⁵ In the MENA region, this relationship between education, economic participation, resources, and power often leads to a cycle of disempowerment for women, who reach lower levels of education compared to their male counterparts.¹⁶ Since 2013, there has been sustained progress across the region in terms of significant investments in the education of women, which has closed the gender parity gap in education and healthcare, with Tunisia, Morocco, Qatar, Saudi Arabia, Oman, and Algeria leading in gender parity in education in the MENA region.¹⁷ However, progress made in narrowing the gender gap is yet to fully address barriers to active participation in formal and political decision-making structures, especially as it relates to the environment. For example, in 2023, women made up just 10 percent of environmental ministers in the MENA region.¹⁸ Further, women's increased educational attainment has not addressed their disempowerment since their economic participation has remained the same.¹⁹ With their limited economic participation, women are unable to accumulate the resources that their male counterparts combine with education and knowledge to use as leverage for leadership, decision-making, and participation in nature and biodiversity conservation programs.²⁰

Discernibly, the reliance on education, economic participation, and resource ownership as sources of power may disproportionately shut out women from leading and contributing to the biodiversity conservation programs devised by nature and conservation treaties. This is despite women's knowledge of the environment and nature conservation being invaluable and their concern for the environment being a great source of insight into sustainability.²¹ Women have access to first-hand information and knowledge regarding the effects of climate change on biodiversity

¹⁵ Olawuyi (n 12).

¹⁶ El-Ouahi and Larivière (n 9)

¹⁷ "In education and health, the MENA countries have closed over 96 percent of the gender gap." See Paul Salem, "Middle East Futures will Pivot on Women" (Middle East Institute 2023) www.mei.edu/publications/middle-east-futures-will-pivot-women#:~:text=In%20education%20and%20health%2C%20the,only%20been%20closed%20by%2015%25 accessed February 13, 2024.

¹⁸ See IISD, "Climate Response for Drylands Must Include Women" (June 17, 2023) <https://sdg.iisd.org/commentary/guest-articles/climate-response-for-drylands-must-include-women/> accessed February 13, 2024.

¹⁹ Ragui Asaad et al., "Explaining the MENA Paradox: Rising Educational Attainment, Yet Stagnant Female Labor Force Participation" (2020) 43 *Demographic Research* 817 www.ncbi.nlm.nih.gov/pmc/articles/PMC8345317/ accessed September 23, 2023.

²⁰ Ibid.

²¹ Endalcachew Bayeh, "The Role of Empowering Women and Achieving Gender Equality to the Sustainable Development of Ethiopia" (2016) 2 *Pacific Science Review B: Humanities and Social Sciences* 1, 37 www.sciencedirect.com/science/article/pii/S2405883116300508 accessed September 23, 2023.

and could be the key to the development of effective interventions. The socially ascribed roles of women in the MENA region include cooking, cleaning, household maintenance, shopping, and taking care of children.²² Taking on these roles in their households exposes women to the effects of climate change daily. For instance, they are aware of changes in water quality, which is a key pillar of biodiversity as it is crucial for the survival of plant and animal species.²³ Similarly, women in the region observe changes in vegetation while women along the coastal areas in the region learn of changes in marine diversity since they shop and cook for their families. Despite having all this information on biodiversity, which would make their contributions to nature and biodiversity conservation programs invaluable, little value is placed on their knowledge, leading to their exclusion as both sources of information and recipients of knowledge and training on environmental awareness.²⁴

7.2.2 Gender-Based Differences in Roles Relevant to Biodiversity and Nature Conservation

Women are perfectly placed to play an integral role in relation to biodiversity and nature conservation in two ways. First, in many countries, women are the key decision-makers in their households' food consumption. Consequently, they can play the primary role of driving green consumption to protect biodiversity.²⁵ For instance, the MENA region has recorded a gradual shift from its traditional diet, which mainly comprised grains, vegetables, and fruits, to a less diverse and more Westernized diet consisting of animal proteins, refined fats and sugars, and processed foods.²⁶ Besides contributing to a prevalence of diet-related noncommunicable diseases in the region, the change in diet has contributed to the loss of biodiversity. Women can drive a transition back to the indigenous diet, prompting

²² Oxfam, "Counting on Women's Work without Counting Women's Work" (2019) <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620811/tr-counting-womens-work-unpaid-care-mena-region-030619-en.pdf;jsessionid=9719A18B8AC717902609848F28B9E0C5?sequence=1> accessed September 23, 2023.

²³ Alice Newton et al., "Editorial: Ecosystem Services, Biodiversity, and Water Quality in Transitional Ecosystems" (2023) 11 *Frontiers in Ecology and Evolution* www.frontiersin.org/articles/10.3389/fevo.2023.1136750/full accessed September 23, 2023.

²⁴ Xia Ling and Yanhong Liu, "The Coordination of Environmental Protection and Female Discrimination based on the Concept of Affirmative Action" (2023) 4 *International Journal of Environmental Research and Public Health* 20, 3419 www.ncbi.nlm.nih.gov/pmc/articles/PMC9963526/ accessed September 23, 2023.

²⁵ Women For Biodiversity, "Building Resilience and Weaving Gender Responsive Approaches to Biodiversity Governance" report of a training workshop www.women4biodiversity.org/cnx-workshop-report-english/ accessed February 13, 2024. See also Atlantic Council, "Cultivating Change: Women As Catalysts for Agricultural Transformation in the MENA Region" (September 29, 2023) www.atlanticcouncil.org/blogs/menasource/n7-agriculture-middle-east-women/ accessed February 13, 2024.

²⁶ Rachel Bahn, Sibelle Labban, and Nahla Hwalla, "Impacts of Shifting to Healthier Food Consumption Patterns on Environmental Sustainability in MENA Countries" (2018) 14 *Sustainability Science* 14 <https://link.springer.com/article/10.1007/s11625-018-0600-3> accessed September 23, 2023.

agricultural activities in the region to revert to indigenous crops, which will improve biodiversity by restoring healthy soil microbiomes and bringing back animals and plants that were in symbiotic relationships with indigenous crops.²⁷ This role strategically places women in the best position to implement some of the recommendations of nature conservation and biodiversity treaties while promoting the health of their communities. Second, women in the MENA region take on the primary caregiving roles when raising their children.²⁸ In their role as their children's main source of influence, women have the opportunity to improve current and future generations' environmental awareness and turn ecological consumption into a universal habitual behavior.²⁹

Despite being in a position to drive sustainability through conscious consumption and by raising the next generation to conserve nature, obstacles remain for the full integration of women in nature conservation and the preservation of biodiversity.³⁰ Relegating women to passive roles in nature conservation neglects women's valuable contributions while preventing them from participating in future conservation efforts by upholding the social norms that prevent them from playing active roles in the initiatives. This locks them in a cycle of exclusion and limited access to opportunities to change the status quo.

7.2.3 *Gender-Based Differences in Priorities Relevant to Biodiversity and Nature Conservation*

Women's disproportional access to economic opportunities, land resources, and formal decision-making structures in the MENA region weakens the full integration of the perspectives and priorities of women in biodiversity and nature conservation programs.³¹ First, fewer women at the decision-making table often means that the knowledge women acquire in their role as homemakers is not fully reflected in deliberations and decision-making. The teams that design and implement the recommendations of biodiversity and nature conservation treaties remain largely male-led and male-dominated.³² For instance, only 30 percent of the 10,000 experts who advise the members of the body that advises the parties to the treaties on species and nature

²⁷ Ana Deaconu, Genevieve Mercille, and Malek Batal, "Promoting Traditional Foods for Human and Environmental Health: Lessons from Agroecology and Indigenous Communities in Ecuador" (2021) 1 *BMC Nutrition* <https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-020-00395-y> accessed September 23, 2023.

²⁸ Noora Lari and Noor Al-Emadi, "Measuring Parental Involvement in Dual-Earner Qatari Families" (2022) 31 *Journal of Child and Family Studies* 2997 <https://link.springer.com/article/10.1007/s10826-021-02183-z> accessed September 23, 2023.

²⁹ *Ibid.*, 15.

³⁰ Khadduri et al. (n 10).

³¹ *Ibid.*

³² *Ibid.*

conservation are women.³³ The male domination trickles down to the teams that break down the interventions at national and local levels. Therefore, women, their needs, and the knowledge they can contribute to the conservation of nature and biodiversity are undervalued, making them a low priority in the inception, implementation, and outcomes of nature and biodiversity preservation programs. For example, while many biodiversity interventions focus on formal and centralized approaches led by regulatory institutions, the importance of soft interventions such as homegrown forest restoration, tree planting, nature-based solutions, and climate-smart dietary changes may be excluded. Second, community norms around women's participation in public affairs often limit women's bargaining power regarding their inclusion in biodiversity conservation programs and even less authority in contributing their knowledge to conversations on the preservation of biodiversity.³⁴ This problem is not exclusive to women in the MENA region. In fact, less than half of the global female population has influence over nature conservation priorities compared to 65 percent of men.³⁵ The prevailing lopsidedness in representation raises the need to dismantle drivers of gender-based disparity and inequality in the design and implementation of biodiversity and nature conservation programs in order to ensure that both formal and informal knowledge are fully maximized in biodiversity efforts.

7.2.4 Gender-Based Differences in Access, Use, and Control of Resources

The implementation of the recommendations of biodiversity and natural resource conservation initiatives is a resource-intensive endeavor. At the very least, it requires access to or ownership of land, access to natural resources, and access to financial resources. Historically, women in many MENA societies have been tasked with the management and conservation of resources in their households, which often tilts access to financial resources and resource allocation in favor of men.³⁶ In the MENA region, women's access to resources is often restricted by their limited economic participation.³⁷ Further, the position of women in the social hierarchy

³³ Razan Mubarak, "Why Women Have an Essential Role in Biodiversity Conservation" (Climate Champions 2021) https://climatechampions.unfccc.int/why-women-have-an-essential-role-in-biodiversity-conservation/?gclid=CjwKCAjwmbqoBhAgEiwACIjzEOfKUNpy4HrAIWdOJxSPiWff3itEqyptgNbhNlepHHVJ6azLmqrXRoCQ7MQAvD_BwE accessed August 23, 2023.

³⁴ R. Schuster et al., "Measuring Community Norms Around Women's Empowerment in the West Bank: Opportunities and Challenges of a Novel Approach Using Cultural Consensus" (2019) 9 *SSM-Population Health*, 100489 www.sciencedirect.com/science/article/pii/S2352827318302568 accessed September 23, 2023.

³⁵ Robyn James, "Breaking the Bias: How to Deliver Gender Equity in Conservation" (*Nature* 2023) www.nature.com/articles/d41586-023-00779-7#:~:text=Women%20benefit%20from%20more%20women,for%20cultural%20change%20as%20well accessed September 23, 2023.

³⁶ Rolla Khadduri et al. (n 10). Also Payal Mago and Isha Gunwal, "Role of Women in Environment Conservation" (2019) *SSRN Electronic Journal* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3581051 accessed August 23, 2023.

³⁷ *Ibid.*, 10.

discussed earlier and their lack of legal and social protections limit women's ownership of resources further. As such, women can use these resources but their access to them is limited. In some North African countries, for instance, no more than 20 percent of land is registered in the names of women.³⁸ Even when women succeed in having land registered in their name, their access is controlled by their spouses or male relatives. Therefore, when the owners of land and other natural resources are called upon to make decisions on biodiversity and nature conservation, women are left out. Their exclusion extends to the ownership of communal resources, culminating in their exclusion from the implementation of conservation efforts at the community level. Women's limited access to household and communal resources stems from gender roles, which have historically confined women to unpaid domestic labor. Although more women are attaining higher levels of education and some are working outside the home, the gap in ownership and access to resources is still significant since women only make up less than 20 percent of land-owners.³⁹ Their limited ownership of resources is responsible for women's limited involvement in implementing biodiversity and nature conservation interventions.

Finally, there are obvious gender differences in participation, decision-making, and access to the benefits of biodiversity and nature conservation. The foregoing gender dynamics of biodiversity culminate in the disproportionate participation of women in all levels of conservation. Limited economic participation shuts women out of influencing policy and making decisions related to leadership in the design and implementation of conservation programs. Similarly, their relegation to passive roles prevents their active participation in decision-making, which prevents their needs from being prioritized. Consequently, they fail to benefit from conservation efforts as much as their male counterparts.

7.3 A GENDER-RESPONSIVE APPROACH TO BIODIVERSITY: SCOPE AND CONTENT

A gender-responsive approach should guarantee women's participation in the conservation of nature and biodiversity to enrich conservation efforts with their knowledge, ensure that the programs accommodate the needs of all members of society, and promote the equitable sharing of the benefits of the programs.

³⁸ K. Deininger, T. Hilhorst, and V. Songwe, "Identifying and Addressing Land Governance Constraints to Support Intensification and Land Market Operation: Evidence from 10 African Countries" (2014) 48 *Food policy* 76 www.sciencedirect.com/science/article/pii/S0306919214000438 accessed August 23, 2023.

³⁹ T. Halonen, "Securing Women's Land Rights for Increased Gender Equality, Food Security and Economic Empowerment" (United Nations 2023) www.un.org/en/un-chronicle/securing-women%E2%80%99s-land-rights-increased-gender-equality-food-security-and-economic#:~:text=Its%20Gender%20Action%20Plan%20acknowledges,desertification%2C%20land%20degradation%20and%20drought accessed September 23, 2023.

Two approaches can promote the gender-responsive implementation of biodiversity and nature conservation treaties.

7.3.1 *The Synergistic Approach*

A synergistic approach to gender-responsive implementation in relation to the conservation of nature and biodiversity refers to the identification and development of important linkages between gender equality and biodiversity. In the MENA region, these critical links include women's right to access, use, and have control over natural resources, contribute to the implementation of programs that target biodiversity goals, and address the problems that women face in their roles and contributions to the implementation of the different conventions and treaties.⁴⁰ Under the approach, synergies between efforts to promote gender equality and the implementation of the treaties would be established. Ideally, the synergies would be established at all levels of implementation, starting with the gender constitution of the advisors to the parties to the treaties down to the implementation of specific programs at the local level. However, more realistic entry points include affirmative action when constituting local implementation committees, eliminating barriers to access to information, consulting both genders when breaking down the interventions proposed by the treaties into local programs, and promoting equality in sharing the benefits accruing from the initiatives. The synergistic approach would improve nature and biodiversity conservation in the MENA region by harnessing women's knowledge, mobilizing skills, and influence in household decisions to promote the conservation of biodiversity.

7.3.2 *Gender Transformative Approach*

Comparatively, the gender transformative approach promotes the gender-responsive implementation of the resolutions of the treaties through the three dimensions of equity, namely recognition, procedure, and distribution.⁴¹ In this context, recognition refers to the acknowledgment and respect for all parties, their values, and the knowledge they hold in relation to biodiversity and nature conservation. Since women are highly knowledgeable about nature and biodiversity conservation, their involvement in the implementation of the ratified interventions is invaluable. For instance, women in Morocco have demonstrated the value of their knowledge on biodiversity through large-scale projects that produce food for their communities

⁴⁰ UN Women, "Towards a Gender-Responsive Implementation of the Convention on Biological Diversity" (2018) www.cbd.int/doc/c/34b8/2445/f3c7ee9df40a841577c51638/cop-14-inf-21-en.pdf accessed September 23, 2023.

⁴¹ F. Booker, "Gender and Biodiversity Conservation – Progress and Future Directions" (International Institute for Environment and Development 2018) www.iied.org/gender-biodiversity-conservation-progress-future-directions accessed September 23, 2023.

while preserving biodiversity in their country.⁴² The women are growing plants that are indigenous to their country, such as cumin, quinoa, and cactus to produce food in cooperatives that empower them financially and increase their economic participation while restoring the soil microbiome and protecting indigenous plant and animal species. Procedure refers to the involvement of every person who is affected by the degradation of nature and loss of biodiversity in decisions relating to the implementation of interventions. Their involvement in decision-making requires unlimited access to information and knowledge. With women playing a more prominent role in conservation programs, joint decision-making will yield better outcomes that address the needs of both genders. Third, distribution refers to the equitable participation in the benefits or negative impacts of the biodiversity and nature conservation interventions. Consequently, both men and women will benefit equally from the implementation of the resolutions of the treaties.

7.3.3 *Recognition of the Linkages between Gender and Biodiversity in Nature Conservation and Biodiversity Treaties*

7.3.3.1 Convention on Biological Diversity

The CBD's primary purpose was to establish a global regime to regulate access to the genetic resources used for scientific research. Essentially, the CBD was created and ratified to preserve genetic diversity, which is the foundation of species and ecosystem diversity, by allowing every country with the means to advance knowledge of genetics to do so. Therefore, its secondary purpose was to ensure the fair distribution of the benefits of the research conducted using genetic resources. Some of these benefits include innovations that protect biodiversity such as the use of genome-based approaches to promote conservation.⁴³ The 195 countries that ratified the CBD renewed their commitment to the protection and preservation of biodiversity in 2010 by adopting the Nagoya Protocol to advance fairness and equity in the distribution of the benefits arising from the utilization of genetic resources. The CBD recognizes several gender gaps in the implementation of its resolutions. These gaps include the limited visibility of women's relationship with biodiversity and their ecosystems, the little value attached to their knowledge on biodiversity, their needs and priorities, and their limited capacities to contribute to biodiversity goals, which diminish as climate

⁴² Bernadette Montanari and Sylvia Bergh, "Why Women's Traditional Knowledge Matters in the Production Processes of Natural Product Development: The Case of the Green Morocco Plan" (2019) 77 *Women's Studies International Forum* www.sciencedirect.com/science/article/pii/S0277539518303704 accessed September 23, 2023.

⁴³ Kathrin Theissinger et al., "How Genomics Can Help Biodiversity Conservation" (2023) 39 *Trends in Genetics* 7, 545 <https://pubmed.ncbi.nlm.nih.gov/3680111/#:~:text=The%20availability%20of%20public%20genomic,for%20scientifically%20informed%20management%20decisions> accessed September 23, 2023.

change exacerbates their vulnerabilities.⁴⁴ To ensure the full implementation of the CBD, all parties in the MENA region must put in place gender-responsive biodiversity programs that address these and other gender-related gaps.

7.3.3.2 The Kunming-Montreal Global Biodiversity Framework

In December 2022, the parties to the CBD adopted the Kunming-Montreal Global Biodiversity Framework (GBF) as a response to the dangerous deterioration of nature and the resulting threat to over a million species. The parties to the CBD deemed the framework a necessary intervention to stop and reverse nature loss to protect the billions of people globally whose lives are impacted by climate change. The GBF has provisions for promoting equality in the global efforts to stop biodiversity loss and restore fast-declining ecosystems. Notably, it has a unique provision that requires its parties to recognize the contributions of local communities and indigenous people.⁴⁵ The provision was adopted following the realization that often, the knowledge and potential contribution of indigenous people and local communities to biodiversity protection and nature conservation efforts are ignored while the two groups shoulder the negative effects of conservation programs.⁴⁶ Further, the framework recognizes that local, national, and regional circumstances vary. Consequently, it has a provision allowing its parties to design their own approaches to nature conservation and implement their own solutions to biodiversity loss and protection. However, members are required to ensure that all nature conservation programs and activities to stop or reverse biodiversity loss target the framework's four universal goals.

In addition to its resolution to involve all members of the communities in its member countries in the implementation of its resolutions, the GBF isolates gender inclusivity in promoting biodiversity as one of its targets. Target 23 of the GBF resolves to foster gender equality in its implementation by providing equal opportunities and empowering women's capacity to contribute to the preservation of biodiversity by acknowledging their right to own land and natural resources, welcoming their participation in decision-making and encouraging their leadership.⁴⁷

⁴⁴ Convention on Biological Diversity, "Addressing Gender Issues and Actions in Biodiversity Objectives" www.cbd.int/gender/doc/cbd-towards2020-gender_integration-en.pdf accessed February 13, 2024.

⁴⁵ Conference of the Parties to the Convention on Biological Diversity, "Kunming-Montreal Global Biodiversity Framework" (2022) www.cbd.int/gbf/#:~:text=The%20Kunming%2DMontreal%20Global%20Biodiversity,year%20consultation%20and%20one%20negotiation%20process accessed September 24, 2023.

⁴⁶ R. Montgomery, "Positioning Human Heritage at the Center of Conservation Practice" (2020) 5 *Conservation Biology* 5, 1122 <https://pubmed.ncbi.nlm.nih.gov/32045032/> accessed September 24, 2023.

⁴⁷ Convention on Biological Diversity, "COP15: Final Text of Kunming-Montreal Global Biodiversity Framework" (2022) www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222#:~:text=Ensure%20gender%20equality%20in%20the,natural%20resources%20and%20their%20full%20C accessed September 23, 2023.

7.3.3.3 Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) was ratified to protect wild animal and plant species from extinction. It was established following growing concern over the extinction of then prominent animal and plant species. When CITES was formed in the 1960s, the trade in animal and plant species was ongoing but the threat of extinction was not as imminent as it is today. Nevertheless, the member countries had the foresight to impose restrictions on the trade. CITES was founded on the recognition of the need to protect habitats and biodiversity following the discovery of the ripple effects of the exploitation of animals and plants. The overexploitation of some animal and plant species depletes their population leading to habitat loss which, in turn, leads to the loss of more plant and animal species.⁴⁸ By binding themselves to the rules established in CITES, the 184 parties to the convention recognized the role of species in the ecosystem and hoped to stop the cycle of biodiversity loss and promote sustainability. The members affirm their dedication to maintaining balance in natural ecosystems and protecting biodiversity through the protection of more species through joint efforts to monitor and protect endangered plant and animal species and regular conferences to develop new strategies to prevent further loss of biodiversity.

CITES acknowledges gaps in gender and its role in the implementation of its resolutions by recognizing that women's interaction with the international trade in wild plants and animals is overlooked and their role in the sustainable use and conservation of biodiversity undermined.⁴⁹ Consequently, they remain marginalized in making decisions related to the protection of endangered species and biodiversity, accessing and sharing in the benefits of the restoration of biodiversity, and enjoying the benefits of the international trade of wild species.⁵⁰ With these acknowledgments only documented as part of CITES's Gender Action Plan in 2022, their impact is yet to have a significant impact in the implementation of the previous resolutions of the parties to the convention.

7.3.3.4 Convention on the Conservation of Migratory Species of Wild Animals

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is a global framework for the sustainable exploitation and conservation

⁴⁸ CITES, "Convention on International Trade in Endangered Species of Wild Fauna and Flora" (2023) <https://cites.org/eng/disc/text.php> accessed September 23, 2023.

⁴⁹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, "Action Plan on Gender Related Matters" (2022) <https://cites.org/sites/default/files/documents/E-CoP19-Com-II-03.pdf> accessed September 23, 2023.

⁵⁰ Ibid.

of migratory animals. It also champions the preservation of the animals' habitats through coordinated efforts with the member countries whose jurisdictions lie along the migratory routes of the targeted animals. CMS relies on memoranda of understanding that can be adapted by specific regions or neighboring countries based on their conservation needs. In addition to its parties, CMS brings on other organizations, particularly nongovernmental organizations and corporate partners, to advance its conservation agenda. Since its ratification, CMS has habitually adopted resolutions that acknowledge, stop, and attempt to reverse biodiversity loss by identifying and adopting strategies to address threats to migratory species and their habitats. It focuses on species-specific solutions such as working with select member countries to reduce unsustainable fisheries that threaten migratory chondrichthyan species, the use of visualization tools to map the flight paths of migratory birds and track the birds to protect them from illegal harvesting, and the use of artificial light to guide migratory land animals across their migratory paths.⁵¹

These, and other, biodiversity and nature conservation treaties recommend solutions based on the aspects of nature degradation and biodiversity loss they target. The Stockholm Convention recommends the universal prohibition of the production, use, and trade of persistent organic pollutants (POPs), the safe disposal of existing stockpiles of the chemicals, and the adoption of environmentally friendly alternatives. The Stockholm Convention further recommends that its members embark on public education to sensitize their citizens about the dangers of the chemicals.⁵² Some of the recommendations can only be enforced at a national level but anyone is invited and encouraged to participate in other solutions, including campaigns against the use of POPs, participation in public education, and the use of alternative chemicals. Similarly, the recommendations of CMS include legal and administrative actions that can only be completed by the governments of member countries and activities that require the involvement of local communities. For instance, one of the recommendations of CMS is the reduced use of wild meat as a source of food. The recommendation requires legislation to save affected wild animals and the ecosystems that depend on the animals' existence but the effectiveness of such laws requires the participation of local communities. Most of the treaty's recommendations have a similar structure. These include efforts to protect marine biodiversity by restricting fishing and the preservation of the habitats of migratory animals.⁵³

⁵¹ Convention on the Conservation of Migratory Species of Wild Animals, "Progress Report on Relevant Activities Undertaken within the Framework of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) for the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea" (2020) www.un.org/depts/los/general_assembly/contributions_2020/CMS.pdf accessed September 23, 2023.

⁵² *Ibid.*, 7.

⁵³ *Ibid.*, 6.

The actionable recommendations of the Kunming-Montreal Global Biodiversity Framework are more community-centered and inclusive compared to those of the other treaties. This is understandable, since the framework is the most current of all five. The recommendations include the participation of local communities in conservation initiatives, a provision for the recognition of different value systems and the appropriate adjustment of interventions, and a whole-of-society approach to the preservation of biodiversity.⁵⁴ Finally, CITES and the CBD make recommendations that focus more on policy and regulation but have provisions for the involvement of citizens and local communities in the protection of nature and access to genetic resources and the benefits of genetic research. Notably, the CBD makes a provision for knowledge sharing, allowing local and indigenous communities to contribute to the pool of genetic knowledge, learn from the genetic resources the convention protects, and gain from the fair benefit-sharing of knowledge derived from genetic resources. Similarly, CITES champions the involvement of residents of member countries in the conservation of wild plant and animal species whose exploitation threatens biodiversity and sustainability.⁵⁵

7.4 GENDER-RESPONSIVE IMPLEMENTATION OF NATURE AND BIODIVERSITY PROGRAMS: LIMITATIONS AND WAYS FORWARD IN THE MENA REGION

Nature conservation and biodiversity conservation treaties have increasingly embraced gender awareness and equity and are working toward entrenching the gender-responsive implementation of their resolutions. However, several legal and institutional gaps remain in fully integrating the gender-responsive implementation of nature and biodiversity programs in the MENA region.

While MENA countries have prioritized gender equality in education, health, and environment programs, the lack of specific national strategies or guidelines on integrating gender in biodiversity programs continues to leave stakeholders without guidance on the specific requirements and steps to achieve gender responsiveness in biodiversity programs. For instance, the national strategy for the conservation of biodiversity in Saudi Arabia does not make a single mention of gender, nor does it elaborate upon the roles of stakeholders to integrate gender considerations in the design and implementation of biodiversity and nature conservation programs.⁵⁶ Similarly, in several countries across the region, comprehensive environmental laws and guidelines on sustainability and biodiversity strategy and action

⁵⁴ *Ibid.*, 1.

⁵⁵ Richard Niesenbaum, "The Integration of Conservation, Biodiversity, and Sustainability" (2019) 11 *Sustainability* 17, 4676 www.mdpi.com/2071-1050/11/17/4676 accessed September 24, 2023.

⁵⁶ National Commission for Wildlife Conservation and Development, "The National Strategy for Conservation of Biodiversity in the Kingdom of Saudi Arabia" (2005) www.cbd.int/doc/world/sa/sa-nbsap-01-en.pdf accessed September 24, 2023.

plans have been enacted but none of them mention gender or integrate gender mainstreaming.⁵⁷ In Morocco, for instance, progress toward gender equality has regressed despite efforts to integrate gender into environmental and biodiversity action plans.⁵⁸ The lack of gender language in the legislation limits the inclusion of women in their implementation of the treaties that rely on national policies, strategies, and action plans. The lack of gender language in the legislation may also indirectly affirm the social hierarchies and power relations that are responsible for women's limited involvement in nature and biodiversity conservation in the MENA region.⁵⁹

The lack of gender mainstreaming in biodiversity conservation action plans and the lack of gender and human rights language in environmental and biodiversity legislation culminate in limited resources and capacity for women to participate in the conservation of nature and biodiversity. This worsens the existing gender-based inequalities in ownership and access to resources in the MENA region, further alienating women in the inception and implementation of action plans for the conservation of biodiversity.

7.4.1 Recommendations for Action

The foregoing limitations raise the need for proactive and innovative ways of promoting the gender-responsive implementation of biodiversity and nature conservation treaties.

First is the need for MENA countries to integrate gender mainstreaming with their conservation policies or establish separate policies to enforce the participation of women in the conservation of biodiversity. The policies can include gender quotas for the committees tasked with the implementation of the national action plans derived from the resolutions of nature and biodiversity conservation treaties and requirements that women should be involved in all stages of biodiversity programs, from inception through implementation to evaluation of outcomes. They can achieve this by requiring the collection of gender-sensitive data before the inception of the programs, adhering to gender quotas in all personnel involved in the programs, considering the needs of all genders when setting project objectives, and allocating the benefits of the programs equitably. Further, policies can require that

⁵⁷ Reem Al-Hababi, "The Evolvement of Qatar's Environmental Sustainability Policy: The Strategies, Regulations, and Institutions" (2022) 9 *Gulf Studies: Sustainable Qatar* 17 https://link.springer.com/chapter/10.1007/978-981-19-7398-7_2#:~:text=Perhaps%20the%20most%20significant%20law,habitats%20and%20preserve%20endangered%20species accessed September 24, 2023.

⁵⁸ United Nations, "Environmental Performance Reviews: Morocco" (2022) https://unece.org/sites/default/files/2023-01/ECE_CEP_191_E.pdf accessed September 24, 2023.

⁵⁹ United Nations Economic Commission for Europe, "Toolbox: How to Mainstream Gender in Environmental Policy" (2021) <https://unece.org/sites/default/files/2021-03/toolbox-gender-mainstreaming-environment.pdf> accessed September 24, 2023.

all environmental and biodiversity laws and regulations be assessed with a gender lens to ensure that they make provisions for the involvement of women.

Second, environmental and biodiversity legislation across the MENA region should adopt gender and human rights language to guarantee the participation of all genders in the conservation of gender and biodiversity. The use of gender-sensitive language ensures that both men and women feel included and addressed by the legislation.⁶⁰ Governments across the MENA region can use gender language to increase the participation of all genders in biodiversity conservation efforts by avoiding exclusionary language such as manpower and spokesman, mentioning both men and women in relation to action plans, and referring to both genders as being on the same level. The legislation can be enhanced further through design and visual elements that portray men and women participating in biodiversity conservation programs.

Third, in addition to entrenching gender mainstreaming in legislation and incorporating gender language to ensure the participation of all in nature and biodiversity conservation, countries in the MENA region can allocate funds to the empowerment of women. This can include establishing scholarships for women in higher education, particularly in STEM (science, technology, engineering, and mathematics) subjects, to increase the number of women with specialized education and knowledge on biodiversity conservation, who can head or contribute to national environment and biodiversity programs. Some countries in the region such as Qatar are making significant investments in women's education in STEM and other fields.⁶¹ More funding can be allocated to increasing the economic participation of women in the region. Combined, their education and economic participation can promote the further participation of women in nature and biodiversity conservation.

Fourth, women are highly underrepresented in formal political structures and decision-making roles related to conservation. When they are included in conservation committees that are tasked with the implementation of biodiversity and conservation treaties, it is usually in administrative roles.⁶² This creates the illusion of gender inclusivity, but in reality the status quo is upheld and women remain on the sidelines in decision-making despite research showing that involving them yields better outcomes for nature conservation. For instance, the inclusion of women on the executive committees of forest conservation programs in Nepal led to the reduced exploitation of forest resources, promoting biodiversity conservation in the region.⁶³ The national committees driving the implementation of the resolutions

⁶⁰ Ibid., 49.

⁶¹ Ibid., 9.

⁶² Ibid., 17.

⁶³ Marinella Leone, "Women As Decision Makers in Community Forest Management: Evidence from Nepal" (2019) 138 *Journal of Development Economics* 180 www.sciencedirect.com/science/article/abs/pii/S0304387818304929 accessed September 24, 2023.

of nature and biodiversity treaties can involve women in decision-making for better outcomes in several ways.

MENA countries should establish policies that require gender-inclusive communal involvement in the implementation of other resolutions at the community level. The Kunming-Montreal Global Biodiversity Framework has made a few strides toward gender-inclusive implementation of its interventions by acknowledging that gender equality is necessary for their successful implementation. The countries can build on the acknowledgment of the need for gender inclusion by setting a minimum gender distribution of the members of individual intervention implementation committees. Putting women on the committees will introduce new perspectives on the implementation of different interventions and guarantee women's enthusiastic participation. Essentially, involving both men and women in decision-making roles will transform the implementation of biodiversity and conservation treaties in the MENA region into a communal affair. Furthermore, MENA countries could require the contributions of women at all stages of the implementation of their biodiversity and nature conservation interventions. As the most recent treaty, the Kunming-Montreal Global Biodiversity Framework has adopted a great approach to guarantee the involvement of local and indigenous communities in the implementation of its interventions. All treaties could adopt a similar approach by acknowledging the crucial role women play in conservation as the custodians of natural resources and require the documentation of their contributions to the implementation of interventions within their communities. Requiring implementation committees to listen to and document women's contributions and suggestions will ensure that their knowledge is used in decision-making and their needs are considered.

Fifth, the involvement of women in decision-making both directly and through their contribution to the knowledge pool that influences decisions is a good but superficial start to promoting the gender-responsive implementation of the resolutions and recommendations of biodiversity and nature conservation treaties. A lasting solution would involve addressing the problems that cause the limited involvement of women in nature conservation. One of these problems is women's limited access to and control of resources. Traditionally, social norms in the MENA region boxed women into the roles of wives and mothers, limiting their ability to earn an income outside of the two roles.⁶⁴ The ripple effect of these gender roles in the region is evident in women's limited ownership of resources such as land, access to natural resources that serve as sources of income such as oceans, and access to tools of social mobility such as education. While biodiversity regulations and legislation cannot reverse centuries of tradition, they can adopt gender mainstreaming in the implementation of interventions that target community resources. Through the gradual

⁶⁴ Austin Phiri et al., "A Review of Gender Inclusivity in Agriculture and Natural Resources Management under the Changing Climate in Sub-Saharan Africa" (2022) 1 *Cogent Social Sciences* 8, 2024674 www.tandfonline.com/doi/full/10.1080/23311886.2021.2024674 accessed September 24, 2023.

adoption of gender mainstreaming, biodiversity laws can establish a new culture of communal ownership and responsibility for natural resources. Moving forward, the responsibility of implementing the treaties and driving the protection of the natural environment would fall on all members of the community regardless of their gender.

Sixth, the education and the distribution of information on conservation, including the existence, purpose, and recommendations of the treaties, are not universal. Women, particularly in rural areas, interact with their natural environment more than the men in their communities. They are the first people in their communities to experience climate change and are the conduits and custodians of knowledge of their environment. However, most of the information they hold is informal and drawn from the experiences and lessons of the women who came before them. Comparatively, the knowledge and education that drives the biodiversity and nature conservation treaties is primarily formal and based on scientific research. These types of education and knowledge are not perceived to have the same value. As such, the knowledge that women have accumulated is devalued and disregarded while formal knowledge is valued highly. Policies that integrate respect for this knowledge combined with the scientific knowledge acquired by the women who benefit from the budgetary allocations to women's education and empowerment would be game changers in the gender mainstreaming of the implementation of the treaties.

Gender mainstreaming will promote the gender-responsive implementation of the treaties by securing women's place in biodiversity programs without resorting to affirmative action. The implementation of the treaties would be driven by both scientific knowledge and the indigenous knowledge held by women. The efforts of one group of women in Lebanon confirm that women can improve conservation efforts if allowed to share their knowledge of nature with their communities. The women in the group exchange knowledge, learn from each other, and use their knowledge to preserve natural resources and restore biodiversity.⁶⁵ As the knowledge that women hold enriches the implementation process, women will have access to formal knowledge as well. The impacts of women's increased access to education and information will manifest in more than their involvement in the design and implementation of the recommendations of the treaties. Since limited education is one of the factors that are responsible for gender differences in access to economic resources, exposure to more education and knowledge will increase women's access to economic opportunities, giving them access to and control of resources.⁶⁶

Finally, women are underrepresented in leadership roles in the committees driving the implementation of biodiversity and nature conservation treaties. The lack of gender balance in leadership robs the implementation process of the benefits of their

⁶⁵ D. Obeidat, "How Women Are Leading Nature Conservation in Lebanon" (*Bird Life International* 2020) www.birdlife.org/news/2020/03/08/how-women-are-leading-nature-conservation-in-lebanon/#:~:text=For%20these%20incredible%20women%2C%20this,off%20a%20full%20blown%20initiative accessed September 24, 2023.

⁶⁶ *Ibid.*, 25.

inclusion, which include improved outcomes of the projects.⁶⁷ The national councils driving the implementation of nature and biodiversity conservation treaties can harness the benefits of the increased empowerment of women and their increased specialization in the sciences to increase women's leadership in conservation efforts. With more women in leadership roles in nature and biodiversity conservation programs, countries in the MENA region could redefine their leadership structures to base leadership on knowledge, values, needs, and priorities and abandon traditional structures, which are based on rights and access to resources and decision-making power. Under the new leadership structures, implementation committees would be constituted to include representatives of both genders to ensure that the needs of the entire community are prioritized and the knowledge of all members utilized. Consequently, both men and women would have equal chances at leadership, decision-making, and benefit-sharing.

7.5 CONCLUSION

To coherently prevent, halt, and reverse the prevailing degradation of nature and loss of biodiversity and their effects on nature, international law recognizes the need for broad-based inclusivity and gender mainstreaming. While every member of the population is feeling the effects of rapid biodiversity loss, women in the MENA region are particularly vulnerable. Their vulnerability stems from systemic barriers that limit the abilities of women to effectively participate in formal decision-making, access economic opportunities, exercise control over land, property, and natural resources, and take decisions on relocation in case of extreme vulnerabilities. Without dismantling such barriers, the abilities of women to take part in and influence decision-making on biodiversity and nature conservation may remain limited.

A starting point is for MENA countries to implement clear and comprehensive policies on mainstreaming gender considerations in biodiversity programs at domestic and regional levels. MENA countries can promote a gender-responsive implementation of biodiversity and nature conservation programs by ensuring the involvement of women in decision-making relating to nature conservation and biodiversity, paving the way for them to share leadership roles in the programs and eliminating barriers in their access to resources, knowledge, and the benefits of the programs.

⁶⁷ *Ibid.*, 13.