18

Advancing the Nexus Approach to Biodiversity and Nature Conservation in the MENA Region

Summary and Options for Policymakers

Damilola S. Olawuyi

18.1 INTRODUCTION

This book examines the values, assumptions, and guiding principles that underpin biodiversity and nature conservation law and policy in the MENA region. With case studies from various MENA countries, the book explored the applicable legislation and institutions, as well as emerging innovative and bottom-up approaches for the implementation of biodiversity and nature conservation treaties across the region. This final chapter reviews the salient themes that have been discussed and identifies directions for future action and research.

The MENA region, like many parts of the world, is facing a rapid biodiversity loss emergency.[1] Apart from the threats of extinction of rare plants and animal species needed to sustain a functional ecosystem, MENA countries face increased threats of losing access to rare natural and cultural capital required to support medical innovation, tourism, bio-business and trade, biodiversity entrepreneurship, and economic diversification.[2] Consequently, responding to the current and anticipated social, economic, environmental, and cultural impacts of nature and biodiversity loss is squarely at the forefront of the political and legislative agenda across the region. However, despite the rise in policy formulation on biodiversity and nature conservation, the pace of implementation remains uneven across the region – in terms of having comprehensive laws, policies, training, and harmonized institutions on biodiversity and nature conservation. There is a need for a detailed and up-to-date assessment of emerging regulatory approaches to biodiversity and nature

[1] J. Richardson et al., "Earth beyond Six of Nine Planetary Boundaries" (2023) 9 *Science Advances* 37. See also W. Steffen et al., "Planetary Boundaries: Guiding Human Development on a Changing Planet" (2015) 347 *Science* 736.

[2] See Chapter 1. See also Taskforce on Nature-related Financial Disclosures (TNFD), "Recommendations of the Taskforce on Nature-related Financial Disclosures" (September 2023) stating that nature and biodiversity loss "poses risks for businesses, capital providers, financial systems and economies, and that these risks are increasing in severity and frequency." https://tnfd.global/wp-content/uploads/2023/08/Recommendations_of_the_Taskforce_on_Nature-related_Financial_Disclosures_September_2023.pdf?v=1695118661 accessed January 12, 2024.

conservation across the region to achieve greater clarity, coherence, and integration. This book is an attempt to meet this need.

The eighteen chapters of this book explore the latest developments of biodiversity and nature conservation law and policy across the MENA region, with a focus on the key legal innovations for the sustainable management of the region's rich natural and cultural heritage. The chapters have also explored larger questions on legal and institutional frameworks that can help address broader issues of inadequate protection of land rights in nature-based programs, gender inequality, inadequate stakeholder engagement, lack of transparency, limited access to environmental information, and the inadequate scope of available financing for biodiversity programs. The case studies have also explored innovative legal strategies to address these misalignments and gaps.

This final chapter offers reflections on the case studies. It addresses how lessons from the diverse jurisdictions may inform thinking on how MENA countries can advance existing national strategies and visions on biodiversity and nature conservation through clear and comprehensive legislation. Considering the wide-ranging impacts of biodiversity loss on water, energy, and food security, as well as on cultural heritage, tourism, urban planning, healthcare, human rights, and other key sectors, comprehensive and wide-ranging responses are required. However, as shown in the case studies in this book, sectoral and piecemeal efforts on biodiversity and nature conservation have been prevalent in many MENA countries. This has not fostered a holistic consideration of the interplay and trade-offs between biodiversity and conservation programs and other key sectors and systems, especially the biodiversity, climate, water, energy, and food and health nexus.[3] A failure to situate biodiversity as a fundamental aspect of advancing climate action, ensuring water, energy, and food security, as well as combating pandemics and the spread of diseases, may result in overall ineffectiveness. Therefore, greater effort is required to mainstream biodiversity and nature conservation into all aspects of development planning and decision-making, in order to effectively anticipate and address short- and long-term drivers and impacts of biodiversity loss and enhance benefit-sharing in a holistic manner.

This chapter discusses essential steps for mainstreaming biodiversity and nature conservation into all aspects of governmental decision-making across the MENA region. After this introduction, Section 18.2 discusses legal and institutional reforms that could advance legal preparedness for biodiversity and nature conservation in the region. Section 18.3 is the concluding section.

18.2 MAINSTREAMING BIODIVERSITY PLANS AND STRATEGIES INTO DECISION-MAKING PROCESSES IN THE MENA REGION

There is an urgent need for all MENA countries to establish coherent and holistic governance frameworks that mainstream and advance the cross-sectoral protection

[3] See Chapters 1 and 5–14.

of all aspects of nature and biodiversity, including forests, wildlife, wetlands, fisheries, natural habitats, and protected areas, in development planning.

Biodiversity mainstreaming refers to the process of integrating biodiversity considerations into all aspects of development planning and policymaking.[4] As far back as 2016, the 13th Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) in its Decision XIII/3, called on parties and other stakeholders to "mainstream conservation and sustainable use of biodiversity within and across various sectors, including, agriculture, forestry, fisheries and aquaculture and tourism at all levels and scales" in order to achieve the Aichi Biodiversity Targets.[5] Under this model, biodiversity impacts are carefully considered in an integrated manner to ensure that programs and actions in one sector do not create other adverse impacts in other sectors of the economy. For example, many world heritage sites that play important roles in the tourism sector are also key biodiversity hubs.[6] The process of designing legislation and policies on cultural heritage should therefore include a clear linkage to biodiversity, including tailored frameworks that protect heritage sites from activities that may harm biodiversity. Similarly, given the potential impacts of the food and agriculture sector on land alteration and the degradation of natural habitats, holistic frameworks are required to advance sustainable agricultural practices and technologies to support biodiversity and nature conservation.[7] Likewise, through agroecology – "an approach to agriculture that harnesses biodiversity to build complex, low-impact agricultural systems" – the benefits of biodiversity-focused farming can be harnessed to enhance food security.[8] Mainstreaming biodiversity and nature conservation is therefore essential not only for advancing environmental objectives but also for accelerating social and economic objectives, including food security, trade, economic diversification, and equitable access to land and natural resources, as well as the all-round fulfillment of human rights.

[4] Convention on Biological Diversity (CBD), "Mainstreaming Biodiversity in Development Cooperation" (April 26, 2019) www.cbd.int/development/about/mainstreaming.shtml#:~:text=The%20mainstreaming%20of%20biodiversity%20can,or%20governments%20lead%20the%20process accessed January 12, 2024.

[5] Convention on Biological Diversity, "Strategic Actions to Enhance the Implementation of the Strategic Plan for Biodiversity 2011–2020 and the Achievement of the Aichi Biodiversity Targets, Including with Respect to Mainstreaming and the Integration of Biodiversity Within and Across Sectors" CBD/COP/DEC/XIII/3 (December 16, 2016) para 2.

[6] See Chapter 14. See also UNESCO, "World Heritage and Biodiversity" https://whc.unesco.org/en/biodiversity/#:~:text=Around%2020%25%20of%20UNESCO%20cultural,of%20land%2Duse%20that%20enhance accessed January 12, 2024.

[7] See Chapter 5.

[8] FoodPrint, "Biodiversity and Agriculture" (published: February 17, 2021; last updated: January 18, 2024) https://foodprint.org/issues/biodiversity-and-agriculture. See also Suchismita Mondal et al. "Harnessing Diversity in Wheat to Enhance Grain Yield, Climate Resilience, Disease and Insect Pest Resistance and Nutrition through Conventional and Modern Breeding Approaches" 7 *Frontiers in Plant Science* (July 6, 2016) www.frontiersin.org/articles/10.3389/fpls.2016.00991/full accessed January 25, 2024.

This section discusses seven important steps that could help stakeholders across different sectors to effectively consider and mainstream biodiversity and nature conservation into all aspects of decision-making.

18.2.1 *The Need for Holistic Law and Policy Responses*

As discussed in Chapter 2, several MENA countries have released their National Biodiversity Strategies and Action Plans (NBSAPs).[9] Some of these NBSAPs address the intersections of biodiversity and nature conservation with all other key sectors, ranging from human rights, to food, water, energy, education, aviation, and healthcare, among other things.[10] They also set out broad plans to integrate biodiversity targets into all aspects of national development policies and reporting. However, despite the release of NBSAPs across the region, clear and comprehensive laws and policies that integrate biodiversity in all key sectors are yet to be fully articulated across key sectors. There remains a clear need for legally binding requirements and targets for stakeholders to mainstream biodiversity and nature conservation, especially nature-based solutions, in all aspects of investment and planning. For example, as discussed in Chapter 8, it is important to integrate a public health perspective into biodiversity planning and policymaking to effectively address the spread of zoonotic diseases such as the COVID-19 pandemic. It is equally important to integrate water management perspectives into biodiversity law and policy to address the impacts of water scarcity and aridity on biodiversity, while also leveraging nature-based solutions to improve water management.[11] Human rights considerations are also important to avoid reactionary responses that may exacerbate land grabs, gender inequity, and other human rights concerns while tackling biodiversity loss.[12] Without an integrated policy response, nature-based programs and projects designed to address biodiversity loss may exacerbate social exclusions, human rights violations, food, water, and energy injustice, environmental impacts, and conflicts in already vulnerable communities.[13]

Therefore, there is an urgent need to strengthen synergies and policy coherence in the design, approval, financing, and implementation of biodiversity and

[9] Convention on Biological Diversity, "National Biodiversity Strategies and Action Plans (NBSAPs)" (CBD.int) www.cbd.int/nbsap/ accessed January 15, 2023.

[10] See Chapter 2. See also Convention on Biological Diversity, "Actions to Enhance Implementation of the Strategic Plan for Biodiversity 2011–2020" (May 11, 2018) www.cbd.int/sp/actions.shtml accessed January 16, 2023.

[11] See Chapter 3. See also Samer Fakhoury and Reem AlHaddadin, "Conservation of Oasis Ecosystems in the MENA Region under Water Stress" (August 2023) www.kas.de/documents/264147/264196/Conservation+of+Oasis+Ecosystems+in+the+MENA+Region+under+Water+Stress.pdf/7b28c843-daac-d33e-8f13-b2fb65224232?version=1.1&t=1692805264626 accessed January 16, 2023.

[12] See Chapters 6 and 7.

[13] Damilola Olawuyi, "Sustainable Development and the Water–Energy–Food Nexus: Legal Challenges and Emerging Solutions" (2020) 103 *Journal of Environmental Science and Policy* 1.

nature conservation programs and policies across all sectors through an integrative approach. Biodiversity can no longer be addressed from a narrow sector-by-sector lens. Rather, biodiversity must be paramount in policy and decision-making at all levels of government. For example, the CBD's National Reporting Guidelines require countries to provide evidence of "how biodiversity is reflected in poverty reduction strategies and other key cross-cutting policy instruments, and into the various economic sectors."[14] This entails biodiversity proofing all development and investment strategies, plans, and programs to minimize damage to ecosystems while maximizing conservation.[15] Such systematic proofing of polices to address their biodiversity and ecosystems impacts will not only maximize conservation but could also accelerate the widespread implementation of nature-based solutions that advance co-benefits and synergies in climate change mitigation and other sustainability efforts.[16]

18.2.2 *Clear and Comprehensive Legislation on Biodiversity and Nature Conservation*

Second, mainstreaming biodiversity into all aspects of governance and decision-making will require clear regulatory frameworks on biodiversity and nature conservation. As seen from the case studies, one key limitation to halting biodiversity loss across the region is the absence of specific biodiversity legislation in many MENA countries. Some of the legal obligations to protect and conserve biodiversity can be inferred or drawn from general environmental legislation, national visions, and other policy documents. However, such an approach is indeterminate and may not provide an opportunity for a clear and robust understanding of the critical interplay, trade-offs, and synergies that exist in decision-making and planning across the diverse domains impacted by biodiversity loss in the short and long term.

For example, the lack of comprehensive biodiversity legislation often means that several of the obligations relating to biodiversity proofing and the use of market-based mechanisms in biodiversity programs are found in different segregated and compartmentalized pieces of legislation or instruments. Some of these instruments may not specifically refer to important concepts such as biodiversity proofing, biodiversity financing, biodiversity-relevant taxation, biodiversity entrepreneurship, or the use of market-based

[14] CBD (n 5). See also CBD, "Guidelines for the Fifth Annual Report" www.cbd.int/doc/nr/nr-05/NR5-guidelines-en.pdf accessed January 12, 2024.

[15] CBD (n 5), also, for detailed discussion of the concept of biodiversity-proofing, see M. Kettunen, K. Medarova-Bergstrom, M. Rayment, I. Shinner, and G. Tucker, "Common Framework for Biodiversity-Proofing of the EU Budget: Guidance for Cohesion Policy Funds" Report to the European Commission, Institute for European Environmental Policy, London (2014) http://minisites.ieep.eu/assets/1422/cfbp_-_Cohesion_funds.pdf accessed January 25, 2024.

[16] See CBD, "Global Biodiversity Outlook 3: Towards a Strategy for Reducing Biodiversity Loss" www.cbd.int/gbo3/?pub=6667&section=6716 accessed January 12, 2024.

mechanisms to halt biodiversity loss, which may limit their scope of application and implementation.[17] Consequently, while the need for biodiversity and nature conservation is generally clear, the granularity of what it requires in practice remains unclear. This creates interpretation gaps on the legal basis and source of responsibility when it comes to supervising different aspects of national biodiversity actions and strategies. Clear, comprehensive, and specific legislation is critical to effectively mainstream biodiversity and nature conservation into the policy apparatus of governments at all levels.

As the Taskforce on Nature-Related Financial Disclosures recommends, biodiversity governance should emphasize four key actions: avoid, reduce, restore, and regenerate (the AR3T framework).[18] First is the need to *avoid* damage to nature and ecosystems through biodiversity-supportive steps such as conducting environmental impact assessments and strategic assessments to protect biodiversity. Second is the need to *reduce* or minimize likely adverse impacts to biodiversity that cannot be avoided. For example, leveraging biodiversity-smart infrastructure (i.e. buildings, technologies, and systems that reduce biodiversity loss and trade-offs, and enhance conservation) across all key sectors can significantly reduce the risk of biodiversity loss. Third is the need to *restore* and recover species or ecosystems that may have been degraded or diminished. For example, specific efforts to replace endangered species such as the Arabian oryx have resulted in sustained progress over the years resulting in its removal from the list of endangered species in the MENA region.[19] Such efforts should be integrated into biodiversity strategies and policies to ensure that they are sustained. Fourth is the need to *regenerate* or increase the productive capacity of the ecosystem in order to sustain biodiversity. Regenerative practices aim to improve, rehabilitate, and support the natural functioning of the ecosystem.[20] For example, regenerative agriculture has been discussed in studies as a "sustainable land management practice" focused on ecological functions.[21]

A clear legal framework on biodiversity could provide the legal basis and obligations for project planners and stakeholders to integrate the AR3T framework into project development and implementation. For example, biodiversity legislation can mandate the biodiversity-inclusive environmental impact assessment and strategic environmental assessment needed to promptly spot and address adverse impacts of

[17] See Organisation for Economic Co-operation and Development, Scaling up Finance Mechanisms for Biodiversity (2013) chapter 3.

[18] See TNFD (n 2) 97–98.

[19] Ibid. See also Jennifer Bell, "How the Arabian Oryx Was Brought Back from Extinction" (Arab News, January 11, 2019).

[20] TNFD (n 2) 97–98.

[21] See Intergovernmental Panel on Climate Change, "Land Degradation" in P. R. Shukla et al. (eds), *Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems* (IPCC nd) www.ipcc.ch/srccl/cite-report/ accessed January 12, 2024. See also P. Newton et al., "What Is Regenerative Agriculture? A Review of Scholar and Practitioner Definitions Based on Processes and Outcomes" (2020) 4 *Frontiers in Sustainable Food Systems* 577723.

projects on biodiversity.[22] Biodiversity legislation can also provide project developers and planners with clarity on the key design standards and measures to comply with at the project design and approval stage. Given the urgency and need to halt biodiversity loss, clear and specific biodiversity legislation could streamline the approval of nature-focused investments and provide incentives for private sector participation, especially in priority biodiversity restoration projects.[23] Biodiversity legislation could also be the basis for clarifying the regulatory models that will underpin integrated response in a country. As Dimitropoulos and Lokhandwala note, there are three major regulatory tools to help transition toward more sustainable development policy choices: command-and-control, market-based approaches, and nudges.[24] MENA countries will need to carefully consider complex socio-economic conditions in their countries and develop a responsive legal framework that provides an effective avenue to accelerate their NBSAPs in a cost-effective manner.

18.2.3 *Frameworks to Enhance Fair and Equitable Access and Benefit-Sharing*

As discussed in Chapter 9, while there is a growing awareness regarding biodiversity and nature conservation across the MENA region, the development of clear and comprehensive regulatory frameworks on access and benefit-sharing (ABS) have been slow across the region. Challenges such as a lack of awareness regarding ABS, a lack of statistical data on ABS, and an inadequate level of compliance with international frameworks on ABS linger across the region, highlighting a continuing need for advancing awareness, fine-tuning legal frameworks, and fortifying implementation measures.

Improving regulatory regimes on biodiversity in general, and ABS in particular, requires a legal, fiscal, and institutional reform agenda aimed at maximizing the full value of ABS across the region. This would be done by developing and implementing comprehensive standards that enhance the access, utilization, and benefit-sharing of genetic sequence data. A starting point is for MENA countries to include clear provisions on ABS in biodiversity legislation to ensure the sustainable use of the region's extensive genetic resources for current and future generations. Aligning such legislation with international standards can enable MENA countries to leverage their comparative advantage as the location of important genetic resources needed globally to advance agriculture, conservation, research, and trade.

Furthermore, it is imperative for regulators and industry associations to collaboratively design model contracts and toolkits that define and conceptualize essential provisions on ABS to be included in research and development (R&D) and technology

[22] CBD (n 14). See also Chapter 15.

[23] See Chapter 10.

[24] G. Dimitropoulos and A. Lokhandwala, "Addressing Climate Change in the MENA Region through Regulatory Design: Instrument Choice Questions" in D. Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2022) 65–68.

development contracts. Such clarity will enable countries to strike a much-needed balance between ensuring the use of genetic resources for R&D, pharmaceutical, agricultural, and other innovation efforts and preventing abuse and ensuring that benefits resulting from such use are accessed by local communities in a just and equitable manner. Establishing standard contractual provisions relating to data disclosure, reporting, and the allocation of genetic resources and their benefits could clarify expectations and enable all stakeholders to ensure the equitable distribution of the dividends derived from genetic resources. For example, the Swiss Academy of Sciences has developed a template ABS agreement that includes important terms for allocating rights, benefits, and risks with respect to genetic resources in a fair and equitable manner.[25] Similarly, the Chancery Lane Project has developed standard contractual clauses with biodiversity-focused provisions that address a wide range of themes including regenerative farming and soil preservation.[26] Integrating such clauses and provisions in investment contracts, especially land-based investments in agriculture, extractives, and the pharmaceutical and construction sectors, is essential to improving current understanding on just and equitable ABS.

Likewise, lawyers providing counsel on development projects should not only integrate ABS provisions in contracts; they should also advise clients on the importance of managing risks related to the use of genetic resources in local communities in order to avoid disputes and conflicts. Indigenous communities are increasingly insistent on ensuring that their traditional knowledge and genetic resources are used in a fair, inclusive, and just manner in line with international law standards.

18.2.4 *Institutional Coherence and Coordination*

In addition to developing a clear and comprehensive legal framework on biodiversity and nature conservation, establishing the right institutional setup for the practical coordination and cooperation of the diverse stakeholders and institutions will also be essential.[27] While rapid biodiversity loss would affect different sectors, the process of coordinating responses across different agencies and institutions that could be impacted has not been straightforward. Due to the different mandates, priorities, and financial resources between ministries, the attention and focus on mainstreaming biodiversity into their strategies, policies, and programs varies significantly. Consequently, biodiversity and nature conservation programs continue to be implemented and articulated in a largely sectoral and fragmented manner.[28] This

[25] Swiss Academy of Sciences, "Agreement on Access and Benefit Sharing for Non-commercial Research: Sector Specific Approach Containing Model Clauses" (2010) www.cbd.int/abs/doc/model-clauses/noncommresearch-abs-agreement.pdf accessed January 25, 2024.

[26] The Chancery Lane Project, "New Land and Agriculture Clauses" https://chancerylaneproject.org/news/new-land-agriculture-clauses/ accessed August 27, 2023.

[27] See Chapter 4.

[28] See Chapter 16.

makes it complex and difficult to achieve institutional coherence and coordination of efforts across ministries and agencies in the design and implementation of biodiversity policies and responses. Furthermore, the implementation of intersectoral coordination is often stifled by capacity questions. For example, mainstreaming biodiversity into the work of human rights agencies or food ministries would require expanding staff capacity or recruiting experts in biodiversity and environmental science. Similarly, biodiversity-proofing infrastructure development projects by public works authorities could require recruiting staff that can understand, analyze, and implement biodiversity-related legislation and policies. Given that several of these institutions are currently not constituted or designed to analyze and implement biodiversity and nature programs, their ability to effectively analyze and implement different biodiversity-related information and data may be limited by differences in skill sets and expertise.[29] Also, epistemic distinctions and lack of operability by different actors and institutions is fueled by the divergent training, styles, and perspectives of the actors in their respective sectors and fields.[30]

These problems raise the need for greater interoperability and standardization approaches that foster cooperation and minimize duplication among sectors and actors in the design and implementation of climate change projects and programs. As recommended by the CBD, the process of designing NBSAPs is an important starting point for engaging widely with key institutions and stakeholders, including government ministries and departments, business enterprises, civil society, academia, and other key relevant entities that have prominent roles to play in advancing biodiversity and nature conservation programs.[31] Such an early and widespread multistakeholder engagement process is required to secure the commitment of all key institutions and entities. National dialogue should be promoted and aimed at building shared and common understanding on nexus and integrated biodiversity proofing by institutional actors in various sectors. Such dialogue will examine to what extent the mandates of existing institutions are coherent, conflicting, and/or duplicative and also whether there are linked platforms in place to support knowledge and information sharing and intersectoral cooperation on biodiversity and nature conservation. For example, institutions can leverage their respective expertise, facilities, and best practices by engaging with staff and experts across sectors to assist with reviewing and assessing the implication of multisector projects on natural and cultural heritage. Inter-agency linkages and partnerships, through joint initiatives and knowledge sharing, could increase trust and enhance synergistic solutions that encourage coherent responses to identified threats. Furthermore, such dialogue should aim to address barriers to interoperability by promoting the information

[29] Ibid.

[30] See D. Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2022) 1–10.

[31] CBD (n 4).

sharing and knowledge exchange on biodiversity and nature conservation by all relevant ministries and agencies in open and linked systems, as well as constituting cross-sectoral panels and committees that can provide an informed picture of biodiversity mainstreaming efforts across the country.

18.2.5 *Increased Biodiversity Financing and Investment*

Linked to the question of capacity and institutional coordination is the question of resources. While there is increased awareness on the need for nature-based solutions to halt rapid biodiversity loss across the region, access to financial resources, especially by small and medium eco-enterprises, to advance biodiversity entrepreneurship remains a key challenge.[32] Chapter 11 unpacks the key role of innovative financing approaches, such as Islamic financing, to meet the currently huge financing challenges that face biodiversity-related investments in the MENA region. Legal and governance gaps that stifle the application of Islamic financing, crowdfunding, and other financing tools in different MENA countries must be carefully mapped and addressed in order to support the accelerated development of nature-based solutions and biodiversity projects across the region.

Furthermore, there is a need for increased budgetary allocation and spending on biodiversity programs in the MENA region. Leveraging biodiversity-smart infrastructure across all key sectors will come at a considerable cost.[33] For example, the cost of upgrading existing infrastructure, expanding current institutions, staffing, training, field inspections, project review panels, and program design will require MENA countries to unlock investment from private and public sectors.[34] MENA countries can leverage the significant revenue from extractive industries to drive investment in biodiversity-smart development and nature conservation, especially by accelerating nature-focused innovation. With infrastructure spending in the Gulf region alone projected to reach US$200 billion over the next ten years, MENA countries have expressed the political will to invest income from extractive industries to advance knowledge-based economies.[35] For example, Qatar is developing a Biodiversity Genome Program aimed at enhancing statistical data on genetic resources in the country.[36] This is in addition to the wide range of conservation

[32] See Chapter 10.

[33] Thomas Daum, Frédéric Baudron, Regina Birner, Matin Qaim, and Ingo Grass, "Addressing Agricultural Labour Issues Is Key to Biodiversity-Smart Farming" (2023) 284 *Biological Conservation* 110165.

[34] See Chapter 11.

[35] See D. Olawuyi, "Can MENA Extractive Industries Support the Global Energy Transition? Current Opportunities and Future Directions" (2020) 8 *Extractive Industries and Society Journal* 2, 100685.

[36] QNA, "Katara Unveils Establishment of Biodiversity Genome Program" www.qna.org.qa/en/News-Area/News/2023-09/02/0019-katara-unveils-establishment-of-biodiversity-genome-program accessed January 12, 2024.

projects in the country, such as the lizard biodiversity conservation project, which aim to protect animals that are rapidly becoming endangered such as the Arabian oryx, sand gazelle, ostrich, bustard, and wild rabbit.[37] Saudi Arabia has also launched a number of biodiversity and conversation projects, such as the Red Sea Biodiversity Project, aimed at halting the loss of rare flora and fauna in the Red Sea and across the country, as well as boosting ecotourism.[38] Morocco, Bahrain, Oman, Jordan, and the United Arab Emirates have announced similar biodiversity-related projects, including mountain conservation and payment for ecosystem services (PES) initiatives.[39] If these programs and visions are effectively implemented and sustained, MENA countries could be well placed to achieve biodiversity-smart development, while also achieving socio-economic outcomes such as increased ecotourism, biodiversity entrepreneurship, biodiversity innovation and technology development, and green employment opportunities, including jobs relating to mountain and oasis conservation.[40]

There is a great opportunity for MENA countries to leverage savings from the extractive industries to finance biodiversity programs. For example, MENA countries are home to some of the largest sovereign wealth funds (SWFs) across the world.[41] Such SWF portfolios can provide opportunities for MENA countries to invest in assets and projects worldwide to halt biodiversity loss. For example, the Qatar Investment Authority, Kuwait Investment Authority, the Public Investment Fund of the Kingdom of Saudi Arabia, and the Abu Dhabi Investment Authority are founding members of the One Planet SWF Working Group, which aims to integrate climate change analysis and environmental considerations in investment decisions.[42] Through this commitment, MENA countries aim to allocate SWF investments to finance sustainability initiatives, including nature conservation programs. By integrating biodiversity considerations into the design, financing, and implementation of SWF investments, MENA extractive industries can significantly accelerate the

[37] Doha News, "Qatar's Environmental Initiatives: Workshop Unveils Conservation Successes and Commitments" (January 1, 2024) https://dohanews.co/qatars-environmental-initiatives-workshop-unveils-conservation-successes-and-commitments/ accessed January 12, 2024.

[38] Mahdyamam, "Saudi Unveils Two Major Biodiversity Development Projects" (June 23, 2021) https://english.madhyamam.com/middle-east/saudi-arabia/saudi-arabia-unveils-two-major-biodiversity-developments-projects-814159 accessed January 12, 2024; see also Abdulaziz S. Alatawi, "Conservation Action in Saudi Arabia: Challenges and Opportunities" (2022) 29 *Saudi Journal of Biological Sciences* 5, 3466.

[39] See Chapter 2. See also Damilola Olawuyi, *Environmental Law in Arab States* (Oxford University Press 2022) 245–274; also, Reginald Victor, *Sustainable Mountain Development in the Middle East and North Africa: From Rio 1992 to Rio 2012 and beyond* (FAO, 2012) www.fao.org/3/cc7226en/cc7226en.pdf accessed January 12, 2024.

[40] Victor (n 39). See also Fakhoury and AlHaddadin (n 11) 4–5.

[41] Olawuyi (n 30).

[42] J. Beard, "Eight Asset Managers Unite for One Planet Initiative" (*City Wire*, July 11, 2019) https://citywireselector.com/news/eight-asset-managers-unite-for-one-planet-initiative/a1249346 accessed January 25, 2024.

attainment of the Sustainable Development Goals (SDGs) relating to biodiversity and nature conservation domestically and abroad.[43]

Furthermore, investing in research and innovation can provide MENA countries with the homegrown and state-of-the-art technologies and tools needed to effectively boost nature-based innovations that support biodiversity and conservation efforts. For example, Saudi Arabia's biodiversity research project at the King Abdullah Science and Technology University aims to enhance biodiversity-related innovation and research.[44] MENA countries will need to develop similar sustained research and innovation efforts that can accelerate and support biodiversity-smart development across the region.

18.2.6 *Innovative Pedagogies to Accelerate Biodiversity Education*

Sixth, the rise of biodiversity and nature conservation law and policy across the region raises the need for innovative pedagogies to train and prepare future lawyers and administrators for evidence-based policymaking in this important field. As discussed in Chapter 17, addressing the rapid loss of biodiversity across the region will require innovative and disruptive teaching methods. The author notes that "there is a need for more specific and tailored workshops and TTT programs on biodiversity in the MENA region to further promote the integration of biodiversity awareness into environmental legal curricula in the various universities and higher education institutions within the MENA region." This will require law schools across the region to design tailored courses that provide practical and skill-based learning on biodiversity and nature conservation using a wide range of online and in-class tools. Similarly, in developing biodiversity law and policy courses, it is particularly important to adopt enquiry-based learning methods that will integrate practical skills and knowledge and prepare students to engage in real-world problem solving.[45] For example, biodiversity-related courses should clearly emphasize practical aspects, such as the development and implementation of biodiversity strategies, drafting and negotiating ABS agreements, implementing green building and efficiency standards, and data collection and analysis on biodiversity.

Furthermore, MENA environmental law academics will need to pool their intellectual resources to cooperate in research and capacity development that advance biodiversity and nature conservation. Successful partnerships are necessary to achieve all aspects of sustainable development. This is well recognized by the SDGs; Target 17.9

[43] R. Sharma, "Sovereign Wealth Funds Investment in Sustainable Development Sectors" (UN 2017) www.un.org/esa/ffd/high-level-conference-on-ffd-and-2030-agenda/wpcontent/uploads/sites/4/2017/11/Background-Paper_Sovereign-Wealth-Funds.pdf accessed January 12, 2024.

[44] Mahdyamam (n 38).

[45] See Hilary C. Bell, "Tackling the Legally Disruptive Problem of Climate Change with Disruptive Legal Education" in Damilola S. Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2021).

encourages countries to enhance international partnerships and support to implement all of the SDGs and develop north–south, south–south, and triangular cooperation.[46]

Target 15.C also encourages countries to "enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities."[47] Similarly, under Target 4.7 countries are to "ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles."[48] These goals and targets emphasize the need for environmental law academics to continue to develop collaborative research and teaching initiatives that could expand the development of innovative courses on biodiversity and nature conservation law and policy. This type of collaboration was in mind when the Association of Environmental Law Lecturers in Middle East and North African Universities (ASSELLMU) was established in 2018, to serve as a professional network for all MENA environmental law academics.[49] As stated in its Constitution, ASSELLMU aims to provide a forum for the discussion and dissemination of environmental law in the MENA region and to identify and search for MENA solutions to the region's environmental problems. It also aims to "spearhead collaborative and multi-disciplinary projects to foster increased awareness for environmental problems, among students and people in MENA region."[50]

Since its establishment, ASSELLMU has organized a number of conferences and events that aim to enhance knowledge dissemination and information exchange on biodiversity.[51] It is important for international organizations, private sector actors, and governments across the region to provide technical and financial support to sustain such important efforts. ASSELLMU, and similar cooperative networks, will need to work with education stakeholders, such as ministries of education, as well as private and public sector organizations, to identify essential executive courses for the development of professionals working on nature and biodiversity-related projects.

[46] United Nations, "Transforming our World: The 2030 Agenda for Sustainable Development" (October 21, 2015) UN Doc A/RES/70/1 https://sdgs.un.org/2030agenda accessed January 12, 2024. See also Sustainable Development Solutions Network (SDSN), "17.9 Enhance International Support for Implementing Effective and Targeted Capacity Building in Developing Countries to Support National Plans to Implement All Sustainable Development Goals, Including through North–South, South–South, and Triangular Cooperation" https://indicators.report/targets/17-9/ accessed January 25, 2024.

[47] Ibid.

[48] Ibid.

[49] See Chapter 2.

[50] ASSELLMU, Constitution of the Association of Environmental Law Lecturers in Middle East and North Africa Universities (Adopted in Settat, Morocco in 2019).

[51] Salam Al-Zahran, "Conference on: Law on Biodiversity, Nature Conservation, and Cultural Heritage Protection in the Middle East and North African Region" www.kas.de/en/web/rspno/veranstaltungsberichte/detail/-/content/conference-on-law-on-biodiversity-nature-conservation-and-cultural-heritage-protection-in-the-middle accessed January 12, 2024.

Educators can then develop a blend of practical and theoretical courses to provide lifelong learning opportunities for stakeholders tasked with designing and implementing biodiversity and nature conservation programs.

18.2.7 *Need for Biodiversity-Focused Due Diligence*

The rise of biodiversity and nature conservation law and policy in the MENA region increases the need for business enterprises and private actors to anticipate and address biodiversity-related legal risks in their investments and projects. Biodiversity-focused due diligence is the process through which enterprises and public actors investigate the direct and indirect the impacts of their investments and projects on biodiversity in order to avoid legal risks.[52] Legal risks in this context refer to the risk of financial, reputational, or investment loss, legal liability, or dispute settlement costs to a company or institution that may arise from the failure by a business enterprise to mitigate the direct and indirect impacts of biodiversity loss.[53] Direct or indirect contributions to biodiversity loss can result in significant financial, reputational, and disclosure risks for a business enterprise or entity, especially an entity that fails to comply with emerging laws and policies in this area.[54] For example, failure to comply with disclosure requirements relating to the impacts of a business or investment on biodiversity may result in fines and sanctions.[55] On the other hand, the implementation of development projects that adversely impact landscapes, forests, and ecosystems may also trigger lawsuits from impacted communities. For example, investing in NBS and emissions reduction schemes, such as clean development and Reducing Emissions from Deforestation and Forest Degradation projects may result in adverse impacts on human rights, especially through displacements of local communities from their lands and forests, the exclusion of women and youth from decision-making processes, a lack of transparency and accountability, and the inadequacy of judicial remedies for victims.[56] There is a marked increase in the number of cases in different parts of the world that seek to establish the legal and human rights liability of business enterprises for failing to address biodiversity loss.[57]

[52] See Jenni Ramos and Zaneta Sedilekova, "Biodiversity Risk: Legal Implications for Companies and Their Directors" https://commonwealthclimatelaw.org/wp-content/uploads/2022/12/CCLI_Biodiversity_risk_paper_2022.pdf accessed January 12, 2024.

[53] Ibid. See also D. Olawuyi, "Climate Justice and Corporate Responsibility: Taking Human Rights Seriously in Climate Actions and Projects" (2016) 34 *Journal of Energy and Natural Resources Law* 27.

[54] Ramos and Sedilekova (n 50). See also World Economic Forum, "Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy" (January 2020).

[55] See TNFD (n 18).

[56] Damilola Olawuyi, *The Human Rights-Based Approach to Carbon Finance* (Cambridge University Press 2018) 1–25.

[57] See Chapter 1. See for example, *Friends of Nature, Shan Shui Conservation Centre, and Wild China Film v China Hydropower Engineering Consulting Group in China* (2020), in which the Chinese Kunming Intermediate People's Court ordered the suspension of work on the construction of hydropower on the Jiasa River to protect this last major habitat of the endangered green peafowl, which

As more MENA countries adopt biodiversity and nature conservation legislation and policies, similar arguments may be made before the courts. Over time, failure to effectively anticipate and manage biodiversity-related risks could carry significant financial, legal, and reputational risks for business enterprises operating in the MENA region. Such risks may manifest in the form of the disruption, suspension, or closure of projects by supervisory bodies, hefty regulatory fines, and director and shareholder liability, and may impact a company's profitability or ability to maintain a license to operate.[58] Businesses can avoid the increasing backlash associated with biodiversity risks by integrating biodiversity considerations into investment analysis and management processes. Business enterprises in the MENA region, especially those in the extractive and construction sectors, can enhance their capacity to effectively anticipate and manage biodiversity-related risks by participating and engaging with the wide range of voluntary initiatives that aim to support companies to "integrate biodiversity conservation into their internal business practices and operations."[59]

There is also a need to implement comprehensive biodiversity-focused environmental impact assessments that spot and address biodiversity risks prior to commencing development and investment activities.[60] Furthermore, human rights impact assessments and due diligence can enhance the abilities of planners to identify and address the potential adverse impacts of biodiversity programs on human rights, especially the right to a clean, healthy, and sustainable environment, land rights, gender injustice, and inadequate public participation in the implementation of such programs.[61] For example, as discussed in Chapter 4, the loss of forests and other protected areas can trigger several violations of indigenous rights in communities that depend on such resources for their survival, culture, and religion. There is therefore a strong business case, in terms of cost, reputation, and effectiveness, for business enterprises and other actors to integrate biodiversity-focused human rights due diligence in their investment planning and business decision-making, even if the domestic law is silent on such requirements. Adopting sound internal screening processes, as part of corporate due diligence and investment risk management

is the only native peafowl in China. Li Yunqi, "Green Peafowl's Last Habitat vs. 3.7-Billion-Yuan Dam" https://news.cgtn.com/news/2020-03-21/Green-peafowl-s-last-habitat-vs-3-7-billion-yuan-dam-P2bT7sSi5i/index.html accessed January12, 2024.

[58] See Guillaume Futhazar et al., *Biodiversity Litigation* (Oxford University Press 2020) 8–10.

[59] A good example is the Energy and Biodiversity Initiative which was established to "to develop and promote practices for integrating biodiversity conservation into upstream oil and gas development." IUCN, The Energy and Biodiversity Initiative https://portals.iucn.org/library/efiles/documents/2003-037.pdf accessed January 12, 2024.

[60] See Chapter 16.

[61] See United Nations Working Group on Business and Human Rights (UN WGBHR), "Corporate Human Rights Due Diligence: Emerging Practices, Challenges and Ways Forward" report to the UN General Assembly, October 2018 (A/73/163). See also UN General Assembly, Resolution A/RES/76/300, "The Human Right to a Clean, Healthy, and Sustainable Environment" (July 28, 2022).

frameworks, could help enterprises to anticipate, mitigate, and address the implications of their investments and projects on biodiversity and ecosystems.

As for the role of lawyers representing companies and investors in transactions and projects, it is important to clarify and emphasize the need for biodiversity and human rights due diligence at early stages of such investments. International bodies and courts insist that business enterprises have a responsibility to address potential and actual adverse human rights impacts across the entire value chain of their operations.[62] As a result, companies, investors, lenders, and insurance underwriters must appropriately investigate, assess, and price biodiversity-related risks that may arise in the transactional context.

As the Taskforce on Nature-Related Financial Disclosures notes, "nature-related risks and opportunities arise from an organisation's dependencies and impacts on nature."[63] Such biodiversity risks may be physical, transition, and disclosures related. Physical risks may flow from activities or investments that adversely impact biodiversity or from the potential loss of earnings resulting from the rapid loss of biodiversity. Physical risks are especially significant for business enterprises that rely on genetic resources from rare and extinction-threatened plants and animals for their activities, such as medicines, pharmaceuticals, and food production.[64] The rapid extinction of such genetic resources may disrupt production activities or may significantly raise transaction costs. On the other hand, transition risks may arise from the increased adoption of biodiversity and nature conservation policies across the MENA region, which may reduce the value or worth of assets or increase compliance costs. For example, ongoing global efforts to halt biodiversity loss may result in new standards that may fundamentally change business structures, limit the availability of funding for land-based investments and projects, raise the cost of debts, capital, and long-dated securities, or ultimately result in stranded assets.[65] These transition risks will need to be carefully considered by lawyers when giving advice, especially given the rapid evolution of biodiversity strategies and policies in the MENA region. Third, as countries adopt biodiversity and nature conservation legislation, business enterprises will have increased obligations to report on biodiversity and nature conservation efforts, as well as the financial impacts of biodiversity-related risks and opportunities on the business and its shareholders.

Legal risks relating to nondisclosure or greenwashing, which may result from misleading or inaccurate biodiversity disclosures, will need to be carefully considered by lawyers when providing advice. Furthermore, the likely impact of biodiversity-related risks and opportunities on the current and future financial position of a

[62] UN WGBHR (n61).

[63] Taskforce on Nature-related Financial Disclosures (n 18) 33–35.

[64] Jenni Ramos and Zaneta Sedilekova (n 50). See also Stefano Giglio, Theresa Kuchler, Johannes Stroebel, and Xuran Zeng, "Biodiversity Risk" (April 2023) www.nber.org/papers/w31137 accessed January 12, 2024.

[65] Giglio et al, ibid.

company as reflected in its income statement, cash flow statement, and balance sheet could play significant roles when negotiating asset values.[66] These and other obligations that may arise from emerging biodiversity law and policy must be carefully monitored and considered by lawyers as part of corporate due diligence and contract negotiation processes to prevent legal risks.

18.3 CONCLUSION

The rich and extensive natural capital of the MENA region play pivotal roles in supporting economic, social, and environmental development in key sectors. However, like many other world regions, the MENA region faces a rapid biodiversity loss emergency that requires dynamic legal innovation and response. Furthermore, there is growing evidence that efforts to halt biodiversity loss through nature-based solutions may result in land grabs, the inequitable allocation of benefits arising from genetic resources, displacements, and the inadequate participation of women and youth in decision-making processes. There is therefore an urgent need for nexus and integrated implementation of biodiversity and nature conservation programs to ensure coherence and address inconsistencies.

This book has developed a profile of the multifarious regulatory and institutional gaps that limit the coherent development and application of biodiversity law and policy at national levels. While the manifestations of these challenges may be escalating in some countries, there is a consistent and urgent need for all MENA countries to effectively mainstream biodiversity considerations into all aspects of development planning and decision-making. A starting point will be to develop clear and comprehensive legislation on biodiversity that clarifies the regulatory models and the roles of different agencies and institutions in the implementation of biodiversity and nature conservation programs. There is also a need to address legal and institutional gaps to biodiversity financing and nature-focused entrepreneurship. A supportive governance framework is required to stimulate private sector investment and participation in biodiversity and conservation programs.

Biodiversity mainstreaming should not be seen as a task for governments alone. Business enterprises, investors, lenders, insurance companies, and their lawyers alike all have prominent roles to play in integrating biodiversity considerations into business decision-making processes and planning. As biodiversity and nature conservation legislation and rules emerge, corporate actors can reduce the legal liabilities and risks arising from the direct and indirect impacts of their activities on lands, ecosystems, and cultural heritage by integrating biodiversity and nature considerations into business decision-making processes and planning.

The success, or otherwise, of integrating biodiversity considerations into planning and investment decisions will also depend on available capacity. There is an

[66] Ibid. See TNFD (n 2) 75–80.

urgent need to bridge capacity gaps in the region through increased investment on biodiversity research and education. Higher education institutions have crucial roles to play in developing innovative programs to train and equip stakeholders with the advanced skills needed to integrate biodiversity considerations into their entire operations and value chains. National authorities and industry stakeholders should provide increased support for multistakeholder capacity development programs, such as those spearheaded by UNEP and ASSELLMU, to accelerate the effective implementation of the wide range of international environmental law instruments on nature conservation and biodiversity across the region.