

Strengthening the Implementation of Biodiversity Treaties through Environmental Law Education

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17.1 INTRODUCTION

This chapter argues that reliance on environmental law education can be one of the strategies to improve the implementation of biodiversity treaties in the Middle East and North Africa (MENA) region. Drawing lessons from emerging best practices on environmental law education across the region, this chapter examines the role of environmental law education in advancing biodiversity and nature conservation. It discusses legal and institutional gaps that hinder the profusion of environmental law education in the MENA region and the key reforms necessary to address such gaps.

Biodiversity is vital to humanity and its continued existence cuts across the rights and duties of states and their obligations pursuant to a plethora of international environmental agreements.¹ Notwithstanding the avalanche of international mechanisms promoting biodiversity protection, there has been a massive decrease in biodiversity resources in many parts of the world, including the MENA region.² For example, the habitat loss of indigenous species within the MENA region is rising at a striking rate due to natural and human causes.³ The MENA region has rich and diverse ecosystems which are currently under threat.⁴ The 2015 International Union for Conservation of Nature (IUCN) Red List states that thousands of species within the MENA region are under threat, arising from the decline in biodiversity sources.⁵ Some of the factors impacting negatively on the biodiversity in MENA include desertification, droughts, climate change, and wildfires.⁶

¹ Generally, see Malgosia Fitzmaurice, Meagan S. Wong, and Joseph Crampin, *International Environmental Law: Text, Cases and Materials* (Edward Elgar 2022).

² There are diverse conceptualizations or understandings of which countries are part of the MENA region. This chapter adopts the categorization enunciated in Chapter 1.

³ Gazliya Nazimudheen, “Things to Know about Habitat Loss in MENA” (EcoMENA, August 24, 2022) www.ecomena.org/habitat-loss-in-mena/ accessed October 15, 2023.

⁴ Damilola S. Olawuyi, *Environmental Law in Arab States* (Oxford University Press 2022) 248–260.

⁵ The IUCN Red List of Threatened Species www.iucnredlist.org/ accessed October 15, 2023.

⁶ Generally, see Rajaa El Kassab, “A Region in Danger! Biodiversity in the Arab Region” (Policy Commons, August 15, 2022) <https://policycommons.net/artifacts/2654130/a-region-in-danger-biodiversity/3677034/> accessed October 15, 2023.

Hence, El Kassab argues that the decline or worsening of biodiversity in the region is connected “to human activities that result from government policies as well as lack of awareness of the importance of biodiversity and its role in achieving food security and the protection of natural resources.”⁷ As a result, some countries in the MENA region are categorized as biodiversity hotspots and have “lost at least 70 percent of its primary native vegetation.”⁸ For example, Morocco has suffered from worsening droughts and this has had negative impacts on biodiversity in the country.⁹ This is said to exemplify the extent of the threats to biodiversity in the MENA region. The situation has been worsened by the negative impacts of climate change, which is “considered one of the key drivers of biodiversity loss – intensified effects on the region’s wildlife, plants and other species are expected to increase.”¹⁰ Furthermore, notwithstanding its substantial energy resources, the adverse or arid geographical circumstances of the MENA region (e.g. it is one of the driest, most water-stressed, and most food insecure areas in the world) makes it enormously susceptible to several environmental difficulties.¹¹

Against this backdrop, halting the rapid loss of biodiversity is of paramount importance to the MENA region. There have been concerted moves by the international community and relevant stakeholders in developing measures or mechanisms to ensure the survival of biodiversity, including by promoting environmental awareness and education.¹² Environmental education is a process or means that enjoins individuals (including students) to explore environmental and allied issues, participate in problem solving, and take action to improve and protect the environment.¹³ Environmental education initiatives play a major role in improving environmental awareness in societies. This becomes of utmost importance in societies or countries that are facing the burden of environmental injustices.¹⁴ Higher education institutions in the MENA region “can play lead roles in promoting the SDGs [Sustainable Development Goals] through courses, training, and research programs that expose students to the various legal regimes governing human relationships with the

⁷ Ibid., 1.

⁸ Critical Ecosystem Partnership Fund, “Biodiversity Hotspots Defined” www.cepf.net/our-work/biodiversity-hotspots/hotspots-defined accessed October 15, 2023.

⁹ Kira Walker, “MENA’s Biodiversity Shrinking under the Pressure of Climate Change” (Nature Middle East December 13, 2022) www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2022.79#:~:text=The%20rich%20biodiversity%20found%20in,and%20animal%20resources%3B%20and%20pollution accessed October 15, 2023.

¹⁰ Ibid.

¹¹ Generally, see Olawuyi (n 4).

¹² Phillippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th ed., Cambridge University Press 2018) 385.

¹³ Fatima Eshun et al., “A Survey of the Role of Environmental Education in Biodiversity Conservation in the Greater Accra Region of Ghana” (2022) 2 *Conservation* 2, 297, 298.

¹⁴ Generally, see Osamuyimen Enabulele and Eghosa O. Ekhaton, “Improving Environmental Protection in Nigeria: A Reassessment of the Role of Informal Institutions” (2022) 13 *JSDLP* 1, 162.

environment.”¹⁵ As the Association of Environmental Law Lecturers in Middle East and North African Universities (ASSELLMU) notes: “[I]mplementing holistic and comprehensive ELE [Environmental Law Education] courses can enhance evidence-based policy-making, societal awareness, and local empowerment on environmental law and sustainability in the region, specifically on issues related to water, energy and food security, climate change, clean technology entrepreneurship and preservation of cultural heritage.”¹⁶

This chapter argues that awareness and understanding of biodiversity issues should be embedded in the law curriculum via environmental law education within the MENA region. Environmental law education, which is a subset or subcategory of environmental education, “focuses on the study of the core principles of law relating to the protection of the environment.”¹⁷ Environmental law education can be integrated or actualized via already existing environmental programs offered by universities or as part of the legal education curriculum in the MENA region. In many parts of the world, scholars and other relevant stakeholders have suggested that awareness of environmental sustainability issues and climate change should be mainstreamed or embedded in the legal curriculum of educational institutions (especially universities), and accordingly the MENA region should not be left out. The environment is an amalgamation of a wide-ranging and rich variety of biodiversity sources and therefore it should be protected.

This chapter examines challenges to environmental law education on biodiversity and nature conservation in the MENA region. It examines how law students and lawyers in the MENA region could be better equipped with the requisite knowledge of the legal framework on biodiversity. The chapter is divided into five sections including the introduction. Section 17.2 discusses the role of environmental education in promoting the utility of treaties on biodiversity. Section 17.3 discusses the evolution of environmental law education in the MENA region and the challenges to biodiversity legal education in the MENA region. Section 17.4 examines how those challenges can be addressed through law and policy responses. Section 17.5 is the concluding section.

17.2 THE ROLE OF ENVIRONMENTAL EDUCATION IN PROMOTING ENVIRONMENTAL AWARENESS IN MENA

Generally, education (whether in formal or informal settings) can provide the tools to enable individuals and societies to tackle the scourge of environmental crisis or degradation.¹⁸ Education can have transformative impacts on how society and

¹⁵ ASSELLMU, Training Manual for the Train-the-Trainers (TTT) Program in Environmental Law for Higher Education Institutions in the MENA Region (August 2021) 21 www.hbku.edu.qa/sites/default/files/train-the-trainers_eng.pdf accessed October 15, 2023.

¹⁶ *Ibid.*

¹⁷ *Ibid.*, 20.

¹⁸ Generally, see Enabulele and Ekhatior (n 14).

individuals treat or act toward their environment. This is evident in the rise of transnational litigation filed by civil society organizations against multinational corporations in different parts of the world. In some of these lawsuits, the knowledge and expertise of individuals (litigants) and organizations have had positive impacts on the business strategy and activities of multinational corporations.¹⁹

Education is vital for the equitable and sustainable use or consumption of biodiversity sources, and it is “crucial for mainstreaming biodiversity.”²⁰ Thus, within the MENA region context, environmental education can be integral as one of the tools in tackling biodiversity-related negative impacts on society. Environmental education can be traced to the mid-eighteenth century when scholars and educators suggested that students should “study nature, not book.”²¹ Thus, some scholars have suggested that the early inspiration for environmental education can be traced to the works of philosophers and scholars who wrote on the utility of nature and the environment in the eighteenth century.²² However, the term “environmental education” is said to have been used first in 1948, and the activities of the various UN international conferences on the environment have given a fillip to the rise of environmental education initiatives at the domestic and international levels.²³ Also, the United Nations Environment Programme (UNEP) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) have also played a massive role in the spread of environmental initiatives in different parts of the world.²⁴

At the international level, many instruments promote the use of environmental education and awareness. For example, SDG 4 focuses on “ensuring inclusive and quality education and promote lifelong opportunities for all” by 2030. Also, Target 4.7 of SDG 4 avers that “all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles” by the year 2030.²⁵ Furthermore, the UNESCO Education for Sustainable Development (ESD) 2030 Framework

¹⁹ Generally, see Sufyan Droubi et al., “Transforming Education for the Just Transition” (2023) 100 *Energy Research & Social Science* 202103090.

²⁰ UNESCO, “Education and Awareness” www.unesco.org/en/biodiversity/education accessed September 17, 2023.

²¹ Generally, see Najib Saab, Adan Badran, and Abdul-Karim Sadik, “Environmental Education for Sustainable Development in Arab Countries’ Annual Report of Arab Forum for Environment and Development” (AFED 2019) 1 www.afedonline.org/en/reports/details/environmental-education-for-sustainable-development-in-arab-countries accessed October 15, 2023.

²² See *ibid.*

²³ Generally, see Afe Babalola and Damilola S. Olawuyi, “Advancing Environmental Education for Sustainable Development in Higher Education in Nigeria: Current Challenges and Future Directions” (2021) 13 *Sustainability* 19, 10808.

²⁴ Generally, see Elizabeth M. Mrema and Aphrodite Smagadi, “The United Nations Environment Programme: Promoting Climate Law Education in the Middle East and North Africa” in Damilola S. Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2022).

²⁵ Also, see Babalola and Olawuyi (n 23).

recognizes ESD as an important core of quality education and an essential facilitator of the seventeen SDGs.²⁶ Also, Article 6 of the United Nations Framework Convention on Climate Change 1992 acknowledges the utility of environmental education in the plethora of efforts of countries in tackling the climate change crisis. Thus, there are moves at the international and national levels to promote environmental education at different levels of study in various parts of the world.

There are also laws and policies promoting environmental education and awareness within the MENA region. For example, the Sustainable Development Initiative in the Arab Region 2002 encourages all Arab countries to integrate environmental education at all educational levels, “with a view to raising a new generation whose members are aware and conscious of their responsibility for environmental protection.”²⁷ Similarly, Article 7 of Qatar’s Environmental Protection Law states that “all authorities responsible of education shall include environmental awareness subjects in all the educational stages.”²⁸ Also, the Qatar National Vision 2030 aims to promote the development of environmentally friendly citizenry that appreciates the preservation or conservation of its natural heritage and its neighbors.²⁹ Furthermore, the United Arab Emirates has developed its National Environmental Education and Awareness Strategy 2015–2021, whose main aim is to integrate or embed environmental education throughout all education stages.³⁰ Thus, laws and policies on environmental education are burgeoning within the MENA region. Arguably, this is not fully reflective of the whole region.³¹ However, scholars aver that there is a growing consciousness in environmental awareness in the educational systems within the MENA region.³²

17.2.1 *Evolution of Environmental Law Education*

Environmental law is a fast-growing and distinct legal discipline in the MENA region.³³ Furthermore, environmental law education is emergent in different parts of the world (including the MENA region). Environmental law education is a subset or subcategory of environmental education, and its emphasis is on the study of

²⁶ UNESCO, “Education for Sustainable Development: Towards Achieving the SDGs (ESD for 2030) and Its Roadmap for Implementation from 2020–2030” <https://unesdoc.unesco.org/ark:/48223/pf0000370215.locale=en> accessed October 17, 2023.

²⁷ League of Arab States, “The Sustainable Development Initiative in the Arab Region” www.un.org/esa/sustdev/partnerships/activities_initiate/101202_sd_initiative_arab_region.pdf accessed February 12, 2024.

²⁸ Law No 30 of 2002 Promulgating the Law of the Environment Protection 30/2002 www.fao.org/faolex/results/details/en/c/LEX-FAOC055012/ accessed February 12, 2024.

²⁹ Qatar National Development Strategy 2011–2016; General Secretariat for Development Planning: Doha, Qatar, 2011. Also cited in Babalola and Olawuyi (n 23) 13.

³⁰ United Arab Emirates, National Environmental Education and Awareness Strategy (2021) www.moccae.gov.ae/assets/b414e05/national-environmental-education-and-awareness-strategy-2015-2021-en.aspx accessed October 17, 2023.

³¹ Generally, see Mrema and Smagadi (n 24).

³² Generally, see Saab et al. (n 21). However, for contrary views, see Mrema and Smagadi (n 24).

³³ Generally, see Train-the-Trainers (n 15); Saab et al. (n 21).

the fundamental principles of law concerning the protection of the environment.³⁴ UNEP has also been at the forefront of developing the global or international rule of law and environmental law education in different parts of the world.³⁵ This has also helped in the promotion and deepening of environmental law education initiatives in several parts of the world. Furthermore, students on environmental law programs or courses are expected to be exposed to a plethora of legal frameworks regulating human interactions with environment. Environmental law is also premised on a plethora of values, strategies, theories, assumptions, and regulatory principles.³⁶ Environmental law education also accentuates the utility or relevance of practical skills and requirements on how relevant stakeholders, including lawyers, academics, law firms, and businesses, can forestall, avert, and “mitigate environmental liability in their operations, especially through corporate social responsibility, sustainability reporting, green supply chains and procurements, and strategic risk management.”³⁷

In the context of biodiversity and nature conservation, environmental law education should also expose students and relevant stakeholders to the various national and international legal regimes on biodiversity and nature conservation. Furthermore, environmental law education for biodiversity and nature conservation should also equip relevant stakeholders in society with the necessary tools, knowledge, and practical skills to tackle the scourge of rapid loss of biodiversity and protect nature conservation.

Furthermore, according to the Training Manual for the Train-the-Trainers (TTT) Program in Environmental Law for Higher Education Institutions in the MENA Region, the elements of environmental law education include:

1. Critical thinking taught to students through application of theory, law, and evidence to assess and draw conclusions.
2. Awareness and sensitivity to the challenges facing the environment, including gaps in law and governance structures.
3. Information and knowledge exchange on the local contexts, barriers, and motivations to improve or maintain environmental quality, including ethics, religious, and/or cultural values.
4. The delivery of pedagogical skills to students to identify and help resolve environmental challenges, and the deployment of legal solutions innovatively.
5. Participation by students in activities that lead to the technical and legal resolution of environmental challenges.
6. Legal vocation training for students through various pedagogical approaches.
7. Development and application of suitable pedagogical approaches, depending on contexts of environmental law education.³⁸

³⁴ Train-the-Trainers (n 15) 20.

³⁵ Train-the-Trainers (n 15); Mrema and Smagadi (n 24).

³⁶ Generally, see Stuart Bell et al., *Environmental Law* (9th ed., Oxford University Press 2017).

³⁷ Train-the-Trainers (n 15) 21.

³⁸ *Ibid.*, 21–22.

In different parts of the world, there have been concerted moves to develop environmental law education or environmental law teaching as one of the tools to prepare law students and lawyers with the knowledge and expertise to deal with the myriad environmental crises afflicting different parts of the world. This takes on more prominence against the backdrop of the negative impacts of climate change occurring in different parts of the world. Hence, today's law students and legal practitioners ought to be trained to deal with these issues.³⁹ Consequently, the overarching academic pedagogical consensus is that teaching on sustainability and environmental-related issues should be integrated into the core or compulsory law curriculum and not just solely located in environmental law programs or modules.⁴⁰

The last twenty years have seen an astronomical increase in environmental law education in different parts of the world.⁴¹ However, in many parts of the world, environmental law education is not compulsory for law students or fully integrated into the legal education curriculum.⁴² This is particularly important given the background of the current climate crisis, the impacts of which are particularly felt in the MENA region. Notwithstanding these impacts, scholars have argued there is lack of climate change awareness in the MENA region.⁴³ For example, Olawuyi argues that:

Despite the grim reality of climate change, the MENA region remains one of the least prepared regions facing it. Clear and comprehensive legal frameworks on climate change have not been so easily forthcoming in many parts of the region. Furthermore, climate change education is still at an alarming stage of infancy in the region.⁴⁴

Hence, many tertiary or higher education institutions within the MENA region have not integrated climate education into their curricula.⁴⁵ Hence, akin to many universities in different parts of the world, climate education is not integrated into the training requirements for law students and legal practitioners.⁴⁶ Arguably the MENA region is no different.

According to Fowler and others, environmental law education emerged in the 1970s as a key constituent of the undergraduate law curriculum in various countries in different parts of the world.⁴⁷ There has also been a massive rise in the

³⁹ Also, see Kim Bouwer et al., "Climate Change Isn't Optional: Climate Change in the Core Law Curriculum" (2023) 43 *Legal Studies* 2, 240.

⁴⁰ Generally, see *ibid.*

⁴¹ Generally, see Mrema and Smagadi (n 24).

⁴² Mrema and Smagadi (n 24); Rob Fowler et al., "From 'Marginality' to 'Mainstream': The Evolution of Teaching and Learning in Environmental Law" in Amanda Kennedy et al. (eds), *Teaching and Learning in Environmental Law: Pedagogy, Methodology and Best Practice* (Edward Elgar, 2021); Bouwer et al. (n 39).

⁴³ Olawuyi (n 4); Mrema and Smagadi (n 24).

⁴⁴ Olawuyi (n 4) 4.

⁴⁵ Generally, see Olawuyi (n 4); Mrema and Smagadi (n 24).

⁴⁶ Generally, see Bouwer et al. (n 39).

⁴⁷ Fowler et al. (n 42).

development of environmental law at the postgraduate and graduate levels in different countries. However, in some parts of world, environmental law has no place in the legal education curriculum, hence some scholars have argued that environmental law is not part of mainstream legal education and thus only a marginal component.⁴⁸ In the UK, environmental law is not a core or compulsory component of the undergraduate legal education curriculum and some scholars have argued that few students take up the study of environmental law for various reasons, including lack of future career prospects in the field.⁴⁹ Thus, there is a rapid decline in the number of students studying environmental law in UK universities.⁵⁰ However, there have been various suggestions made by relevant stakeholders, including academics and legal associations, on how to improve the study of environmental law and the need for the explicit integration of environmental law into the university legal curriculum in the UK.⁵¹ On the other hand, in the UK and many other parts of the world, law students (and legal academics) are clamoring for the inclusion of environmental law into the university legal education curriculum.⁵²

17.2.2 Environmental Law Education in the MENA Region

According to Kameri-Mbote, the director of the UNEP Law Division, “environmental law education systems are relatively at a nascent stage especially within the MENA region. Additionally, environmental law has conventionally not been taught as a core legal subject thus leading to fragmented approaches in its teaching.”⁵³ However, the last few years has seen a growing appetite for environmental law education in the MENA region.⁵⁴ There has been a massive rise in the number of universities offering environmental protection-related topics in their curriculum in the MENA region. For example, in the 2019 report of the Arab Forum for Environment and Development (AFED) on “Environmental Education for Sustainable Development in Arab Countries,” a survey of the fifty-seven highest-ranked universities in the Arab region was conducted.⁵⁵ This survey is said to be the foremost wide-ranging review of environmental law components in schools and university curricula in Arab

⁴⁸ Generally, see Fowler et al. (n 42); Steven Vaughan et al., “Of Density and Decline: Reflections on Environmental Law Teaching in the UK and on the Co-production of Environmental Law Scholarship” in Amanda Kennedy et al. (eds), *Teaching and Learning in Environmental Law: Pedagogy, Methodology and Best Practice* (Edward Elgar 2021).

⁴⁹ Generally, see Vaughan (n 48).

⁵⁰ Generally, see *ibid*.

⁵¹ For some of the suggestions, see Bouwer et al. (n 39).

⁵² Generally, see Bouwer et al. (n 39). Also, see Tolulope N. Ogboru, “Environmental Education: Moving Environmental Law from Marginality to Mainstream” 3 *International Journal of Law and Clinical Legal Education* 83.

⁵³ Train-the-Trainers (TTT) (n 15) 3.

⁵⁴ Generally, see Mrema and Smagadi (n 24).

⁵⁵ Saab et al. (n 21).

countries, in view of recognizing the various lacunae and suggesting strategies to improve the role of education in promoting environmental protection and the implementation or enforcement of the SDGs in the region.⁵⁶ Some of the findings of the survey include that in the last decade, universities in Arab countries have seen a fast increase in programs or courses connected to the environment and sustainable development.⁵⁷ Also, the AFED report found that, in total, fifty-seven universities in the survey offered 221 degree courses or programs relating to environmental issues or topics.⁵⁸ However, the majority of these programs are scientific and technical degrees, which appears to take prominence over law, education, policy, and economics programs.⁵⁹

However, there have been various initiatives that have been developed within the MENA region to assist relevant stakeholders, including environmental law lecturers and scholars, on how to embed environmental awareness and environmental education within their curricula or practices. An example is the Training Manual for the TTT Program in Environmental Law for Higher Education Institutions in the MENA Region, which was jointly organized by the UNEP and ASSELLMU.⁶⁰ ASSELLMU has been at the forefront of seeking to mitigate the gaps in the frameworks on environmental legal education within the MENA region.⁶¹ The program also aims to enhance the pedagogy and the delivery of environmental law programs and courses within the MENA region.

Despite the rise in domestic and regional policies, mechanisms, and laws on the environment within the MENA region, it is contended that “environmental law education is still at an alarming stage of infancy in the region, especially when compared to many other regions.”⁶² Furthermore, in many parts of the MENA region, there have not been deliberate moves to integrate biodiversity awareness into environmental education. For example, 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. Biodiversity within the MENA region is currently under serious threat, and this has become a major issue among governments and other relevant stakeholders in the region.⁶³ In many parts of the world, governments are developing mechanisms and legal frameworks (including ratifying relevant biodiversity treaties) to tackle the biodiversity threats, and the MENA region is not left out. Furthermore, one strategy

⁵⁶ *Ibid.*, 7.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*, 75.

⁶⁰ Train-the-Trainers (n 15).

⁶¹ *Ibid.*

⁶² *Ibid.*, 18.

⁶³ Generally, see Walker (n 9).

is to “ensure that people are conscious of biodiversity conservation is through education.”⁶⁴ Hence, reliance on environmental law education can be one of the strategies to improve the implementation of biodiversity treaties within the MENA region.

Section 17.3 focuses on the barriers militating against the successful implementation of legal education as a tool to improve the implementation of biodiversity treaties within the MENA region.

17.3 CHALLENGES TO BIODIVERSITY LEGAL EDUCATION AS A STRATEGY FOR ENHANCING THE IMPLEMENTATION OF BIODIVERSITY TREATIES IN THE MENA REGION

There are various challenges affecting the successful integration of explicit biodiversity awareness and training into legal education within the MENA region. Some of these barriers or challenges include the marginality of environmental law in legal education in parts of the MENA region, a shortage of qualified environmental law scholars and lecturers, funding and resource constraints, and political crises.

17.3.1 *Lack of Comprehensive Legislation on Biodiversity and Nature Conservation*

In the MENA region, environmental law has arguably come to prominence and of age, and it is one of the strategies that is being used to tackle environmental challenges in the region. According to Olawuyi, all states in the region have developed primary legislation focused on environmental protection and secondary regulations focusing on various environmental issues such as wildlife, fisheries, biodiversity, and the protection of endangered species.⁶⁵ However, many MENA countries lack comprehensive laws relating to biodiversity and nature conservation. For example, according to the information available on the Convention on Biological Diversity (CBD) website, many countries in the MENA region have ratified the CBD, but they are yet to take concrete actions to implement or achieve the 2020 Aichi Biodiversity Targets.⁶⁶ Furthermore, regarding Jordan and its international biodiversity commitments, the CBD website states that Jordan’s overall “legislative framework is in place but still requires further development.”⁶⁷ Arguably, this is representative of

⁶⁴ Eshun (n 13) 297.

⁶⁵ Olawuyi (n 4) 30. On the other hand, scholars including Joseph A. Omojolaibi and Solomon P. Nathaniel, “Assessing the Potency of Environmental Regulation in Maintaining Environmental Sustainability in MENA Countries: An Advanced Panel Data Estimation” (2022) 22 *Journal of Public Affairs* 3, e2526, have argued that environmental laws and regulations do not successfully improve environmental sustainability in the MENA region.

⁶⁶ CBD Website, “List of Parties” www.cbd.int/information/parties.shtml accessed October 15, 2023.

⁶⁷ CBD Website, “Country Profile: Jordan-Main Details” www.cbd.int/countries/profile/?country=jo accessed October 15, 2023.

countries in the MENA region. Thus, very few countries, including the United Arab Emirates (UAE), have developed explicit legal and institutional frameworks on biodiversity and nature conservation in the MENA region.⁶⁸

17.3.2 *Marginality of Environmental Law Education on Biodiversity in the MENA Region*

A major issue afflicting environmental law education is that it is not part of mainstream legal education in many parts of the world. As Fowler and others aver: “Marginality suggests that a subject sits at the fringes of the discipline of law, is inconsequential, and is seen as a luxury rather than an essential component of a good legal education.”⁶⁹ This is also exemplified in the marginality of environmental law in the legal education curriculum in the MENA region. Well-respected scholars, and numerous reports and surveys, have confirmed that environmental law education is peripheral and is not mainstreamed in the legal curriculum in the MENA region.⁷⁰ Even though environmental education is integrated in the university curriculum in many universities in the MENA region, environmental law education is still lacking in many places. Thus, as alluded to earlier, environmental law is not a core course of study in legal education in many parts of the MENA region. For example, Ahmed Elseidi, one of the leading environmental lawyers in Egypt, suggests: “Unlike the US, Egypt lacks advanced legal education courses that detail environmental rights and justice, hindering citizens from understanding the severity of their country’s issues.”⁷¹ This exemplifies the current state of environmental law education in some parts of the MENA region. Hence, scholars have alluded to the fact that there are very few higher education institutions with specialist courses (including biodiversity and nature conservation) in the region that promote students’ knowledge and capacity regarding environmental law and related issues including sustainable development.⁷² Furthermore, the marginal status of environmental law in the MENA region exemplifies or ensures that biodiversity awareness and nature conservation is severely lacking in legal education curricula in the region. This is also accentuated by the near absence of specialist biodiversity law courses in the MENA region.

⁶⁸ Generally, see United Arab Emirates Ministry of Climate Change and Environment www.moccae.gov.ae/en/knowledge-and-statistics/biodiversity.aspx accessed October 15, 2023.

⁶⁹ Fowler et al. (n 42) 8.

⁷⁰ Olawuyi (n 4); Train-the-Trainers (n 15); Saab et al. (n 21).

⁷¹ Generally, see Alicia Santiago, “Enviro Law in Egypt: Egypt’s Only Public Interest Environmental Lawyer Visits Eugene” (*Eugene Weekly*, June 29, 2023) <https://eugeneweekly.com/2023/06/29/enviro-law-in-egypt/#:~:text=Unlike%20the%20U.S.%2C%20Egypt%20lacks,their%20country%27s%20issues%2C%20Elseidi%20says> accessed October 15, 2023.

⁷² Generally, see Olawuyi (n 4) 30.

17.3.3 *Shortage of Biodiversity and Environmental Law Expertise in the MENA Region*

In many parts of the world (especially in MENA countries), there is a shortage of environmental law scholars, especially with expertise and a focus on biodiversity and nature conservation, and this remains a noteworthy barrier to the teaching of the subject in the MENA region.⁷³ Thus, in MENA countries, there is an acute shortage of legal expertise on biodiversity and nature conservation and a paucity of legal scholarship on biodiversity and nature conservation. Accordingly, this is also a reflection of the current state of environmental law teaching in the MENA region.

Furthermore, the shortage of biodiversity and environmental law expertise has negative impacts on the development of university law courses or programs focused on biodiversity and nature conservation in the region. This in turn impacts negatively on the promotion of biodiversity awareness in MENA countries.

17.3.4 *Resource Constraints*

Some of the major issues impacting the successful implementation of environmental education initiatives in the MENA region are resource constraints or challenges, especially regarding the teaching of environmental education and environmental law. The teaching of environmental law requires access to and availability of materials. The teaching materials or resources (which includes textbooks, journal articles, and course materials) on environmental education and environmental law education are mainly in the English language.⁷⁴ In the MENA region, the principal language of teaching is Modern Standard Arabic, and hence some MENA educators regularly “struggle to access the lion’s share of available climate law teaching resources, raising the need for more translation of resources, as well as designing learning resources and platforms in Arabic, to provide greater access to learning resources on climate change law to MENA academics and students.”⁷⁵ Furthermore, some relevant stakeholders at a regional conference in the region have suggested that a major reason for the slow development of environmental law education in the MENA region is the absence of authoritative texts or books focused on environmental law in the region.⁷⁶ However, there is a need for more

⁷³ Generally, see Hilary C. Bell, “Tackling the Legally Disruptive Problem of Climate Change with Disruptive Legal Education” in Damilola Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2021).

⁷⁴ Also, see *ibid.*

⁷⁵ *Ibid.*, 258.

⁷⁶ Damilola S. Olawuyi, “Conference Highlights Need to Introduce Environmental Law to Higher Education Curricula in the Middle East” (IUCN, November 28, 2018) www.iucn.org/news/world-commission-environmental-law/201811/conference-highlights-need-introduce-environmental-law-higher-education-curricula-middle-east accessed October 15, 2023. However, in recent times there have been specialist books published on the nature and content of environmental law by some

books and resources explicitly focused on biodiversity laws, nature conservation, and biodiversity awareness in the MENA region.

Closely associated with this are financial constraints that limit the implementation of biodiversity education and awareness programs. In many parts of the world, governments are reducing the budgetary funds allocated for funding environmental education initiatives due to the economic and financial reasons among others.⁷⁷ For example, the COVID-19 pandemic has had negative impacts on funding of environmental projects in the MENA region.⁷⁸ Furthermore, given the economic and income inequalities in the MENA region, some scholars have argued that this makes the MENA region one of the most unequal in the world.⁷⁹ For example, some of the wealthiest countries are found in the MENA region, which is also home to some of the poorest countries in the world. This also has negative impacts, including the disparities in the quality of university education in the MENA region and hence some of the universities in the region are unable to retain and attract experts in the environmental law discipline.⁸⁰ Many of the existing environmental education initiatives in the MENA region are majorly sponsored by international donors and are thereby unsustainable in the long term.⁸¹

Additionally, the funding of biodiversity and nature projects, including environmental law education initiatives focusing on biodiversity and allied issues, are expensive.⁸² Thus, there is an acute lack of funding for environmental law education initiatives (including educational initiatives focusing on biodiversity and nature conservation awareness) in many MENA countries. Arguably, the lack of funding severely impacts the development of biodiversity and nature conservation awareness initiatives in environmental law education in higher institutions of learning in the MENA region.

17.3.5 *Impacts of Conflict on Environmental Education in the MENA Region*

The MENA region has for many years remained an epicenter of a series of conflicts and wars.⁸³ The region has been affected by a plethora of recent armed conflict

leading including scholars in the MENA region. See for example, Damilola Olawuyi, *Environmental Law in Arab States* (Oxford University Press 2022); Damilola Olawuyi (ed), *Climate Change Law and Policy in the Middle East and North Africa Region* (Routledge 2021); Samira Idlallène, *Rediscovery and Revival in Islamic Environmental Law* (Cambridge University Press 2021).

⁷⁷ However, see Max Roser and Esteban Ortiz-Ospina, *Financing Education* (Our World in Data 2016).

⁷⁸ Generally, see Zainab Lokhandwala, "The Fallout of Covid-19 on Environmental Law in the Middle East and North Africa" (2020) *Opinio Juris in Comparatione*.

⁷⁹ Generally, see Bell (n 73).

⁸⁰ Generally, see *ibid*.

⁸¹ Generally, Saab et al. (n 21).

⁸² Generally, see World Bank, "Sustainable Land Management and Restoration in the Middle East and North Africa Region: Issues, Challenges, and Recommendations" (2019) <https://elibrary.worldbank.org/doi/abs/10.1596/33037> accessed October 15, 2023.

⁸³ Hadi B. Heidarlou et al., "Armed Conflict and Land-Use Changes: Insights from Iraq–Iran War in Zagros Forests" (2020) 118 *Forest Policy and Economics* 102246.

and examples include Yemen, Syria, Iraq, and Libya.⁸⁴ Conflict and instability have had negative impacts on education (including environmental education) in parts of the MENA region.⁸⁵ This poses tremendous challenges for educators and students who can end up being displaced and unable to access education sites or safely access educational materials, and thus cannot engage in face-to-face education activities.⁸⁶ Accordingly, conflict in parts of the MENA region is one of the major barriers impacting negatively on the implementation of environmental law education (including educational measures focused on biodiversity and nature conservation) initiatives and policies in the region. Furthermore, a plethora of relevant stakeholders, including academics, have blamed the lack of biodiversity and nature conservation research in the MENA region on the conflicts, poverty, wars, and economic woes affecting some countries in the region.⁸⁷ Thus, governments in the region are prioritizing human needs and fighting poverty rather than developing educational initiatives on biodiversity and nature conservation.⁸⁸ For example, in Iran, Jowkar and others suggest that in the last two decades, environmental protection appears not to be a pressing issue for the government because it is finding it difficult to meet the economic expectations of its citizens.⁸⁹ Thus, in some parts of the MENA region, environmental education (including biodiversity and nature conservation awareness) has been negatively impacted by socio-political factors.

17.4 STRENGTHENING ENVIRONMENTAL LAW EDUCATION ON BIODIVERSITY IN THE MENA REGION: RECOMMENDATIONS

Environmental law education can be one of the integral tools or strategies in strengthening the implementation of biodiversity treaties in the MENA region. Some of the recommendations analyzed in this section include mitigating the marginality of environmental law education on biodiversity, integrating or embedding biodiversity awareness in environmental law education, capacity building for environmental law academics, improved funding of environmental education initiatives in the MENA region, and biodiversity litigation as tool for the implementation of biodiversity treaties.

⁸⁴ Beatriz DeQuero-Navarro et al., "From Conflict to Cooperation: A Macromarketing View of Sustainable and Inclusive Development in Lebanon and the Middle East" (2020) 66 *Environmental Management* 2, 232.

⁸⁵ Generally, see Bell (n 73) and Saab (n 21).

⁸⁶ Bell (n 73).

⁸⁷ Walker (n 9).

⁸⁸ Generally, see Walker (n 9).

⁸⁹ Houman Jowkar et al., "The Conservation of Biodiversity in Iran: Threats, Challenges and Hopes" (2016) 49 *Iranian Studies* 6, 1065.

17.4.1 *Comprehensive National Policy and Legislation on Biodiversity and Nature Conservation*

It is essential that MENA countries enact comprehensive laws and regulations for biodiversity and nature conservation issues to provide clear framework for the implementation, monitoring, and enforcement of biodiversity and natural conservation and allied issues.⁹⁰ Thus, governments in the MENA region need to implement or create “dedicated action plans to halt and reverse the loss of critical habitats and species, enhance water management practices and conserve vital freshwater, and mainstream sustainability and conservation in key social and economic activities.”⁹¹ Furthermore, MENA countries can take inspiration from the actions and strategies enshrined in the UAE’s framework on biodiversity and nature conservation. For example, the UAE has a comprehensive framework on biodiversity and nature conservation.⁹² The UAE has signed, and in some cases ratified, various international treaties and mechanisms focusing on biodiversity and nature conservation, including the CBD, the Convention on the International Trade in Endangered Species of Wild Fauna and Flora, the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, the United Nations Convention to Combat Desertification, and the Ramsar Convention on Wetlands.⁹³ Furthermore, the UAE has a plethora of action plans on biodiversity and nature conservation, including the National Biodiversity Strategy 2014–2021.⁹⁴ Thus, the UAE can be an inspiration to other MENA countries on how to develop a comprehensive legal framework on biodiversity and nature conservation.

17.4.2 *Mitigating the Marginality of Environmental Law Education in the MENA Region*

Generally, it should be noted that although environmental law is not a core component of the legal education curriculum, this does not necessarily mean that such courses will not have students or academics conducting research on it. For example, in North America and parts of Europe, notwithstanding the elective or non-core status of environmental law, it is quite popular and has a firm place in the

⁹⁰ Also, see Olawuyi (n 2) 12.

⁹¹ PwC Middle East, “Nature and Biodiversity: Creating a Nature Positive Future” (2023) www.pwc.com/mi/en/publications/nature-biodiversity.html accessed October 15, 2023.

⁹² Generally, see the United Arab Emirates Ministry of Climate Change and Environment, “A Guide to Biodiversity Conservation in the UAE” (May 2023).

⁹³ Ibid. Also, see the Convention on Biological Diversity (CBD) website, “United Arab Emirates – Main Details” www.cbd.int/countries/profile/?country=ae#:~:text=In%20addition%2C%20the%20UAE%20has,by%20%E2%80%9CEmirates%20vision%202021%E2%80%9D accessed October 15, 2023.

⁹⁴ United Arab Emirates Ministry of Climate Change and Environment, “Biodiversity” www.moccae.gov.ae/en/knowledge-and-statistics/biodiversity.aspx accessed October 15, 2023.

legal curriculum, with large numbers of students.⁹⁵ In several developing countries, notwithstanding the elective status of environmental law in the legal curriculum, environmental lawyers and activists have used their expertise of environmental law as means of engaging in social change.⁹⁶ Thus, in the context of MENA countries, environmental law (incorporating biodiversity and nature conservation) should be fully integrated and made a core component of the legal curriculum in the region. This is akin to the move taking place in some developing countries. Therefore, in some developing countries, including Indonesia, the Philippines, India, and China, environmental law is becoming a mandatory or core aspect of the undergraduate legal curriculum.⁹⁷ Mainstreaming environmental law is a key strategy that can be used in promoting environmental law education and this will have positive impacts on enhancing environmental awareness including biodiversity and nature conservation awareness in the MENA region. This is arguably in line with the AFED report on environmental education in the MENA region, that there is an urgent need to reinforce topics including environmental law in the legal education curriculum in the MENA region.⁹⁸ Thus, this will help bring to the fore the relevance or utility of biodiversity awareness and nature conservation in environmental law education in the MENA region.

17.4.3 *Embedding Biodiversity Awareness in Environmental Law Education in the MENA Region*

Awareness and understanding of biodiversity issues should be embedded in the law curriculum in the MENA region. For example, this can be done via already existing environmental programs offered by universities or as part of the legal education curriculum in the MENA region. Akin to what Bouwer has termed as “climate consciousness” in legal practice,⁹⁹ there should be explicit embedding or integration of biodiversity consciousness or awareness into the legal education curriculum in universities or higher education institutions and in legal practice (especially environmental law practice) in the MENA region. According to Preston: “Climate change places a responsibility on lawyers to adopt a climate conscious rather than a climate blind approach in their daily legal practice. A climate conscious approach requires an active awareness of the reality of climate change and how it interacts with daily

⁹⁵ Generally, see Fowler et al. (n 42).

⁹⁶ Amanda Kennedy et al. (eds), *Teaching and Learning in Environmental Law: Pedagogy, Methodology and Best Practice* (Edward Elgar 2021).

⁹⁷ Fowler et al. (n 42) 11.

⁹⁸ Saab et al. (n 21) 13.

⁹⁹ Kim Bouwer “Climate Consciousness in Daily Legal Practice” (*Journal of Environmental Law Blog*, May 22, 2015) https://blog.oup.com/2015/05/climate-consciousness-daily-legal-practice/?utm_source=feedblitz&utm_medium=FeedBlitzRss&utm_campaign=oupblog accessed October 15, 2023; Brian Preston, “Climate Conscious Lawyering: Implementing a Climate Conscious Approach in Daily Legal Practice” (2021) 95 *Australian Law Journal* 51.

legal problems.”¹⁰⁰ Hence, due to the severe nature of biodiversity threats in the MENA, the legal education curriculum and the training of lawyers should be totally revamped to contain explicit allusions to the utility of international and national legal frameworks on biodiversity, practices, principles, and awareness of biodiversity issues. Arguably, this can play a positive role in the development of legal strategies to help tackle the source of biodiversity threats in the MENA region. Thus, promoting the effectiveness and the implementation of biodiversity treaties in the MENA region will enhance the various measures developed to tackle the sources of the threats to biodiversity.

Furthermore, many laws and policies have been developed in the MENA region for the protection and conservation of biodiversity sources. Thus, law students and lawyers in the MENA region should be supported via environmental law education to understand the implications of these laws and policies and their impacts in the MENA region. Furthermore, students in the MENA region, via biodiversity awareness in environmental law education, will be able to understand that the international conventions on biodiversity are legal mechanisms that create obligations on countries that have ratified the conventions. Thus, countries that have ratified such treaties are expected to adapt their legal frameworks or laws to ensure that all the commitments arising from the international treaties or conventions are met locally.¹⁰¹ Arguably, awareness or knowledge of the legal implications of biodiversity treaties “provides the student with a standpoint from which to critically assess the behavior of governments, parliaments, authorities, and businesses,”¹⁰² regarding the implementation of biodiversity treaties in the MENA region. Furthermore, by virtue of Article 27 of the Vienna Convention on the Law of Treaties, contracting parties or countries to treaties cannot rely on national laws as reasons or justifications for not respecting their expected obligations or commitments under such treaties. Thus, MENA countries should adhere to the various obligations arising from the plethora of international conventions relating to biodiversity and nature conservation and other allied issues that they have signed and ratified.

Awareness of the legal frameworks on biodiversity is not enough; society (especially lawyers and university law students) in the MENA region should also develop a deep understanding of how biodiversity will be influenced and shaped by society’s response to biodiversity threats in the region.¹⁰³ This will arguably lead to improving of the skill sets or expertise of lawyers regarding biodiversity awareness or biodiversity-related issues in the MENA region.

Furthermore, according to Hulme, international conventions relating to biodiversity issues or “nature conservation treaties include mandatory obligations to

¹⁰⁰ Preston (n 99) 51.

¹⁰¹ Generally, see Droubi (n 19).

¹⁰² Droubi (n 19) 7.

¹⁰³ Generally, see Bouwer (n 99) for analysis of the utility of a climate consciousness approach from a UK perspective.

conduct conservation training and education.”¹⁰⁴ For example, Article 27 (1) of the World Heritage Convention (WHC) 1972 explicitly accentuates the relevance of states engaging in the awareness of natural heritage issues to “strengthen appreciation and respect by their peoples.”¹⁰⁵ This arguably serves as a mobilization tool for society to support and value its conservation and natural heritage protection.¹⁰⁶

This chapter adopts the view of Lavey on the utility of climate change education integration into law school curriculum,¹⁰⁷ and this is also applicable to biodiversity awareness expected from environmental lawyers within the MENA region. Thus, Lavey suggests that effective lawyering premised on knowledge, skills, and understanding regarding the various risks from undulating environmental conditions should underpin legal education.¹⁰⁸

Furthermore, in the context of biodiversity and nature conservation, effective lawyering should also be underpinned by knowledge and awareness of the biodiversity and nature conservation issues in the MENA region. Hence, legal practitioners in MENA countries should be at the forefront of biodiversity consciousness or awareness in their legal practice in the MENA region. Additionally, UNESCO avers that “[e]ducation is essential for the sustainable and equitable use of biodiversity and its conservation. It is also crucial for mainstreaming biodiversity.”¹⁰⁹ Thus, environmental education is essential to actualizing the SDGs (especially SDG 15) in the MENA region.¹¹⁰ Additionally, leading scholars on environmental law in the MENA region at a conference in 2018 advocated for the explicit integration of environmental law (which also includes biodiversity and nature conservation) in the higher education curricula in the region.¹¹¹

¹⁰⁴ Karen Hulme, “Using International Environmental Law to Enhance Biodiversity and Nature Conservation during armed conflict” (2022) 20 *Journal of International Criminal Justice* 5, 1155, 1173. Also, Hulme states that Article 12 and 13(a) CBD; Article 3(3) Bern Convention; Article 5(e), 22(c), 23, 27–28 WHC; and Article 4(5) Ramsar Convention provide for environmental education in their provisions.

¹⁰⁵ Generally, see Articles 27 and 28 of the WHC which focuses on environmental education. Furthermore, the recognition of education as a strategy to enhance knowledge and awareness about biodiversity is explicitly acknowledged by the CBD.

¹⁰⁶ Generally, see Hulme (n 104).

¹⁰⁷ Warren G. Lavey, “Toolkit for Integrating Climate Change into Ten High-Enrollment Law School Courses” (2019) 49 *Environmental Law* 513.

¹⁰⁸ *Ibid.*, 515–516.

¹⁰⁹ UNESCO, “Biodiversity: Education and Awareness” (December 20, 2022). www.unesco.org/en/biodiversity/education accessed October 15, 2023.

¹¹⁰ SDG Resources for Educators – Life on Land <https://en.unesco.org/themes/education/sdgs/material/15> accessed October 15, 2023. Furthermore, this resource further states that “[b]iodiversity education contributes to integrating protective ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.”

¹¹¹ Damilola S. Olawuyi, “Conference Highlights Need to Introduce Environmental Law to Higher Education Curricula in the Middle East” (IUCN, November 28, 2018) www.iucn.org/news/world-commission-environmental-law/201811/conference-highlights-need-introduce-environmental-law-higher-education-curricula-middle-east accessed February 12, 2024.

17.4.4 *Capacity Building of Environmental Law Academics*

Different initiatives have been developed in the MENA region to mitigate the shortage environmental law scholars, improving the skill sets of academics and various stakeholders, including UNEP and ASSELLMU.¹¹² For example, UNEP in collaboration with various stakeholders have played a crucial role in the expansion of international environmental law and principles and has supported different countries in developing and enhancing capacities or expertise in environmental law.¹¹³ Regarding environmental law education, UNEP has supported various initiatives to develop environmental law education in different parts of the world, including Africa, Asia, and the MENA region.¹¹⁴ For example, UNEP in collaboration with Professor Olawuyi was instrumental in the creation of the ASSELLMU in 2018. The ASSELLMU is a professional network of environmental law scholars and one of its major objectives is conducting research on the practice and implementation of environmental law in the region.¹¹⁵ Since its inception, the ASSELLMU has organized several conferences that have served as avenues or platforms for bringing environmental law teachers, practitioners, lawyers, and trainers together to exchange knowledge with each other.¹¹⁶

As one of the strategies of improving the skill sets of environmental law scholars and teachers in the region, ASSELLMU has also organized a series of events and developed the teaching of environmental law toolkits. For example, the Training Manual for the TTT Program in Environmental Law for Higher Education Institutions in the MENA Region, which was jointly organized by the UNEP and ASSELLMU.¹¹⁷ This training program was developed to support academics conducting research or teaching environmental law-related courses or programs in the MENA region. Furthermore, the “overarching objective of this TTT Programme is to enhance the technical capacity for environmental law education in MENA universities through an in-depth exploration of innovative approaches for curriculum design, teaching pedagogies, and student assessment.”¹¹⁸ Thus, the regular occurrence of this and similar capacity-training events will continually improve the skill sets of environmental law scholars and arguably help in mitigating the shortage of environmental law experts in the region. Additionally, specialist training should be organized for environmental law scholars and lawyers to enhance their knowledge and pedagogy relating to biodiversity law and awareness and nature conservation in the MENA region. For example, ASSELLMU,

¹¹² Generally, Mrema and Smagadi (n 24).

¹¹³ Mrema and Smagadi (n 24) 30.

¹¹⁴ Generally, see Fowler et al. (n 42).

¹¹⁵ ASSELLMU website, “About Us” <https://assellmu.org/about-us/> accessed October 15, 2023.

¹¹⁶ *Ibid.*

¹¹⁷ Train-the-Trainers (n 15).

¹¹⁸ *Ibid.*

UNEP, and other relevant stakeholders should explicitly embed the knowledge of biodiversity laws, awareness, and nature conservation issues in their training courses. These training courses should be organized for environmental scholars, lawyers, and policymakers in the MENA region to deepen their knowledge or understanding of biodiversity and nature conservation issues. Furthermore, continuous training of environmental law teachers, researchers, and academics will enhance the delivery of environmental law education programs in universities in the MENA region.

17.4.5 *Improved Funding of Environmental Education Initiatives in the MENA Region*

There is a need for increased funding of the ASSELLMU and other similar environmental education initiatives (including biodiversity and nature conservation) in the MENA region. The funding of environmental education initiatives and environmental programs is said to be on the decline in several states in the MENA region.¹¹⁹ The number of environmental initiatives is on the rise in the MENA, and this needs increased funding from the government and other relevant stakeholders for these initiatives to be successfully implemented. Hence, the AFED report suggests that financial resources ought to “be raised independently of international donors in order to enhance both the quality and evidence base of environmental topics.”¹²⁰ Furthermore, richer MENA countries, including Saudi Arabia and the UAE, have an integral role to play by funding environmental education initiatives (including those focused on biodiversity and nature conservation) in other MENA countries.

17.4.6 *Mitigating Impacts of Conflicts on Environmental Education Initiatives*

The movement to online teaching and use of technology could help improve access to environmental education by students during conflicts in the MENA region. Thus, online-learning platforms can serve as lifeline for students in MENA, whose education has been negatively impacted by the conflict.¹²¹ Consequently, this requires reliance on technology and if the computer network is able to cope with the demands and if the students affected by conflict can get online, they can potentially access education.¹²² The COVID-19 pandemic has shown the world (especially the education sector) that online-learning platforms can serve as good alternatives to

¹¹⁹ Generally, see Saab et al. (n 21).

¹²⁰ *Ibid.*, 9.

¹²¹ Generally, see Bell (n 73).

¹²² Bell (n 73) 258.

face-to-face teaching and many schools and universities have fully embraced the technology to enable access to education and its resources, during and even after the COVID-19 pandemic, including in the MENA region.

Furthermore, the reliance on online teaching and use of technology can improve access and create open more opportunities for environmental law education focusing on biodiversity and nature conservation awareness in the region. For example, more people can be trained through online or virtual learning platforms on the utility of biodiversity and nature conservation awareness in the MENA region. Also, various online tools such as videos, e-learning tools, and other educational technology resources can enhance the quality of the learning and teaching of biodiversity and nature conservation issues in the region.¹²³

17.4.7 *Biodiversity Litigation as a Tool for the Implementation of Biodiversity Treaties in the MENA Region*

Due to the failings and weaknesses of domestic and international regulatory mechanisms in different parts of the world, the use of litigation is now regularly relied upon by individuals, victims, and other relevant stakeholders in holding governments, multinational corporations, and other entities accountable for their actions in different parts of the world.¹²⁴ For example, due to the existing weaknesses in the global climate governance regime, climate litigation has become a popular strategy or mechanism utilized by climate change victims and their representatives in various jurisdictions in both developing and developed countries in holding multinationals and states accountable for climate inaction.¹²⁵ Arguably, due to the impact of climate litigation at the national and international levels, some scholars have argued for the development of biodiversity litigation as one strategy that can be relied upon to enhance the implementation of the various biodiversity conventions at the domestic level.¹²⁶

There are different definitions and conceptualizations of biodiversity litigation.¹²⁷ However, this chapter adopts the definition by Futhazar et al., and they define

¹²³ Also, see Bell (n 73) for similar allusions in the context of climate change education in MENA countries.

¹²⁴ Rhuks Ako and Eghosa O. Ekhator, “The Civil Society and the Regulation of the Extractive Industry in Nigeria” (2016) 7 *Journal of Sustainable Development Law and Policy* 1, 183.

¹²⁵ See, Pedi Obani and Eghosa Ekhator, “Transnational Litigation and Climate Change in Nigeria” in *Symposium: Nigeria and International Law: Past, Present and the Future* (AfronomicsLaw Blog 2021) www.afronomicslaw.org/category/analysis/transnational-litigation-and-climate-change-nigeria accessed October 15, 2023.

¹²⁶ Generally, see Guillaume Futhazar, Sandrine Maljean-Dubois, and Jona Razzaque (eds), *Biodiversity Litigation* (Oxford University Press 2022).

¹²⁷ Generally, see Clyde & Co website, “Biodiversity litigation: Environment Analysis” (April 12, 2022) www.clydeco.com/en/insights/2022/04/biodiversity-litigation-environment-analysis accessed October 15, 2023.

biodiversity litigation as “any legal dispute at the national, regional or international level that concerns conservation of sustainable use of and access and benefit-sharing to genetic resources, species, ecosystem and their relations.”¹²⁸

There is the potential or possibility for biodiversity litigation to hold governments accountable for their international biodiversity commitments within MENA. Successful biodiversity litigation has taken place in other developing countries, including India, Brazil, and Tanzania.¹²⁹ However, biodiversity litigation remains largely untested in the MENA region. Environmental biodiversity awareness can improve the knowledge or expertise of litigants and other relevant stakeholders in successfully exploring the potential of biodiversity litigation to seek redress for landscape alteration and habitat degradation resulting from development activities and projects in the MENA region. Reliance on litigation as a legal strategy has achieved some success in transnational human rights litigation instituted against multinational corporations and governments in different parts of the world.¹³⁰ Successful litigation can have positive impacts on the regulation of different sectors or industries in countries.¹³¹ Thus, successful biodiversity litigation could strengthen the implementation of biodiversity treaties in the MENA region.¹³²

17.5 CONCLUSION

Various international and regional instruments and policies have underscored the importance of environmental education in advancing biodiversity and nature conservation. In the MENA region, there has been an increase in the number of environmental education initiatives; however, environmental law education (including initiatives on biodiversity and nature conservation) is still at the fringes of the university curriculum in the region.

This chapter has undertaken a critical analysis of the current state of environmental law education in the MENA region. Notwithstanding the marginal status of environmental law education in several countries in the region, it can serve as one of the strategies to strengthen the implementation of the plethora of biodiversity treaties in the region. Several recommendations are made in this chapter on how to improve the status of environmental law education in the region and these measures can be replicated in other developing countries as well. The

¹²⁸ Futhazar et al. (n 126) 15.

¹²⁹ Boya Jiang, “10 Landmark Cases for Biodiversity” (ClientEarth China, October 11, 2021) www.clientearth.org/latest/documents/10-landmark-cases-for-biodiversity/ accessed October 15, 2023.

¹³⁰ Generally, see Ako and Ekhaton (n 124).

¹³¹ *Ibid.*

¹³² Also, see Rob Fowler, “The Role of the IUCN Academy of Environmental Law in Promoting the Teaching of Environmental Law” (2017) 8 *IUCNAEL e-Journal* www.iucnael.org/en/academy-journal/previous-issues/86-journal/issue/640-issue-2017 accessed October 15, 2023.

recommendations include mitigating the marginality of environmental law education, embedding biodiversity awareness in environmental law education, the capacity building of environmental law academics, improved funding of environmental education initiatives, mitigating the impacts of conflicts on environmental education initiatives, and the utility of biodiversity litigation. Arguably, the implementation of these recommendations, which are premised on environmental law education in MENA countries, will enhance and localize the implementation of biodiversity treaties in the region.