

THE ENVIRONMENTAL AND WATER PROTECTION ISSUES IN STATUTE LAWS OF THE REPUBLIC OF IRAQ AND THE ARAB REPUBLIC OF EGYPT: A COMPREHENSIVE ANALYSIS OF CHALLENGES AND SOLUTIONS

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Abstract- *Preserving the environment and protecting water resources are paramount issues in the legal frameworks of Iraq and Egypt. Both countries have implemented legislation and regulations to effectively manage their water resources and environment. Iraq has programs to preserve water resources, including reducing consumption, enhancing productivity, preventing pollution, and protecting dams and rivers. This legislation also addresses the conservation of wildlife natural ecosystems. In Egypt, the government has made significant efforts to protect water resources and the environment nationwide. Their measures include reducing water consumption, promoting sustainable agriculture, preventing water and air pollution, preserving protected areas, conserving biodiversity, and protecting wildlife and plant species. This study evaluates the challenges faced in water environment preservation and proposes the available solutions in the legal frameworks of both nations. Descriptive analytics will be used as the foundation for this study, focusing on summarizing key findings and recommendations.*

Keywords: *Environment, Statute law, The Republic of Iraq, The Arab Republic of Egypt, Water Resources*

INTRODUCTION

Iraq and Egypt actively participate in numerous international organizations dedicated to environmental conservation. 1971, Iraq officially joined the United Nations and has since been engaged in various initiatives to preserve and promote ecological well-being and sustainability. Besides, Iraq holds membership in the Regional Organization for the Protection of the Marine Environment (ROPME), the Middle East and Central Asia Environmental Protection Organization, and other environmental protection organizations. Additionally, Iraq has become a party that signed the Paris Agreement concerning climate change. Its active involvement has been crucial in promoting and garnering global recognition for this agreement within its local vicinity and international boundaries. Multiple international organizations, such as the United Nations, the United Nations Environment Program, the World Wildlife Fund (WWF) for Nature, and various other entities, have significantly supported Iraq's environmental preservation efforts by providing guidance, solutions, and technical assistance. Moreover, these organizations provide financial and technical assistance to the Iraqi government, supporting the development and implementation of environmental initiatives. International organizations play a vital role in safeguarding and conserving the global environment. Considering the prevalent environmental obstacles in Iraq, these organizations' presence and active involvement within the nation are of utmost significance.

Moreover, Egypt holds membership in multiple international agreements and organizations, including the Convention on Biological Diversity (CBD), the United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, the Comprehensive Convention on International Terrorism (CCIT), the World Heritage Convention, and the Persian Gulf Cooperation Council. Moreover, Egypt's commitment to fulfilling its responsibilities in reducing greenhouse gas emissions is exemplified by its participation in the Kyoto Protocol since 1994, thereby showing its dedication to this international agreement. Besides, since 2016, Egypt has actively engaged as a member of the Paris



Seine initiative, a global agreement to mitigate greenhouse gas emissions globally. Egypt consistently promotes a cleaner and more prosperous global environment, as evidenced by its active participation in international organizations committed to preserving and protecting the environment (Al-Muhanna, 2019).

Iraq and Egypt encounter various shared environmental challenges, including the depletion of water resources, climate change, air and water pollution, increased waste generation, widespread desertification, and the degradation of natural resources. Concurrently, both countries confront a range of interconnected challenges, including (Al-Saidi, 2012):

- **Water Scarcity:** Both Iraq and Egypt are struggling with the issue of water scarcity. In Iraq, the decline in water resources can be attributed to inadequate rainfall, recurrent droughts, inefficient water utilization in agriculture and industry, and ineffective water management strategies. Similarly, Egypt faces water scarcity resulting from shifting rainfall patterns, insufficient investment in water supply infrastructure, and rapid urban population expansion.

- **Environmental degradation:** Both nations encounter distinct environmental challenges. Iraq struggles with the pressing issue of desertification, while Egypt struggles with the depletion and degradation of its natural resources. Alterations in agricultural practices, industrial advancements, and insufficient emphasis on natural resource conservation have contributed to environmental degradation in these countries.

- **Air and Water Pollution:** Both nations struggle with persistent issues surrounding air and water pollution, posing health risks to humans and wildlife. Outdated industries and vehicles, excessive waste generation, and the lack of enhancements in sewage systems and treatment plants contribute to the contamination of air and water resources in both countries.

The environmental challenges Iraq and Egypt face are undeniable and require immediate attention. The media highlights numerous ecological issues that persistently make headlines daily, ranging from the water crisis and air pollution to deforestation. A critical challenge in this domain is ineffective measures to ensure environmental protection. The environment faces various factors, including the absence of robust and reliable executive assurances, the inadequate alignment of credits with developmental responsibilities within programs, the insufficient correlation between crimes committed and the resulting environmental harm, and the imprecise determination of economic and social values. The present state can be attributed to the viewpoint embraced by leaders and decision-makers in recent decades, who have regarded the environment as a secondary and subordinate concern. However, it is crucial to acknowledge that preserving the environment necessitates financial resources, a workforce, a strategic blueprint, and unwavering national resolve. It necessitates adopting a transformative mindset and approach. A transformative strategy, national resolve, visionary thinking, and a revolutionary approach are imperative to protect the environment even before budgetary allocations and human resources become necessary.

Al-Bashir Ahmed (2021), in an article published by Alexandria University, evaluated environmental concerns and their effect on global diplomacy in the post-Cold War era (1). Jebur (2020) conducted a comparative study 2020 focusing on the criminal responsibility of industrial proprietors regarding environmental crimes. The research concentrated explicitly on the guilt of industrial business proprietors regarding environmental pollution offenses. Ahmed Abdulmutallab Mohammad Lee and AbdelMonteleb et al. (2014) conducted a comparative study (3), evaluating the collaboration between industry and academia in Egypt to advance environmental policies. Their research specifically focused on promoting ecological policies in Egypt and compared them to the policies implemented in Japan. The results of their studies suggest four principles:

(1) Transparency:

The current situation of Egypt's environment is represented by utilizing the latest data available in MSEA-EEAA, achieved through collaborative efforts involving various ministries, organizations, and research institutes. The Egyptian government holds firm in its commitment to transparency, which consists of providing the public with comprehensive information regarding the nature and effects of their environment while concurrently taking proactive measures to minimize any negative consequences.

(2) Participation:

Improving the environment in Egypt necessitates active community participation. The preparation and revision of this report rely on the collaboration of specialists and researchers from diverse operational sectors, including relevant ministries, research institutions, universities, media experts, private enterprises, and Non-Governmental Organizations (NGOs).



(3) Accepting global standards:

Environmental status reports in development acknowledge the confirmation of globally recognized standards. Therefore, a scientific methodology encompassing elements such as resources, adverse effects, ecological indicators, undertaken initiatives, prospects, future strategies, and global patterns in environmental preservation has been implemented.

(4) International obligations:

Establishing relations between the international commitments and agreements ratified by Egypt and the domestic efforts undertaken to prevent national environmental concerns is essential. Ebrahim Mohammad (2019) (4) reviewed an article titled *Towards Effective Enforcement of Environmental Criminal Acts: Rethinking Sanctions for Air Pollution Offenders in Iraq*. Their struggle showed that the inadequacy of implementing the current environmental Acts under general laws is the leading cause of this pollution.

Wilson et al. (2016) (5) examined the legal basis for implementing the Maritime, Safety, and Environmental Protection Act. It outlined how maritime law is applied globally to pursue transnational criminal networks, drug smugglers, illegal fishing vessels, and other illegal activities at sea. The legal documents reviewed include the 1982 United Nations Convention on the Law of the Sea, the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, the Maritime Drug Law Enforcement Act, and the Drug Trafficking Vessel Interdiction Act. The International Convention for the Prevention of Pollution from Ships (MARPOL), United States statutes about fisheries, the environment, border security, and the United States Immigration and Nationality Act were also referenced. International Convention for the Prevention of Pollution from Ships; Magnuson-Stevens Fishery Conservation and Management Act; and the United States Immigration and Nationality Act (INA).⁷ Finally, this article discusses the power, role, and operations of the United States Coast Guard (USCG) in responding to and executing the above international conventions and US laws.

Liu et al. (2021) (6) examined the impact of China's new environmental protection law on environmental regulations and the promotion of green innovation. Their study analyzed the effect of China's updated ecological law on the green, innovative behavior of listed companies in heavily polluting industries. In a separate study, Guo et al. (2022) (7) examined the effects of the 2015 Environmental Protection Law on various pollutants. In contrast, Yu and Morotomi (2022) focused on the consequences of revising and implementing the Environmental Protection Law on the ambient air quality in China, uncovering compelling evidence of the law's efficacy. At the same time, China continues with symbolic enforcement of local permits resulting from environmental decentralization, policy ambiguity, and conflicts of interest.

In 2022, Zulu et al. (2022) explored the challenges and supported solutions for Zambia's environmental protection legislation for infrastructure development. Through exploratory research incorporating semi-structured interviews with essential parties involved, the study investigated issues related to environmental protection regarding constructing projects in Zambia from the perspective of key stakeholders. According to this research, the environmental regulations in Zambia are deemed moderately satisfactory; however, their execution exhibits deficiencies such as omitted aspects and a lack of comprehension regarding the significance of protecting the environment. Recommendations included strengthening law enforcement measures and supporting awareness of the importance of environmental protection. These findings carry implications for sustainable transition in Africa.

Proposed solutions for environmental preservation in this realm involve embracing a holistic and cohesive approach to ecological management, achieved through the correction of existing environmental legislation. Additionally, establishing a solid ministry and integrating parallel environmental institutions within a unified framework are vital components of this comprehensive endeavor. Iraq has an extensive legal heritage among the pioneering Arab nations to develop legislation about ecological conservation. Iraq and Egypt exhibit disparities, yet these nations share certain commonalities despite their differences. However, considering the importance of issues for national development, security, and peace, it becomes imperative to address the internal challenges in the legal and administrative domains. The government faces a daunting task in protecting the country's environment, and thus, this research explores the fundamental solutions to environmental preservation.

Hence, the main challenge is the obstacles to protecting the water environment in the legal frameworks of the Republic of Iraq and the Arab Republic of Egypt. How can these challenges be overcome? Additionally, what additional legislation should be implemented in both nations' legal



systems to govern and synchronize the protection of environmental rights effectively? The current study will employ a comparative analysis to evaluate both countries' existing laws and regulations to address these queries. Ultimately, the findings and recommendations derived from the analysis will be presented.

1. International organizations

The Republic of Iraq and the Arab Republic of Egypt are home to various influential international organizations that actively contribute to preserving and protecting the environment. In the following, we present a selection of prominent organizations operating within these nations. These organizations are crucial in improving environmental awareness, implementing conservation strategies, and enhancing partnerships with local communities and governmental bodies. Their collective efforts aim to ensure the sustainable preservation of Iraq and Egypt's invaluable natural resources.

Iraq:

1. Nature Iraq: A well-known environmental organization dedicated to preserving Iraq's unique natural heritage and advancing sustainable development. The organization actively engages in various initiatives to conserve biodiversity, restore habitats, and foster environmental education.

2. Eden Again Organization: An NGO with a mission to rejuvenate and revive ecosystems in Iraq that have suffered from the adverse effects of conflicts and environmental degradation. The organization primarily focuses on initiatives such as forest restoration, rehabilitating wetlands, and promoting sustainable agricultural practices (Walther & Maroshegyi, 2011).

Egypt:

1. Egyptian Environmental Affairs Agency (EEAA): Serving as the pioneering governmental body entrusted with environmental preservation in Egypt, this institution is dedicated to developing and implementing environmental policies, conducting research, and fostering public awareness regarding environmental issues (Fahmy, 2016).

2. Environmental Protection and Conservation Association (HEPCA): HEPCA is an NGO dedicated to protecting the marine and coastal ecosystems in the Red Sea area, with a particular emphasis on the vicinity of Hurgada. The organization actively engages in endeavors such as preserving coral reefs, implementing effective waste management systems, and promoting sustainable practices within the tourism sector (Reeve et al., 1998).

3. Friends of the Environment Association (FEA): The FEA, an Egyptian organization, is committed to advancing environmental education and promoting sustainable development. Their endeavors encompass a diverse range of projects, including waste management initiatives, promoting renewable energy, conserving biodiversity, and active engagement with local communities (IMPLEMENTING PARTNERS Education Development Center, 2008)

The United Nations is a paramount global organization dedicated to preserving the environment. Throughout its existence, this organization has made concerted efforts to promote sustainable development, control air and water pollution, safeguard biodiversity, preserve ecosystems, and address the challenges of climate change. Its commitment to protecting the environment has been demonstrated through initiatives focused on raising awareness, fostering education, and disseminating vital information. The World Health Organization has been a significant contributor to environmental conservation efforts. By implementing initiatives focused on controlling and preventing air and water pollution, managing waste effectively, preserving biodiversity, and protecting water and soil resources, this organization actively works towards protecting water and soil resources (Nasrallah, 2011).

Furthermore, the establishment of the International Union for Conservation of Nature (IUCN) serves the purpose of upholding and enhancing the global environment while protecting the sustainable utilization of natural resources, preserving biodiversity, ensuring sustainable management of urban and rural areas, and effectively administering water resources. Additionally, by addressing climate change concerns and diligently attending to matters of environmental protection, the organization contributes significantly to preserving the global environment (Barka, 2017). Consequently, international organizations dedicated to environmental protection persist in their endeavors, operating following the imperatives of ecological conservation and human well-being, diligently trying to prevent the dissemination of problems, climate aberrations, and the contamination of environmental systems through their concerted practices.

In general, IUCN consists of the following organizations (Al-Anzi and Al-Duaij, 2002):

1. The United Nations Environment Programme (UNEP):

This organization was established to foster and advance cooperative endeavors among nations in environmental conservation and the sustainable utilization of natural resources.

2. World Health Organization (WHO):

The primary objective of this organization is to diligently uphold and advance the well-being of society, particularly in areas intricately linked to environmental matters.

3. World Trade Organization (WTO):

This organization was formed to facilitate international trade and create rules and regulations to cover environmental protection issues in business matters.

4. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

This organization was formed to protect wildlife and control the smuggling of wood, tree branches, oil, and insects.

5. The Food and Agriculture Organization (FAO):

This organization works to develop sustainable agriculture and protect the environment.

6. The European Environment Agency (EEA):

This organization tries to provide a better understanding and optimal management of the European environment.

7. The Environmental Protection Agency (EPA):

This organization was formed to protect the American environment.

2. Protection of the water environment in the Republic of Iraq

Iraqi guidelines about ecological concerns found situational expression within the Constitution of 1925, accompanied by supplementary legislation touchingly upon discrete environmental elements - with a particular accent on health consequences (Fadel, 1978).

1. Article 42 of Supervision of industries with foul odors Act (1931)

2. Article 29 of Regulating the Release of Polluted Waters Act (1934).

3. Act Article 4 (1935) on the cleaning of streets, waters, garbage transportation, and removal of nuisances

4. Article 6 of Water Pollution Prevention and Control Act (1935).

5. Article 11 of the Regulation of Pursuits Detrimental Occupations to Communal Sanitation Act (1936).

Following the fall of the monarchy and the establishment of the republic following the 1958 revolution, Iraq entered to the temporary constitutional phase as stipulated under the charters of 1958 and 1963. The 1964 Constitution alluded to the hygienic element in principle (Al-Anani, 2005), decreeing: "Well-being is a right for all Iraqi nationals, assured by the administration through establishing and reinforcement of all kinds of hospitals and medical bodies." Similarly, the 1968 Constitution specifies in principle 37: "Healthcare remains a guaranteed right, enshrined by the governing authority via the establishment of hospitals and health institutions in concordance with legislated guidelines." The 1970 Constitution followed the petition, as Article 33 decreed that "the administration is required to protect public health through continuous expansion of free medical services concerning prevention, therapy, and pharmaceuticals throughout urban and rural areas."

Article 15 within Iraq's legal framework emphasizes individuals' entitlement to healthcare and orders the government to utilize its capacities to ensure rights to security, education, and social welfare. The initial version of Iraq's constitution introduced the right to a healthy environment, representing a significant constitutional transformation. The key provisions state that all individuals have the right to inhabit healthy environmental conditions, and the government is responsible for environmental protection and biodiversity preservation. Article 31 further highlights the right to healthcare, with the government assuming the responsibility for public health by establishing various hospitals and medical institutions. Notably, Iraq was one of the progressive Arab nations to consider environmental protection programs, leading to establishing the High Commissioner for Human Environment in 1974 under Office Order Article 2411. This development occurred after participating in the Stockholm seminar on the human environment during the second year of 1972.

After transitioning to the Office of Prevention and Environmental Services on 19/11/1975 and under office order Article 1258, the institution has done its duties for over a year and a half, working toward establishing the High Commissioner for Human Environment as a central governing body. This organization originated as a division under the Ministry of Health and soon was restructured as the Department of Environmental Protection Agency. Article 76 of Environmental Protection and Amelioration Act (1986), which ratified the association of the Environment Protection and Amelioration Council with the Vice President, and Article 3 of the constitution Act of (1997) remained in effect,



following alteration in the second year per the dictate of the Coalition's Provisional Authority (44) in 2003, in Iraq. The inception of the Ministry of Environment signified a substantial and pivotal stride towards transmuted the conventional perspective held within the ecological realm of Iraq. Consequently, environmental mechanisms have assumed a more holistic approach, recognizing the interconnectedness of the environment rather than its fragmented nature. It is acknowledged that the protection of the environment should not be confined solely to particular provisions or isolated circumstances nor restricted solely to environmental domains or regions devoid of other considerations. In this context, enacting Article 37 of the Ministry of Environmental Act (2008) elucidated the ministry's configuration and jurisdiction delineated its pursued objectives, and prescribed the responsibilities entrusted to it, subsequently ratified through Act Article 27 (2009). The organizations tasked with performing Iraq's protection and environmental conservation responsibilities are bifurcated into two principal categories: centralized and decentralized entities. Further, the decentralized entities are subdivided amongst the nation's various politically defined constituent territories (Kazem, 2019).

First: Central institutions

The Federal Ministry of Environment is viewed as the premier governing entity concerning environmental protection efforts in Iraq. The Minister of Environment is the ministry's chief executive tasked with implementing relevant policy directives. The duties of the Minister include overseeing internal operations and occurrences and issuing instructions, regulations, determinations, and orders on all matters related to the ministry's work and associated bodies. Oversight also extends to administrative, technical, and financial issues in adherence with statutory provisions. In conjunction with the Ministry of Environment, numerous ministries undertake the task of environmental preservation in the range of their respective competencies. These ministries encompass the domains of health, education, higher education, industry, agriculture, water resources, and various other ministerial bodies (Kazem, 2016).

Second: Decentralized institutions

The decentralized bodies embrace a political dimension—a term synonymous with federalism under the Iraqi legal framework. This includes the autonomous Kurdistan Region and any prospective self-governing territories that may be established moving forward under the national charter's provisions for decentralized self-administration. The second consideration encompasses an administrative facet, namely administrative decentralization—a concept connoting the dispersed allocation of regulatory duties between central governing authorities and subsidiary localized administrative bodies established within Iraq's territorial subdivisions (Lahmar, 2012). In 2010, Act Article 3 was promulgated to institute an environmental protection and enhancement agency within the Kurdistan Region. This body was imbued with legal capacity together with financial and operational autonomy. While holding independent governance, it maintains an administrative nexus with the Regional Council of Ministers. The Commission's decisions must accord with the general environmental policy proposed by the Federal Environmental Protection Council and approved by the Federal Government as binding. Naturally, the absence of expert bodies dedicated to environmental protection efforts in Iraq, most significantly before 2004, greatly influenced Iraq's ecological conditions. Contained within the Constitution of the Republic of Iraq of 2005 were several essential values and principles, including environmental guarantees, which can only be realized through robust and effective administrative and legal support. Thus, protecting the environment amid society's accelerated progress necessitates enhancement of the government's undertakings in the legal and administrative domains to support mainstreaming environmental priorities at the policy level. In addition to the adversities arising from armed conflict and domestic turmoil, certain legal predicaments can be attributed to the antiquity and fragmented nature of extant legislation in Iraq. Examples of such laws include Article 89 of the Public Health Act (1981), Article 99 of the Protection Against Ionizing Radiation Act (1980), and Article 27 of the Environmental Protection and Improvement Act (2009) (Muhammad, 2016).

To cover environmental protection issues, Article 33 of the Iraqi Environmental Act specifies that the Minister retains the prerogative to issue notification to any factory, laboratory, party, or source of pollution, directing remediation of the pollution-causing factors within ten calendar days of the notice date. In the event of non-compliance, the Minister shall be empowered to stop operations or temporarily cease activities for a term not exceeding one month. This period is subject to extension until the infringement is remedied. Additionally, the Minister shall have the right to impose a financial penalty of no less than one million dinars and not more than ten million dinars, to be re-assessed monthly until satisfactory rectification of the violation is achieved. As mentioned in Article 34, any



individual determined to have contravened the stipulations of this law shall be subject to penalization through a term of imprisonment of no fewer than three months' duration or a monetary penalty of no less than one million dinars or both, such imprisonment and OK may be applied. Whereas Article 35 stipulates that any violator is obliged to either return hazardous or radioactive materials or waste to their point of origin or undertake their safe disposal while also compensating for any damage as per the penal provisions outlined under the law above, it can be said that the Iraqi environmental legislation drafter adopted an analogous approach to that of the Iraqi criminal code in refraining from incorporating stringent penalties within this specialized domain. The punishments prescribed do not surpass imprisonment limits, financial penalties, compensation, and restoration of the previous conditions or status quo ante. However, as the necessary instructions for implementation of said legislation had not yet been authored or disseminated, it would have been prudent for the environmental lawmaker to incorporate provisions designating a timeline for issuing such supplemental directives and guidance documents (Hosni, 1992).

Environmental NGOs, acting as social movements, strengthen participation and suggest principles of ecological stewardship by mobilizing and allocating necessary resources accordingly. Such organizations also possess the capacity to discourage or prevent governmental policies and actions potentially harmful to environmental protection efforts and serve as intermediaries between the people and the state apparatus to encourage enhanced ecological protections. Moreover, they can assume the role of complainant in environmental criminal litigation. In the modern era, relations between the citizenry and the state apparatus and efforts to maximize public participation on diverse issues are increasingly facilitated through entities now recognized as NGOs. Such institutions function as valuable adjuncts to governmental bodies, aiding in pursuing development aims from their distinct perspective. They play a crucial role in fostering exchange between the governed and those who govern. NGOs constitute non-public bodies operating on a not-for-profit basis without dependency on or linkage to state authority. Such entities receive neither governmental designation nor public funding, independent of official control or oversight. Such organizations maintain formally drafted governing documents and are duly incorporated entities. A salient characteristic is a voluntary basis for participation in membership, which arises in response to societal needs and demands—formal establishment proceeds according to registration requirements.

3.1. The Role of NGOs in Iraq: Water Environment Advocacy Efforts by Non-Governmental Groups

Protection of the environment and conservation of water resources are fundamental entitlements of Iraqi citizens within the constitutional framework of the Republic of Iraq. The Constitution of the Republic of Iraq elevates environmental protection to the level of a core governing principle for the country. Moreover, statutory and regulatory frameworks governing water and the environment incorporate provisions regarding the prohibition of degradation through pollution or depletion of hydrological endowments, sustainable utilization and exploitation thereof, as well as the establishing commensurate penalties for contravention - thereby comprehensively addressing issues impacting the environment and conservation of water resources. Accordingly, within the legal framework of the Republic of Iraq, environmental protection and preservation of water reserves have been afforded particular emphasis and priority. Under the principal law of the Republic of Iraq, preserving ecological integrity is cemented as one of the cardinal governing principles. In this context, diverse statutory and rule-based frameworks for safeguarding aqueous and ecological endowments have been promulgated at the national level, oversight and implementation of which is entrusted to an array of organs such as the Iraqi Ministry of Environment and Water, Directorate General of Parks and Protected Areas, Central and Southern Water Company, Central Water Company, Pure Water Company for Southern Regions, Environmental Research Institute, and others that are charged with monitoring compliance.

In 2014, Article 179 of Protecting Water Resources Endowments and the Ecological Context Act (2014) in the Republic of Iraq was promulgated, addressing issues such as management of water resources, conservation of hydrospheric and terrestrial protected areas, preservation of wildlife biodiversity, management of waste products, and related subjects. In general, the Iraqi administration has undertaken wide-ranging endeavors in the advancement of environmental preservation and conservation of water endowments, including intensive programs aimed at decreasing atmospheric and hydrospheric contamination, preventing degradation of natural assets, elevating the standards of living, and enhancing the quality of the ambient ecology. Broadly, NGOs engaged in environmental protection efforts in Iraq can undertake roles of considerable significance, including expanding public awareness and bettering living standards, protecting natural resources, diminishing atmospheric and



hydrospheric contamination, enhancement of soil quality, and safeguarding Iraq's delicate aqueous ecosystem (Al-Badri & Al-Jasani 2016).

In Iraq, NGOs are assigned to environmental protection matters. Particular of these organizations conduct operations across diverse domains, including but not limited to (Abdullah, 2009):

1. The Iraqi Association for Protection of the Environment:

This organization stands as one of the largest Iraq NGOs, working to promote a culture of environmental protection while aiding in conserving and preserving the nation's natural resources.

2. Board of Environmental Protection and Improvement in the Kurdistan Region:


This organization operates in Iraqi Kurdistan, manages waste materials, diminishes atmospheric and hydrospheric contamination, safeguards biodiversity, and promotes vegetative growth.

3. Mosul Environmental Protection Society:

This organization operates in Mosul and tries to prevent air and water pollution and protect water resources while promoting the utilization of renewable energy. One prominent NGO in Iraq focused on environmental protection is the Iraqi Environmental Protection Organization of Iraq (EOI). EOI has engaged in protracted efforts addressing diverse environmental concerns arising in Iraq, such as atmospheric and hydrospheric contamination, deforestation of woodlands and grazing lands, and destruction of animal habitats. This organization has a strategy for sustainable development and environmental protection in Iraq. Other NGOs are also active in the protection of Iraq's environment. For instance, organizations such as the International Union for Conservation of Nature (IUCN), the Iraqi Herpetofauna Group, and The Iraqi Foundation for the Protection of Grazing Lands and Hydrospheric Resources (RAFTO) are all engaged in protecting Iraq's environment. In Iraq, numerous NGOs are dedicated to safeguarding the nation's environment. These NGOs comprise environmental associations, wildlife protection bodies, hydrospheric resource protection and sustainable development organizations, and other groups focused on environmental concerns.

3. Water resources protection in the Arab Republic of Egypt

The original text of the Constitution of 1971 establishes the entitlement to a wholesome environment or the preservation thereof, which was incorporated into legislation in 1994. In 2009, an amendment was made to the Constitution, introducing an article dedicated to the environment. The amended article declares that protecting the environment is a national obligation, and the law shall govern the requisite measures to protect the optimal environment (Principle 59). The 2012 Constitution, duly enacted, expanded upon this notion and explicitly affirmed that "each individual possesses the entitlement to an environment that is both healthful and secure." The government is bound by its obligation to conserve and protect the environment from pollution while judiciously utilizing natural resources to prevent any environmental harm and protect future generations' rights, as stipulated by Article 63. The 2012 Constitution established a legal duty upon the government to ensure the protection of the environment and undertake requisite measures to fulfill this objective. This textual passage signifies a paradigm shift in the government's role concerning preserving and protecting the environment, underscoring its unwavering commitment, obligatory nature, and inherent responsibility. The constitutional provisions in the Egyptian Environmental Rights Constitution encompass a comprehensive framework addressing the protection and advancement of agricultural practices in Egypt. It outlines the imperative of promoting the "development and preservation of plant species, animal breeds, and fisheries to ensure food security" (Article 15). Moreover, it firmly establishes that the natural resources of the state (Article 18), as well as the Nile River and its water resources (Article 19), are the collective heritage of the population, thereby imposing upon the government the duty to "protect and appropriately utilize such resources while respecting the rights of future generations." In addition, another article mandates the government to extend its protective measures beyond natural reserves situated along the coasts, seas, and waterways to encompass the protection of lakes (Article 20). The constitutional provisions outlined therein signify a profound advancement in environmental protection and the recognition of ecological rights, underscoring their paramount significance and necessitating their legal recognition and standing. Notably, the constitution introduces the novel concept of "animal welfare" for the



first time in Egypt (Article 45), further exemplifying the evolving scope and depth of environmental concerns accepted within the constitutional framework.

The constitution further demonstrated an expanded and all-encompassing perspective concerning the relationship between human beings and the environment. The present legislation establishes an association between the protection of agricultural regions and the safety of rural communities against environmental hazards (Article 29) while concurrently prescribing measures for the preservation of fisheries, the well-being of fishermen, and the imperative of conducting their activities in a manner that refrains from causing harm to the ecosystem (Article 30). Furthermore, acknowledging the "rights of future generations," this legislation establishes a crucial correlation between sustainable development and such rights. To summarize, in Egypt, the Environmental Protection Act was promulgated before the constitutional recognition of the right to the environment, subsequently undergoing an amendment in 2009. Consequently, this amendment occurred after the inception of the principle of environmental protection in 2007, and the law has remained unamended since then. This legislation is structured into distinct chapters (Heshma, 2006), with the introductory chapter encompassing general provisions and elucidating terminologies that the legislator has explicitly addressed in the law. Moreover, the legislation establishes an environmental protection agency primarily regulating ecological protection. This organization is responsible for formulating policies, devising plans, and monitoring their execution in collaboration with competent administrative authorities. Additionally, the Egyptian legal framework addresses preserving the terrestrial ecosystem from pollution, with the initial chapter explicitly delving into the interplay between the environment and development. These provisions emphasize the necessity of establishing nurseries to plant trees and protect birds, terrestrial, and aquatic animals, as well as rare flora and the preservation of animal and plant fossils. Then, the second chapter deals with the prohibition of the transportation of hazardous substances and waste, along with the prescribed measures for their handling. It delineates the procedures for protecting the environment against airborne pollutants, mainly from establishments engaged in project implementation (Article 40). To prevent any harmful effect on the air quality of neighboring areas, it is imperative to allocate designated smoking zones in instances where smoking is permitted. To protect the environment, this legislation prohibits the utilization of pesticides or chemical compounds for agricultural or public health objectives, given their harmful effect on atmospheric conditions (Article 38). This legislation further restricts tobacco utilization in enclosed public places, except within the limits of the license granted to such establishments. Article 46 of the law explicitly prohibits specific actions within the public transportation domain. Additionally, the legislation has allocated a particular chapter to address protecting the aquatic environment against pollution.

This legislation pertains to the issue of ship pollution, encompassing oil pollution, pollution from toxic substances, and pollution from sewage waste and garbage. Moreover, it addresses pollution from environmental sources primarily generated by commercial, industrial, tourist establishments, and general stores near coastal areas to ensure environmental preservation. Notably, this law explicitly prohibits establishing any facilities along the seaside, within two hundred meters from the coastline towards inland, unless approved by the competent administrative authority and the environmental organization (Article 73). The chapter dedicated to preserving the aquatic environment also encompasses provisions concerning the requisite international certificates that ships must possess to preclude pollution. Additionally, it outlines the administrative and judicial procedures employed to oversee law enforcement, which must be invoked in case of any infringement of its stipulations.

The fourth chapter of the law also delineates the penalties imposed for contravening its provisions and contributing to environmental pollution. Notably, since 1997, the Egyptian government has designated a dedicated minister for environmental affairs, signifying an increasing commitment towards ensuring compliance. This appointment is evidence of the government's prioritization of ecological concerns (Al-Hassawi, 2018). To accomplish its objectives, this organization undertakes the formulation of draft legislation and possesses the authority to provide input on draft laws about environmental protection (Article 5 of the Act). Additionally, this organization publishes studies and reports concerning the environment in Egypt. This agency also considers the requirements that project owners and establishments must adhere to before and during their operation to prevent environmental pollution. The agency is entrusted with monitoring the implementation of these requirements on-site, ensuring compliance by project owners and establishments, and initiating legal measures in the event of any observed violations.



The environmental challenges experienced in Egypt arise from factors such as water scarcity, significant disparities in population distribution, limited arable land availability, and pollution issues. The diminished soil fertility is attributed to excessive cultivation practices, while the encroachment of urbanization and desert winds has resulted in the loss of agricultural land. Furthermore, the coastal areas, coral reefs, and habitats supporting wildlife within the nation face imminent peril from the detrimental effects of oil pollution. Excessive use of pesticides, substandard sewage disposal practices, and unregulated discharge of industrial effluents have engendered significant challenges about water pollution. After the Aswan High Dam construction in 1970, the extensive proliferation of irrigation in desert regions resulted in escalated soil salinity levels and facilitated the propagation of water-borne diseases. As of 1994, approximately 28% of Egypt's soil was damaged due to the increment in salinity levels. The urban centers of Egypt generate an annual quantity of 3.0 million tons of solid waste. Only 79% of the rural population has access to sufficient healthcare facilities. Half of Cairo's raw sewage is discharged into the sea via open channels, while around 100 out of the 120 cities lack any sewage system. Furthermore, the existing sewage infrastructure is deteriorating (Ziryani, 2019).

The legislation of the Arab Republic of Egypt encompasses provisions for the protection of aquatic ecosystems, encompassing the following aspects:

1. Act Article 48 (1982), known as The Safe Drinking Water Act (SDWA), affirms the fundamental right of all individuals within the Arab Republic of Egypt to access safe and adequate water. This legislation establishes mechanisms and resources at the national level to uphold and facilitate the realization of this right.

2. Act Article 18 (2019), titled the Nile River Protection Act, was formulated with the primary objective of protecting the Nile River and ensuring the fulfillment of the water requirements of the population in Egypt. This legislation encompasses provisions governing the utilization of water resources, pollution control measures, research and development endeavors related to water resources, and the implementation of Nile vegetation initiatives in alignment with international peace agreements, which Egypt relies upon for sustainable water management. The law also addresses delineating boundaries and regulations concerning the tools employed for managing and utilizing Nile River vegetation water and providing support for agricultural and other industrial sectors within the country.

3. Government policies: Government policies in Egypt demonstrate substantial commitment to protecting the aquatic ecosystems by establishing regulations about the administration of water resources and promoting sustainable economic progress. Within this framework of policies, it is feasible to implement a new scheme aimed at assisting agriculturalists in improving their productivity, alongside the implementation of enduring strategies and extensive collaboration with international entities in the political and economic realms concerning the administration of shared water conservation, engagement in soil conservation initiatives, and the provision of educational programs to enhance awareness. This endeavor is underpinned by an assurance of protecting the environment and guaranteeing sustainable development.

4. Economic programs: Egypt has devised and executed various economic initiatives in previous timeframes to preserve the integrity of the aquatic ecosystem. These initiatives encompass distinct water-related programs and popular programs aimed at protecting and optimizing water utilization and collection. These contain provisions for irrigation services and potable water to Shaaban, Cairo, and other major urban centers within Egypt.

1.4. NGOs and their activity in Egypt

Through the engagement and collaboration with volunteers and the local community, NGOs possess the capacity to recognize environmental problems and challenges prevalent across various regions within Egypt and subsequently undertake practical initiatives aimed at protecting the environment. Moreover, these organizations can strive towards enhancing the administration of natural resources and mitigating the environmental impacts of developmental activities by establishing collaborative networks with analogous organizations on an international scale.

Some of these NGOs are:

- Wildlife Conservation Association

This organization was founded in 1982 to protect the indigenous fauna, forests, rivers, and deserts within the territorial jurisdiction of Egypt.

- The Delta Institute for Environmental Protection

This institute was established in 1989 and aimed at protecting the environmental integrity of the Nile Delta region.



- Association for Environmental Protection

This association was founded in 1990 to protect the environment, as well as the flora and forests of Egypt.

- Egypt National Center for Environmental Protection and Commitments

This center was founded in 1995 to advance and disseminate knowledge on environmental issues while reinforcing environmental safety and health standards within the jurisdiction of Egypt.

These NGOs significantly protect the environment and preserve wildlife in Egypt while ensuring compliance with international environmental and conservation standards. These organizations operate to prevent the contamination of air, water, and soil and conserve natural resources. Besides, these organizations have a crucial function in promoting awareness and educating individuals. They try to encourage the adoption of precautionary measures among individuals through the organization of educational workshops, lectures, and awareness campaigns focused on environmental issues. In general, NGOs in Egypt have a critical role in preventing ecological harm through their activities to conserve natural resources and enhance the societal quality of life (Salama, 1989). Civil society organizations operating independently from the government try to preserve and protect the environment by informing, training, and implementing practical projects and educational programs.

Numerous NGOs in Egypt engage in a wide range of activities related to environmental preservation across diverse domains, encompassing (Sultan, 2008):

- "Institute for the Conservation of Natural and Cultural Heritage"

This organization operates actively in domains such as the protection of designated areas, management of waste, preservation of biodiversity, enhancement of air and water quality, conservation of water resources, and protection of parks and gardens, among others.

- "The Egyptian Federation of Environmental Associations"

The primary objective of this organization is to promote public awareness regarding environmental issues while promoting instances of economic sustainability, conservation of wildlife species, adoption of sustainable technologies, and creative projects.

- "Al-Hayat Foundation" (Al-Hayat Foundation for Development and Environment)

This organization operates across diverse domains of environmental conservation and sustainable development. Its activities encompass safeguarding coastal areas, enhancing air and water quality, and managing waste.

- "Awda Foundation" (Awda Foundation for Development and Environment)

This organization engages in sectors encompassing sustainable development, preservation of natural resources, reduction of energy consumption, and implementation of educational initiatives.

4. The international obligations of Iraq and Egypt towards international organizations

Iraq became a member of the International Organization for Environmental Protection in 1971. In its legislative framework concerning the environment, this nation has agreed on particular significance with the principles encompassing the preservation of endangered species, protecting water resources, mitigating air pollution, and protecting designated environmental areas, among other aspects. Moreover, as a member of the United Nations Environment Programme (UNEP), Iraq has assumed commitments to conserving forests and protecting indigenous populations and wildlife (Tarraf & Hassanein 2012).

Egypt also joined this organization in 1973. Following the establishment of the Egyptian Environmental Protection Organization in 1994, this country found a competent authority responsible for governing and conserving its natural resources. Furthermore, within its legal framework and climate regulations, Egypt emphasizes the preservation and sustainable utilization of its natural geographic features. In this context, Egypt has assumed commitments as a member of the UNEP, including obligations such as reducing air pollution, preserving pastures and forests, and protecting indigenous populations and wildlife, among others (Abdel Hadithi, 2020). On the other hand, Iraq approved the Protocol of Accession to the Convention on Biological Diversity in 1994 and adhered to the regulations outlined therein. Furthermore, in 2015, Iraq made commitments to reduce greenhouse gas emissions. Egypt became a party to the Convention on Biological Diversity in 1994 and adhered to its provisions. Furthermore, in 2016, Egypt joined the Paris Agreement and assumed obligations to actively take steps towards the national and international reduction of its greenhouse gas emissions.

Iraq and Egypt are parties to multiple resolutions of the International Organization for Environmental Conservation and Protection, which was established to protect the global environment. Certain fundamental obligations adopted by Iraq as a member state of this organization encompass (Abdel Salam, 1999):



1. Adhering to international environmental protection standards encompasses reducing air and water pollution.
2. Preventing environmental disasters resulting from industrial and oil-related activities.
3. Increasing public awareness and educating about environmental protection and sustainable development.
4. Engage in cooperative endeavors and agreements with other nations to implement environmental protection and management programs.
5. Implementation and compliance with obligations about the enhancement of biodiversity conservation.

The fundamental legal obligations of Egypt as a member state of this organization encompass (Abdel Hadi, 1986):

1. The soil and water resources conservation and mitigation of pollution resulting from industrial and agricultural activities.
2. Preserving the environment from the effects of climate change and substantial alterations transpiring in arid (desert) regions.
3. Preventing environmental incidents and reducing air and water pollution.
4. Advancing public awareness and facilitating environmental protection and sustainable development education.
5. Collaborating with other nations in environmental protection and management initiatives.
6. Executing obligations about the strengthening of biodiversity conservation.

5. Results and suggestions

Through a detailed examination of the water environment legislations in the legal frameworks of the Republic of Iraq and the Arab Republic of Egypt, significant differences arise concerning the environmental conservation laws in these nations as follows:

- The Environmental Protection Act was approved in 2010 in the Republic of Iraq. In contrast, in the Arab Republic of Egypt, a series of bills and legislations have already received approval, including Article 179 of the Environmental Protection Act (2014), which specifically aims to protect water resources.
- In Iraq's legal framework, the Ministry of Environment and Natural Resources is responsible for executing the environmental protection legislation. In contrast, the Ministry of Environment, Natural Resources, and Mining in Egypt is responsible for implementing this legislation.
- The Iraqi environmental conservation law explicitly aimed to confirm biotechnology and emerging technologies regarding ecological issues. Conversely, the Egyptian legislation does not expressly address this concept within its provisions.

In general, the fundamental aim of environmental protection legislation in both countries aligns with protecting the environment and mitigating harm from human activities.

While preserving the environment in Iraq and Egypt necessitates earnest and cohesive actions from the government and society, it is imperative to acknowledge that numerous legislations and environmental regulations have been encompassed within the legal frameworks of the Republic of Iraq and the Arab Republic of Egypt. Nonetheless, countless environmental challenges are present within both nations. These challenges include air and water contamination, exhaustion of natural resources, climate change, unregulated exploitation of natural resources, and biodiversity loss. Subsequently, the ensuing discourse refers to the challenges encountered and the corresponding solutions proposed to protect the environment within these two nations.

1. Environmental Preservation Challenges and Resolutions in the Republic of Iraq

Air pollution is a significant obstacle to environmental conservation in Iraq, with the oil sector and various industrial endeavors responsible for substantial emissions and contamination of the atmosphere. Furthermore, deforestation, forest degradation, and the depletion of groundwater resources have resulted in their scarcity and consequently diminished local habitats. Additional factors encompassing the proliferation of fires occurring in pastures, degradation of natural resources, and alterations in land utilization constitute further challenges entailed in the realm of environmental preservation in Iraq.

- Challenges: Among the prominent environmental problems encountered in Iraq, apparent issues encompass climatic concerns, groundwater decline, air and water contamination, biodiversity decline, deforestation, and inadequate waste management practices, among others.

- Ways to Protect the Environment: To ensure environmental preservation in Iraq, a range of potential solutions can be employed, including but not limited to:

- Developing and implementing strict environmental legislation and regulations.
- Enhancing public awareness regarding environmental issues and concerns
- Advocating for sustainable and appropriate utilization of water resources and forests
- Monitoring and regulation of industrial and production operations
- Promoting the use of renewable energy sources.

2. Environmental Preservation Challenges and Resolutions in the Arab Republic of Egypt

Egypt encounters challenges such as water scarcity and depletion of natural resources. The escalating water demand in Egypt, propelled by population growth, industrial expansion, and agricultural activities, has necessitated the utilization of a portion of the nation's water resources for dam construction. Furthermore, industrial and transportation activities in Egypt cause air pollution and contribute to the degradation of natural habitats, encompassing rivers, forests, and pastures.

- Challenges:

Among the prominent environmental challenges encountered in Egypt, notable issues include water scarcity, air pollution, depletion of natural resources, inadequate urban waste management practices, and the impacts of climate change, among others.

- Ways to protect the environment:

To protect the environment in Egypt, a range of potential solutions can be employed, including but not limited to:

- Establishment and enforcement of stringent environmental policies
- Maximizing the sustainable utilization of water resources and forests
- Advancing the promotion of waste recycling culture and effective management
- Promoting the adoption of renewable energy sources
- Advancing the advocacy for the conservation of natural and ecological resources

Based on the findings of the research regarding environmental conservation in the Statute Laws of the Republic of Iraq and the Arab Republic of Egypt, the following solutions can be proposed:

1. Compilation and implementation of environmental Acts:

The governments of the Republic of Iraq and the Arab Republic of Egypt must develop and enforce environmental legislation to prevent abuse of natural resources, air and water pollution, and reduction of biodiversity.

2. Prevention and Mitigation of Pollution Hazards:

The governments of the Republic of Iraq and the Arab Republic of Egypt are obligated to prioritize the preservation of air, water, and soil quality and undertake necessary measures to prevent pollution incidents proactively.

3. Establishment of oversight institutions:

To effectively prevent air and water pollution, the governments of the Republic of Iraq and the Arab Republic of Egypt must establish monitoring and oversight institutions.

4. Maximizing the sustainable utilization of natural resources:

The governments of the Republic of Iraq and the Arab Republic of Egypt are obligated to uphold optimization in the strategic planning of natural resource utilization endeavors to mitigate the depletion of such resources.

5. Increasing public awareness:

Educational programs should be implemented within academic institutions and public initiatives to increase public environmental awareness.

6. International Collaboration:

The governments of the Republic of Iraq and the Arab Republic of Egypt should collaborate with other nations regarding environmental conservation issues to protect the global environment and its natural resources.

7. Establishment of Water Management Infrastructure:

To manage water resources effectively, it is imperative to construct the requisite infrastructure for the sustainable collection and distribution of water.

8. Advocating for the Utilization of Renewable Water Sources

Renewable water sources, including desalinated water and solar water catchment, should not be disregarded but prioritized for increased utilization and implementation.

9. Economic management:

Economic policies should be employed to decrease water consumption and promote the preservation of water resources.



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