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Legal Problems in Managing Environmental Activities in Iraq's Oil and Gas Industry

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Abstract

General Background: Oil and gas production is a cornerstone of Iraq's economic development. **Specific Background:** However, this industry significantly impacts the environment, necessitating the implementation of environmental sustainability systems during production. The current governmental framework, while somewhat organized in hydrocarbon production, lacks a unified law that comprehensively regulates all aspects of oil and gas production, including environmental preservation. **Knowledge Gap:** Existing environmental laws suffer from poor coordination, complicating the regulation of environmental activities to meet the minimum global standards set by the United Nations Sustainable Development Agenda 2030. **Aims:** This article aims to analyze the environmental protection measures undertaken by Iraqi administrative authorities in the oil and gas sector, examining the public administration, technical aspects, and related institutions' efforts to mitigate pollution. **Results:** The study reveals that despite some organized efforts, the regulatory framework is insufficiently coordinated, hindering effective environmental protection. **Novelty:** The article highlights the chaotic regulatory environment and underscores the urgent need for a unified legal framework and better-coordinated environmental laws. **Implications:** The findings suggest that Iraq must adopt advanced technologies and modern policies to improve environmental sustainability in its oil and gas industry, aligning with global environmental standards. Proposed measures include enhanced regulatory coordination and the integration of innovative technologies to reduce pollution levels in hydrocarbon production processes.

Highlights:

- Lack of a unified law in hydrocarbon production regulation.
- Poor coordination of existing environmental laws.
- Need for advanced technologies to reduce pollution in the oil and gas industry.

Keywords: Environmental Protection, Pollution, Regulation, Oil, Gas

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Introduction

Environmental degradation continues to pose significant challenges to health, agriculture, and economic development in Iraq, some of these problems include deforestation, household and industrial waste disposal, environmental pollution, and global warming. In most countries of the world, the most common basis for addressing environmental issues is through laws and administrative regulations, however, in Iraq environmental policy and its implementation system have not yielded the desired results both economically and environmentally. Iraq has laws and regulations aimed at protecting the environment in the country, and despite the adoption of these laws and environmental policies aimed at improving the situation in this area, the situation in the country is exacerbated and worsened by the lack of respect for these laws, and much remains to be done in terms of strengthening institutional capacity, population control, and economic measures to address and control pollution problems.

The importance of the research is highlighted in standing on the legislative framework and the basis adopted by the administration in the face of environmental pollution as a result of the oil industry and environmental protection and directing the environmental activities of the administration towards achieving sustainable development and the issue of pollution resulting from the extraction and refining of fossil fuels represents a real environmental threat to all forms of life in Iraq, and this research discusses the seriousness of the solutions carried out by the authorities to reduce the seriousness of this pollution and reduce its rates at any acceptable levels that suit international standards.

This article aims to provide an overview of existing legal approaches applied by Iraq in addressing and dealing with the issue of Oil pollution, to unravel problems related to such approaches, and further to examine possible improvement in the legal aspect from which new perspectives could proliferate. The first part of this paper will describe a Statement of the constitutional and legal framework for environmental protection in Iraq.

The second part will explicate the Legal problems of protecting the environment and ensuring environmental safety when using underground resources.

Lastly, the third part will bring up some analysis of legal issues and other related problems revolving around the State Administration of Environmental Activities in the Field of Other Energy Sources. with the requisite improvements that are expected to lead to new perspectives in governing oil waste circulation in Iraq

Method

This research applies the normative-legal research method. The data used are primary legal materials obtained from relevant regulations and secondary legal materials obtained from various related literature. They are then analyzed descriptively to reveal the issues as described in this paper.

Result and Discussion

A. The Legal and Institutional Framework for Environmental Protection in the Oil and Gas Sector in Iraq and Comparative Countries

The explicit text of the constitutional basis for the protection of the environment represents the framework in which the legal system revolves to protect the environment, and then the ordinary legislator will remain bound by the limits and the actual scope of protection established by the constitutional legislator, and if it exceeds that, its legislation is considered unconstitutional, and the Iraqi constitution has taken explicit protection of the environment in Article 33, which states: "First, everyone has the right to live in sound environmental conditions. Second: The State shall guarantee the protection and preservation of the environment and biodiversity [1].

In the light of this constitutional text, the Protection and Improvement of the Environment Law No. (27) of 2009 was issued, which aims in its first article "to protect and improve the environment by removing and treating the damage that exists in it or that occurs to it

The Iraqi constitutional legislator has shown the most important basic rules and principles in the main and important topics, in particular environmental rights, and the Iraqi Constitution of 2005 is one of the constitutions that gave attention in this area, the current Iraqi Constitution has devoted a section to rights and freedoms, the most prominent of which is the right to live in a sound environment as this right of basic rights, and this does not mean that the previous successive constitutions did not give attention to this right, the Iraqi Constitution of 1970 mentioned some texts to protect the environment In certain aspects by emphasizing the need to work and maintain health safety, and on this basis, many laws, regulations and administrative instructions dealing with topics related

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to environmental safety and environmental protection have been issued, for example, the Public Health Law No. (89) of 1981, which stressed the need for supervision, control and follow-up of activities that cause environmental pollutants and endanger people's lives, criminalizing violators and imposing financial fines on them [2]. About the texts that dealt with topics related to the environment in the Iraqi Constitution of 2005, the Constitution included implicit references to topics related to the environment by dealing with topics related to environmental protection in certain areas such as the field of health, as stated in the text of Article 30 thereof, which states first: The State guarantees the individual and the family, especially children and women, social and health security, and the basic elements for living a free and dignified life..... Second: The State shall guarantee social and health security for Iraqis [3].

Concerning Iraqi legislation devoted to the protection of the environment in general and water in particular, the Iraqi legislator promulgated the Iraqi Irrigation Act No. 6 of 1962, through which irrigation and the protection of water resources were regulated. Based on Article (2) of the Public Health Law No. (45) of 1958, the Iraqi legislator ordered the development of regulation No. (25) of 1967 to address the phenomenon of pollution of rivers and public waters.

The plans of the provincial councils in the field of protecting public water from pollution include identifying sources of pollution in public water and how to treat them, planning for future projects and the amounts to be allocated, to implementing those projects with timetables for the projects required to be implemented to address polluting sources, benefiting from successful international experiences [4].

The Iraqi legislator has devoted Chapter V of the Public Health Law No. 89 of 1981 to the subject of drinking water, given the importance of water and its great impact on public health, Article (64) sets out the procedures that must be carried out by the authority responsible for water processing in the State, which is the public facility for water and sewage to provide drinking water to citizens, in addition to that the aforementioned article indicated the need to obtain the approval of the competent health authorities when studying and designing projects for the treatment of drinking water, as well as providing information [5].

Article (65) has identified a very important issue of the validity of the outlet point and what is included in the methods of purification and treatment, which must depend on Iraqi and international standards to determine the quality of drinking water and its suitability for human consumption and assess the extent of the validity of these projects for drinking water in the country, as well as that this law has shown that each new project must contain a unit for filtering drinking water and integrated laboratories to conduct tests. Micro logical, chemical, and physical to determine the efficiency of the filtering stages and ensure that water conforms to international safety standards [6].

The issue of the protection of water resources is also mentioned in the instructions of the Iraqi ports and harbors No. (1) of 1998, where the legislator devoted the ninth chapter it to the care of the aquatic environment and pollution control, where articles (64-182) dealt with the issue of caring for the aquatic environment by ships, so the ship's captain is obliged to inform the competent authorities as soon as possible of the occurrence of pollution and prevent any ship or boat from dumping any waste into the river or pumping its water pipes into the river, otherwise, the owner of the ship will bear the responsibility This law deals in articles (167, 168, 178 and 180) thereof with liability according to the volume and type of pollution estimated by the competent authorities [7]. Article 368 of the Iraqi Penal Code No. 111 of 1969 lists crimes harmful to public health and related to the environment and its protection

The Iraqi legislator has devoted articles (19) and (20) to the protection and improvement of the Iraqi aquatic environment, where the legislator has prohibited, in accordance with article (19) of this law, the discharge of any industrial, agricultural, domestic or service waste into rivers, water bodies or groundwater except after carrying out the necessary treatments to ensure their conformity with environmental regulations, instructions and determinants Waste, animal waste, carcasses and waste in water sources, and also prevent the discharge of any waste containing toxic substances into sewage networks and water bodies only after treatment and making them by environmental controls and determinants [8].

Each law is considered the Iraqi Authority for the Control of Radioactive Sources No. and the Law on Protection and Improvement of the Environment No. (27) of 2009 laws specialized in the field of environmental protection, and it is recorded for the Iraqi legislator that he issued many special laws that dealt with important topics in the environment, but we sometimes note the conflict within these texts and the dispersion of some of them and the shortage of others and their failure to address important issues in the environment.

B. The Legislative and Institutional Framework for the Protection of the Environment in the Oil and Gas Sector in Some Oil Countries of the World

To identify the most important environmental problems caused by the oil industry in our country, we believe that it is appropriate to identify the experiences of some oil countries in managing their environmental activities in this

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field and to stand on the legislative and executive framework for them, and among the most important of those selected countries were: Canada, the United Kingdom, and Saudi Arabia.

Canada has a highly privatized oil industry and is one of the best countries in terms of oil and gas pollution prevention and control. In many years of oil exploration and exploitation in Canada, very few spills have been recorded. Apart from accidents involving oil tankers, very few spill incidents have been reported. Isolated spill accidents [9].

One such incident occurred when a construction company mistakenly punctured a pipeline in Burnaby and a certain amount of oil survived firing poles 20 meters high in the air. Legislation governing oil spills, individual accidents causing oil pollution, and environmental emergencies in Canada [10].

To identify the most important environmental problems caused by the oil industry in our country, we believe that it is appropriate to identify the experiences of some oil countries in managing their environmental activities in this field and to stand on the legislative and executive framework for them, and among the most important of those selected countries were: Canada, the United Kingdom, and Saudi Arabia. First: Canada Canada has a highly privatized oil industry and is one of the best countries in terms of oil and gas pollution prevention and control. In many years of oil exploration and exploitation in Canada, very few spills have been recorded [11] Apart from accidents involving oil tankers, very few spill incidents have been reported. Isolated spill accidents. One such incident occurred when a construction company mistakenly punctured a pipeline in Burnaby and a certain amount of oil survived firing poles 20 meters high in the air. Legislation governing oil spills, individual accidents causing oil pollution, and environmental emergencies in Canada

The United Kingdom also maintains the commendable practice of incorporating the provisions of the international conventions it has signed into its national legislation. Non-ship oil spills are also very rare as is the case with Canada [12].

The Department of Trade and Industry is the main regulator of gas discharges and emissions outside the territorial waters of the United Kingdom. The Environment Agency or Scottish Protection Agency is responsible for regulations for water within the three-nautical-mile zone and there are also other bodies for specific environmental issues in the oil and gas industry [13].

The Ministry of Commerce and Industry, together with other specialized agencies, is responsible for measuring environmental performance in the oil industry [14].

Each applicant for a license must include a statement of their environmental policy, which must also state the mitigating measures that a potential licensee must adopt to minimize risks to the environment. The application also includes a proposed plan to comply with the requirement to be imposed by the Ministry of Commerce and Industry It is the environmental protection program regulated by the operator in his application that will determine the outcome of the license application. The UK bases the success of its exploration and production activities in the oil and gas industry on their compatibility with the environment. There is a high level of awareness that oil exploration activities can only be of value to society as they lead to ecological balance and do not pose a threat to the environment. This situation is quite the opposite in Iraq and especially in the provinces producing oil and gas specifically in the province of Basra, the largest oil and gas producer in Iraq that produces about 85 percent of the production where the environment has been destroyed so recklessly that if nothing is done to improve the situation, the province may become uninhabitable in the next 30 years [15].

All the concern of successive governments in Iraq is how to maximize oil production with little or no attention to the harmful effects of oil production on the environment.

C. Kingdom of Saudi Arabia

Saudi Arabia's beaches are referred to as the most polluted in the world, polluting about 11 million barrels of oil, 21 of which and the surrounding environment [16] It has been said that fewer coral species live in the Gulf than in the Red Sea as a result of the salinity is high from oil pollution. The great interest in environmental protection in the Kingdom of Saudi Arabia was marked by the establishment of the Environment Committee in 1999 [17]. The National Environment Committee was an initiative of the Saudi Chamber of Commerce and Industry, and the establishment of the National Environment Committee was followed by the enactment of the Environmental Law in 2001. The law provides for emission reduction and environmental impact assessment for each new project. Furthermore, Article 32 of the Kingdom's Basic Law obliges the Government to strive to preserve the environment and prevent pollution. According to this provision, the Government has embarked on the establishment of parks and the conservation of forest resources as well as the provision of drinking water through the establishment of large desalination plants [18].

Finally, we can borrow from the legal framework of countries such as Canada and the United Kingdom where oil and gas are produced in a very environmentally friendly manner so that in some cases oil and gas exploitation is abandoned when these exploitation and production activities pose a risk to the environment. In this regard, laws

can be put in place to enable government, oil and gas investment companies, employees and other stakeholders to be aware of the environment in all oil and gas exploitation activities.

D . L egal Problems to Protect the Environment and Ensure Environmental Safety when Using Underground Resources

Gas flaring is a serious environmental and economic problem in the country, and Iraq ranks second among the countries with the highest levels of gas flaring in the world, as fossil fuel companies ignite excess methane from oil operations instead of keeping it in pipes that is emitted into the atmosphere, where it is 80 times more affected by global warming than carbon dioxide over 20 years [19] Although Iraqi law prohibits for health reasons the burning of gas six miles from residents' homes, the reality is different: there are communities located less than two miles from the oil fields, where the government has unveiled measures to reduce the impact of fossil fuels [20].

Thus, according to the Ministry of Environment's report "State of the Environment in Iraq 2018", the degree of contribution of fuel and energy complex enterprises to atmospheric air pollution and water resources in Iraq amounted to more than 30 percent, of the total volume of waste production and consumption - more than 70 percent [21]. We can summarize the main negative factors of the impact of oil and gas production on the environment as follows:

1. Chemical pollution of soil, land, surface and underground water bodies, subsoil and atmospheric air with extracted raw materials, chemical materials and reagents used in drilling wells, drilling and technological waste.
2. Decrease in the volume and quality of minerals due to violations of mining technology, irrigation, fires and other factors. Physical disturbance of soil, vegetation and landscape at road drilling sites in oil and gas producing areas
4. Withdrawal of water resources. (Groundwater)
5. Violation of temperature regimes of geological processes, development of external geological processes.
6. Changes in the habitat of animals and the deterioration of their conditions of reproduction, nutrition, recreation and migration routes. In almost all oil and gas producing provinces, where oil and gas industry enterprises are concentrated, the environmental situation is characterized as unfavorable, and the level of environmental pollution is assessed as high. Thus, in the process of using the subsoil, damage occurs to almost all components of the natural environment, and therefore there is an objective need to establish effective legal regulatory mechanisms aimed at preserving the environment [22] Natural and its restoration, rational use of mineral resources, prevention and elimination of the consequences of negative effects on the environment when using the subsoil [23].

It is noticeable here that the laws, regulations and instructions issued regarding the protection of the environment and ensuring environmental safety when using the resources of the subsoil have not been accurately formed. For example, Article 21 of the Environmental Protection and Improvement Law No. 27 of 2009 stipulates that the authorities concerned with the exploration and extraction of oil and natural gas wealth shall do the following: "First: Take measures to reduce the damage and risks resulting from oil and gas exploration and exploration and take the necessary precautions and measures to protect land, air, water and groundwater basins from pollution and destruction. Second: Take the necessary measures to dispose of the saline water associated with the extraction of crude oil in environmentally safe ways. Third: Preventing the pouring of oil on the surface of the earth or injecting it into the layers used for human and agricultural purposes. Fourth: Providing the Ministry with information on the causes of fire accidents, explosions, fractures, and leakage of crude oil and gas from wellheads and transport pipelines, and the measures taken for treatment. As well as the second article of the Mineral Investment Law No. 19 of 1988, as amended, which stipulates that "the establishment is responsible for supervising the application of this law, monitoring the investment of quarries and mines throughout the country, collecting, classifying and documenting information on these activities for the purposes of encouraging, rationalizing and directing investment to ensure the preservation of mineral wealth and the protection of the environment [24].

It is noticeable that only these two texts referred to the exploration and exploration of oil and gas The above text did not refer to the environmental requirements in the field of use and protection of the ground in detail or put some general principles in this in a separate detailed annex, or separate executive regulations containing special environmental requirements for underground users, as well as the text of Article 21 of the Environmental Protection and Improvement Law, did not indicate the administrative penalties resulting from those who exceed the registration of licenses to use the ground in the Ministry of Environment [25].

It should also be noted that there are some contradictions between the rules of the Federal Law issued on December 13, 2009 and the Kurdistan Region Law No. 8 of 2008 on the margin of the Regional Environmental Law "on the subsoil" in terms of legislative regulation of the requirements of environmental protection and environmental safety during the use of the ground [25].

In general, the analysis of the Federal Environmental Protection and Improvement Law No. 27 of 2009 allows us to consider some of the following legal problems in the field of environmental protection and environmental safety in

the use of the earth. The law also did not clearly and accurately define the general principles for the implementation of administrative control to protect the environment in the extraction of oil and gas, as this law does not contain the conditions for participation between federal government bodies and local governments in the producing governorates by Article 112 of the current Constitution of 2005, which referred to the joint management of oil wealth between local and federal governments, and the procedures for the participation of local executive authorities in the collection, storage, processing of analysis and the formation of state information resources about The state of the environment and the use of natural resources in it [26].

About the monitoring of the state of the subsoil, it should also be noted that the text did not include in the assessment of the state state of the subsoil the submission of information obtained during the state monitoring of the subsoil, annually by the Ministry of the Environment (in the form of circulars to federal and local government bodies. The forms of this provision are not defined by the current legislation, which leads to the lack of access to information on State subsoil control in State information systems.

E. The Mechanism of Holding Underground Users Legally Responsible for Environmental Violations

It also appears that the situation in the field of implementing legislation related to environmental protection and ensuring environmental safety worsened significantly after 2003, as the violation of legislation on environmental protection by users of natural resources has become almost widespread, the vast majority of violations of environmental legislation were non-compliance with environmental requirements during planning, feasibility studies of projects, design, placement, construction, reconstruction, commissioning and operation of institutions, structures or other facilities, and the lack of positive conclusions for environmental impact assessments. Other types of assessments, non-compliance with legal provisions on atmospheric air protection, land reclamation, illegal activities in industrial and consumer waste management, oil spill emergencies, etc. In addition, there is unsatisfactory implementation by the Ministry of Oil and its accredited companies [27].

The problem of ensuring the safe use and protection of abandoned and stopped wells requires an urgent solution, the amended Mineral Investment Law No. 19 of 1988 does not regulate the use and protection of abandoned and stopped wells, because it does not contain rules specifying the entities that must be responsible for the safety of drilling wells and mine works, There is no comprehensive and up-to-date official information on the total number and condition of abandoned and stopped wells that have been drilled on Iraqi territory and the exclusive economic zone of Iraq between neighboring countries (Kuwait). and Iran). In this regard, the problem of improving legislation in the area of ensuring environmental safety during the operation of major pipeline transport facilities arises.

Environmental and legal issues related to the transportation of hydrocarbon raw materials seem extremely important since major oil and gas pipeline transportation systems are the most important functions of the federal government. The formation of energy systems, a key link in the fuel and energy complex and the factor of stability and economic growth in Iraq, provide vital foreign exchange revenues to the country, and allow the state regulation of the domestic oil and gas market and the export of hydrocarbons, however, at present, due attention is not paid to environmental and legal regulation of issues related to the transportation of major pipelines. In our opinion, the existence of legal problems in this area is determined by the absence of a comprehensive federal law defining the conceptual apparatus (in particular, concepts such as "transportation of main pipelines", "transit", "main oil and petroleum" product pipelines", as well as, environmental safety requirements for the transportation facilities of main pipelines, procedures for regulating the liquidation of the consequences of emergencies on main pipelines, procedures for compensation for losses of oil and petroleum products that occurred as a result of accidents and the costs of their liquidation as well as the legal status and mode of operation

Legislation to prevent and eliminate the consequences of emergency oil spills requires improvement. Also, regulations and instructions are insufficient to prevent, respond to and compensate for environmental damage about emergency oil spills and are unable to ensure efficiency in this priority environmental area..The practice of applying these regulations has revealed some shortcomings in the legal regulation of relations, as a result of which the provisions of the above-mentioned regulations require conceptual revision In addition, it is advisable to establish a federal law "On the prevention of emergency oil spills.

Legislation on the protection of wildlife during subsoil use production processes requires improvement. The requirements in the field of protection of the organisms of the animal world, referred to in the Law on the Protection of Wild Animals "on the approval of requirements for the prevention of the death of animal organisms during production processes, as well as during operation [28].

The analysis of Iraqi legislation in the field of the use of natural resources and environmental protection allowed us to identify the main problems in the implementation of government bodies in the oil- and gas-producing governorates entrusted to them, including in the field of underground use, which requires interaction with federal government bodies or requires access to government information resources, the most important of which is the lack of normative legal regulation in the field of public administration for the use of natural resources and the environment protection, and the lack of a clear legal regulation for the implementation of a number of Of the powers of the State entrusted to the public authorities of local governments in the field of the use of natural resources as well as the absence of regulatory requirements stipulating the need for interaction between these bodies, or the absence of clear regulation and forms of such interaction with regard to the field of subsoil use, it

should be noted that the implementation of most of the executive and administrative authorities, as well as the supervisory powers assigned to the government bodies of the producing governorates in the field of regulating subsoil use relationships, assumes the need to use reliable and complete information about the subsoil.

In this regard, the first major problem that we can record during the analysis is the problem of ensuring effective access to geological and other information about the ground, and to the users of the subsoil for licensing requirements (license agreements), technical design documents for the development of mineral deposits, access to the above information is not only difficult, but it is not registered at all, it is not declared and so on. The above highlights the objective need to establish effective legal regulatory mechanisms aimed at preserving and restoring the natural environment, rational use of mineral resources, and preventing and eliminating the consequences of negative effects on the environment when using the ground.

Conclusion

Currently, the administrative authorities have achieved some successes in increasing oil and gas productivity as they are constantly trying to improve the legislative framework, the activities of government bodies at various levels are regulated in the field of environmental protection, the development of cleaner production is encouraged, the state of the environment is monitored daily, but there are also a number of problems. The most important of which is the lack of a unified law regulating all aspects of oil and gas production, including the environmental component, as the current environmental laws that regulate the environmental aspect of oil and gas production suffer from poor coordination, and in this chaotic situation it is difficult to regulate environmental activities. In addition, although Iraqi laws criminalize environmental pollution, violators of current environmental laws, regulations, and standards are usually subject to either a fine or an administrative penalty, reducing their sense of accountability before the law. In addition, local governments often turn a blind eye to excessive pollution of oil and gas extraction and prevent environmental protection agencies from penalizing dirty production.

Therefore, it is necessary to expedite the adoption of the oil and gas law, to regulate all aspects of oil and gas production, including the environmental component. and also Ensure effective access to geological and other information about the ground, and to underground users of licensing requirements (license agreements), and technical design documents for the development of mineral deposits.

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