

The Legal Nature of Environmental Protection Laws in the Face of Climate Change

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Abstract

Climate change has become one of the most significant environmental and legal challenges confronting Iraq due to its effects on water resources, agriculture, public health, biodiversity, food security, and socioeconomic stability. Addressing these consequences requires an effective legal framework that integrates constitutional guarantees, environmental legislation, administrative regulation, institutional enforcement, and international climate obligations. This study aims to clarify the legal nature of environmental protection laws in the face of climate change in Iraq, examine their constitutional and legislative foundations, analyze their relationship with the international climate regime, and evaluate their effectiveness in responding to contemporary environmental risks. The study adopts a descriptive-analytical legal approach based on the examination of relevant constitutional provisions, environmental legislation, regulatory mechanisms, and international climate commitments. The analysis shows that Iraqi climate-related environmental protection has a multi-source and integrated legal character combining constitutional, administrative, regulatory, preventive, and international dimensions. The Iraqi Constitution of 2005 provides an important normative basis by recognizing the right to live in sound environmental conditions and imposing environmental protection responsibilities on the state. Environmental Protection and Improvement Law No. 27 of 2009 represents the principal legislative framework for pollution control, environmental impact assessment, monitoring, enforcement, and institutional environmental protection. Nevertheless, the existing system remains more developed as a general environmental and pollution-control framework than as a comprehensive climate-governance regime. Major weaknesses include inadequate implementation, limited monitoring and technical capacity, insufficient institutional coordination, weak integration of climate considerations into development planning, and the absence of sufficiently detailed domestic mechanisms for implementing mitigation and adaptation commitments. The study concludes that effective climate protection in Iraq requires modernization and better coordination of existing legislation, stronger institutional and enforcement capacity, integration of climate-risk assessment into environmental decision-making, improved national emissions and environmental data systems, and closer alignment between domestic law and international climate obligations.

Keywords: Environmental Law, Climate Change, Environmental Protection, Iraqi Law, Sustainable Development, Climate Governance

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1. Introduction

Climate change has transformed environmental protection from a predominantly technical and administrative concern into a complex legal issue that implicates constitutional rights, public regulation, international obligations, economic policy, natural-resource governance, and the responsibility of the state toward present and future generations. The intensification of rising temperatures, water scarcity, desertification, declining agricultural productivity, dust storms, ecosystem degradation, and pressure on public services has made the legal regulation of climate-related risks particularly significant for Iraq. The climatic vulnerability of Iraq cannot be examined independently of its geographic characteristics, dependence on water resources originating beyond its borders, hydrocarbon-based economy, rapid urbanization, legacy of armed conflict, and environmental degradation accumulated over several decades. Hussein describes climate change in Iraq as a multidimensional risk that affects environmental security as well as economic and social stability (Hussein, 2023). Birka similarly emphasizes that climate change has acquired strategic importance in Iraq because effects such as water stress, desertification, food insecurity, and environmental displacement extend beyond conventional environmental policy and influence broader questions of national resilience (Birka, 2024). These circumstances require a legal framework capable not merely of responding to pollution after damage has occurred but of anticipating climate risks, regulating activities that contribute to environmental deterioration, requiring preventive measures, strengthening adaptive capacity, and integrating national policies with international climate commitments.

The central legal difficulty arises from the fact that climate change is not regulated through one isolated branch of law. Environmental protection against climate change is constructed from constitutional provisions, environmental statutes, administrative regulations, criminal sanctions, planning requirements, international agreements, institutional mandates, and policy mechanisms. Abdulkazim and Safi observe that Iraqi environmental legislation has developed through multiple legal instruments but continues to face substantial difficulties in translating legislative norms into effective environmental governance under changing climatic conditions (Abdulkazim & Safi, 2025). This fragmentation does not necessarily mean that climate law lacks a coherent legal nature. On the contrary, the interaction between different sources demonstrates that climate-related environmental regulation is structurally integrated and functionally interdisciplinary. Its rules derive authority from different levels of the legal order but pursue a common protective purpose: preventing environmental deterioration, reducing climate-related harm, regulating environmentally harmful conduct, preserving natural resources, and creating mechanisms through which state institutions and private actors can be held responsible for compliance.

The constitutional dimension is especially important because environmental protection is not merely a matter of administrative discretion. The Iraqi Constitution of 2005 recognizes the right of every individual to live in sound environmental conditions and places responsibility on the state to protect and preserve the environment and biodiversity. Abd identifies Article 33 as a central constitutional foundation for environmental protection in Iraq because it transforms environmental quality from a policy preference into a legally recognized interest connected with individual rights and state duties (Abd, 2012). This constitutional recognition has significant implications for the legal nature of environmental legislation. Legislative measures directed toward pollution control, environmental assessment, emissions regulation, natural-resource protection, and climate adaptation can be understood as instruments for implementing a constitutional obligation rather than merely discretionary regulatory choices. The environmental right therefore performs both an interpretive and normative function: it provides a legal basis for state intervention while also supplying a standard against which legislative and administrative performance may be evaluated.

The international dimension further shapes the character of Iraqi environmental law. Climate change is intrinsically transboundary, and no national legal system can address it exclusively through domestic regulation. The United Nations Framework Convention on Climate Change established a common international framework for state cooperation, while subsequent developments created progressively more detailed expectations relating to mitigation, reporting, adaptation, climate finance, technology transfer, and national planning. Hashim notes that Arab states participate in climate negotiations within a framework in which national interests, development priorities, differentiated capacities, and shared environmental concerns must be reconciled (Hashim, 2022). The Paris Agreement deepened this model by establishing nationally determined contributions as a principal mechanism through which states communicate and progressively strengthen their climate

commitments. Radi explains that nationally determined contributions operationalize the Paris system by connecting international objectives with measures adopted at the domestic level (Radi, 2023). International climate law therefore does not merely operate externally to domestic law; it influences the direction, interpretation, and expected development of national environmental legislation.

The legal nature of climate-related environmental protection is also shaped by the principles that guide it. Prevention is central because many environmental harms are irreversible or extremely difficult to remedy after they occur. The precautionary approach becomes significant where scientific uncertainty exists but the potential consequences of inaction may be serious. Sustainable development requires reconciliation between economic development and long-term ecological protection, while intergenerational equity requires legal decision-making to account for the interests of persons who will experience the long-term effects of contemporary environmental choices. Al-Fadli and Mahmoud argue that international climate regulation increasingly rests upon legal principles that move environmental governance away from purely reactive remedies and toward anticipatory forms of responsibility (al-Fadli & Mahmoud, 2023). Bazaziz and Haddak likewise connect climate change with human rights, demonstrating that environmental deterioration can affect rights to health, life, food, water, housing, and conditions necessary for human dignity (Bazaziz & Haddak, 2016). Climate law therefore occupies a position between regulatory environmental law and rights-based legal protection.

In Iraq, the legislative response is centered on Environmental Protection and Improvement Law No. 27 of 2009, supplemented by constitutional provisions, sectoral legislation, regulations, institutional arrangements, and international commitments. Ghaidan emphasizes the importance of administrative competence in environmental protection and the central role of public authorities in supervising activities capable of causing environmental pollution (Ghaidan, 2014). Al-Budairi and Ibrahim similarly demonstrate that effective environmental protection depends on a combination of preventive regulation, administrative control, legal responsibility, and specialized institutional mechanisms (al-Budairi & Ibrahim, 2014). The environmental legal system therefore cannot be evaluated solely by counting the number of laws that exist. Its effectiveness depends upon the clarity of legal duties, coordination among institutions, technical capacity, monitoring systems, enforcement mechanisms, proportionality of sanctions, availability of environmental information, and consistency between national policy and international obligations.

The problem addressed in this article is whether the existing Iraqi legal framework possesses a sufficiently coherent and effective legal nature to protect the environment against the consequences and causes of climate change. The issue is not confined to whether Iraq has enacted environmental legislation, because numerous legal texts already regulate pollution and environmentally harmful activities. The more important question concerns whether these rules collectively form a climate-responsive legal system capable of prevention, mitigation, adaptation, accountability, and progressive implementation of international commitments. A further question concerns the extent to which Iraqi legislation reflects modern principles of climate governance and whether the existing institutional and enforcement structure is capable of transforming formal legal obligations into actual environmental protection.

The objective of this article is therefore to clarify the legal nature of environmental protection laws applicable to climate change in Iraq, analyze their constitutional, legislative, and international foundations, and evaluate the relationship between domestic environmental regulation and international climate obligations. It also seeks to determine the principal characteristics that distinguish climate-related environmental regulation from traditional pollution law and to identify the legal and institutional deficiencies that limit its effectiveness. The article adopts a descriptive-analytical legal approach through examination of the constitutional basis of environmental protection, the principal provisions and purposes of Iraqi environmental legislation, the international climate framework relevant to Iraq, and the legal challenges that arise in implementation. The analysis proceeds from the premise that climate protection requires an integrated legal framework in which domestic regulation, constitutional rights, institutional responsibilities, international cooperation, scientific knowledge, and long-term development policy operate as components of a unified protective system.

2. The Legal Nature and Foundations of Climate-Related Environmental Protection

The legal character of climate-related environmental protection is distinctive because it is simultaneously constitutional, administrative, regulatory, international, preventive, and remedial. Traditional legal classification tends to divide legal rules

into identifiable branches such as constitutional law, administrative law, criminal law, civil law, and international law. Climate-related environmental regulation does not fit neatly within one category because its effectiveness depends on the coordinated application of rules belonging to all of them. This multi-source structure is not a weakness in itself. It reflects the nature of the protected interest. The environment is not confined to an individual proprietary interest, nor can atmospheric stability, biodiversity, clean air, water security, or ecological balance be protected solely through private-law claims. Al-Budairi and Ibrahim explain that environmental protection requires a range of legal methods because pollution affects collective interests and demands forms of intervention that extend beyond traditional bilateral legal relationships (al-Budairi & Ibrahim, 2014). The law must therefore regulate conduct before damage occurs, supervise industrial and developmental activities, impose technical standards, authorize administrative intervention, establish monitoring obligations, and create sanctions for non-compliance.

Public-law characteristics are especially prominent. Environmental regulation generally authorizes public institutions to determine permissible pollution levels, issue licenses, require environmental assessments, monitor facilities, inspect compliance, suspend activities, and impose or initiate sanctions. Ghaidan's analysis of administrative environmental competence in Iraq highlights the importance of administrative authorities in translating statutory environmental requirements into practical control over potentially harmful activities (Ghaidan, 2014). Such powers demonstrate that environmental law is fundamentally regulatory: it does not merely compensate victims once environmental damage occurs but seeks to structure conduct in advance. This preventive orientation is particularly important in the context of climate change because the temporal and geographic scale of climate harm makes conventional ex post compensation insufficient. Carbon emissions released at one moment may contribute to cumulative atmospheric effects that become fully visible only years later, while climate-related damage may occur far from the original source of emissions.

The constitutional basis of Iraqi environmental protection gives this regulatory system a higher normative foundation. Article 33 of the Iraqi Constitution recognizes the right to live in sound environmental conditions and requires the state to protect and preserve the environment and biodiversity. Abd considers this constitutional provision a major development because it expressly constitutionalizes an environmental interest that earlier legislation often approached primarily through public health or pollution control (Abd, 2012). The importance of this provision extends beyond symbolic recognition. A constitutional environmental right creates a legal orientation for ordinary legislation and administrative policy. It implies that public authorities should interpret statutory powers consistently with environmental protection and that legislative omissions capable of exposing society to serious environmental degradation may raise questions concerning the adequacy of state performance. It also links environmental quality to human well-being and establishes environmental protection as part of the legitimate responsibilities of government.

This constitutional right must be understood in connection with other protected interests. Climate change affects public health, access to water, food production, housing security, livelihoods, and social stability. Bazaziz and Haddak emphasize that climate change can interfere with multiple human rights because environmental deterioration alters the material conditions necessary for their enjoyment (Bazaziz & Haddak, 2016). In Iraq, this relationship is particularly significant because climate impacts are likely to interact with pre-existing vulnerabilities. Water scarcity can undermine agriculture and rural livelihoods, higher temperatures can intensify health risks, and desertification can reduce productive land. Hussein observes that the Iraqi response to climate change must therefore account for interconnected risks rather than treating climatic change as an isolated meteorological phenomenon (Hussein, 2023). The legal nature of environmental protection consequently becomes rights-oriented as well as regulatory.

Another defining characteristic is the preventive principle. Traditional liability rules often operate after an unlawful act and identifiable damage have occurred. Environmental law increasingly reverses this sequence by imposing obligations before potentially harmful activities begin. Requirements concerning environmental impact assessment, emissions control, pollution treatment equipment, environmental licensing, and monitoring all embody preventive logic. Al-Sharqawi explains that industrial environmental management depends on controlling emissions and environmentally harmful processes through technical and organizational measures before their effects become unmanageable (al-Sharqawi, 1999). This principle is particularly suitable for climate protection because restoration after severe ecological deterioration may be impossible or

disproportionately expensive. Prevention therefore functions as a legal standard for administrative decision-making and as a rationale for placing compliance duties on operators whose activities pose environmental risks.

Closely related to prevention is precaution. Climate science provides substantial evidence of anthropogenic climate change, but uncertainty may remain regarding the precise magnitude, timing, or local distribution of particular harms. Such uncertainty cannot reasonably justify legal inaction. Al-Fadli and Mahmoud explain that contemporary international climate law supports anticipatory action where environmental risks are serious, even when all scientific aspects of the threat cannot be predicted with complete certainty ([al-Fadli & Mahmoud, 2023](#)). The precautionary dimension of climate regulation requires authorities to consider plausible environmental harm before authorizing high-risk activities and to adopt protective standards capable of adjusting as scientific knowledge develops. For Iraqi law, this implies that climate considerations should increasingly influence licensing, urban planning, energy policy, industrial regulation, water management, agricultural policy, and environmental impact assessment.

Sustainable development constitutes another foundational concept. Environmental law cannot be reduced to prohibiting economic activity. Its purpose is to establish conditions under which development can occur without destroying the natural systems on which social and economic life depend. Abbas identifies sustainable development as a central framework within United Nations activities in Iraq, reflecting the growing integration of environmental, economic, and social objectives ([Abbas, 2020](#)). Abdulkazim and Safi similarly relate the challenges of Iraqi environmental legislation to the need for development that remains viable under the pressure of climate change ([Abdulkazim & Safi, 2025](#)). Sustainable development changes the legal evaluation of economic projects because environmental cost can no longer be treated as an external consideration. Decisions concerning infrastructure, industrial expansion, oil production, energy, agriculture, and urban growth must account for long-term ecological consequences.

Intergenerational equity reinforces this temporal dimension. Climate change creates a distinctive legal problem because present activities may impose environmental burdens on persons who have no opportunity to participate in current decision-making. The protection of future generations therefore requires the state to avoid treating natural resources as assets available for unrestricted present consumption. Climate-related law becomes prospective: it must preserve ecological capacity over time. This perspective also supports stronger reliance on renewable energy, resource efficiency, pollution reduction, and environmental assessment. The objective is not only to protect individuals currently affected by pollution but to preserve environmental conditions necessary for future communities.

The international foundation of climate law further distinguishes it from purely domestic environmental regulation. Atmospheric processes transcend national borders, and greenhouse gas emissions contribute to a global cumulative problem regardless of their geographic source. Hashim explains that negotiations under the UNFCCC require states to coordinate within a system shaped by collective objectives but differentiated national circumstances ([Hashim, 2022](#)). This international structure is important for Iraq because it connects domestic environmental policy with international reporting, mitigation, adaptation, financial assistance, capacity building, and technological cooperation. Al-Fadli and Mahmoud emphasize that climate obligations are rooted in international legal principles requiring cooperation and differentiated responsibilities ([al-Fadli & Mahmoud, 2023](#)). National legislation is consequently expected to develop in a manner that permits the state to fulfill those commitments.

The Paris Agreement deepened this interaction through the mechanism of nationally determined contributions. Radi explains that NDCs allow states to formulate climate commitments consistent with national circumstances while participating in a common system of progressive ambition ([Radi, 2023](#)). The legal importance of this mechanism lies in its capacity to connect international commitments with domestic implementation. A state cannot credibly formulate climate objectives at the international level without national laws, policies, administrative structures, and data systems capable of supporting them. Iraqi environmental law must therefore be viewed not as a closed domestic field but as part of a multilevel climate-governance framework.

This multi-level structure leads to the conclusion that the legal nature of climate-related environmental protection is integrated rather than fragmented. Constitutional law identifies environmental protection as a state responsibility and individual interest; administrative law provides institutional powers and regulatory procedures; environmental legislation establishes substantive duties and technical standards; criminal and administrative sanctions support enforcement; international law

provides common objectives and cooperative mechanisms; and sustainable-development principles guide interpretation across the system. The central challenge is consequently not the absence of legal categories but the degree to which those categories operate coherently. A climate-responsive legal framework must connect constitutional values with operational regulations, convert international commitments into national measures, and ensure that preventive rules are supported by competent institutions and enforceable procedures.

3. The Iraqi Legislative Framework for Environmental and Climate Protection

The modern Iraqi environmental legal framework contains a wide range of statutory and regulatory provisions directed toward environmental pollution, public health, industrial activities, air quality, waste, natural resources, and environmental administration. Not all of these rules were originally adopted specifically in response to climate change, and it would therefore be inaccurate to treat every environmental provision as climate legislation in the strict sense. Nevertheless, several parts of the national legal framework are directly relevant to climate protection because they regulate greenhouse-gas-related activities, atmospheric emissions, environmentally harmful industrial processes, environmental impact assessment, natural-resource use, and institutional monitoring. Abdulkazim and Safi argue that Iraq possesses an identifiable legislative basis for environmental protection but that the principal challenge lies in adapting and implementing that legislation under contemporary conditions of sustainable development and climate change ([Abdulkazim & Safi, 2025](#)). The climate significance of Iraqi legislation therefore emerges through both its express provisions and its broader regulatory capacity.

Environmental Protection and Improvement Law No. 27 of 2009 represents the central legislative instrument in this field. Its importance lies in the fact that it establishes a comprehensive framework for environmental protection rather than regulating only one isolated pollutant or sector. Ashour and Abdulwahhab's analysis of legal protection against air pollution in Iraq demonstrates the importance of general environmental legislation in establishing legal controls over activities that deteriorate atmospheric quality ([Ashour & Abdulwahhab, 2016](#)). The law approaches pollution broadly and provides a legal basis for regulating substances and activities capable of directly or indirectly damaging environmental components. Although the statutory concept of pollution extends beyond climate change, its general formulation allows atmospheric emissions and environmentally harmful industrial activities to be addressed within a common regulatory structure.

The preventive orientation of Law No. 27 of 2009 is especially relevant to climate governance. Environmental protection becomes effective only when legal duties arise before pollution reaches an irreversible or dangerous level. Al-Budairi and Ibrahim emphasize that preventive legal measures are among the most important methods available for environmental protection because post-damage remedies frequently cannot restore the ecological conditions that existed previously ([al-Budairi & Ibrahim, 2014](#)). The Iraqi environmental framework accordingly places obligations on facilities whose activities may generate pollution. Such entities are expected to use systems and equipment capable of treating pollutants, maintain the effectiveness of those systems, monitor the pollutants produced by their activities, and provide relevant environmental information to competent authorities. These duties establish an important regulatory relationship between private economic activity and public environmental supervision.

The requirement of environmental impact assessment represents one of the strongest expressions of preventive environmental law. A project capable of causing environmental harm should not be evaluated only according to its expected economic return. Its positive and negative environmental effects, pollution risks, preventive measures, technological alternatives, and use of natural resources must also be examined. Ghaidan's work on administrative competence demonstrates that such preventive procedures depend heavily on the ability of public authorities to assess projects and impose legally binding conditions before approval ([Ghaidan, 2014](#)). Environmental impact assessment is particularly important for climate-responsive governance because it provides a procedural point at which emissions, energy consumption, resource use, ecological vulnerability, and long-term climate exposure can be considered before capital-intensive development becomes fixed.

The regulation of air pollution provides another connection between conventional environmental law and climate law. Industrial facilities, combustion processes, transportation, and fossil-fuel use may emit substances that damage local air quality while also contributing, directly or indirectly, to broader atmospheric problems. Al-Sharqawi stresses that environmental management of industrial establishments must include technical measures to reduce harmful emissions at source ([al-Sharqawi,](#)

1999). Ashour and Abdulwahhab likewise identify air pollution as a subject requiring legal standards, supervision, and enforcement rather than voluntary compliance alone (Ashour & Abdulwahhab, 2016). Iraqi environmental legislation prohibits uncontrolled emissions from production and combustion processes where required environmental treatment has not been undertaken. Such rules provide a legal basis upon which more climate-specific emission standards can be developed.

Transportation is also legally relevant because vehicle emissions contribute to urban air pollution and fossil-fuel consumption. Daznil's examination of air-pollution sources illustrates the importance of transport and combustion-related emissions within the broader environmental burden associated with atmospheric pollution (Daznil, 1988). Existing Iraqi rules concerning permissible vehicle emissions may therefore support climate mitigation, but traditional pollution standards are not identical to comprehensive greenhouse-gas regulation. A modern climate framework requires more than prohibiting visibly excessive exhaust. It requires measurable national strategies concerning fuel quality, vehicle efficiency, low-carbon transport, public transportation, electrification, and progressive reduction of emissions from the transport sector. The existing legal system provides a foundation, but climate change requires that this foundation be developed in a more systematic direction.

The law's treatment of renewable energy is also important. Environmental obligations imposed on regulated entities include movement toward cleaner technologies and reduction of pollution where possible. This direction is consistent with sustainable-development objectives. Abdulkazim and Safi emphasize that the opportunity for Iraqi environmental legislation lies partly in its ability to support a transition toward development patterns compatible with climate constraints (Abdulkazim & Safi, 2025). The legal framework should therefore increasingly move from a narrow pollution-control model toward an energy-transition model. This does not necessarily require replacing existing environmental law entirely. It requires supplementing general environmental duties with more precise regulatory instruments governing emissions reduction, renewable-energy deployment, energy efficiency, methane control, industrial decarbonization, and climate-sensitive infrastructure.

Institutional design is another central component of the legislative framework. Environmental law has limited practical value if no institution possesses adequate authority and capacity to monitor compliance. The Iraqi system allocates responsibilities to environmental authorities and establishes an environmental police function to assist in enforcement. Ghaidan emphasizes that environmental administration must possess clear legal competence because environmental harm often arises from activities requiring ongoing supervision rather than isolated judicial intervention (Ghaidan, 2014). The effectiveness of such institutions depends on staffing, scientific expertise, laboratory capacity, access to monitoring technologies, coordination with local authorities, and reliable environmental data. Without these elements, even detailed statutory standards may remain largely formal.

Enforcement mechanisms reinforce the binding character of environmental duties. Environmental violations can attract financial, administrative, and criminal consequences, including fines, imprisonment in appropriate circumstances, and suspension of activities. Al-Hulw's treatment of environmental protection law emphasizes that sanctions perform both punitive and deterrent functions when environmental interests require protection against harmful conduct (al-Hulw, 1997). Criminalization alone, however, cannot guarantee effective environmental governance. Sanctions must be proportionate to the economic benefit gained from violation and to the environmental harm caused. If the cost of non-compliance is substantially lower than the cost of installing pollution-control technology, regulated entities may treat penalties as an ordinary business expense rather than a deterrent.

The relationship between environmental law and criminal responsibility must therefore be designed carefully. Environmental crimes often involve complex scientific evidence, corporate decision-making, diffuse causation, and long-term harm. Abdulbaqi's analysis of criminal protection against noise pollution, although addressing a different type of environmental harm, illustrates the broader principle that penal intervention becomes meaningful only when the prohibited conduct, evidentiary standards, and applicable thresholds are sufficiently clear (Abdulbaqi, 1998). This principle applies with even greater force to climate-related violations. Any future Iraqi legislation imposing greenhouse-gas-related penalties would require precise rules concerning measurement, reporting, responsibility, verification, and the legal status of regulated emissions.

The role of environmental data is similarly crucial. Climate governance depends on accurate information concerning emission sources, pollution concentrations, sectoral trends, land degradation, water conditions, energy consumption, and vulnerability. Mohammad and al-Rubaie emphasize that climate-response strategies in Iraq require planning based on coordinated national information and institutional action (Mohammad & al-Rubaie, 2020). A legal system that obliges

regulated entities to collect and report environmental data can provide the foundation for more advanced climate policy. Yet this information must be standardized, verified, integrated, and made usable for decision-making. A national climate and emissions database would strengthen both regulatory enforcement and Iraq's ability to meet international reporting obligations.

The existing framework also contains rules concerning waste, hazardous materials, biodiversity, and protection of natural resources. These subjects should not be artificially characterized as climate law in every instance, but they interact with climate resilience. Poor waste management can increase methane emissions and local environmental harm, while biodiversity degradation weakens ecosystem resilience. Sustainable land management can support carbon storage and reduce desertification. Abdulkazim and Safi therefore treat environmental legislation and climate adaptation as increasingly interconnected components of sustainable development ([Abdulkazim & Safi, 2025](#)). The legal framework should reflect these interactions without losing conceptual clarity.

The principal weakness of the Iraqi framework is not that environmental law is entirely absent. Rather, the law remains more developed as a general pollution-control framework than as a comprehensive climate-governance system. Hussein notes that the scale of climate risks facing Iraq requires a response commensurate with the structural nature of the problem ([Hussein, 2023](#)). Existing legislation supplies constitutional legitimacy, environmental obligations, administrative powers, preventive procedures, and sanctions. What remains insufficiently developed is the systematic translation of climate objectives into measurable sectoral obligations. There is therefore a need for clearer rules concerning greenhouse-gas inventories, carbon-intensive activities, adaptation planning, emissions targets, monitoring, climate-risk assessment, sectoral responsibility, and the integration of NDC commitments into national legal processes.

The direction of legislative reform should build on, rather than disregard, the existing environmental framework. Law No. 27 of 2009 already embodies several principles capable of supporting climate policy: prevention, monitoring, environmental assessment, institutional supervision, pollution control, accountability, and environmental improvement. These mechanisms can be strengthened through climate-specific amendments or complementary legislation. The objective should be to transform a general environmental-protection framework into an integrated climate-responsive regime in which emissions reduction, adaptation, sustainable development, and international obligations are expressly connected to enforceable domestic legal duties.

4. International Climate Obligations and the Effectiveness of the Iraqi Legal Framework

The international legal regime on climate change is indispensable to understanding the development of environmental law in Iraq because climate change cannot be addressed through isolated national action. The atmosphere is a shared environmental system, greenhouse gases have transboundary and cumulative effects, and climate impacts are distributed across states regardless of where emissions originate. International law therefore provides the cooperative framework within which domestic climate measures are formulated. Al-Fadli and Mahmoud explain that the international legal foundations of climate mitigation arise from the need for coordinated action, differentiation among states, and recognition that environmental protection requires collective responsibility ([al-Fadli & Mahmoud, 2023](#)). For Iraq, participation in this regime creates both opportunities and obligations: it enables access to international cooperation, technical assistance, climate finance, knowledge, and technology while also requiring the development of domestic policies and institutional capacities consistent with international commitments.

The UNFCCC established the foundational structure for global climate cooperation. Its legal importance lies not only in the substantive objective of stabilizing greenhouse-gas concentrations but also in its institutional and procedural architecture. Parties are expected to develop information concerning national emissions, formulate relevant policies, cooperate in research and technology, and participate in continuing international negotiations. Hashim emphasizes that Arab countries engage with this framework through negotiations shaped by shared concerns relating to development, finance, adaptation, energy, and differentiated responsibility ([Hashim, 2022](#)). This context is particularly relevant to Iraq because the country faces significant adaptation needs while also possessing an economy strongly connected to hydrocarbon production.

The principle of common but differentiated responsibilities and respective capabilities is especially important for developing countries. It recognizes that climate change is a common problem but that states differ in historical contribution, economic capacity, development requirements, and technological resources. Al-Fadli and Mahmoud regard differentiation as an essential

element of the international legal structure governing climate mitigation (al-Fadli & Mahmoud, 2023). For Iraq, this principle supports the legitimacy of development needs while simultaneously requiring progressive environmental responsibility. It does not eliminate the need for domestic climate action. Rather, it frames the level and form of that action in relation to national circumstances and the availability of international support.

The Kyoto framework contributed to the evolution of international climate governance by introducing more formalized mitigation commitments for certain developed countries and establishing mechanisms associated with emissions reduction and cooperative implementation. Although Iraq was not positioned within the same binding reduction structure as industrialized Annex I states, the broader significance of the Kyoto system lies in the development of emissions accounting, mitigation mechanisms, and the concept that climate commitments require measurable implementation. Zaki's discussion of the progression of international climate summits illustrates how the climate regime has evolved incrementally through negotiations that continually expand the expectations placed on states (Zaki, 2022). The legal development of Iraqi climate policy must therefore be understood as part of a moving international framework rather than as compliance with a static treaty system.

The Paris Agreement represents a more flexible but universal model. Its architecture requires all parties to participate through nationally determined contributions, while allowing the content and ambition of those contributions to reflect national circumstances. Radi explains that NDCs are central to the Paris regime because they translate collective climate objectives into nationally formulated commitments that are expected to progress over time (Radi, 2023). The legal significance of this mechanism for Iraq is considerable. An NDC is not merely an international political statement; its implementation depends on domestic institutions, legislation, budgetary decisions, sectoral policies, data collection, monitoring, and administrative coordination. International ambition without domestic legal capacity risks remaining declaratory.

The Paris model also strengthens the relationship between mitigation and adaptation. Iraq's climate vulnerability makes adaptation particularly important. Birka identifies water scarcity, desertification, agricultural stress, and increasing temperatures among the principal strategic effects of climate change in Iraq (Birka, 2024). Hussein similarly emphasizes that the Iraqi response must address the compound effects of climate risks on water, food, population, health, and economic conditions (Hussein, 2023). The legal framework must therefore move beyond regulating pollutants and incorporate adaptation obligations into planning decisions. Water-resource management, agricultural policy, urban planning, infrastructure standards, disaster preparedness, and ecosystem protection should all be understood as components of climate law when they are designed to reduce vulnerability to foreseeable climatic changes.

Nationally determined contributions can serve as an organizing mechanism for this integration. Radi notes that the NDC process allows climate goals to be periodically updated and progressively strengthened (Radi, 2023). For this process to influence domestic law effectively, Iraq requires clear institutional responsibility for converting national climate commitments into sectoral measures. Ministries responsible for environment, oil, electricity, water resources, agriculture, transportation, planning, municipalities, and industry cannot operate in isolation. Climate governance cuts across their mandates. The legal challenge is therefore to create coordination mechanisms capable of allocating responsibilities, setting measurable objectives, collecting comparable data, and ensuring that development planning is compatible with national climate commitments.

International cooperation is also connected to finance and technology. Developing countries frequently face substantial costs in moving toward cleaner energy systems and climate-resilient infrastructure. Hashim explains that climate negotiations involving Arab states repeatedly involve questions of financial support, technology transfer, adaptation resources, and the distribution of implementation burdens (Hashim, 2022). Iraq's participation in international climate arrangements can therefore provide access to forms of support that may strengthen national implementation. Abbas's analysis of the United Nations and sustainable development in Iraq demonstrates the broader importance of international cooperation in supporting national development priorities (Abbas, 2020). Legal capacity becomes important because access to climate finance and implementation mechanisms frequently requires credible national plans, measurable projects, transparent governance, and institutions capable of administering funds.

Despite the existence of national legislation and international commitments, implementation remains the most serious difficulty. Abdulkazim and Safi identify institutional weakness, enforcement problems, and the need for legislative development among the principal challenges facing environmental governance in Iraq (Abdulkazim & Safi, 2025). This

implementation gap can arise even where statutory provisions appear adequate on paper. Environmental agencies may lack monitoring equipment, laboratories, trained personnel, updated data systems, or sufficient authority to compel compliance. Ghaidan's analysis demonstrates that administrative environmental protection depends not only on formal competence but on the effective exercise of that competence (Ghaidan, 2014). A climate law framework therefore requires institutional capacity as part of legality itself.

Weak coordination further reduces effectiveness. Climate change implicates multiple sectors, and fragmented administration can produce conflicting policies. One ministry may pursue pollution reduction while another promotes projects that significantly increase environmental pressure. One authority may collect environmental information using standards that cannot be integrated with data produced elsewhere. Mohammad and al-Rubaie emphasize the need for coherent national strategies in responding to climate change in Iraq (Mohammad & al-Rubaie, 2020). A legally mandated coordination structure could help align environmental policy, energy strategy, water planning, agricultural adaptation, transportation policy, and national development plans.

Environmental monitoring is another deficiency. Effective law requires knowledge of whether regulated actors are complying and whether policies are producing intended results. Industrial emissions, vehicle emissions, oil-sector activities, methane leakage, land degradation, water stress, and urban pollution cannot be regulated efficiently without reliable measurement. Al-Sharqawi's discussion of industrial environmental management demonstrates that control of pollution requires continuous technical monitoring and treatment rather than reliance on general legal prohibitions (al-Sharqawi, 1999). For climate governance, monitoring must also support national greenhouse-gas inventories and sectoral emissions accounting. Strengthening digital reporting systems, remote sensing, emissions registries, and verification procedures would therefore have direct legal significance.

Sanctions also require reconsideration. Ashour and Abdulwahhab note that legal protection against air pollution depends on the practical enforceability of standards and the existence of meaningful legal consequences for violation (Ashour & Abdulwahhab, 2016). If environmental penalties are outdated, economically insignificant, or rarely imposed, they cannot create effective deterrence. Al-Hulw similarly stresses that environmental protection requires sanctions proportionate to the protected interest and the seriousness of the harm (al-Hulw, 1997). Iraqi law should therefore connect sanctions with the gravity, duration, recurrence, and economic benefit of environmental violations. Administrative remedies such as suspension, restoration orders, mandatory technological improvements, and compliance plans may be more effective in some cases than reliance on criminal punishment alone.

The relationship between domestic law and the Paris Agreement also requires clearer legal articulation. Radi's analysis of NDCs shows that Paris commitments depend on national implementation mechanisms (Radi, 2023). Iraq would benefit from a formal process requiring periodic review of climate-related legislation in light of updated national contributions. Such a mechanism could oblige relevant ministries to report progress, identify implementation gaps, and propose regulatory measures. This would transform the NDC from an external diplomatic document into an internal governance instrument.

Climate adaptation likewise needs stronger legal institutionalization. Birka's account of Iraq's climate vulnerability demonstrates that climate change has strategic consequences extending to food production, water availability, population movement, and national security (Birka, 2024). A comprehensive legal system should therefore require climate-risk assessment for major infrastructure and development plans. Roads, housing, water systems, electricity networks, and urban projects should be evaluated against projected temperature increases, water scarcity, drought intensity, and extreme events. Preventive law should operate not only by reducing pollutants but by ensuring that future development is resilient to climatic conditions.

The protection of human rights further supports stronger climate legislation. Bazaziz and Haddak connect climate impacts with the enjoyment of human rights, particularly where environmental degradation affects health, livelihood, water, and living conditions (Bazaziz & Haddak, 2016). Iraq's constitutional environmental right can therefore provide a domestic legal basis for integrating climate vulnerability into public decision-making. Where state institutions possess knowledge of serious climate risks, continued failure to incorporate such risks into planning may undermine the substantive meaning of the constitutional commitment to sound environmental conditions.

International developments also demonstrate that climate regulation is becoming increasingly data-driven and progressively demanding. Zaki's discussion of the development from Glasgow to Sharm El-Sheikh illustrates that contemporary climate diplomacy places growing emphasis on implementation, financing, ambition, and the gap between announced commitments and actual measures (Zaki, 2022). Iraqi legislation must be capable of adapting to this evolution. Static environmental provisions adopted before many contemporary climate mechanisms became central may need revision, supplementation, or more climate-specific implementing regulations.

An effective future framework should therefore integrate mitigation, adaptation, institutional accountability, reporting, enforcement, and international cooperation. The objective should not necessarily be to create an entirely separate legal system detached from environmental law. Rather, Iraq can develop climate-specific provisions within the existing environmental framework while enacting complementary legislation where greater precision is required. Abdulkazim and Safi's analysis supports the view that Iraq's current environmental legislation provides an important foundation but requires modernization to respond adequately to climate change and sustainable-development requirements (Abdulkazim & Safi, 2025). Such modernization should clarify greenhouse-gas regulation, enhance environmental impact assessment, create stronger national data systems, improve sanctions, institutionalize climate adaptation, and establish a legally defined process for implementing and reviewing international climate commitments.

Ultimately, the effectiveness of Iraqi climate law depends on whether legal norms can influence actual behavior. International agreements provide direction and common objectives, but domestic institutions determine whether industries reduce pollution, whether projects undergo meaningful assessment, whether data are collected, whether environmental violations are sanctioned, whether climate risks shape infrastructure decisions, and whether national commitments are implemented. Climate law becomes effective only when its constitutional, legislative, administrative, and international dimensions operate as a coordinated system rather than as separate layers of formal obligation.

5. Conclusion

The legal protection of the environment against climate change in Iraq possesses an integrated and multi-source character. It cannot be classified exclusively as a matter of administrative law, constitutional law, international law, criminal law, or environmental regulation because its effectiveness depends on the interaction of all these branches. The legal system establishes environmental protection as a public interest, recognizes sound environmental conditions as a constitutionally protected value, grants regulatory powers to administrative authorities, imposes preventive duties on potentially polluting activities, provides sanctions for violations, and places Iraq within an international climate regime that requires progressively stronger national action. The legal nature of climate-related environmental protection is therefore best understood as a coordinated framework of rights, duties, regulatory powers, preventive principles, institutional responsibilities, and international commitments.

The constitutional recognition of the right to live in sound environmental conditions provides the normative foundation for this framework. Environmental protection consequently should not be regarded as a secondary governmental policy that may be pursued only when economic circumstances permit. It represents an enduring responsibility of the state and a legal interest belonging to society. This constitutional orientation is particularly significant in the context of climate change because climatic deterioration affects numerous interests simultaneously, including health, water, food security, agriculture, housing, livelihoods, ecological stability, and the preservation of natural resources. The long-term nature of these effects also means that environmental protection must extend beyond the interests of the present population and take account of future generations.

Environmental Protection and Improvement Law No. 27 of 2009 constitutes the principal statutory basis upon which a more comprehensive Iraqi climate-law framework can be built. Its importance derives from its preventive orientation, pollution-control obligations, environmental assessment requirements, monitoring mechanisms, institutional responsibilities, and enforcement provisions. These elements provide a legal architecture capable of supporting climate action even though the legislation was not constructed as a comprehensive climate statute. The existing framework therefore should not be dismissed as irrelevant or entirely inadequate. Its central concepts can support stronger climate governance if they are updated, clarified, and linked explicitly to greenhouse-gas mitigation, adaptation, climate-risk management, renewable energy, emissions reporting, and the implementation of national climate commitments.

The analysis nevertheless demonstrates that traditional pollution law and modern climate law are not identical. Pollution regulation frequently concentrates on localized environmental harm, whereas climate change involves cumulative emissions, long time horizons, transboundary effects, complex causation, and risks that may materialize far from their original sources. A climate-responsive legal system therefore requires more systematic regulation of greenhouse-gas emissions, energy policy, transport, industrial processes, land use, adaptation, water security, and climate-resilient development. General prohibitions against environmental pollution are necessary but no longer sufficient. They must be complemented by measurable standards, sectoral responsibilities, national emissions data, implementation plans, and procedures for progressively increasing the ambition of climate measures.

The international climate regime reinforces this need for legal development. Iraq's participation in international climate agreements connects national environmental legislation to a broader system of mitigation, adaptation, reporting, cooperation, finance, technology transfer, and progressive national contributions. International commitments become meaningful domestically only when they are supported by laws and institutions capable of implementation. Nationally determined contributions in particular require an internal legal process through which international objectives are allocated among governmental authorities and translated into sector-specific actions. Without such integration, a gap may emerge between Iraq's international climate position and the day-to-day operation of domestic environmental governance.

The most important weakness of the current system is therefore not the complete absence of legislation but the gap between legal norms and effective implementation. Environmental protection depends on institutions capable of inspection, monitoring, scientific analysis, data management, enforcement, and coordination. Where environmental authorities lack adequate technical resources or where responsibilities are dispersed across ministries without effective coordination, statutory obligations lose much of their practical force. Strengthening the Ministry of Environment, environmental police, specialized monitoring bodies, and cooperation among sectoral ministries is therefore as important as legislative amendment. Institutional capacity should be regarded as an essential condition for the operation of environmental law rather than an issue separate from legal reform.

A national climate and environmental information system should form part of this institutional strengthening. Reliable data concerning greenhouse-gas emissions, industrial pollution, methane, transportation, land degradation, water scarcity, and climate vulnerability are necessary for regulatory enforcement and sound policy. Legal duties relating to measurement, disclosure, verification, and reporting should be clear enough to ensure that governmental decisions are based on accurate scientific information. An integrated national database would also strengthen Iraq's ability to prepare international reports, evaluate implementation of its climate commitments, identify high-emitting sectors, and design adaptation strategies based on measurable vulnerability.

Environmental impact assessment should also evolve from a conventional pollution-screening mechanism into a broader climate-risk and climate-impact instrument. Major projects should be examined not only for their immediate effects on air, water, and soil but also for their greenhouse-gas implications, energy requirements, cumulative environmental consequences, and resilience under projected climatic conditions. Large infrastructure investments can shape emissions and vulnerability for decades. Incorporating climate considerations before approval would therefore embody the preventive and precautionary character of modern environmental law.

The sanctions applicable to environmental violations also require periodic review. Penalties that are too low, outdated, difficult to enforce, or unrelated to the economic benefit obtained from non-compliance cannot provide meaningful deterrence. An effective system should combine proportionate financial sanctions with administrative measures, restoration orders, suspension of activities where necessary, compulsory technological improvements, and criminal responsibility for serious violations. Enforcement should focus not only on punishment but on ensuring future compliance and repairing environmental damage where restoration remains possible.

Climate adaptation requires equally explicit legal attention. Iraq's vulnerability to rising temperatures, drought, desertification, water scarcity, dust storms, agricultural stress, and pressure on urban systems means that adaptation cannot remain solely within policy documents. Climate-risk assessment should become part of national planning and sectoral regulation. Water management, agricultural policy, urban expansion, housing standards, transportation infrastructure, energy systems, and public-health planning should be evaluated in light of foreseeable climate conditions. The law should require institutions to plan for risks that are already identifiable rather than responding only after damage occurs.

The principle of sustainable development should serve as the organizing concept connecting climate protection with Iraq's economic needs. Environmental legislation should not be interpreted as an obstacle to development but as a mechanism for ensuring that development remains socially, economically, and ecologically viable. Iraq's dependence on hydrocarbon resources makes this balance especially complex, yet it also makes long-term legal planning essential. Progressive diversification of energy sources, increased energy efficiency, control of emissions from industrial and oil-sector activities, development of renewable energy, and investment in resilient infrastructure can reduce environmental risks while contributing to long-term economic stability.

The protection of present and future generations provides the underlying justification for these reforms. Climate change exposes the limitations of legal systems concerned only with immediate and individually identifiable harm. Decisions taken today concerning emissions, natural resources, infrastructure, and land use can determine environmental conditions for decades. The legal order must therefore operate prospectively, preserving ecological capacity and preventing present development from creating disproportionate burdens for future communities.

The Iraqi legal framework already contains important constitutional, legislative, administrative, and international foundations for this task. Its future effectiveness depends on transforming these foundations into a more coherent climate-governance system. This requires harmonization of environmental legislation with international climate developments, stronger implementation institutions, clearer emissions and reporting rules, climate-sensitive environmental assessment, improved monitoring and data systems, proportionate enforcement, systematic adaptation planning, and sustained integration of preventive, precautionary, and sustainable-development principles into public decision-making.

The legal protection of the environment against climate change should ultimately be understood as an evolving responsibility rather than a completed legislative project. Climate risks, scientific knowledge, technology, and international obligations continue to develop, and environmental law must possess sufficient flexibility to respond to these changes while maintaining clear and enforceable standards. For Iraq, the central task is not to begin environmental regulation from the beginning but to consolidate, modernize, and operationalize the framework that already exists. A coherent system capable of connecting constitutional environmental rights, national legislation, competent institutions, scientific monitoring, sustainable development, and international climate commitments would provide a stronger legal basis for protecting natural resources, reducing vulnerability, and safeguarding environmental conditions for both present and future generations.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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