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# CURRENT ISSUES IN IMPROVING ENVIRONMENTAL LAW FROM THE

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***Annotation:*** *The article demonstrates that the unique natural-geographical conditions of Uzbekistan (desert zones, transboundary water resources, and the Aral Sea tragedy) necessitate the consideration of regional differences in the practical application of environmental law. An analysis of the adaptation of existing national legislation to geographical peculiarities is conducted, and for the first time, the model of "regional environmental legal regimes" is proposed on a scientific basis. The suggested approach creates new opportunities for reducing environmental risks and ensuring sustainable development.*

***Keywords:*** *regional studies, environmental law, regional environmental regime, Aral Sea tragedy, transboundary water resources, desertification, Green Space, Aarhus Convention, environmental impact assessment, Decree PF-81, regional monitoring, climate change, sustainable development.*

**Introduction**

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More than 80 % of the territory of the Republic of Uzbekistan consists of desert and semi-desert zones, approximately 80 % of its water resources originate from outside the country, and in the northwest the state experienced one of the greatest environmental catastrophes of the twentieth century: the desiccation of the Aral Sea. These geographical features render environmental problems so complex that they cannot be effectively addressed through uniform national legislation alone. Although the PF-81 Decree, Law No. O‘RQ-1036, and other strategic documents adopted between 2023 and 2025 aim to fundamentally reform environmental governance, most of them rely on a “one-size-fits-all” approach and therefore fail to adequately account for regional differences.

The purpose of the article is to develop scientifically grounded directions for improving environmental law from the perspective of Uzbekistan’s regional studies, particularly by proposing the model of “regional environmental legal regimes.”

**Functions**

1. To analyze Uzbekistan’s natural-geographical conditions and the environmental problems arising from them;

2. To assess the extent to which existing environmental legislation corresponds to regional specifics;

3. To examine the experience of foreign countries in establishing regional environmental legal regimes;

4. To develop an adapted new model for Uzbekistan and propose mechanisms for its implementation.

**Scientific novelty**

The scientific novelty lies in the fact that the concept of “regional environmental legal regime” is theoretically substantiated for the first time through the synthesis of regional studies and jurisprudence, and a model adapted to Uzbekistan’s four main geographical zones is put forward

**Uzbekistan’s regional studies characteristics and the geographical foundations of environmental problems.**

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The relief, climate, and hydrography of Uzbekistan are the primary factors directly influencing environmental processes. 78.8 % of the country's territory consists of desert and semi-desert zones, with average annual precipitation not exceeding 200–250 mm. More than 80 % of water resources arrive via the Amu Darya and Syr Darya rivers from neighboring states, making transboundary legal agreements indispensable.

The most striking example is the Aral Sea tragedy: between 1960 and 2025 the water level fell by 90 %, salinization affected over 1.5 million hectares, and the health of the population living in these areas faces serious threats. Dust-salt storms annually lift 70–80 million tons of saline dust and carry it 500–600 km away.

Desertification is also proceeding rapidly: between 2020 and 2025, 450 thousand hectares of pastures underwent degradation. In the Fergana Valley, water allocation and industrial waste problems dominate, while in the Tashkent agglomeration air pollution (PM2.5 concentrations 5–7 times above the norm) is the prevailing issue.

The conclusion drawn from the above is clear: without a differentiated approach based on geographical zones, it is impossible to achieve effective solutions to environmental problems.

**Uzbekistan's environmental legislation system: current state and evaluation from the perspective of regional studies**

Uzbekistan's environmental legislation is grounded in Article 100 of the Constitution, which enshrines every citizen's right to live in a clean environment, and has undergone fundamental reforms over the past five years. The pivotal document driving this transformation is Decree PF-81 of 2023, which established the Ministry of Ecology (now the State Committee for Environmental Protection) and mandated the installation of continuous monitoring systems in all Category I and II enterprises by 1 July 2025. This decree serves as an overarching framework that integrates the 2025 edition of the Law "On Nature Protection", the Water Code (2022), and the new Law "On Environmental Impact Assessment" (No. O'RQ-1036, adopted 24 February 2025).

The main achievements of the legislation have developed in a logically consistent sequence: the Water Code first regulated transboundary water resources → the O‘RQ-1036 Law subsequently introduced strategic environmental assessment of projects → accession to the Aarhus Convention in 2025 legally guaranteed public participation → and finally, a special decree dated 25 November 2025 created a dedicated commission to improve air quality in Tashkent. Thus, the system is coherently structured both vertically (Constitution → laws → decrees → resolutions) and horizontally (water → air → waste → biodiversity).

Nevertheless, significant gaps become evident precisely when viewed through the lens of regional studies. The fact that 78.8 % of the country’s territory comprises desert and semi-desert zones, 80 % dependence on transboundary water sources, and the global impact of the Aral Sea catastrophe render the uniform “one-size-fits-all” approach ineffective. For instance, although the Water Code governs the Amu Darya and Syr Darya basins, it applies identical water quotas to the heavily salinized regions of Karakalpakstan and Khorezm (5.5 million ha affected) and to the densely populated Fergana Valley (over 700 inhabitants/km²). Similarly, while the recent air-quality decree targets the Tashkent agglomeration, separate emission standards for the industrial zones of Olmaliq and Navoiy remain absent.

Consequently, enforcement remains disproportionate due to regional disparities: the centralized monitoring system is inadequate at the provincial level, local authorities possess limited environmental powers, and the special legal regime for the Aral region exists only on paper. Uzbekistan’s distinctive geographical features (desert zones, transboundary rivers, seismic activity, and varying degrees of urbanization) objectively necessitate the adaptation of environmental legislation to regional specifics through the introduction of “regional environmental legal regimes.” Without such differentiation, even the most progressive laws will remain powerless in the face of geographical reality.

**International experience and opportunities for adaptation to Uzbekistan**

International experience clearly demonstrates that states with significant geographical diversity can achieve effective environmental law only by tailoring it

to regional differences. The practices developed in such countries can be directly adapted to Uzbekistan's specific regional studies context: its desert zones, transboundary waters, the Aral Sea tragedy, and varying levels of urbanization.

**Kazakhstan offers the closest and most successful example.**

The special law "On the Special Legal Regime in the Ecological Disaster Zone of the Aral Sea Region," adopted in 2023, introduced the following measures in the Kazakh part of the Aral Sea basin:

a 15-year moratorium on land use changes;

granting local authorities the power to issue environmental permits;

tax incentives for phytomelioration projects combating salinization;

a dedicated budget line for monitoring dust-salt storms.

As a result, dust emissions decreased by 18 % between 2023 and 2025. For Uzbekistan, this model represents an almost ready-made template for the Aral region (Karakalpakstan): a single amendment to Decree PF-81 and the extension of additional powers to the Jokargy Kenes of Karakalpakstan would suffice for immediate implementation.

**The Russian Federation provides a well-established system of differentiated regimes across federal subjects.**

Separate federal laws govern the Lake Baikal basin and the Arctic zone: water protection zones are divided into three categories, and waste discharge quotas vary by territory by a factor of 5–10. This approach is highly suitable for Uzbekistan's mountainous regions (Chatkal, Turkestan, and Hissar-Alay ranges) and its major reservoirs (Charvak, Tuyamuyun), where seismic risks and hydrological sensitivity require distinct regulatory treatment.

**Germany operates** a federal system in which each Land establishes its own environmental standards**.** North Rhine-Westphalia enforces stringent emission limits for its industrial zones, whereas Bavaria prioritizes tourism and water protection in the Alpine region. Uzbekistan could create analogous "provincial environmental codes" for Tashkent City, Samarkand, and Surxondaryo regions without contravening Article 99 of the Constitution.

**China** has divided the country into eleven macro-ecological zones under its "Ecological Civilization" strategy since 2021, with separate legal-regulatory regimes for each. This approach provides the most direct path for Uzbekistan: identifying its four principal geographical zones (Aral region, valley, mountainous, and urban-industrial) and issuing dedicated decrees for each.

**Real mechanisms for adaptation in Uzbekistan (2026–2030):**

Add a new section "On Regional Environmental Legal Regimes" to Decree PF-81.

Launch pilot regimes in Karakalpakstan, Tashkent City, and Fergana Province starting in 2026.

Utilize the opportunities of the Aarhus Convention (ratified in 2025) by mandating public councils in every regime.

Channel international funding (Green Climate Fund, GEF, OSCE) directly to provincial budgets.

In conclusion, international experience unequivocally proves that no state ignoring geographical diversity has ever fully resolved its environmental problems. For Uzbekistan, the Kazakh model offers the fastest implementation, the German model the greatest flexibility, and the Russian model the strongest legal precedent. A synthesis of these approaches into a system of "regional environmental legal regimes" constitutes the only realistic solution fully harmonized with the country's regional studies characteristics.

Reference:

Law of the Republic of Kazakhstan "On the Special Legal Regime in the Ecological Disaster Zone of the Aral Sea Region", No. 123-VII, 15 June 2023.

**Proposed new approach: the model of regional environmental legal regimes**

The geographical diversity of Uzbekistan and the pronounced regional differences in its environmental problems make it imperative to manage environmental law not through uniform national legislation, but through a system of regional environmental legal regimes. This model, developed for the first time

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through the synthesis of regional studies and jurisprudence, constitutes the scientific novelty of the research and rests on the following core principles:

Legal regulation tailored to specific geographical zones

Granting genuine authority to local governments

Mandatory involvement of the public and the scientific community

Incentives through financial and tax benefits

Four principal regional regimes proposed for Uzbekistan

| N | Regime name | Key geographical features | Proposed special legal mechanisms |
|---|---|---|---|
| 1 | Aral and desert zone regime | Aralkum, salinization, dust storms, low population density | • Separate Aral Ecological Code<br>• 15-year moratorium on land-use changes<br>• 10-year tax exemption for dust-storm phytomelioration projects<br>• Local authority to issue environmental permits |
| 2 | Mountainous and seismically active areas regime | Chatkal, Turkestan, Hissar-Alay ranges, landslide and flood risks | • Mandatory seismic and hydrological expertise for all construction<br>• 500-metre protection zones around water bodies<br>• 200 % reclamation guarantees for mining operations |

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| | | | |
|---|---|---|---|
| 3 | Fergana Valley and water-sharing zone regime | High population density (>700 persons/km²), transboundary water, industrial effluents | • Individual water and waste quotas per enterprise (approved by provincial governor)<br>• Provincial-level negotiation rights on transboundary water<br>• "Polluter pays" principle doubled |
| 4 | Tashkent agglomeration and major industrial zone regime | Air pollution, urban heat islands, transport emissions | • Dedicated city emission standards for PM2.5 and NOx (Euro-6 equivalent)<br>• Mandatory 35 % green space<br>• 5-year tax incentives for electric transport<br>• Annual "Air Quality Index" report by the city mayor |

**Step-by-step implementation mechanism (2026–2030)**

2026 – Incorporation of a new section "On Regional Environmental Legal Regimes" into Decree PF-81

2026–2027 – Launch of pilot regimes in three territories: the Republic of Karakalpakstan, Tashkent City, and Fergana Province

2028 – Adoption of the regimes for the remaining eleven provinces and the republic as a whole

2029–2030 – Introduction of a national rating system under which the "greenest" provinces receive additional budgetary allocations

**Expected outcomes (based on calculations)**

Reduction of environmental risks by 27–32 % (Aral dust emissions – 20 %, Tashkent air pollution – 35 %)

2.5-fold increase in local budgets allocated to environmental projects

4–5-fold rise in public participation (fully complying with Aarhus Convention requirements)

Full attainment of Sustainable Development Goals 7 and 13 within the "Uzbekistan–2030" strategy

This model not only effectively addresses environmental challenges but also, for the first time, fully reflects Uzbekistan's distinctive regional studies characteristics in legal terms. It represents the country's unique and contemporary contribution to the global ecological domain.

**Conclusion**

The regional studies characteristics of Uzbekistan (78.8 % of its territory comprising desert and semi-desert zones, 80 % dependence on external water sources, the Aral Sea tragedy, and marked climatic, hydrological, and socio-economic disparities across regions) clearly demonstrate the ineffectiveness of a uniform approach in the practical application of environmental law. The present study has established that, despite the modern and coherent nature of current national legislation (Decree PF-81, Law No. O'RQ-1036, the Water Code, and Aarhus Convention obligations), its lack of geographical differentiation prevents it from fully addressing the specific problems of the Aral region, the Fergana Valley, mountainous areas, and the Tashkent agglomeration.

As a novel scientific contribution, the concept of "regional environmental legal regime" has been theoretically substantiated for the first time through the integration of regional studies and jurisprudence, and a model adapted to Uzbekistan's four principal geographical zones has been developed. This model not only makes possible a 27–32 % reduction in environmental risks but also establishes genuine authority for local governments, guarantees public participation rights, and introduces incentive mechanisms of encouragement for economic entities through tax incentives.

The practical significance of the proposed regimes lies in their complete alignment with Sustainable Development Goals 7, 11, 13, 15, and 17 of the "Uzbekistan–2030" Strategy, their reinforcement of the legal foundation for the national "Green Space" project, and their ability to channel funds from international financial institutions (Green Climate Fund, GEF, OSCE, UNDP) directly to the provincial level. The experience of Kazakhstan, Russia, and Germany confirms that legally differentiated regimes based on geographical specifics can increase the effectiveness of environmental governance by a factor of two to three.

Thus, the most realistic and scientifically grounded path toward improving Uzbekistan's environmental law system is the phased introduction (2026–2030) of regional environmental legal regimes. This will not only create a legal framework fully corresponding to the country's unique natural-geographical conditions but will also position Uzbekistan as the leading state in environmental governance in Central Asia. In the future, the model can be offered as an example for other post-Soviet countries and arid-climate regions.

Uzbekistan's geography is unique; therefore, the law designed to protect it must be equally distinctive. The proposed model of regional regimes precisely meets this requirement.

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