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Institutional Reforms for Environmental Sustainability in Uzbekistan

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Abstract:

This article highlights the vital connection between environmental safety and national security, stressing the urgency to safeguard both the environment and human well-being from potential harm caused by human activities. It emphasizes the global call to action through Sustainable Development Goals (SDGs) for enhancing well-being and planet protection. The study identifies key sustainable development elements - economic growth, social protection, environmental security, moral revival, institutional reforms, and legal foundations - as intertwined and mutually enhancing. It underscores a "green" economy, social protection measures, and comprehensive strategies for environmental safety involving legislative, technical, managerial, and biological aspects. The article discusses varying levels of environmental threats and their effective management. The role of institutions, legal bases, international collaboration, and strategic priorities for Uzbekistan's environmental security are highlighted. It concludes by stressing a comprehensive approach, involving stakeholders, to ensure a sustainable environment for future generations.

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Introduction.

Ensuring environmental safety is of paramount importance within the broader framework of national security, as it encompasses a comprehensive range of measures, processes, and actions that uphold

environmental equilibrium and protect nature and human well-being (Kutsyuruba et al., 2015). By establishing the conditions for environmental security, these efforts safeguard the vital interests of individuals, society, the state, and the environment from potential harm or threats posed by human-made or technological impacts (Panwar et al., 2011). Environmental safety refers to a state where the natural environment and public health are not under immediate threat. It encompasses the protection of rights, material and spiritual needs, natural resources, and the environment, forming the foundation for state and social development.

In the global context, the Sustainable Development Goals (SDGs) (Parkin, 2000) serve as a universal call to action, endorsed by nations across all economic statuses. These goals aim to enhance well-being and preserve the planet, recognizing that poverty eradication must be accompanied by measures addressing environmental, educational, health, social, and employment-related challenges, including the battle against climate change (Alfirević et al., 2023; Mori Junior et al., 2019).

Sustainable development relies on several key components, including economic growth, social protection, environmental security, spiritual and moral rejuvenation, institutional reforms, and the improvement of legal frameworks. These components are interconnected and mutually reinforcing, playing a vital role in achieving sustainable development.

Economic growth is a crucial element of sustainable development, which should be pursued through reliable, cost-effective, and environmentally sound approaches, particularly in the energy sector. Embracing the principles of a “green” economy is essential, promoting progressive advancements for humanity and the adoption of cutting-edge, environmentally friendly technologies across all sectors. Adequate funding should be allocated to healthcare, environmental protection, rational resource utilization, and pollution treatment facilities. Transitioning to a “green” economy is vital for achieving sustainable development and societal stability (Owen et al., 2018; Semieniuk et al., 2021).

Social protection is another vital aspect of sustainable development, requiring measures to reduce poverty, preserve human health and well-being, promote regional sustainability, and integrate stringent environmental considerations into social and economic decision-making processes. Tailoring social support based on ecological zoning and considering the environmental conditions and population health of specific regions is crucial (Aleksandrova, 2020; Cho et al., 2012).

Environmental safety plays a pivotal role in maintaining the well-being of ecological systems, including the atmosphere, water, land, fauna (Kovač et al., 2021; Muradov and Veziroğlu, 2008), and flora, which are interconnected and interdependent. Negative impacts on any component can have far-reaching consequences for the entire ecosystem. Achieving environmental safety requires a comprehensive approach involving forecasting, planning, and management while minimizing adverse effects on humans and balancing economic growth, industrial development, agriculture, and other sectors of the economy.

In today's interconnected world, every action, particularly those affecting nature, resonates globally. However, the escalating demands of humanity for resources have placed significant strains on Earth's natural resources, depleting them rapidly. This rampant exploitation, coupled with ineffective resource management, poses an anthropogenic threat to human health and the environment, undermining global efforts to achieve the Sustainable Development Goals.

In our perspective, sustainable development relies on six critical factors: economic growth, social protection, environmental safety, spiritual and moral rejuvenation, institutional development, and the

improvement of legal frameworks. Only through the harmonious integration of these factors can we ensure the sustainable progress of our nation.

To achieve environmental security while fostering economic growth, actively promoting the principles of a “green” economy is imperative. A sustainable green economy (Loiseau et al., 2016) embraces administrative and market instruments to drive production through innovative technologies. It involves adopting waste-minimizing technologies and renewable energy sources, with the aim of achieving a 30% share of green energy in the total energy system by 2030 for Uzbekistan.

Ensuring environmental safety also requires a novel approach to economic mechanisms governing nature management. Currently, there is a lack of integrated approaches and strategic planning in environmental protection, as well as inadequate authority for environmental bodies to fulfill their tasks effectively. The adverse consequences of anthropogenic activities, reflected in indicators such as public health, air quality, water standards, and biodiversity, highlight the urgent need to improve economic mechanisms.

Fundamentally, economic regulation of environmental activities relies on a market-based approach, encompassing optimal natural resource management and the right to consume or pollute the environment (Semieniuk et al., 2021). Integrating environmental and economic policies is now inseparable from a functional economy. This integration involves addressing “market failures” and effectively integrating environmental factors into the market system, with economic mechanisms prioritizing environmental protection, natural resource potential reproduction, increased financial resources for environmental preservation, and encouraging stakeholders to prioritize the rational use of resources and environmental preservation.

The next crucial step in implementing economic mechanisms is establishing a payment system to address the irrational use of natural resources (Ambec and Lanoie, 2008; Gasparatos et al., 2017). Considering that energy and resource costs per unit of production in our country are higher compared to leading developed nations, legislative, financial, and tax measures should form the core elements of these economic mechanisms.

A holistic approach for ecosystem sustainability in a market economy.

In the pursuit of ecosystem sustainability within a market economy, a comprehensive approach is vital, taking into account the intricate interconnectedness and interdependence of all components. This approach entails addressing crucial tasks to achieve our objectives:

1. **Stabilizing the Environmental Situation:** We must work towards stabilizing the environmental conditions by implementing measures that mitigate existing challenges and prevent further deterioration. This requires proactive steps to improve the state of the environment, such as promoting greener economic activities, instituting institutional and structural changes, and transitioning towards a “green economy.”
2. **Rational Use of Natural Resources and Combating Environmental Challenges:** To ensure the long-term health of our ecosystems, we must implement measures for the rational use of natural resources, combat desertification and drought, manage waste effectively, adopt safer practices in handling toxic chemicals, embrace environmentally-friendly agrobiotechnology, and adapt to the impacts of climate change.

3. **Promoting Sustainable Economic Activity:** It is essential to encourage economic activities that operate within the capacities of our ecosystems. This can be achieved through widespread adoption of energy and resource-saving technologies, as well as changes in consumption patterns. By doing so, we can strike a balance between economic development and preserving our natural resources.
4. **Halting Ecosystem Destruction and Biodiversity Loss:** Protecting endangered ecosystems and preventing further loss of biodiversity should be high on our agenda. This involves creating favorable conditions for ecosystem functioning and expanding protected areas. Organizations like the International Union for Conservation of Nature and the Convention on Biological Diversity play a crucial role in achieving these objectives.

To further enhance the management of our natural resources, it is imperative to thoroughly analyze the costs and benefits of proposed environmental policies, accounting for both short-term and long-term consequences (Ambec and Lanoie, 2008). This comprehensive assessment should be integrated into programs and projects related to economic and social development, providing a holistic understanding of our natural resource potential.

Additionally, adopting a territorial and regional approach to nature management will facilitate more targeted and effective strategies. We must introduce requirements that ensure strict compliance with environmental safety standards, treating environmental safety with equal importance as state security, public welfare, and personal security.

To successfully accomplish these goals, we must prioritize the implementation of the “Concept of Environmental Protection of the Republic of Uzbekistan until 2030” (Tleuken et al., 2022) and the “strategy for transitioning to a «green economy».” Furthermore, reestablishing a unified system for preparing the annual national report on the state of the environment and the utilization of natural resources in Uzbekistan is of utmost importance to track progress and make informed decisions.

By embracing this holistic approach and pursuing these strategies, we can foster ecosystem sustainability, promoting a harmonious balance between economic prosperity and environmental well-being.

Levels of Environmental Threats and their Impacts on Sustainable Development

In the pursuit of sustainable development, it is crucial to understand the various levels of environmental threats and their repercussions. These threats can be categorized into four levels: global, regional, national, and local. At the global level, we face challenges such as climate change, water depletion and pollution, biodiversity loss, melting glaciers, and the Aral Sea catastrophe (Lioubimtseva and Cole, 2006; Sorg et al., 2012). These issues have been acknowledged by international bodies like the Intergovernmental Panel on Climate Change (IPCC), United Nations Environment Programme (UNEP), and Convention on Biological Diversity (CBD).

Moving to the regional level, we encounter transboundary pollution, water resource challenges, waste generation and accumulation, desertification, and natural and man-made disasters. Organizations like the United Nations Economic Commission for Europe (UNECE) and the United Nations Convention to Combat Desertification (UNCCD) address these regional environmental threats.

At the national level, the concerns include water resource scarcity and pollution, inadequate drinking water quality, irrational use of natural and energy resources, land degradation, air pollution, impacts on flora and fauna gene pool, effects on public health, industrial and household waste accumulation, inadequate use of resource-saving technologies, and increased risk of mudflows and landslides. The

World Health Organization (WHO), United Nations Development Programme (UNDP), and United Nations Industrial Development Organization (UNIDO) are among the organizations that focus on national environmental threats.

Finally, at the local level, pollution in specific areas such as cities and regions, air pollution from vehicle emissions, ecosystem degradation in specific regions, and noise pollution in urban and industrial areas pose challenges. The Ministry of Ecology and Environmental Protection and climate change of the Republic of Uzbekistan, regional and municipal environmental reports shed light on these local environmental threats.

In the current era of rapid global changes, sustainable development requires not only addressing the physical aspects but also the spiritual and moral state of society, especially the younger generation. Uzbekistan has made significant progress in improving its legislative framework, fostering an ecological mindset, and raising ecological awareness among the population. The establishment of legal provisions to protect environmental rights, restore and protect the environment, and address the ecological system of the Aral Sea region reflects this progress.

However, ecology should not be limited to the ecological community alone. It should be a philosophy of life, embraced by state bodies, public associations, civil society institutions, and every citizen. The Constitution of the Republic of Uzbekistan, Environmental Code of Uzbekistan, and National Sustainable Development Strategy of Uzbekistan emphasize the importance of ecological consciousness at all levels of society.

To comprehensively assess environmental threats, it is vital to gather reliable information based on factual data and thorough analysis. Implementing a unified system for producing an annual national report on the state of the environment and the rational utilization of natural resources in Uzbekistan is imperative. Additionally, contemporary indicators should be developed to measure environmental pollution and resource utilization accurately.

To ensure the environmental safety of Uzbekistan, the following areas should be prioritized:

- Rational and integrated utilization of natural resources, including water, land, minerals, and biological resources.
- Reduction of environmental pollution to meet standards and improve environmental and sanitary conditions.
- Comprehensive measures to restore and enhance the ecological state in vulnerable regions, such as the Aral Sea area.
- Access to high-quality drinking water, food, and medicines for the population.
- Adoption of environmentally friendly and resource-efficient technologies.
- Development of scientific and technical capabilities in ecological sciences and technology.
- Implementation of an economic mechanism that integrates environmental requirements into socio-economic decision-making.
- Establishment of experimental ecological zones promoting sustainable development.
- Creation of a unified system for environmental monitoring, forecasting, and information dissemination.

- Development of methodologies for assessing noise pollution, vibration, and electromagnetic radiation.
- Strengthening services for monitoring and safeguarding against transboundary environmental pollution.
- Prevention and mitigation of ecological catastrophes, disasters, emergencies, and accidents.
- Improvement of environmental education, culture, and public awareness programs.
- Establishment of a Central Asian regional system for ecological safety.
- Deepening cooperation with the global community to address environmental challenges.

By prioritizing these areas, Uzbekistan can achieve significant progress in ensuring environmental well-being and sustainable development. Active engagement in international efforts to address environmental issues is also crucial for a holistic approach to global challenges.

Improving Institutional Management for Sustainable Development

Effective institutional development is a crucial component of a comprehensive development process that encompasses various dimensions, ranging from social and economic-financial aspects to political, international, technical, legal, cultural, and environmental considerations. Enhancing institutional management requires the establishment of a robust system of legislation and norms that promote environmentally-friendly practices and ensure their effective implementation (Pan et al., 2018).

To achieve efficient institutional management, relevant structures must continuously reassess their approaches and methods, remaining responsive to evolving societal needs and staying informed about best practices and solutions for addressing development challenges. These proactive measures will enable the activation of state policies pertaining to environmental safety. This includes the prevention and mitigation of environmental threats to vital national interests, optimization and monitoring of the environmental situation, and strengthening the accountability of ministries, departments, local authorities, public organizations, and every citizen of the Republic of Uzbekistan.

By adopting these measures, institutions can align their operations with global standards and effectively contribute to sustainable development. The World Bank, Asian Development Bank, and United Nations Development Programme emphasize the importance of improving institutional management in achieving these goals, recognizing its pivotal role in creating a resilient and environmentally conscious society.

Proposed Constitutional Amendments and Environmental Safety in Uzbekistan

Enhancing the legal foundations of state and public governance is an imperative task in the rapidly evolving global landscape (Massey and Johnston-Miller, 2016; Tleuken et al., 2022). In Uzbekistan, significant efforts are underway to comprehensively improve the organization of state power and the interaction between legislative and executive branches. The powers of the parliament, particularly the Legislative Chamber and the Senate, are being strengthened with an increase in exclusive powers for both chambers. This includes expanding the exclusive powers of the Legislative Chamber from 5 to 12 and the Senate from 14 to 18. The proposed changes also introduce a more democratic process for nominating the Prime Minister, with the President consulting all factions of political parties, resulting in a more inclusive and democratic approach.

The proposed constitutional amendments bring significant changes to the appointment and election process for key positions in Uzbekistan's government bodies. Candidates for the positions of

Prosecutor General and Chairman of the Accounts Chamber will now be considered in the Senate and then appointed by the President. The heads of the anti-corruption and antimonopoly bodies will be elected by the Senate. Additionally, the consolidation of powers of the Senate to support local representative bodies will be crucial for effective organization in the new constitutional and legal framework.

In the realm of environmental sustainability, it is well-established that integrating environmental considerations into development strategies is crucial for long-term economic sustainability (Goodland, 1995). Uzbekistan recognizes the need for an integrated system to ensure environmental safety and is taking measures to prevent, mitigate, and eliminate environmental threats. The comprehensive regulatory and legal framework in Uzbekistan includes numerous laws and regulations focused on nature protection, protected natural territories, sanitary and epidemiological welfare, water and water use, subsoil, flora and wildlife protection, atmospheric air protection, forestry, waste management, environmental control, renewable energy sources, and the use of atomic energy for peaceful purposes, among others.

The updated Constitution of Uzbekistan guarantees the environmental rights of citizens, including the right to a favorable environment and access to reliable information about its condition. The state commits to taking measures to enhance, restore, and protect the environment, maintain ecological equilibrium, preserve and rehabilitate the Aral Sea region's ecological system, and combat climate change.

To ensure the environmental rights of citizens and prevent detrimental impacts on the environment, the government proposes measures for public oversight in urban planning (Swanwick et al., 2003). This includes amending the existing law on environmental control to include public environmental control and implementing a method to assess the intensity of climate change in Uzbekistan's regions. Furthermore, the government is focused on developing environmentally friendly and alternative energy sources, such as hydrogen energy carriers and solar power plants, while improving the efficiency of electrolysis.

In the agricultural sector, Uzbekistan is addressing land degradation and the negative impacts of intensive agricultural practices by implementing innovative biogrotechnologies for cultivating crops in degraded soils. These technologies have shown positive results in terms of resource conservation, economic gains, ecological improvements, and social impact. The government's initiatives, such as the "Yashil makon" ("Green space") initiative and planting desert-resistant plants on the former bed of the Aral Sea, exemplify their commitment to addressing environmental and climate challenges.

In summary, Uzbekistan is making significant strides in enhancing its legal foundations for governance and environmental sustainability. The proposed constitutional amendments, strengthened powers of parliament, and inclusive processes aim to improve the organization of state power. The comprehensive regulatory and legal framework and environmental initiatives demonstrate the country's commitment to environmental protection and long-term economic sustainability.

Strategic Priorities and Key Components for Achieving Environmental Security in Uzbekistan

Strategic priorities for ensuring sustainable environmental security in Uzbekistan can be divided into seven key areas. Firstly, it entails embracing the principles of a "green" economy and implementing economic mechanisms to regulate the interaction between state bodies and natural resource users at

various levels. This includes integrating environmental requirements into socio-economic assessments of managerial decisions. Secondly, there is a focus on reducing environmental pollution throughout the country to meet ecological, hygienic, and sanitary standards. Thirdly, there is an emphasis on the rational and integrated utilization of natural resources, such as water, land, minerals, and biological resources, while promoting the adoption of alternative and renewable energy sources.

The fourth priority involves improving the unified system for environmental monitoring, forecasting, and information dissemination. The fifth priority is the implementation of comprehensive measures to localize, restore, and improve the ecological condition of environmentally disastrous areas, like the Aral Sea region, through the adoption of environmentally friendly innovative technologies. The sixth priority is the development and enhancement of environmental education, culture, and awareness, particularly among the youth. Finally, the seventh priority is strengthening collaboration with the international community to address environmental challenges.

To establish a robust and comprehensive national framework for environmental security in Uzbekistan, several key components should be considered. These include addressing regional security concerns related to transboundary water resource management, combating threats such as transboundary pollution, preserving ecological systems, and improving overall environmental conditions. Extensive research and development activities should be conducted to promote the adoption of advanced innovative technologies and environmentally-oriented programs and investment projects. Economic incentives should be formulated to encourage greening of production, rational use of natural resources, and a gradual transition to a "green economy." Additionally, markets for environmental services, such as eco-tourism and environmentally-friendly products, technologies, and equipment, should be developed.

This comprehensive approach to achieving unified and comprehensive environmental security in Uzbekistan is driven by the economic, environmental, and social conditions of the country. It is crucial to translate conceptual frameworks into actionable plans and facilitate the transition towards a sustainable development model that considers the interests of present and future generations.

Conclusion.

Ensuring environmental safety and achieving sustainable development are imperative for the well-being of individuals, society, and the planet. Uzbekistan recognizes the importance of environmental security and has taken significant steps towards integrating environmental considerations into its development strategies.

The proposed constitutional amendments in Uzbekistan reflect the country's commitment to strengthening its institutional management and governance. The amendments aim to enhance the powers of the parliament, promote inclusivity and democracy in the political process, and improve the appointment and election processes for key government positions. These changes create a more robust legal framework that supports sustainable development and environmental safety.

Uzbekistan acknowledges the global significance of environmental challenges and the need for concerted efforts to address them. The country has embraced the principles of sustainable development and the Sustainable Development Goals (SDGs), recognizing that poverty eradication must be accompanied by measures addressing environmental, educational, health, social, and employment-related challenges.

To achieve sustainable development, Uzbekistan emphasizes the importance of economic growth, social protection, and environmental safety. Transitioning to a "green" economy is a priority, promoting the adoption of environmentally friendly technologies and the allocation of adequate funding for healthcare, environmental protection, and pollution treatment facilities. The country aims to achieve a 30% share of green energy in its total energy system by 2030.

Environmental safety plays a pivotal role in maintaining ecological systems' well-being and requires a comprehensive approach involving forecasting, planning, and management. Uzbekistan recognizes the levels of environmental threats at the global, regional, national, and local levels, and endeavors to address them through measures such as rational resource utilization, combating pollution, promoting sustainable economic activity, and halting ecosystem destruction and biodiversity loss.

Improving institutional management is crucial for sustainable development. Uzbekistan seeks to align its institutions with global standards and enhance their effectiveness in addressing environmental challenges. The country aims to strengthen legislation and norms that promote environmentally friendly practices and ensure their implementation. By continuously reassessing approaches, staying informed about best practices, and being responsive to societal needs, Uzbekistan can contribute to creating a resilient and environmentally conscious society.

To accomplish these goals, Uzbekistan must prioritize the implementation of its "Concept of Environmental Protection until 2030" and the strategy for transitioning to a "green economy." It is essential to establish a unified system for producing annual national reports on the state of the environment and natural resource utilization, gather reliable information based on factual data, and develop contemporary indicators to measure environmental pollution and resource utilization accurately.

Uzbekistan's commitment to environmental safety extends to promoting ecological consciousness and raising environmental awareness among its population. The country recognizes that ecology should be embraced as a philosophy of life by state bodies, public associations, civil society institutions, and every citizen. By deepening cooperation with the global community, Uzbekistan can actively contribute to addressing environmental challenges and achieving a holistic approach to sustainable development.

In conclusion, Uzbekistan's efforts towards environmental safety and sustainable development are commendable. By prioritizing economic growth, social protection, and environmental well-being, enhancing institutional management, and embracing constitutional amendments that support sustainable development, Uzbekistan can foster a harmonious balance between economic prosperity and environmental preservation. These actions will contribute to the well-being of current and future generations, demonstrating Uzbekistan's commitment to a sustainable and resilient future.

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