

The second level of environment protection systems organization: state regulation : A Russian experience

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Abstract

This study presents a historical analysis of the evolution of state policy in the conservation of biological resources, with a focus on regulatory approaches and institutional development. Early forms of environmental regulation were closely tied to traditional religious practices and the emergence of organized state structures, reflecting the initial stages of ecological consciousness. However, the rapid advancement of technology and the intensification of globalization have significantly accelerated the exploitation of natural resources, revealing limitations in traditional regulatory frameworks. This gap underscores the need for adaptive governance mechanisms capable of addressing complex environmental challenges. The objective of the study is to examine the transformation of environmental policy in relation to broader socio-political and scientific developments. The analysis draws on historical sources and policy documents to trace the shifts in state priorities and strategies. Findings indicate that future effectiveness in conservation efforts depends on the integration of scientific research, public engagement, and international cooperation. The study concludes that environmental governance should be approached through a multi-level framework encompassing religion, science, civil society, the state, and international legal norms. This perspective provides a comprehensive foundation for enhancing policy coherence and sustainability in biodiversity conservation.

Keywords: Biodiversity conservation; environmental governance; historical analysis; policy development; state regulation.

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1. INTRODUCTION

With the emergence of the earliest states came the initial development of legislative systems concerning nature conservation. In ancient Babylon, some of the first environmental laws were enacted. King Hammurabi, during the fifteenth century BCE, ordered the division of forests into designated areas managed by appointed officials. Alongside this, several laws related to water use were introduced (White, 2004). The ancient Incas also demonstrated early environmental awareness by protecting the Guano Islands, which served as nesting sites for cormorants and gannets. Violations of this protection were met with severe penalties, including capital punishment.

The rise of private property contributed to the increase in poaching, while anthropogenic pressures on land, biological, and water resources continued to intensify. Prolonged periods of war led to the destruction of traditional values and cultures. During the era of slavery, large tracts of fertile land were transformed into deserts. For example, in Greece, only a small fraction of the original humus layer remains, with merely 20 percent of land suitable for agriculture. Efforts to reforest erosion-prone mountain slopes were recorded in fifth-century BCE Greece.

In India, the Laws of Manu (second century BCE to second century CE) outlined principles of daily conduct, including the moral consequences of environmental destruction. These laws emphasized that harming nature equates to self-destruction and condemned the exploitation of natural resources, introducing punishments ranging from fines to the death penalty. The Arthashastra contains references to protected forests where human activity was strictly prohibited (Vigasin et al., 1984; Mabbett, 1964; Rangarajan, 1992; Trautmann, 1971). King Ashoka further advanced these ideals by issuing decrees that safeguarded various species and restricted the hunting of pregnant or young animals, as well as protecting sacred forest areas.

In the Kingdom of Aksum, legal provisions prohibited the trade of biological resources such as fish, birds, and wild animals. Residents of mountainous regions were exempt from land cultivation but were responsible for maintaining the cleanliness of water sources for communities located downstream. In classical antiquity, Rome emerged as the first known metropolis. The expansion of Roman settlements required extensive use of natural materials, including wood, stone, and clay. Roman law introduced measures to regulate the exploitation of nature and included hygiene standards in construction and a primitive urban wastewater treatment system (Code of Laws, first century CE).

In medieval Europe, Saint Francis of Assisi, also known as Giovanni Bernardone, was recognized as a patron of animals and the environment, advocating for a deep appreciation of nature (Benzoni, 2005). Legal cases involving the removal of pests such as mice and ants even included representation for the animals by legal advocates. The preservation of numerous wild animal species in European forests was facilitated by twelfth-century legal frameworks such as the Great Charter of Liberties in England (1215) and German feudal laws, which regulated land ownership and imposed restrictions on hunting within lands held by monarchs, feudal lords, and religious institutions (Breay, 2002; Davis, 1963; Drew, 2004; Holt, 1992).

During the Middle Ages, numerous reserves were established, although their primary function was the protection of royal and communal property. Access to natural areas was largely restricted for the lower classes, and moral considerations related to environmental stewardship were generally absent. The Industrial Revolution marked a significant transition to mechanized labor and extensive exploitation of mineral resources. While industrial development advanced economic progress, it also led to resource depletion, environmental degradation, and the emergence of artificial deserts, particularly evident in industrial zones.

In the contemporary period, most developed nations have begun to prioritize environmental protection and the conservation of natural resources. Public awareness campaigns on ecological issues have expanded, and there has been a marked increase in the establishment of protected natural areas. Modern civilization is gradually moving toward an industrial phase characterized by greater rationality and significant investment in environmental conservation efforts.

1.1. Purpose of the Study

The primary purpose of this study is to examine the historical trajectory and transformation of state policy in the conservation of biological resources. By exploring various historical epochs, from ancient civilizations to the contemporary industrial era, the study aims to uncover how legal, religious, and political frameworks have influenced environmental regulation. Special attention is given to the interplay between socio-political developments and environmental governance, identifying how traditional approaches have evolved and where limitations persist in addressing modern ecological challenges. The study also seeks to highlight the need for a multi-dimensional approach that integrates scientific knowledge, institutional cooperation, and cultural values into the formulation of adaptive and sustainable conservation policies.

2. METHOD AND MATERIALS

This study employed a qualitative historical analysis approach to investigate the evolution of environmental policy and state regulation concerning biodiversity conservation. Primary and secondary historical sources, including ancient legal codes, religious texts, policy documents, and classical literature, were systematically reviewed to trace the development of conservation practices across civilizations. The analysis focused on identifying legal norms, institutional structures, and philosophical foundations that contributed to the regulation of natural resource use. In addition, relevant academic studies and historical interpretations were examined to contextualize changes in environmental governance within broader technological, political, and economic shifts. By utilizing document analysis and interpretative synthesis, the study was able to map out the gradual shift from traditional to modern environmental governance frameworks, emphasizing the implications of these transitions for current and future biodiversity conservation efforts.

3. RESULTS

Throughout Russian history, trade routes facilitated the exchange of forest products such as furs, including ermine, fox, squirrel, and sable, as well as wax, honey, and bird traps. Property protection was initially regulated by the “Law of the Russians” (Pravda Ros'ka, late tenth century), and ten of the 121 articles in the “Russian Truth of a Spacious Editing” (1209) were dedicated to the safeguarding of property, hunting, fostering, and fishing. In 1497, the promulgation of the Code of Law of the Third occurred, yet among its 68 articles, no environmental regulations were included. Similarly, the 1550 Code of Law under Ivan the Terrible contained comparable limitations. The Council Code of 1649 unified preceding legal measures. It notably included Article 23 of Chapter 7, which addressed duty-free logging, and Article 223, which imposed responsibility for the intentional burning of forests.

During the reign of Tsar Alexei Mikhailovich, designated forest tracts and wildlife reserves were allocated for royal hunting purposes. To protect avian species near Murmansk, seven state islands were established. Under Alexei Mikhailovich, 67 hunting decrees and one forest decree in 1649 were enacted. This decree emphasized the preservation of reserved forests, particularly in the Ryazan district. Simultaneously, intensive logging occurred for construction and heating purposes. Furthermore, in times of war, steppe grass was intentionally burned to deprive opposing cavalry of forage.

Environmental efforts during this period were largely unconscious, shaped by prevailing social, political, and economic challenges. A significant shift occurred during the reign of Peter the First, who issued more than 200 legislative acts aimed at environmental protection, rational resource use, and regeneration. The primary focus remained on serving the needs of the Russian fleet, leading to the development of regulatory measures in sawmill operations.

The earliest legislative efforts under Peter the First, enacted between 1697 and 1703, lacked comprehensive national application. However, a decree issued on March 30, 1701, prohibited the clearing of forests for agricultural purposes within 30 miles of navigable rivers. Other decrees restricted the use of oak forests in the Simbirsk and Kharkov provinces exclusively for state needs, with capital punishment enforced for noncompliance. Between 1716 and 1722, forest administrations were established, and roles such as forest wardens, masters, and foresters were institutionalized, each overseeing thousands of peasant households.

Between 1722 and 1723, numerous decrees were introduced to regulate felling locations, timing, and methods, contributing to environmental conservation. The Oberwaldmaster's instruction, issued on December 3, 1723, consisted of 28 articles and unified forest legislation under Peter the Great. The principle of rational forest use was introduced during a period when forest resources were abundant. Concurrently, botanical and pharmaceutical gardens were created to support medical needs, particularly for the army and navy.

In Peter the First's era, urban beautification and landscape development also gained prominence. Although he was not fond of hunting, several decrees were issued on this subject. These included the declaration of sable as a state monopoly in 1696 and the banning of hunting in proximity to Moscow in 1698. Protection measures extended to aquatic fauna, including the adoption of the Fishing Charter in 1704 and the establishment of regulatory roles in pearl fishing in 1722.

State policy geared toward the maintenance of a regular navy laid the foundation for industry, forestry, and environmental legislation in the Russian Empire. Notable accomplishments included the establishment of forest inventories, improved logging regulations, and enhanced forest sanitation through the removal of residues. Following Peter's reign, exploitation of biological resources became widespread. Decrees in 1727, 1732, and 1735 imposed restrictions on hunting near urban centers, and further regulations were introduced in the 1730s and 1740s to protect specific species and habitats.

Empress Elizaveta Petrovna reinforced and expanded upon her father's reforms. By 1736, significant decrees were issued concerning land surveys and mapping of species distribution. The first four years of the Forest Department saw the release of over 70 forest-related decrees. The 1802 draft "Charter on Forests" marked a legislative milestone. In 1846, formal forest education systems were established, and in 1850, a Senate decree promoted afforestation by peasants. However, post-serfdom deforestation significantly depleted forest reserves.

The 1888 "Forest Saving Regulations" acknowledged the ecological value of forests and introduced the concept of protective forests. The 1892 "Hunting Code" standardized hunting across provinces, though its enforcement was weak in Siberia. The code mandated permits and outlined penalties for violations, including confiscation of game and equipment.

In 1905, further environmental measures were introduced, including the preservation of natural monuments. After the 1917 Revolution, hunting rights became contentious. A command-administrative system centralized decisions across state functions. In 1918, the decree "On Forests" democratized forest use and initiated the creation of state nature reserves. Subsequent decades saw legal frameworks such as the 1923 Forest Code and the 1929 Model Provision on Reserves emerge, though economic hardship limited their implementation.

During the 1930s, species management policies classified animals as either beneficial or harmful, often leading to eradication campaigns. The 1943 decree on forest resource allocation was issued during the Second World War. Post-war declines in valuable species populations prompted licensing requirements and the establishment of the state hunting inspection in 1955. Measures in the late 1950s and 1960s aimed to preserve tundra forests and regulate hunting of vulnerable species such as polar bears. These years also marked international cooperation on marine species protection.

The 1960 Law on Nature Conservation initiated an era of dual trends: aggressive industrial development in Siberia and increased environmental advocacy. The 1980 law on wildlife protection included legal consequences for environmental damage. In 1981, model regulations for protected areas were adopted, followed by the publication of the RSFSR Red Book in 1982. The first national parks, Sochi and Losiny Ostrov, were established in 1983. In 1988, the Soviet Union declared a major overhaul of environmental governance, though many policies remained ineffective due to bureaucratic inconsistencies and economic neglect.

Following the dissolution of the USSR, legal reform became necessary to adapt to new economic realities. In 1991, laws were passed to establish state nature reserves and regulate environmental protection. The 1992 presidential decree on specially protected territories and subsequent laws, including those on wildlife and

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water resources, reflected a growing commitment to sustainable development. The 1996 approval of a national sustainability strategy marked a turning point in Russian environmental policy.

The modern environmental protection system comprises several interrelated levels: (1) traditional religious foundations; (2) state-level initiatives, emerging from the 1870s with the establishment of protected natural areas in response to tourism-driven development; (3) scientific contributions, particularly those of the 1920s and 1930s, including the work of V. I. Vernadsky and Pierre Teilhard de Chardin, who articulated the concept of the noosphere as a socio-natural system integrating both natural and historical processes; (4) civic engagement; and (5) international cooperation (Astaniin, 2019).

4. CONCLUSION

The development of the conservation system can be traced back to pagan times, when early human communities attributed spiritual significance and divine essence to natural objects, landscapes, and phenomena. Through this reverence for nature, ancient societies established a harmonious coexistence with their environment, implementing restrictions on the harvesting of certain plant and animal species. This traditional ecological knowledge functioned effectively for millennia. However, the pressures of population growth, the depletion of conventional energy sources, the scarcity of fresh water and mineral resources, as well as the contamination of soil, water, and air with synthetic substances introduced primarily in the twentieth century, have collectively contributed to what is now recognized as the environmental crisis. This crisis necessitated the formation of structured environmental protection systems.

In the contemporary era, globalization has emerged as a primary driver of numerous environmental challenges, characterized by the accelerated and intensified exploitation of natural resources. These complex and transboundary issues demand coordinated and collective global responses.

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