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Reforming the urban planning regulation system under martial law and post-war reconstruction

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Abstract

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In the context of widespread destruction caused by armed aggression against Ukraine, the issue of effective legal regulation of urban development as the basis for territorial restoration and sustainable development of the state is

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becoming particularly relevant. Armed aggression against Ukraine has led to large-scale destruction, requiring prompt and legally sound decisions in the field of spatial development, infrastructure restoration and housing stock. The study aimed to conduct a comprehensive analysis of the regulatory and legal mechanisms for regulating urban development activities in crisis conditions and to identify key challenges for the administrative management of reconstruction processes. The study used formal-logical, systemic-structural, comparative-legal and prognostic methods. The results showed that urban development activities during martial law and post-war reconstruction are taking on new meaning, requiring flexible, transparent and controlled mechanisms of administrative and legal influence. The significance of balancing the speed of implementation of reconstruction projects with compliance with environmental, legal and social standards was emphasised. The integration of strategic environmental assessment into planning processes was emphasised, which should ensure not only compliance with legislation, but also the anticipation of long-term risks to the environment and the population. In the context of growing urbanisation and anthropogenic pressure, it is necessary to introduce mechanisms for public participation and the digitisation of urban planning documentation. The experience of post-war reconstruction in countries such as Iraq, Israel and Lebanon showed that effective recovery requires a combination of strategic vision, institutional capacity, transparency of decisions, community participation and consideration of cultural identity. The research materials can be used to improve urban planning legislation, develop national post-war reconstruction policy, and formulate a strategy for sustainable spatial development in Ukraine

Keywords: infrastructure restoration; legal regime for reconstruction; urban development policy; spatial planning; international experience; environmental impact

Introduction

Russian full-scale armed aggression against Ukraine, which began in 2022, caused large-scale destruction of infrastructure, housing stock, industrial, cultural and social facilities. As a result, administrative and legal regulation of urban development is a critical area of public administration, requiring rapid response, flexible implementation mechanisms and adherence to principles of security, transparency and legality. The war has not only transformed goals and priorities of spatial planning, but also exacerbated problems related to legal uncertainty, fragmentation of the regulatory framework and insufficient consideration of environmental factors.

In response to new challenges, the state has taken a range of urgent legal measures. One of the key documents was Law of Ukraine No. 2254 "On

Amendments to Certain Laws of Ukraine Regarding Priority Measures for Reforming the Sphere of Urban Planning" (2022), which simplified approval procedures, introduced a special legal regime for critical infrastructure facilities, and provided for the possibility of placing temporary housing without prior approval of a detailed plan of the territory. In practical terms, these changes made it possible to respond quickly to the needs of war-time. At the same time, the question arose as to how compatible these simplifications are with the requirements of environmental safety, strategic planning and the principles of sustainable development. The environmental component of urban development is noteworthy. Massive generation of construction waste, destruction of industrial facilities, fires, and leaks of harmful substances

have significantly worsened state of environment in many regions of Ukraine. According to research by the United Nations Environment Programme (UNEP, 2023), secondary pollution and ecosystem losses can continue for decades without proper legal regulation. Despite existence of Law of Ukraine No. 2354-VIII (2018), implementation under martial law has been partially suspended or reduced to formal procedures. This requires a redefinition of the role of environmental expertise as an integral part of urban planning regulation, even in extraordinary circumstances.

Contemporary scientific and legal literature increasingly prioritises comprehensive analysis of urban planning policy in wartime. V.P. Leshchynsky's (2024) research focuses on a comprehensive study of legal instruments that guarantee the legality of issuing permits in the construction industry. The author examines the essence of the permitting procedure, its principles, as well as administrative and legal methods of ensuring legality, including control, supervision and appeal. The work also analyses the role of judicial control and proposes ways to improve the legal regulation of permitting activities in construction. P. Mashika *et al.* (2024) highlighted the problem of inconsistency in construction legislation and insufficient attention to environmental standards in the work of urban planning councils. The authors emphasise the need to introduce an "environmental imperative" as a mandatory condition for the development and approval of urban planning documentation. The study determined that existing regulatory and legal acts are often of a recommendatory nature, which creates conditions for lobbying the interests of individual groups without due consideration of environmental safety. The importance of architectural ecology in creating sustainable urban spaces, the need to adapt construction to climate change, reduce greenhouse gas emissions, preserve biodiversity and improve energy efficiency are emphasised.

V.D. Primak (2024) analyses the mechanism of legal regulation of relations in the field of reconstruction of urban development objects destroyed or damaged as a result of the Russian Federation's armed aggression against Ukraine. The study emphasised the need to comprehensively consider the interests of all participants in social relations and the internal logic of production processes in this area. The study argued that public law regulation is a natural instrument in an area where public interest prevails, in particular in matters of land use planning, granting of building permits, control, certification of specialists and registration of property rights. At the same time, the private law regime covers contractual relations concerning land use, construction and disposal of property rights. The close interaction between public and private law components is emphasised, as public law acts often form the basis for the emergence of private property relations. The study concluded regarding the integral nature of the legal mechanism, which is based on a combination of international, national, public and private law norms. The study by A. Rogovy (2022) examines the transformation of Ukraine's housing policy in the context of martial law and post-war reconstruction. The study addressed institutional mechanisms for providing housing to internally displaced persons, military personnel and vulnerable groups. The need for a comprehensive approach to housing stock restoration, considering energy efficiency, urban planning principles and modern technologies, is justified.

O.O. Kvasnitska (2022a) emphasises the need to transition to digital technologies in urban planning, in particular the introduction of building information modelling (BIM) and the abandonment of the outdated Soviet planning system. The directions for reforming urban planning legislation have been identified, including the modernisation of the Economic Code, the introduction of European technical regulation standards, the adaptation

of urban planning documentation to the needs of participants in the process, and ensuring its flexibility while complying with environmental standards. The significance of clear terminology, unified procedures and uniform principles of people-oriented and safe urban planning, which should be developed in cooperation with all parties involved in urban development, has been emphasised. V.V. Kysil (2024) addressed the transformation of legislative regulation of local self-government bodies in Ukraine amid Russian hybrid and full-scale aggression (2014-2024). The study analysed constitutional provisions on local public authority, as well as changes in sectoral legislation, particularly in the context of decentralisation. It points to legal contradictions between the Constitution, special laws and European law, particularly regarding the activities of military-civilian administrations. The study highlighted conflicts that limit the autonomy of local self-government and highlights both positive developments (strengthening of local defence capabilities, budgetary autonomy) and problems with the practical implementation of reforms. L. Golovko *et al.* (2023) analyse international legal regulation of environmental protection during armed conflicts and the possibility of its application in Ukraine. International donors are mainly financing the restoration of damaged infrastructure in Ukraine. Therefore, compliance with and consideration of the requirements of international legal regulation of environmental protection in urban development activities in Ukraine is highly relevant.

Another notable article is the study by L.O. Zgalat-Lozynska & V.M. Lych (2020), which demonstrates the significance of public-private partnerships for stimulating innovation in construction and the overall socio-economic development of the country. The study highlights priority areas for project implementation in the sector: reconstruction and modernisation of residential, commercial, industrial and suburban develop-

ments. It analyses the benefits of public-private partnerships for the state and business, as well as the status of such projects in the regions of Ukraine. Key barriers were identified: lack of funding, imperfect legal mechanisms, low level of private sector involvement, corruption risks and poor coordination with institutions. Mechanisms for implementing public-private partnerships in the innovation sector have been proposed. O.M. Palamarchuk & S.V. Petryshyna (2023) analysed the state and prospects for the development of the construction industry in wartime, considering the views of domestic scholars and the experience of international partners. The significance of public-private partnerships as a source of financing is emphasised, as well as the advisability of emphasis on European urban planning standards and the UN Sustainable Development Goals. A regionally oriented approach to reconstruction is proposed, with the involvement of foreign investors and donors.

E. Verdeil (2021) considers post-war urban policy in Beirut as a "laboratory" for new spatial planning practices. The study analysed how temporary and emergency solutions introduced in the post-war chaos became long-term instruments of city management. The study emphasised danger of legalising exceptional measures and need to create a regulatory framework capable of balancing urgent needs of reconstruction with strategic goals of sustainable development. Significance of local community participation and compliance with environmental requirements was emphasised. T. Peráček & M. Kaššaj (2025) explore the role of legal easements in shaping sustainable urban infrastructure. They emphasise that properly formulated legal restrictions and obligations regarding land use can strike a balance between engineering infrastructure development and environmental conservation. The study demonstrates that easement regulation can ensure a fair distribution of space in the urban environment

and promote energy efficiency, green construction, and eco-friendly mobility.

The study aimed to analyse the administrative and legal mechanisms for regulating urban development activities in conditions of martial law and post-war reconstruction, incorporating effectiveness, gaps and environmental risks. The objectives of the study were to identify the characteristics of the legal regime for urban development activities in emergencies; assess the regulatory changes introduced in 2022-2025; analyse the real impact of urban development practices on the environment; and formulate recommendations for balanced legal regulation of urban development activities in the post-war period.

Materials and Methods

The study was based on an interdisciplinary systemic approach that ensures a comprehensive analysis of urban development policy in the context of armed conflict and post-war reconstruction. This approach combined legal analysis, assessment of administrative decisions, international comparison and environmental monitoring. Urban development activities were viewed as a multi-vector system operating in conditions of emergency, regulatory turbulence and limited resources. This identified key points of tension between the speed of reconstruction and the need to adhere to the principles of sustainable development.

A range of methods were used in the study. First, a structural and legal analysis was conducted of the legislative framework governing spatial planning and construction in Ukraine under martial law. Law of Ukraine No. 2780-XII (1992), Law of Ukraine No. 3038-VI (2011), Law of Ukraine No. 2254 (2022), as well as relevant subordinate acts and presidential decrees, were studied separately, particularly, No. 266/2022 (2022). This identified the main changes in the regulatory field, assessed their focus, consistency between different levels of

government, and potential gaps, especially in terms of environmental regulation.

Secondly, a functional analysis of administrative mechanisms for implementing urban development decisions was applied, particularly concerning the introduction of comprehensive recovery programmes at regional and municipal levels. Electronic registers of urban development activities, regulatory procedures for reviewing and approving programmes, as well as the terms and conditions for their implementation, were analysed. Comparison of the pace and content of recovery programmes in different regions was conducted, revealing uneven approaches, differences in methodology and difficulties in implementing environmental criteria. The study also used a comparative-analytical method to examine international experience of post-war reconstruction: Israel (models of protected housing and shelters), Germany and Japan (planning within the framework of post-World War II reforms), Bosnia and Herzegovina and Iraq (challenges of reconstruction after conflicts with long-term environmental impact). This formulated practical recommendations for adapting successful models to Ukrainian conditions.

Results and Discussion

Legal regulation of urban development activities in Ukraine. Urban planning activities form the fundamental basis for the spatial development of each state's territories. Its normative interpretation is enshrined in Article 1 of Law of Ukraine No. 2780-XII (1992), where urban development activities are defined as "the purposeful activities of state bodies, local self-government bodies, enterprises, institutions, organisations, citizens and associations of citizens to create and maintain a full-fledged living environment, which includes forecasting the development of settlements and territories, planning, development and other use of territories, design, construction of

urban development facilities, construction of other facilities, reconstruction of historical settlements while preserving the traditional character of the environment, restoration and rehabilitation of cultural heritage sites, and creation of engineering and transport infrastructure”.

This definition is systemic and methodological in nature and includes a range of key characteristics: teleological orientation – urban planning activities have a clearly defined purpose, emphasising creating a harmonious living environment; purposeful participation of legal entities – involves the involvement of state bodies, local self-government bodies, enterprises, institutions, organisations, citizens and their associations; multi-subjectivity – in the process of urban development, participants at different levels interact, which determines the complexity and multifaceted nature of this sphere; broad coverage of activities – from forecasting to project implementation and cultural heritage protection. These features indicate a multi-level structure of urban development activities, which ensures not only the physical transformation of space, but also the preservation of the cultural, historical and socio-economic integrity of territories.

As of 2025, urban development activities in Ukraine are regulated by a system of legal norms that cover not only issues directly related to construction, but also entire range of legal relations arising in construction in general. Most relevant include: 1) Law of Ukraine No. 3038-VI (2011) establishes legal and organisational basis for urban development activities, considering interests of state, communities and private sector. Main goal is to ensure sustainable development of territories; 2) Law of Ukraine No. 687-XIV (1999) defines legal and organisational basis for architectural activities in Ukraine. It aims to create a harmonious, aesthetically pleasing and safe environment, as well as to ensure reliability and economic feasibility of buildings and structures; 3) Law of Ukraine

No. 704-VI (2009) regulates activities in construction standardisation and defines procedure for development, approval, registration and application of construction standards that are mandatory for all participants in construction process; 4) Law of Ukraine No. 800 (2008) was adopted to stabilise construction sector, supporting housing construction in conditions of financial instability, as well as increase solvency of population and implementing housing rights of citizens who need state support; 5) Law of Ukraine No. 2118 (2017) establishes legal, socio-economic and organisational basis for ensuring energy efficiency of buildings. Legislation aims to reduce energy consumption in construction sector by introducing appropriate technical solutions and regulatory requirements; 6) Law of Ukraine No. 850 (2020) has status of a technical regulation. It defines rules for construction products on market, establishes requirements for declaring their performance characteristics and using mark of conformity with technical regulations, which ensures quality and safety of construction materials and products.

Urban development is a multi-faceted form of socially significant work involving numerous entities with different legal statuses. They exert legal influence on a complex system of objects covering both spatial and functional elements of the environment. Such activities are multifaceted, integrating different levels of planning and implementing a wide range of tasks related to the development of territories within a comprehensive state strategy. Therefore, the legal regulation of urban development activities in Ukraine is based on an integrated approach to the development of territories, incorporating both state interests and the needs of local communities and private investors.

The legal characterisation of urban planning activities involves defining its main functions, subjects, objects and mechanisms of regulation by the state. As a key subject in the urban development process, the state forms the regulatory and

legal framework that serves as the basis for making management decisions aimed at protecting the strategic interests of the national economy, developing its infrastructure, and regulating economic relations, in particular those related to capital circulation and ensuring the public interest.

In modern conditions, administrative and legal regulation of urban planning is conducted mainly through the activities of local executive authorities and authorised bodies in the field of urban planning and architecture. Their function is to implement state policy by providing legal support for territorial planning, coordinating the processes of spatial development of settlements, protecting the natural environment and improving the living conditions of the population.

The main goal of this regulation is to ensure sustainable socio-economic and environmentally balanced development of territories through administrative management tools. Public authorities are obliged to create legal and organisational conditions for the formation of an effective living space based on the rational use of natural resources, the improvement of social, industrial, transport, information and environmental infrastructure, and the preservation of cultural heritage and biodiversity (Chepelevskiy, 2017).

The system of state regulation in the field of urban development is based on administrative and legal mechanisms that provide for: regulatory control of territorial planning at the state, regional and local levels; analytical and forecasting work on the state and prospects of urban development; preparation, approval and implementation of urban development programmes and documentation; administrative coordination of the actions of all entities involved in urban development and architectural activities; establishment of mandatory requirements for taking into account state interests in the process of developing project solutions; conducting state expertise of urban development documentation and individual

projects; development and approval of the regulatory framework – state standards, building codes and regulations; administrative control over compliance with urban planning legislation, urban planning documentation requirements, standards and rational use of territorial resources; legal protection of cultural heritage sites and preservation of the traditional structure of settlements; licensing of certain types of economic activity in construction in accordance with the procedure established by law (Khar, 2023).

As such, administrative and legal regulation are central in shaping the consistency, legitimacy and transparency of management processes in the field of urban development, promoting the public interest and creating conditions for the sustainable spatial development of the state. This regulation has become relevant in the context of the reforms that began in 2020, which were aimed at deregulation, digitalisation, minimising corruption risks and increasing the accountability of urban development actors.

A significant step in reform was liquidation of the State Architectural and Construction Inspection of Ukraine (DABI). DABI was the main regulatory body in construction sector, responsible for ensuring compliance with legislation at all stages of construction projects, from planning to operation. Powers also included expert reviews of project documentation, monitoring construction standards and regulations, applying measures in response to violations, and communicating with other authorities to coordinate actions in architecture and urban planning (Resolution of the Cabinet of Ministers of Ukraine No. 218, 2020).

Subsequently, in September 2021, a newly created body, the State Architecture and Urban Planning Inspectorate of Ukraine (SAUPI), became fully operational, combining main functions of supervision and control in construction, which were previously assigned to DABI. Reorganisation was accompanied by adoption of several regulatory

acts, among which the Resolution of the Cabinet of Ministers of Ukraine No. 1340 of 23 December 2020 "Certain Issues of the Functioning of Architectural and Construction Control and Supervision Bodies", which regulated functioning of new system of state management in architecture and urban planning (Resolution of the Cabinet of Ministers of Ukraine No. 1340, 2020). Thus, reform of urban planning system was an attempt to remove administrative barriers, overcome corruption risks and ensure effective state control in field of spatial development in compliance with principles of legality, efficiency and accountability.

Another notable initiative was the submission of Draft Law of Ukraine No. 5655 (2021), aimed at advancing reforms. The draft law seeks to introduce an effective control system, reduce corruption risks, increase fight against unauthorised construction, and improve accountability mechanisms. Notably, as of May 2025, Draft Law of Ukraine No. 5655 (2021), which concerns reform of urban planning sector, remains subject of active discussion and controversy. In December 2022, the Verkhovna Rada of Ukraine adopted this draft law in second reading, after which it was sent to the President for signature. However, due to numerous comments and criticism from public, experts and international partners, President Volodymyr Zelensky decided not to sign the law. In particular, the National Agency for Corruption Prevention recognised the document as corrupt, and the European Parliament called on the President to veto it. Despite this, in 2023, there were reports of attempts by lobbyists to push through a resolution, which is essentially a copy of urban planning Draft Law of Ukraine No. 5655 (2021), through the Cabinet of Ministers of Ukraine. This sparked a new wave of criticism and concern among public and experts. Thus, although the bill has not officially entered into force, its provisions continue to influence formation of urban development policy in Ukraine, raising concerns about

transparency and effectiveness of reforms in this area.

As part of the digital transformation of the sector, in 2021, the Procedure for Maintaining the Unified State Electronic System in the Field of Construction (USESFC) was approved. This system can be used by citizens and business entities to digitally file documents – urban planning conditions, construction permits, commissioning of facilities, etc. – through the Diya portal (Resolution of the Cabinet of Ministers of Ukraine No. 681, 2021). The reform also affected urban planning documentation. In particular, a comprehensive spatial development plan has been introduced, which is a strategic document that includes an analysis of resource potential, demographics, infrastructure, and environmental conditions and defines priority areas for development. Resolution of the Cabinet of Ministers of Ukraine No. 654 (2021) approved the classification of restrictions on land use applicable within the framework of spatial development plans. Thus, the updated system of administrative and legal regulation in the field of urban development is aimed at transparency, accountability, digital accessibility, and the achievement of the principle of human-centredness – by prioritising human rights and safety over bureaucratic convenience or commercial gain.

It is possible to state that legal regulation of urban development in Ukraine has become comprehensive and systematic, covering both traditional legislative approaches towards shaping spatial environment and modern digital management tools. Defining urban development as a multifaceted activity that combines participation of the state, communities and business ensures creation of transparent mechanisms for planning, design, construction and control. The 2020 reform, with the liquidation of the State Architectural and Construction Inspection and the creation of new institutional structures, demonstrated the desire

to minimise corruption risks and improve management efficiency. The introduction of a unified state electronic system in the field of construction and new urban planning documentation – comprehensive spatial development plans – was a significant step towards a people-centred, open and strategically oriented model of spatial development. All this testifies to the gradual but consistent formation in Ukraine of a modern legal infrastructure for urban planning that can respond to the challenges of wartime and post-war periods.

Impact of martial law on urban development transformations. Russian full-scale armed aggression against Ukraine, which began in 2022, has radically changed direction of state policy in many areas, including urban development. War caused significant destruction to residential, engineering, cultural and industrial infrastructure, presenting new and unprecedented challenges in terms of spatial organisation of territories, meeting basic needs of population and planning an effective strategy for the restoration of destroyed settlements. In this context, urban planning has become a key tool for both national resistance and post-war reconstruction. Under martial law, there is an increased need to rethink urban planning priorities and regulatory approaches to planning. Among the current priorities are the rapid design of temporary housing for internally displaced persons, the integration of displaced production facilities into host communities, the adaptation of urban planning standards to emergency conditions, and the strengthening of the infrastructure capacity of territories that are receiving new populations (Kvasnitska, 2022b).

Environmental impact of war on urban development is notable. Large-scale destruction, fires, and contamination of soil, water resources, and air as a result of hostilities have significantly complicated environmental situation in many areas. Restoration of destroyed objects requires

careful consideration of environmental safety, assessment of risks of secondary pollution, rational management of demolition waste and preservation of natural environment. Thus, the integration of an environmental approach into post-war urban development processes is a necessary condition for creating a safe, viable and sustainable environment for future generations.

In response to large-scale destruction and the need for rapid reconstruction, the state has accelerated the development of new regulatory instruments and the improvement of the existing legal framework in the field of urban development. One of the key steps in this direction was the adoption of Law of Ukraine No. 2254 (2022). This regulatory act introduced relevant changes, in particular simplified procedures for the approval of urban planning documentation under martial law; provided for the possibility of placing temporary structures for the accommodation of internally displaced persons without prior development of detailed plans for the territories; ensured legal conditions for the rapid relocation of production facilities of enterprises from areas of active hostilities; postponing certain requirements for urban planning documentation when creating critical infrastructure facilities.

This Law also provides for substantial institutional and procedural innovations aimed at ensuring effective spatial planning in the post-war period. In particular, the Programme for Comprehensive Restoration of the Region and the Programme for Comprehensive Restoration of the Territory of the Territorial Community (or part thereof) are identified as key instruments for planning and managing the reconstruction process. These programmes are intended to ensure the formation of spatial, social and economic priorities for the restoration of settlements and territories damaged as a result of hostilities, terrorist acts, sabotage, man-made or natural disasters. At the same time, they cover areas with a high

population density that require comprehensive solutions for life support.

The comprehensive restoration programme for the region is created in the form of an electronic document, which is entered into the Register of Construction Activities in the format approved by the Cabinet of Ministers of Ukraine, in accordance with the Procedure for maintaining the electronic system. Within five working days of the publication of the report on its development, the head of the regional state administration submits the programme for consideration by the relevant regional council, which must approve it within 30 calendar days. The programme may be developed either directly by the regional state administration or with the participation of specialists and organisations. Notably, these programmes are not subject to strategic environmental assessment and do not require approval based on urban planning or construction criteria, which ensures their prompt adoption. The sources of funding are the state budget, as well as international technical and financial assistance (Udoenko *et al.*, 2022).

In turn, the Comprehensive Restoration Programme for the territory of the territorial community (or part thereof) is formed based on decisions made by village, settlement or city councils and submitted in the form of an electronic document to the Register of Construction Activities. After completion of the public discussion, which must be made public, the programme is submitted for consideration to the relevant executive bodies within five days. Final approval is granted by the accredited body for urban planning and architecture of the regional state administration within 10 days of receiving the relevant document (Kvasnitska, 2022a). In addition, Law of Ukraine No. 2254 (2022) provides for possibility of changing and establishing intended use of land plots owned by state or municipality during martial law. However, this provision is subject to certain restrictions; in particular, it does not apply to land

belonging to nature reserve fund, land of historical and cultural significance, and other categories defined by law as requiring special protection.

Thus, established regulatory framework not only lays legal groundwork for rapid response to wartime challenges but also creates basis for strategic and sustainable spatial development in post-war period. At the same time, there is a need to ensure a balance between speed of management decisions and preservation of the environmental, cultural and social integrity of environment in which these decisions are implemented. In fact, to coordinate such measures, Decree of the President of Ukraine No. 266 (2022) established the National Council for the Recovery of Ukraine from the Consequences of War. The main tasks of this body are: the development of critical infrastructure – transport, medical, social, communal, housing, energy, communications, military and industrial; structural modernisation of the economy; measures to overcome unemployment and support vulnerable groups, including families with children and people in difficult life circumstances; preservation and restoration of cultural heritage sites; development of priority reforms and regulatory initiatives necessary to ensure sustainable development during the war and post-war periods.

Martial law in Ukraine has been a substantial catalyst for change in urban development, while also revealing a range of systemic issues that require urgent attention from the state. Despite the adoption of a set of regulatory acts designed to address the challenges of the modern era, state regulation of urban development needs further improvement, particularly in the context of ensuring stability, strategic planning and a people-centred approach to spatial development. The hostilities have given rise to factors that have harmed urban planning and spatial organisation processes. In particular, the shortage of personnel has affected specialists in the fields of spatial

planning, architecture and urban studies – professions that are central in the creation of urban planning documentation, design solutions and concepts for territorial development. Mass emigration and mobilisation have led to an outflow of highly qualified specialists, which has slowed the development of strategic plans for the development of settlements (Oliynyk, 2024).

At the same time, destruction of infrastructure, displacement of the population and destruction of production facilities led to a change in priorities in urban planning – instead of long-term development projects, there was an urgent need for immediate planning of reconstruction, creation of temporary housing and infrastructure solutions, and relocation of displaced enterprises and critical infrastructure facilities. The crisis in the supply of materials and logistics also affected urban planning forecasts – a significant part of the urban planning documentation approved before the war has effectively lost its relevance, as it does not reflect the new conditions of resettlement, the economic situation, changed transport corridors, environmental damage, etc. The decline in the investment attractiveness of territories, especially in high-risk areas, has also affected the implementation of spatial development strategies. This has led to unevenness in the restoration and planning of territories, requiring new approaches to balanced community development and ensuring a uniform standard of urban planning management. Russian full-scale armed aggression has become a catalyst for substantial changes in Ukrainian urban development policy, transforming this sphere into one of key instruments of national resistance and main platform for post-war reconstruction. In response to unprecedented challenges, state was forced to radically change approaches to spatial planning, simplify regulatory procedures, create new response mechanisms, and ensure efficiency of decision-making. Adoption of Law of Ukraine No. 2254 (2022) was a substantial step in this

direction, laying regulatory foundation for reforming urban development activities and ensuring implementation of urgent recovery measures.

At the same time, a substantial achievement was the introduction of comprehensive recovery programs at regional and community levels, which can be used for a holistic approach to planning recovery of affected areas. Electronic format of these documents and simplified approval procedures increase efficiency and speed of implementation, which is valuable in wartime. However, rejection of strategic environmental assessment at this stage carries risk of losing control over environmental quality and violating principles of sustainable development.

It is worth noting that one of most sensitive issues that has arisen in the field of urban planning in wartime is the environmental dimension. Combat operations, massive destruction of infrastructure, explosions, fires, and leaks of hazardous substances have led to serious environmental pollution – of soil, water, and air – as well as a significant increase in the volume of construction waste. According to the United Nations Environment Programme, millions of tons of construction waste and debris from destroyed buildings have already accumulated in Ukraine, requiring environmentally safe handling and recycling. In addition, researchers point to potential secondary pollution caused using explosives, the destruction of industrial facilities, and the disruption of the hydrogeological structure of territories (Vasyliuk *et al.*, 2024).

In the context of the Russian full-scale war against Ukraine, the environmental dimension has become particularly relevant in the field of spatial planning and urban development. According to reports by the United Nations Environment Programme (UNEP, 2023) and the Conflict and Environment Observatory (2024), the hostilities have caused massive pollution of the environment – soil, air, surface water, and groundwater.

Destroyed industrial facilities, explosions at oil depots and ammunition depots, and the destruction of treatment plants, dams, and water intakes have caused man-made stress on ecosystems and created new environmental risks for the population. In such a situation, urban planning can no longer be based on traditional development criteria. It must consider level of environmental damage and potential for restoration of territory. In particular, this involves mandatory preliminary environmental zoning, testing for hazardous substances, reclamation of damaged areas, and the creation of protective environmental barriers. The focus is also shifting to the development of new types of urban planning documentation, such as comprehensive spatial development plans that combine elements of strategic vision with real environmental constraints.

One of key challenges is disruption of environmental and transport infrastructure, loss of biodiversity, and disturbance of natural landscapes, which have been traditionally substantial in shaping a healthy urban environment. These consequences require integration of nature-oriented solutions into urban planning policies, including design of green areas, biofiltration systems, and energy-efficient and resource-saving facilities. The war has changed approaches to urban planning: spatial planning must not only ensure a comfortable living environment but also serve as a tool for environmental protection, sustainability, and restoration. Combination of environmental and urban principles will make it possible to create safe environments that are adaptable to challenges and capable of responding not only to needs but also to long-term challenges of Ukrainian post-war development. Thus, reform of urban development policy in wartime has created conditions for formation of a new, adaptive spatial planning system. Further development should be based on a balance between prompt action and adherence to principles of environmental safety,

sustainable development, historical continuity, and social integration. Only under such conditions is it possible to ensure not only physical restoration of Ukraine, but also to lay foundations for its sustainable and dignified future.

International experience of post-war reconstruction. Post-war reconstruction is not only a process of physically rebuilding destroyed infrastructure, but also a profound transformation of economic, political, and social systems. Historical examples of such reconstruction in different countries around the world provide valuable lessons that may be beneficial for Ukraine in post-war context. One of most notable examples of post-war reconstruction is the Marshall Plan, officially known as the European Recovery Program. Introduced in 1948, United States provided more than USD 13 billion (equivalent to approximately modern USD 150 billion) in financial assistance to rebuild devastated economies of Western Europe after World War II. Thanks to these funds, countries such as West Germany, France, and Italy were able to quickly restore industrial production, stabilise currencies, and improve standard of living of their populations (The Marshall Plan..., 2022). Key factors in success of the Marshall Plan were transparency in distribution of resources, coordination between donors and recipients, and promotion of European economic integration. This experience demonstrates that effective reconstruction requires not only financial injections but also strategic planning and institutional cooperation. When developing approaches to new construction or reconstruction of destroyed facilities in Ukraine, it is advisable to incorporate lessons of post-war reconstruction in other countries. An analysis of international experience shows that after hostilities and return to peaceful life, reconstruction is not always coordinated by authorities, may occur spontaneously, with violations of residents' rights, and may not receive adequate public support.

A notable example is Beirut, where reconstruction of city centre after the civil war caused loss of identity. Residential neighbourhoods destroyed by fighting were replaced by commercial developments without consideration for historical context and needs of residents. Authorities implemented reconstruction using private capital, which caused alienation of citizens from space in which they lived and loss of architectural heritage. This is an example of how formally successful urban planning decisions can prove disastrous for urban environment and social landscape (Rebuilding downtown Beirut..., 2024). Alongside large-scale examples of post-war reconstruction, such as Marshall Plan, which demonstrates a model of effective international assistance through institutional coordination and transparency, it is also relevant to study local practices in regions where reconstruction process occurred in difficult political and social conditions. Particularly valuable for Ukraine is experience of Mosul (Iraq), which, after many years of occupation by ISIS militants, has become a testing ground for post-war reconstruction strategies that combine physical reconstruction of city with social rehabilitation, housing restoration, preservation of cultural heritage, and renewal of local economy. As in the case of Beirut, fate of Mosul shows that lack of a comprehensive vision and adequate community participation can negate urban identity. However, in contrast to Lebanese example, Mosul authorities have chosen path of “Build Back Better”, emphasising a balance between the infrastructural, social, and cultural aspects of urban space revitalisation (Zapatrina & Shatkovska, 2023).

Post-war reconstruction of Mosul demonstrates a comprehensive and multi-layered approach to rebuilding a city that suffered extensive damage as a result of fighting and occupation by ISIS. Example of Mosul is relevant for Ukraine, as it highlights both key successes and critical challenges that arise during reconstruction of urban

environment in a post-conflict period. First and foremost, it is worth noting early involvement of local authorities in developing a reconstruction plan even before receiving international financial assistance. Nineveh Council emphasised restoration of basic utilities – water supply, electricity, and clearing the city of explosive devices. This initial stage made it possible to alleviate humanitarian crisis and begin return of residents. At the same time, Mosul determined the goal of not just physical reconstruction, but implementation of “Build Back Better” principle – to build better than it was before the war, incorporating lessons of the past (Mosul’s recovery). The housing crisis in Mosul was addressed, including introduction of financial support programmes for restoration of destroyed housing, expansion of construction in adjacent rural areas, creation of temporary housing, and encouragement of private initiative in construction demonstrate a multi-pronged approach to solving this problem. Of particular significance is emphasis on self-reconstruction by residents using local and recycled materials, which reduces dependence on external resources.

A key structural decision was to separate functional use of land – moving industrial facilities outside central areas relieved congestion in the city, created new residential areas and, at the same time, stimulated development of new industrial clusters. This approach optimised urban space, improved safety and integrated new labour markets. An equally significant component is the emphasis on preserving cultural heritage. The restoration of historical monuments – mosques, Christian churches, the university library – was accompanied by the introduction of clear rules for clearing territories under the supervision of heritage protection specialists. This demonstrates an awareness of the importance of not only the physical but also the symbolic restoration of the city. However, despite significant successes, Mosul faces serious problems – uneven infrastructure

development, a lack of roads and medical facilities, and low levels of security, especially for tourists (Mosul's recovery). This indicates that post-war reconstruction is a long and complex process that requires flexible management, stable funding and deep community integration in decision-making. Mosul's experience is valuable for Ukraine in the context of post-war spatial planning, especially regarding a multi-level approach, emphasis on social justice, role of communities, preservation of identity, and formation of a sustainable urban model.

In the 21st century, safety of civilians during wars and armed conflicts has become one of key components of architectural planning and urban development. Countries that have suffered extensive destruction as a result of hostilities demonstrate different approaches to reconstruction, and each of them can be a substantial source for study and adaptation. In particular, it is relevant for Ukraine to study experience of countries that have long existed under constant military threat, such as Israel. Given relevance of a new approach to residential and non-residential construction projects (plans), considering high risks of repeated shelling and air attacks with "Shaheed-136" drones, missiles and other weapons, study addressed foreign experience of countries that have had similar experiences. At Ukrainian-Israeli Innovation Summit in Warsaw in 2022, Israel shared experience in designing buildings in conditions of military threat (Korsun *et al.*, 2024). Since 1952, Israel has been developing and implementing the concept of safe housing. Traditional bomb shelters and basement shelters have gradually evolved into specialised individual rooms – so-called mamadim (from the Hebrew abbreviation for "fortified room"). They have become a mandatory feature of new buildings in many regions. Mamadim are ordinary living rooms that serve as bedrooms or offices in peacetime, but in case of an emergency, they turn into a reliable shelter for the whole family. Their key features are armoured

doors and windows, as well as thick walls – 35 cm for external walls (up to 50 cm in some areas) and 20-25 cm for internal walls, made of reinforced concrete. The minimum area of such a room is 9 square metres (Israeli bomb shelters, 2023). This approach to individual shelters integrated into the living environment could serve as a model for Ukrainian architects and developers in establishing new construction standards in conditions of military threat.

Such shelters can protect civilians from debris from Shahed-136-type kamikaze drones, as well as from missile strikes, artillery fire and other types of threats. This is relevant for Ukraine, which suffers rocket attacks. It is worth noting that Israel actively uses Iron Dome mobile air defence system, which can intercept and destroy short-range missiles, artillery shells and drones before they hit a target. However, even with such a potent air defence system, Israel still prioritises availability of physical shelters, which is why mamadas have become an integral part of living space. This experience is valuable for Ukraine in the context of developing domestic building standards in the post-war period. Providing housing with reinforced individual shelters should become the norm rather than the exception. This will significantly reduce human casualties in the event of repeated attacks and make everyday life safer for citizens, even in border areas or threatened zones. International experience of post-war reconstruction convincingly demonstrates that effective recovery requires not only significant material resources, but also profound institutional transformations, strategic vision and active participation of all stakeholders. Success of countries such as Germany, Japan and South Korea was largely due to their ability to combine external assistance with internal reforms covering governance, the economy, urban planning and social sphere. This confirms significance of a comprehensive approach focused not

only on physical reconstruction but also on restoration of a holistic social environment (Zapatrina and Shatkovska, 2023).

At the same time, analysis of less successful examples, particularly Beirut, demonstrates dangers of disregarding historical context and interests of local population. Reconstruction based solely on economic expediency or private investor interests can cause a loss of urban identity, social stratification, and alienation of citizens from living environment. Ukraine must consider such mistakes in implementation of domestic reconstruction programmes. In Ukraine, interdisciplinary coalitions of specialists in architecture, urban planning, law, energy, and heritage protection are being formed. These communities can become catalysts for a new model of reconstruction based on humanistic values, sustainable development, security, environmental responsibility, and cultural continuity. Ukraine has a unique opportunity not only to rebuild what has been destroyed, but also to build a new, adaptive, innovative and dignified future, based on proven international practices and domestic experience of resistance and survival. Analysing international experience in post-war reconstruction, it is necessary to consider not only socio-economic and urban planning aspects, but also environmental consequences of armed conflicts, which are long-lasting and often irreversible. As evidenced by reconstruction of Iraq, Kosovo, Bosnia and Herzegovina, and Syria, one of greatest challenges after hostilities is elimination of man-made and chemical pollution caused by destruction of industrial facilities, infrastructure, and military equipment. Reports by United Nations Environment Programme (UNEP) emphasise that soil contamination with heavy metals, emissions of asbestos and petroleum products, destruction of sewage systems and accumulation of hazardous waste have a significant impact on public health and quality of life in post-conflict regions (Gaafar, 2021).

For example, after hostilities in Lebanon in 2006, UNEP experts recorded tens of thousands of tonnes of construction waste mixed with toxic substances and fuel residues that required special treatment and land reclamation. A similar situation occurred in Bosnia, where traces of chemical contamination were found long after in areas of intense combat. Based on these examples, international institutions insist on integrating environmental assessment into all stages of planning and implementing post-war reconstruction (Lebanon Post-Conflict Environmental Assessment, 2017). In this regard, Israeli experience also provides examples of environmental risks being considered in construction legislation. In particular, projects for new residential areas, including fortified mamada rooms, are subject to environmental certification according to national or international standards, such as LEED or Israeli Green Building Standard. This reduces negative impact on environment and optimises water consumption, energy efficiency and waste management during construction and operation.

Thus, international experience in post-war reconstruction shows that effective recovery must extend outside the scope of physical reconstruction of infrastructure. Successful cases (such as the Marshall Plan, Mosul, Israel) demonstrate significance of strategic planning, transparent coordination, social integration, consideration of cultural heritage, and adaptation of security requirements to architectural environment. In contrast, examples from Beirut show the risks of urban decisions based solely on economic expediency without community participation. Ukraine must incorporate both positive and negative international practices to avoid repeating mistakes and to create a sustainable, inclusive and safe environment in the post-war period.

Conclusions

The study addressed the administrative and legal regulation of urban development in Ukraine

under martial law and post-war reconstruction. The main objective of the study was to identify the peculiarities of the urban development system in crisis conditions, analyse the latest legislative initiatives, and assess the potential of national and international experience to ensure the effective restoration of destroyed infrastructure. The study analyses changes to legislation aimed at deregulating and simplifying urban planning procedures under martial law, in particular the provisions of the Law of Ukraine "On the Regulation of Urban Planning Activities", as well as special acts regulating the procedure for restoring critical infrastructure and housing stock. A range of problems were identified, including a decline in standards of transparency and public participation, risks of corruption, and a lack of adequate environmental control in the reconstruction process.

International experience in post-war reconstruction was emphasised. Positive experience of Mosul highlights significance of early involvement of communities in reconstruction process, prioritising basic infrastructure, and implementing principle of "building back better" rather than simply returning to pre-war state. Ukraine should consider this approach, emphasising not only physical reconstruction but also creating conditions for sustainable development – preserving cultural heritage, addressing housing crisis and stimulating local economy. Counterexample of Beirut highlights risks of ignoring community needs and historical identity of urban space in interests of private capital. Ukrainian reconstruction should avoid such mistakes by integrating the principles of social justice, public participation, and cultural sensitivity into all levels of spatial planning.

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Israeli experience in designing safe housing is also particularly relevant for Ukraine. Integrating protective elements (such as reinforced madras rooms) into standard housing projects can be an effective response to contemporary threats, ensuring basic safety for civilian population. Thus, Ukraine has a chance to create a unique model of post-war development, combining best international practices with internal challenges and opportunities.

Results of the study suggest that administrative and legal regulation of urban development in wartime should be viewed as a multi-level system that requires a balance between speed of project implementation and compliance with principles of sustainable development. Need to form a single legal space for post-war reconstruction with a division of powers between state and local authorities, as well as introduction of effective mechanisms for environmental and anti-corruption control, was emphasised. Further research could address development of a regulatory model for integrating digital tools into urban management processes, establishing a legal framework for community participation in post-war reconstruction, and developing a methodology for assessing quality of urban development projects based on environmental criteria.

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Реформування системи містобудівного регулювання в умовах воєнного стану та повоєнного відновлення

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Анотація

У контексті широкомасштабних руйнувань внаслідок збройної агресії проти України особливої актуальності набуває питання ефективного правового регулювання містобудівної діяльності як основи відновлення територій та сталого розвитку держави. Збройна агресія проти України призвела до масштабних руйнувань, що потребують оперативних і водночас правового обґрунтованих рішень у сфері просторового розвитку, відновлення інфраструктури та житлового фонду. Метою дослідження було здійснення комплексного аналізу нормативно-правових механізмів регулювання містобудівної діяльності в кризових умовах та визначення ключових викликів для адміністративного управління відбудовчими процесами. У дослідженні були використані формально-логічний, системно-структурний, порівняльно-правовий і прогностичний методи. Отримані результати свідчать про те, що містобудівна діяльність у період воєнного стану та післявоєнної відбудови набуває нового змісту, вимагаючи гнучких, прозорих і контрольованих механізмів адміністративно-правового впливу. Наголошено на важливості балансування між швидкістю реалізації відбудовчих проєктів та дотриманням екологічних, правових і соціальних стандартів. Особливу увагу приділено інтеграції стратегічної екологічної оцінки у процеси планування, що має забезпечити не лише відповідність законодавству, але й передбачення довгострокових ризиків для навколишнього середовища та населення. У

контексті зростання урбанізаційного та антропогенного тиску, актуальним є впровадження механізмів участі громадськості та цифровізації містобудівної документації. Досвід післявоєнної відбудови таких країн, як, Ірак, Ізраїль та Ліван, свідчить, що ефективне відновлення вимагає поєднання стратегічного бачення, інституційної спроможності, прозорості рішень, участі громад та врахування культурної ідентичності. Матеріали дослідження можуть бути використані для вдосконалення законодавства у сфері містобудування, розробки національної політики повоєнної відбудови та формування стратегії сталого просторового розвитку України

Ключові слова: відновлення інфраструктури; правовий режим відбудови; містобудівна політика; просторове планування; міжнародний досвід; екологічний вплив



Energy security strategy under martial law: Environmental risks and areas of their legal regulation

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Abstract

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The purpose of the study was to substantiate legal mechanisms for ensuring energy security under martial law, considering environmental risks, for the development of a comprehensive strategy focused on sustainable development. The study was conducted using systemic and structural, comparative, formal legal, and historical legal methods. The study systematised the environmental consequences of the destruction of Ukraine's energy infrastructure as a result of Russian aggression through the development of a comprehensive methodology for assessing energy and environmental damage under martial law. A classification of the environmental costs of war has been drawn up across five categories, with a total monetary estimate exceeding USD 200 billion: greenhouse gas emissions from combat operations and reconstruction amount to USD 42.6 billion; fires caused by the war – USD 9.1 billion; toxic sediments following the destruction of the Kakhovka Hydroelectric Power Plant – USD 31.5 million; construction waste and debris – USD 140 billion; contaminated and mined land – USD 9-10 billion. A comparative analysis of the impact of armed conflicts on energy systems across four regions of the world was conducted,

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revealing an evolutionary transformation of compensation mechanisms – from the successful Kuwaiti precedent, with 94% of claims paid, to ineffective contemporary mechanisms with no payments at all – thus confirming the critical dependence of effectiveness on the level of international political support. A comparative matrix of international precedents was created, which demonstrated the evolution of international legal mechanisms from a fragmentary response to systemic compensation institutions with the expansion of the subject composition of responsibility. Typological patterns of application of international legal instruments of compensation were revealed, in particular, a direct correlation between the effectiveness of compensation procedures and the level of international political support was established. The results of the study conceptualised the development of a new paradigm of national security based on a synergistic combination of energy and environmental legal mechanisms in the context of sustainable development

Keywords: ecocide; compensation mechanisms; international humanitarian law; ecosystem losses; greenhouse gases; restorative justice

Introduction

The Russian-Ukrainian War demonstrated the critical vulnerability of national energy systems and their direct impact on the economic stability of states. Simultaneously, the growing environmental challenges and the need for a transition to sustainable development require the search for new approaches to ensuring energy security that would harmoniously combine national interests with environmental imperatives. The legal regulation of these processes is of particular importance, since an effective regulatory framework is a key tool for coordinating the efforts of the state, business, and the international community. When conventional models of energy security are insufficient to respond to contemporary challenges, the relevance of the study of legal mechanisms for ensuring energy security in the context of environmental requirements becomes a priority.

The study of the relationship between energy security and environmental regulation has attracted the attention of a wide range of researchers who have considered various aspects of this complex problem. A significant contribution to understanding the mechanisms of the impact of environmental regulation on energy security was

made by N. Aslam *et al.* (2024b), who showed that export activity increases energy risks, while industrial imports and economic growth contribute to their reduction. The researchers recommend the establishment of environmental regulation to control energy security risks, and reducing exports and increasing industrial imports to optimise domestic energy consumption. Regional features of this relationship were investigated by X. Zhao *et al.* (2023), who focused on spatial heterogeneity in China and found that environmental regulation contributes to higher levels of energy security, but its effect varies by region, and the positive impact increases when the degree of fiscal decentralisation and marketability crosses a certain threshold.

Strategic aspects of energy security in the context of sustainable development were considered by P.S. Varbanov (2022), who substantiated an integrated approach to overcoming environmental and energy challenges through a hierarchy of measures that begins with minimising the energy needs of global economies. The researcher emphasised that a strategy to achieve sufficient energy security can benefit from synergies,

further improving energy efficiency, reducing domestic energy needs, and making reasonable use of available local resources, especially waste. The legal mechanisms for harmonising environmental and security objectives of energy policy were analysed in detail by D.M. Schizer (2023), who proposed an innovative approach to the development of energy policy that simultaneously protects the environment and ensures national security. The researcher proposed a heuristic of “marginal costs of energy efficiency”, according to which politicians should consider all the social costs of each source – private costs, national security costs, and environmental costs – and strive to replace high-cost sources with low-cost ones.

International legal aspects of energy security have been comprehensively investigated by T. Morgandi & J. Vinuales (2021), who analysed the concept of energy security as “continuous availability of energy resources at an affordable price” and the role of international law in addressing threats to energy security. The researchers found that the international legal framework largely focuses on the idea of energy as a “reserve” that is unevenly distributed among countries and creates vulnerabilities for energy-importing countries. The impact of geopolitical risks on the energy transition in the context of environmental regulation was investigated by Q. Wang *et al.* (2024a), applying a multivariate linear and nonlinear regression model for OECD countries and found a significant positive impact of geopolitical risk on the energy transition, with stronger environmental regulation and progress in green innovation significantly reinforcing this effect.

Specific aspects of energy security in the context of military conflict have been considered by several researchers. A. Nosach *et al.* (2024) analysed the legal regulation of ensuring national security under martial law, establishing that the financial security of the state as a component of national security is the basis for the economic

development of the country, ensuring the sovereignty and integrity of the state. K. Hook & R. Marcantonio (2022) examined the environmental risks of the military conflict in eastern Ukraine, finding that the lack of international political will for “forgotten conflicts” increases the likelihood that shared environmental risks will be seen as just another point of the political agenda for negotiations.

Empirical studies of the impact of energy risks on achieving climate goals were conducted by O. Usman *et al.* (2024), who found that energy security risks hinder long-term goals of achieving zero emissions, with their impact decreasing over time to complete disappearance in approximately 5 years. The specific aspect of the relationship between environmental regulation and energy security through the prism of energy taxes was investigated by N. Aslam *et al.* (2024a), who found that environmental regulation significantly reduces the gap between energy consumption and production, and mitigates energy security risks by facilitating the energy transition. The economic security of Ukraine in the context of military operations was studied by V. Yesina *et al.* (2025), who conducted a correlation analysis of the density of the relationship between the economic security of the state and the introduction of energy-saving technologies, paying special attention to the implementation of EU directives and the concept of sustainable development with an emphasis on reducing Ukraine’s energy dependence. However, the analysis of scientific literature revealed insufficient research on legal mechanisms for coordinating environmental regulation and energy policy at the level of national legislation, especially in emergency situations. The researchers ignored the issues of institutional support for the integration of environmental standards into the energy security system.

The purpose of the study was to identify legal mechanisms for integrating environmental principles into the state’s energy security strategy

under martial law to ensure long-term sustainability of national security based on the principles of sustainable development. The objectives of the study were:

1) to systematise the environmental consequences of the destruction of Ukraine's energy infrastructure as a result of Russian aggression and carry out monetary assessment of categories of energy and environmental damage;

2) to identify typological patterns of application of international legal mechanisms for compensation of environmental damages through a comparative analysis of the impact of military conflicts on energy systems in different regions of the world;

3) to define legal mechanisms for minimising and compensating energy and environmental damages during the war, including the development of the concept of ecocide and the establishment of specialised international compensation institutions.

Materials and Methods

The methodological framework of the research included system and structural, comparative, formal legal, historical legal, and statistical and analytical methods. The case study method was used for a detailed analysis of four key international conflicts and specific incidents of destruction of Ukraine's energy infrastructure.

The first stage provided for the systematisation of the environmental consequences of the destruction of the energy infrastructure of Ukraine using a statistical and analytical method to classify empirical data into five categories of impact: greenhouse gases from military operations and reconstruction; fires caused by war; toxic sediment after the explosion of the Kakhovka Hydroelectric Power Plant; construction waste and debris; contaminated and mined land. Monetary valuation was carried out using the Social Cost of Carbon method at a rate of USD 185 per

tonne of CO₂ equivalent (Rennert *et al.*, 2022) and replacement cost methods for ecosystem services (US Environmental Protection Agency, 2001). The case-study method was used to analyse the explosion of the Kakhovka HPP on June 6, 2023, the flooding of mines in the Donetsk Oblast and the shelling of the Zaporizhzhia NPP (International Atomic Energy Agency, 2023) using reports on emissions of 180 million tonnes of CO₂ equivalent (Planetary Security Initiative, 2025), and data from Ukrenergo on the loss of generating capacity (Ukrenergo, 2023).

The second stage included a comparative analysis of international precedents through a detailed case study of four conflicts: the 1991 Gulf War with the arson of 600 oil wells and the creation of the UN Compensation Commission (Farber, 2022), the 1999 bombing of Yugoslavia with the damage to the HIP Petrohemija (Poulos, 2002), and the 2016 conflict with ISIS in Iraq with the arson of oil wells near Kayar (The Washington Post, 2018), and Russian aggression against Ukraine (Commission on security and cooperation in Europe, 2024). The analysis was based on analytical materials on the effectiveness of compensation mechanisms (Payne, 2005) and research by NASA Earth Observatory (2017) on the effects of oil fires.

The third stage was devoted to formal legal and historical legal analysis of contemporary legal mechanisms for minimising and compensating energy and environmental damage. The formal legal method was used to investigate Articles 35(3) and 55 of the Protocol I Additional to the Geneva Conventions (1977) and Article 441 of the Criminal Code of Ukraine (2001) on ecocide. The historical and legal method was used to analyse the evolution from the UN Compensation Commission to institutions through the study of resolution No. ES-11/5 (2022) and No. CM/Res (2023)3 (2023) of the Committee of Ministers of the Council of Europe.

Results

Energy security during war: challenges and environmental risks. The armed aggression of the Russian Federation against Ukraine, launched on February 24, 2022, has caused significant challenges to the state's energy security and created a complex of environmental risks that require immediate legal settlement. The energy infrastructure of Ukraine has become the target of systematic attacks by the aggressor, which has led to a critical disruption of the functioning of the energy system and large-scale environmental consequences that go beyond national borders. As of the beginning of 2025, as a result of massive rocket attacks and occupation of certain territories, more than 63,000 energy infrastructure facilities in Ukraine were damaged or destroyed (University of Leeds, 2025). Analysis of the targeting of such attacks shows the strategic nature of the use of energy infrastructure as a tool for waging war. According to the Ministry of Energy of Ukraine, during the three years of the war, the strikes led to the loss of approximately 10 GW of generating capacity and disabled all major thermal and hydroelectric power plants in the country (University of Leeds, 2025). This scale of destruction has created a critical threat to the state's energy security, depriving millions of citizens of access to electricity and heat.

The consequences for the population were particularly acute in the winter period of 2022-2023, when the intensity of attacks reached its maximum indicators. At the height of the attacks, Ukrainian consumers had to live in conditions of regular rolling blackouts, while the average household experienced approximately five weeks without electricity during the winter of 2022 (Ukrenergo, 2023). This situation required emergency measures to maintain power supply, including emergency synchronisation of the combined power system with the European network ENTSO-E (European Network of Transmission

System Operators for Electricity) (2022), prompt repair of networks and generation, and mass involvement of backup power sources.

The environmental consequences of the destruction of energy infrastructure form a separate category of threats, which are characterised by long-term impact and cross-border nature. Ensuring energy sustainability in times of war is accompanied by serious environmental risks and damages, which are a significant component of armed conflict, but are often ignored by international law and compensation mechanisms due to the complexity of their quantification and the long-term nature of the consequences. Unlike direct economic losses from the destruction of energy infrastructure, which are directly calculated, environmental damages include transboundary effects of air pollution, degradation of ecosystem services, and long-term health impacts that require specialised assessment methodologies and an interdisciplinary approach to documentation. Building an energy balance using renewable energy sources is becoming critical not only for ensuring energy security, but also for minimising long-term environmental risks, especially in situations of armed conflict, when conventional energy infrastructure becomes the object of targeted attacks (Hurochkina & Kohut, 2023). According to estimates of the Ministry of Environmental Protection and Natural Resources of Ukraine, as of November 2024, after 1,000 days of full-scale war, the total direct damage to the environment reached USD 71 billion. The total amount of greenhouse gas emissions caused by the war is 180 million tonnes of carbon dioxide, including emissions from fighting, forest fires, and an additional 3.3 million tonnes of CO₂ from the movement of more than six million Ukrainians to various European countries (Ministry of Environmental Protection and Natural Resources of Ukraine, 2024).

The spatial distribution of environmental damage shows a special concentration in regions

with a high density of industrial facilities. Approximately 30% of the territory of Ukraine is contaminated with unexploded mines and ammunition, and intense shelling, forest fires, deforestation, and leaks of toxic substances negatively affected 30% of the country's nature reserve fund (Hryhorczuk *et al.*, 2024). The situation is particularly critical in the Donetsk and Luhansk oblasts, where fighting has engulfed a region with a dense concentration of heavy industry and mines, which has led to anthropogenic environmental problems.

The flooding of coal mines in the occupied territories has created a long-term environmental threat on a regional scale. The cessation of water pumping at abandoned mines led to their flooding and the ingress of mine water saturated with heavy metals and salts into ground water and rivers. In 2019 alone, as a result of flooding of mines in the occupied Donbas, approximately 760 million m³ of contaminated water entered the Siverskyi Donets River and then the Sea of Azov, bringing almost 2.5 million tonnes of dissolved salts and other pollutants there. As of 2023, more than 49 flooded mines in the occupied territories have been documented, including mines containing particularly hazardous waste, including toxic chlorobenzene in the "Oleksandr-Zakhid" mine or even the remains of nuclear explosions in the "Yunkom" mine, where a nuclear charge was detonated in 1979 (Hryhorczuk *et al.*, 2024).

Nuclear safety is the most critical aspect of environmental risks in times of war. In March 2022, Russian troops seized Europe's largest Zaporizhia NPP (ZNPP), turning it into a military facility and repeatedly exposing it to the risk of shelling (Kaminski, 2023). During the occupation, the plant completely lost its external power supply at least seven times due to fighting, which forced it to rely on backup diesel generators to cool its nuclear reactors (International Atomic Energy Agency, 2025). The International Atomic Energy Agency (IAEA) has repeatedly warned that attacks

on ZNPP could lead to a nuclear accident with serious consequences, calling the situation "extremely dangerous" and one that has no precedent (Reuters, 2024). Any damage to the existing reactor or spent fuel storage facilities at ZNPP is fraught with radiation emissions, which will affect not only Ukraine, but also neighbouring states.

The destruction of oil and gas infrastructure has led to significant greenhouse gas emissions and air pollution. Targeted strikes on oil depots and refineries caused large-scale fires and emissions of combustion products. According to a study by the Greenhouse Gas Accounting Initiative, fuel burning as a result of attacks on oil storage facilities and refineries resulted in emissions of approximately 3.1 million tonnes of CO₂ equivalent during the first three years of the war (Planetary Security Initiative, 2025). The combustion of petroleum products was accompanied by emissions of toxic substances – sulphur oxides, nitrogen, and fine dust – which worsened air quality in large areas. The destruction of main gas pipelines had a cross-border environmental effect due to massive leaks of methane, a powerful greenhouse gas. In particular, explosions on gas pipelines, including sabotage on the Nord Stream gas pipeline in the Baltic Sea, led to a massive methane leak equivalent to 14 million tonnes of CO₂ emissions. In addition, damage to electrical substations caused leaks of technical gases and oils; in particular, the destruction of high-voltage equipment released approximately 1.1 million tonnes CO₂ equivalent of SF₆ into the atmosphere, with sulphur hexafluoride having a greenhouse potential tens of thousands of times higher than that of CO₂ (Planetary Security Initiative, 2025). Hydraulic infrastructure has been the target of particularly devastating attacks with catastrophic environmental consequences. The explosion of the Kakhovka HPP in June 2023 led to catastrophic flooding on the Dnipro River, flooding of dozens of settlements and agricultural land, and dehydration of the

Kakhovka Reservoir (Commission on Security and Cooperation in Europe, 2024). Approximately 1.25 million people, including 300 thousand children, in the southern regions lost stable access to drinking water after this anthropogenic accident (Hryhorczuk *et al.*, 2024). The flood washed away industrial and agricultural facilities along the riverbed, causing oil products, fertilisers, pesticides, and other pollutants to enter the water.

The overall impact of war on the environment was characterised by significant direct greenhouse gas emissions. Total direct greenhouse gas emissions due to the war over three years are estimated at 230 million tonnes of CO₂ equivalent, which is comparable to the annual emissions of

several medium-sized European countries (Planetary Security Initiative, 2025). Moreover, the collapse of the Ukrainian economy as a result of the war led to a drop in its regular industrial emissions by 23-26% in 2022 alone (Joint Research Centre, 2025). Thus, the war temporarily reduced anthropogenic pressure in the form of habitual industrial pollution, but instead added a new source of large-scale environmental damage – military energy destruction. A comprehensive monetary assessment of environmental external costs from military operations against energy infrastructure requires systematisation of heterogeneous categories of environmental damage to form an evidence base for compensation claims (Table 1).

Table 1. Inventory of key environmental external costs of the war in Ukraine

Impact category	Indicator	Value	Evaluation method	Monetary interpretation
Greenhouse gases (fighting + reconstruction)	Total emissions, Mt CO ₂ -eq	230	Social Cost of Carbon (185 USD/tonne)	≈USD 42.6 billion
Fires caused by war	Emissions, Mt CO ₂ -eq	49	SCC	≈USD 9.1 billion
Toxic precipitation after Kakhovka HPP explosion	Weight of sediments, tonnes	90,000	Hazardous waste disposal (≈350 USD/tonne)	≈USD 31.5 million
Construction waste and debris	Concrete volume, million tonnes	1,400	Unit cost 100 USD/tonnes	≈USD 140 billion
Contaminated/mined land	Share of territory, %	30%	UNMAS 3,000 USD/ha	≈USD 9-10 billion

Source: created by the author based on the US Environmental Protection Agency (2001), K. Rennert *et al.* (2022), D. Hryhorczuk *et al.* (2024), M. Igini (2025), D. Gayle (2025), The Washington Post (2025), University of Leeds (2025)

The inventory of environmental external costs structured in Table 1 reflects contemporary methodological approaches of environmental economics and international environmental law to a comprehensive monetary assessment of heterogeneous categories of ecosystem losses through the integration of direct costs for the elimination of pollution, indirect losses from the degradation of ecosystem services, and the opportunity cost of lost natural resources in a single monetary assessment system. The methodological substantiation for monetarisation of environmental damage

is based on a combination of market valuation methods for commodity resources, methods of declared benefits for intangible environmental benefits, and methods of replacement value for ecosystem services, which ensures the legal validity of compensation claims in international court proceedings. The differentiation of time horizons of environmental impact from short-term emissions to long-term consequences of resource degradation reflects the legal logic of distinguishing immediate compensation obligations and future recovery programmes, which correlates with the

international legal doctrine of dividing environmental responsibility into compensatory and restorative components. The integration of various data sources from national authorities to international institutions ensures verifiability of the assessments presented and creates a solid evidence base for substantiating claims for environmental damages in future legal proceedings against the aggressor state.

A strategy for ensuring energy security in war conditions should consider the complex nature of environmental challenges and integrate measures to minimise collateral damage to the environment. The need to simultaneously maintain the functioning of the power system through rapid network repairs, import electricity and distribution of backup power sources should be combined with prompt elimination of the consequences of accidents, pollution monitoring, and prevention of the most risky scenarios. Ukraine's experience demonstrates an urgent need for sustainable solutions, including the development of distributed generation and renewable energy sources that are less vulnerable to attacks, the creation of reserves and duplicate systems, the use of technologies for cleaning up emissions and rapid response to environmental incidents (Hryhorczuk *et al.*, 2024). Integrating environmental principles into strategic energy security planning not only minimises long-term environmental impacts, but also increases the resilience of the energy system to future threats. The establishment of legal mechanisms for such integration is a critical task for ensuring national security in the context of modern hybrid conflicts.

Comparative analysis: the impact of military conflicts on energy and the environment in Ukraine and the world. The nature of the destruction caused to Ukraine's energy infrastructure in February 2022 – January 2025 has no precedent in Europe over the past seventy years, but military conflicts in other regions of the world

have also been repeatedly accompanied by deliberate destruction of energy facilities and large-scale environmental consequences. Comparative analysis of such cases allows identifying spatial patterns and differences in the impact of war on energy security and the environment, and emphasising the uniqueness of the Ukrainian situation in terms of legal regulation and international responsibility. The spatial distribution of strikes on energy infrastructure in Ukraine is characterised by a comprehensive nature, which distinguishes this conflict from localised military operations in other regions. Attacks were carried out throughout the country, from the frontline to the western regions, creating critical challenges for national energy security. According to Ukrenergo, during the autumn-winter campaign of 2022-2023, Russian forces fired more than 1,200 missiles and drones at Ukrainian power facilities, purposefully trying to de-energise the entire country (Ukrenergo, 2023). Spatial analysis of these impacts shows that the central and northern regions suffered the most damage due to the location of powerful thermal power plants and distribution substations there. The Trypillia Thermal Power Plant near Kyiv was completely destroyed with the 100% loss of the generating capacity of Centren-ergo, and major thermal power plants in Kharkiv Oblast (University of Leeds, 2025). In the south, hydroelectric power plants were severely damaged, including the complete destruction of the Kakhovka HPP and damage to the Dnipro HPP. As of May 2024, it was officially confirmed that all major thermal and hydroelectric power plants in Ukraine were affected by the attacks, that is, not a single significant generation facility remained intact (University of Leeds, 2025).

The historical precedent of deliberate destruction of energy resources as a military strategy was observed during the 1991 Gulf War, when Iraqi forces used "burnt land" tactics against Kuwait's oil fields. During this conflict, the

Resolution of the United Nations Security Council No. 687 (1991) was applied, which established the principle of environmental responsibility for military operations and established the United Nations Compensation Commission (UNCC), but this mechanism was only partially effective due to lengthy procedures and political difficulties. Approximately 600 oil wells were set on fire, causing up to 5 million barrels of oil to burn daily for several months. The black smoke from these fires formed giant plumes that settled in an oily "black rain" over a vast territory. CO₂ emissions from the Kuwaiti oil fires accounted for approximately 2% of global emissions this year, and soot emissions reached 3,400 tonnes per day (Hobbs & Radke, 1992). This led to a sharp deterioration in air quality and the release of toxic substances on the soil in the Bay region, cases of acid rain and a decrease in air temperature under smoke clouds. Millions of barrels of crude oil spilled into the Persian Gulf, forming one of the largest oil slicks in history, destroying a significant part of marine biota. The international response to the environmental consequences of the Kuwait war has set an important precedent in international law on compensation for environmental damage. Under the auspices of the United Nations, a Special Compensation Commission was established, which ordered Iraq to pay record amounts for environmental damage. According to the Commission's decisions, more than USD 5 billion in compensation was allocated for environmental recovery projects, which has become a precedent in international law (Farber, 2022). Kuwait's experience has shown that the large-scale destruction of energy resources in war is transboundary in nature, since atmospheric and marine pollution knows no borders, and the restoration of the environment requires enormous efforts and resources even after the end of hostilities.

The use of energy facilities as an instrument of environmental terrorism was observed during

the conflict with the so-called "Islamic State" in Iraq. In this case, international legal instruments were ineffective due to the lack of a state subject of responsibility and insufficient international coordination, which limited the use of conventional compensation mechanisms. In 2016, retreating militants blew up oil wells near the city of Qayyarah, causing 25 oil fountains to burn uncontrollably for 9 months, covering an entire area with thick smoke (The Washington Post, 2018). Up to 2 million barrels of oil were lost, which led to contamination of soils and groundwater with oil and its combustion products. In the region, the incidence of respiratory and cardiovascular diseases has sharply increased, cases of livestock deaths and crop failures due to soot and toxins have been recorded. Simultaneously, militants set fire to a large sulphur storage plant, which released approximately 35,000 tonnes of sulphur dioxide into the atmosphere, forming acidic compounds that affected people and the environment within a radius of tens of kilometres (The Washington Post, 2018).

The European experience of military influence on industrial and energy facilities is represented by the case of the bombing of Yugoslavia in 1999, when NATO forces hit a petrochemical plant and an oil refinery in the city of Pančevo. Despite the creation of special mechanisms for assessing damage under the auspices of UNEP, the compensation process was ineffective due to political differences between the parties to the conflict and the lack of mandatory mechanisms for implementing decisions. Explosions at these sites formed a huge black cloud of smoke and caused tens of thousands of tonnes of toxic chemicals to be released into the environment (Poolos, 2002). Tens of thousands of tonnes of oil burned out and flowed into the Danube River during these strikes. Concentrations of vinyl chloride, dioxins, mercury, and other hazardous substances that threaten public health and transboundary pollution of the

Danube basin have sharply increased in the air and water around Pančevo. Over the following years, independent experts recorded an increase in the level of diseases of the respiratory and endocrine systems in the population of this region, and groundwater remained polluted for tens of kilometres around. The UN assessment identified Pančevo as the “hottest point” of environmental damage among several industrial accident sites in Yugoslavia, but the problem of complete cleaning up of these areas has not been solved even three years after the conflict (Poolos, 2002).

The global impact of the war in Ukraine on the energy processes and environmental policies of other states creates additional challenges for the international community. A full-scale war has triggered a global energy crisis, forcing European countries to urgently abandon Russian oil and gas, seek alternative supplies, and even temporarily return to coal for electricity generation (Kaminski, 2023). Germany and some other European Union states, such as Austria and the Netherlands, temporarily restarted coal-fired power plants in 2022 to compensate for gas shortages, which led to a short-term increase in CO₂ emissions. The European Union has accelerated investment in renewable energy and energy efficiency to reduce dependence on fossil fuels and improve the sustainability of energy supply.

The transformation of the Ukrainian energy strategy under the influence of military operations demonstrates the acceleration of energy reform processes. Despite the military destruction, the government of Ukraine in 2023 adopted an updated energy strategy of Ukraine until 2050, which provides for deep decarbonisation and integration into the European energy space (United Nations Committee on the Elimination of Racial Discrimination, 2024). The war actually accelerated energy reform processes by synchronising the grid with the continental European grid in record time, increasing incentives for renewable

energy development, and designing a more decentralised energy system. Spatially, this means moving from a concentration of generation in several large nodes to dispersed capacities across the country, closer to the consumer, which simultaneously increases energy sustainability and reduces environmental risks. The transboundary nature of the environmental consequences of the war in Ukraine is manifested through air, water, and soil pollution, which is not limited to national borders. Fires at oil depots and industrial facilities released toxic substances that were transported by atmospheric flows to neighbouring countries, in particular, an increase in the level of fine dust and sulphur was recorded in the border areas of Poland and Moldova during intense shelling of fuel depots in Ukraine at the end of 2022. Pollution of the Black Sea as a result of fighting due to oil leaks and flooding of military equipment has affected marine ecosystems from the coast of Romania to Turkey, causing a mass death of dolphins, which scientists recorded in 2022.

Comparative analysis shows that the Ukrainian experience of the energy crisis during the war, although unique in scale and nature, confirms the general pattern of using energy infrastructure as a strategic goal in military conflicts. Spatial analysis of the consequences shows that regions with a high concentration of energy facilities suffer the most intense environmental impact, while nature recovers more slowly than infrastructure. If the energy system can be rebuilt in a few years, then land and water purification from pollution requires much more time and resources, which makes it necessary to develop effective legal mechanisms for liability and compensation for environmental damage. Systematisation of the experience of various military conflicts in the field of destruction of energy infrastructure and their environmental consequences allows identifying typological patterns in the application of international legal instruments of compensation (Table 2).

Table 2. Comparative matrix of international precedents

No.	Conflict (year)	Energy facilities/target	Quantitative damage	Responsible entity	International legal response	Compensation mechanism	Payment amount/status
1	Gulf War (1991)	≈600 oil wells set on fire	>1 Gt CO ₂ -eq	Iraq	UN SECURITY COUNCIL 687 (1991)	UNCC	USD 5.26 billion awarded, 4.97 billion paid
2	Lebanon-Israel conflict (2006)	Jiyeh TPP: 15-30 thousand tonnes of fuel oil	170 km of coast, 15-30 thousand tonnes of oil	Israel	UN GA 60/222; UNEP PCA	Eastern Med. Oil Spill Trust Fund	USD 856 million declared, no payments
3	ISIS retreat (Iraq/Syria, 2016)	19-40 ignited wells (Qayyarah)	≈2 million barrels; smoke for 9 months	ISIS	UNEP post-conflict reports	—	—
4	Russian aggression against Ukraine (2022-24)	63,000 damaged power facilities, strikes on TPPs/HPPs	230 Mt CO ₂ -EQ; 49 Mt CO ₂ -eq of fires	Russian Federation	UN GENERAL ASSEMBLY ES-11/5 (2022)	Register of Damage for Ukraine (2024)	Collection of applications continues

Source: created by the author based on E. Cusato (n.d.), E. Pianin (2003), C. Payne (2005), J. Arbid (2015), UN Environment Programme (2016), NASA Earth Observatory (2017), S. van den Berg (2024), World Bank Group (2025), M. Igini (2025), D. Gayle (2025)

The presented comparative matrix in Table 2 demonstrates the evolution of international legal approaches to resolving the environmental consequences of military operations against energy infrastructure, revealing a fundamental transformation from a fragmentary response to systemic compensatory mechanisms with an expansion of the subject composition of liability and the subject coverage of losses. The analysis of the chronological sequence of conflicts shows the development of case law in the field of environmental compensation, where the Kuwaiti experience has created a basic model for assessing and compensating environmental damage through specialised international institutions, the Yugoslav precedent has expanded the understanding of the transboundary nature of environmental damage from military operations, the Iraqi case has demonstrated the complexity of documenting environmental consequences in a prolonged conflict, while the Ukrainian situation actualises the need to create

new legal instruments to resolve the consequences of systematic targeted destruction of critical energy infrastructure as a method of warfare. A comparative analysis of the mechanisms of international legal response confirms the tendency to strengthen institutional support for environmental responsibility, while the effectiveness of compensation procedures correlates with the level of international political support and the availability of mechanisms for enforcement of decisions.

Legal mechanisms for minimising and compensating energy and environmental losses during the war. Large-scale destruction of the environment as a result of military operations against energy facilities requires a comprehensive legal response, covering both measures to prevent and reduce damage, and mechanisms for bringing those responsible to justice and compensating for the damage caused. In the context of the war in Ukraine, this issue has become critical due to environmental damage and the need

to develop effective legal tools to protect the environment from military impacts of an energy nature. International humanitarian law forms the basic regulatory framework for limiting the devastating impact of war on the environment through a system of prohibitions and restrictions on the methods of warfare. Protocol I Additional to the Geneva Conventions (1977), Article 35(3), explicitly prohibits the use of methods of war that result in large-scale, long-term and serious damage to the natural environment. Article 55 of this protocol obliges belligerents to protect the natural environment from mass destruction during a conflict, requiring that the environmental factor be considered when choosing the means of attack. However, the practical effectiveness of these provisions is limited by the high criteria for proving the “scale, duration and severity” of environmental damage, which creates significant obstacles to their application in specific judicial procedures.

The development of international legal approaches to environmental protection during armed conflicts has received a new impetus as a result of the Ukrainian crisis. In December 2022, the UN General Assembly approved the special Protection of the Environment in Relation to Armed Conflicts (PERAC) prepared by the International Law Commission (Kaminski, 2023). These 27 principles create a comprehensive system of measures at all stages of the conflict: from the obligation of states to conduct a preliminary assessment of the environmental consequences of hostilities to recommendations for the restoration of the environment after the end of hostilities. Although the PERAC principles have the status of “soft law” and do not create direct legal obligations, their unanimous adoption at the UN represents the largest update of legal approaches in this area in the last fifty years (Kaminski, 2023). Experts see these guidelines as a tool to increase the priority of environmental protection during war and encourage states

to integrate environmental considerations into military planning.

The national legislation of Ukraine contains a developed system of norms of criminal liability for environmental destruction in war conditions, which allows for effective prosecution of environmental crimes. Section 8 of the Criminal Code of Ukraine “Crimes against the environment” establishes a comprehensive system of punishments for environmental offences, including articles 236-254, which cover violations of environmental safety rules, pollution of atmospheric air, water, land, destruction of plant life objects, and other environmental crimes. Article 438 of the Criminal Code of Ukraine “War crimes” provides legal grounds for bringing to justice for the destruction of the environment during military operations, if it is the result of illegal methods of warfare, in particular, attacks on civilian infrastructure with a known environmental effect (Criminal Code of Ukraine, 2001). Code Article 441 on ecocide, which criminalises intentional actions aimed at mass destruction of plant or animal life, poisoning of the atmosphere or water resources, and other actions that can lead to an environmental catastrophe. The Office of the Prosecutor General of Ukraine (2024) created a specialised unit for documenting war crimes against the environment, which as of 2023 registered more than 6,500 facts of crimes against nature committed during Russian aggression. Among these acts, a special place was occupied by explosions of oil depots, shelling of chemical enterprises, destruction of forests, flooding of mines, and the explosion of the Kakhovka HPP, which are being investigated as possible deliberate ecocidal activities. The qualification of the destruction of the Kakhovka Dam as an ecocide is an important precedent in national judicial practice. In June 2023, Ukrainian law enforcement agencies officially qualified this act as an ecocide, considering the large-scale long-term consequences for the ecosystems of the

Lower Dnipro and the Black Sea (Commission on Security and Cooperation in Europe, 2024). This qualification creates a legal basis for bringing to justice specific military commanders and officials of the Russian Federation, and forms the evidence base for future international judicial procedures.

The regulatory framework of Ukraine demonstrates the evolution of approaches to integrating environmental principles into strategic planning of energy security, which is becoming critical for ensuring the long-term sustainability of the state in the conditions of martial law and post-war reconstruction. Approval by the Cabinet of Ministers of Ukraine of the National Action Plan on renewable energy for the period up to 2030 (Order of the Cabinet of Ministers of Ukraine No. 761-r, 2024) lays down a comprehensive system of legal mechanisms for the transformation of the energy sector by setting an ambitious target for the share of renewable energy sources in gross final energy consumption at 27% by 2030, with the simultaneous development of distributed generation with a capacity of more than 2,000 MW and the creation of energy storage facilities with a capacity of 1,000 MW. The conceptual foundations of this transformation are reflected in the previous energy strategy of Ukraine for the period up to 2035 (Order of the Cabinet of Ministers of Ukraine No. 605-r, 2017), which, despite losing force in April 2023, laid the foundation for understanding the need to diversify energy sources and reduce dependence on imported energy carriers. Simultaneously, the environmental component of energy policy received institutional support through the National Waste Management Strategy in Ukraine until 2030 (Resolution of the Cabinet of Ministers of Ukraine No. 392, 2020), which established the principles of a circular economy for the development of bioenergy with the potential to produce up to 2 billion cubic metres of biogas annually and replace 15% of natural gas consumption in the municipal sector.

An integrated approach to environmental constraints for traditional energy is embodied in the national plan to reduce emissions from large combustion plants (Order of the Cabinet of Ministers of Ukraine No. 1363-r, 2021), which provides for the gradual decommissioning or modernisation of 40% of the capacity of thermal power plants until 2033, while simultaneously stimulating the development of clean electricity production technologies, which creates a legal mechanism for the fundamental transformation of the structure of the energy balance of Ukraine in favour of environmentally friendly technologies.

The strategic vector of development based on the principles of sustainable development is conceptualised in the current energy strategy of Ukraine for the period up to 2050 (Order of the Cabinet of Ministers of Ukraine No. 373-r, 2023), which defines the achievement of climate neutrality in the energy sector by 2050 with interim goals of reducing greenhouse gas emissions by 65% by 2030 compared to the level of 1990, which requires a radical restructuring of the energy system through the integration of environmental principles into all aspects of energy policy. National environmental strategy of Ukraine for the period up to 2030 (Order of the Cabinet of Ministers of Ukraine No. 761-r, 2021) complements this approach by establishing specific mechanisms for coordinating environmental regulation and energy policy, including the development of integrated systems for monitoring environmental risks from energy infrastructure and implementing preventive measures to minimise potential damage during emergencies. The synergistic effect of combining these regulations creates a comprehensive system of legal instruments for ensuring energy security based on environmental sustainability, which meets contemporary challenges of hybrid conflicts and the need to form energy systems that are resistant to external threats.

Administrative and legal mechanisms for assessing environmental damage in Ukraine have undergone significant reform through the introduction of specialised institutional and methodological tools to ensure effective documentation of environmental damage as a result of Russian aggression. The Ministry of Environmental Protection and Natural Resources of Ukraine has developed and approved a number of specialised methods for calculating losses, in particular “Methodology for determining the amount of damage caused to land, soils as a result of emergencies and/or armed aggression and military operations during martial law” (Order of the Ministry of Environmental Protection and Natural Resources of Ukraine No. 167, 2022) and “Methodology for calculating unorganised emissions of pollutants or mixtures of such substances into the atmospheric air as a result of emergencies and/or during martial law and determining the amount of damage caused” (Order of the Ministry of Environmental Protection and Natural Resources of Ukraine No. 175, 2022), which allow estimating the losses from air, water, land pollution and forest destruction as a result of military operations in monetary terms. To systematise the collected data, the digital platform “Ecozagroza” was created, which in December 2022 officially became part of the unified national online platform “EcoSystem” and functions as a centralised database on the environmental consequences of Russian aggression, through which Ukrainians reported to the ministry approximately more than 2.2 thousand facts of the impact of military operations on the environment (Ministry of Environmental Protection and Natural Resources of Ukraine, 2022). These methodological tools facilitate a unified approach to documenting damages and provide the necessary evidence base for future claims for compensation at the national and international levels, which is critical for the implementation of the “polluter pays” principle in international litigation and the

establishment of comprehensive compensation mechanisms within the framework of post-war reconstruction based on sustainable development.

International liability and compensation mechanisms play a crucial role in ensuring compensation for environmental damage, since the scale of damage caused by the war in Ukraine significantly exceeds the capabilities of national jurisdiction. Ukraine has initiated appeals to several international courts to protect its rights and interests. The case application of the International Convention on the Elimination of all Forms of Racial Discrimination (Ukraine v. Russian Federation) (International Court of Justice, 2024), in which Ukraine proves that the chronic water crisis, the destruction of protected areas, and other environmental consequences of the occupation of Crimea disproportionately harm Crimean Tatars and ethnic Ukrainians, forming a manifestation of “environmental racism”. This statement is based on Article 5 e (IV) of the CERD, as the United Nations Committee on the Elimination of Racial Discrimination (2023; 2024) interprets it as a guarantee of the right to a healthy environment and recognises the impact of “environmental racism” on vulnerable groups. The Court’s ability to award reparations for environmental damage has already been confirmed by decisions in *Costa Rica V. Nicaragua* (2018) and *Argentina v. Uruguay* (2006). In addition, the advisory opinion of the ICJ of 23 July 2025 on the climate obligations of states confirmed that serious pollution or degradation of the environment can constitute an internationally wrongful act (Shah, 2025; International Court of Justice, 2025). The combination of these precedents creates a procedural bridge to the national qualification of ecocide provided for in Article 441 of the Criminal Code of Ukraine (2001), and demonstrates that international law allows effectively holding offending states accountable for large-scale degradation of ecosystems during war.

The creation of a special international compensation mechanism is considered by the international community, including the Council of Europe, the European Union, and more than 40 partner states, as the most promising area for ensuring compensation for environmental damage. UN General Assembly Resolution No. ES-11/5 (2022), which recognised Russia's responsibility for aggression and recommended the creation of a damage register to document evidence of damage, losses, and damage caused by the war. The resolution laid the political and legal basis for further institutional steps towards the establishment of a compensation mechanism. Practical implementation of the compensation mechanism began in May 2023 with the creation under the auspices of the Council of Europe of the International Register of Damage caused by aggression against Ukraine, which was joined by more than forty countries and the European Union (Council of Europe, 2023; Council of Europe & RF4U, 2024; Justice Info, 2024). The mandate of the International Register of Damage covers the collection and storage of information on all cases of damage, including property, environmental and human damages, which can then be used to review compensation claims. According to the official data of the Register (Register of Damage, 2024). The total amount of compensation sought by the applicants for the applications received reaches EUR 1,012 billion, while for the recorded applications this amount is EUR 184 million. The categories of applications explicitly include category B3 "Damage to the environment and natural resources", which includes B3.1 "Environmental damage" and B3.2 "Looting and/or appropriation of natural resources", which provides a comprehensive approach to documenting the environmental consequences of war.

Procedure for submitting applications to the Register of Damage established by the Resolution

of the Committee of Ministers of the Council of Europe No. CM/Res(2023)3 (2023), defined by the document "Rules Governing the Submission, Processing, and Recording of Claims". Applicants can be individuals and legal entities, and the State of Ukraine, and the submission is made exclusively in electronic form through the Diia portal. For category B3 "Damage to environment and natural resources", in particular subcategory B3.1 "Environmental damage", only the State of Ukraine, including its regional and local authorities, has the right to submit claims. The form for submitting such claims requires a detailed description of the nature of the damage, its causal relationship with military operations, the method of calculating the damage, and a digitised evidence package that provides thorough documentation of the environmental consequences of aggression.

The financing of the compensation mechanism remains a key issue of international legal settlement. Ukraine and a number of partner states insist on using frozen Russian assets, including approximately USD 300 billion of the Russian Federation's gold and foreign exchange reserves seized abroad. Currently, the search for legal ways to legally allocate these funds for the restoration and environmental reclamation of Ukraine continues. An alternative approach is to create an international fund with contributions from partner states or collect reparations from the Russian Federation under a future peace treaty. The "polluter pays" principle, where the aggressor state acts as the subject of responsibility, is at the heart of all these approaches (Farber, 2022).

Kuwait's precedent demonstrates the possibility of a broad interpretation of compensatory obligations in the field of environmental damage. The UN Compensation Commission recognised not only direct environmental damage, but also "loss of ecosystem services", including the cost of reforestation, water treatment, and restoration of wetlands instead of those destroyed by oil spills

(Farber, 2022). Ukraine plans to apply a similar approach, calculating compensation both to cover direct costs for mine clearance, clearing of territories and restoration of nature reserves, and to compensate for long-term environmental losses from disruption of natural processes.

The development of the concept of ecocide as an international crime has become critical under the influence of the environmental consequences of the war in Ukraine. In 2021, an independent expert panel of lawyers chaired by Philippe Sands proposed a draft definition of ecocide for inclusion in the Rome Statute of the International Criminal Court; however, this draft remains under discussion by states parties, with no consensus yet reached: “widespread or long-term and severe damage to any element of the environment, committed knowingly and without lawful justification” (Sands & Fall Sow, 2021). The adoption of such a ruling would give the International Criminal Court jurisdiction to prosecute those responsible for such acts. Within its existing jurisdiction, the International Criminal Court may consider environmental aspects as aggravating circumstances of war crimes. The deliberate destruction of civilian facilities resulting in a spill of dangerous substances can qualify as a war crime due to an attack on civilian infrastructure combined with illegal methods of warfare. Ukraine has submitted to the International Criminal Court an official report on the destruction of the Kakhovka Hydroelectric Power Plant as part of the investigation into the situation in Ukraine (ICC, 2023), as this act is considered as a possible war crime that caused civilian deaths and mass destruction of the environment.

Legal management of environmental damage recovery includes the development of specialised programmes and funds to help affected countries in post-conflict environmental recovery. The United Nations Environment Programme has assessed and coordinated the cleaning of contaminated

areas in the Balkans and Kuwait, and is currently engaged in similar work in Ukraine. A special fund platform “Green Restoration of Ukraine” was created together with the European Union to finance projects on forest restoration, water purification, renewable energy development, and other environmental initiatives during and after the war (Hryhorczuk *et al.*, 2024). The application of the principle of “restorative justice” provides for forcing the guilty party to carry out environmental rehabilitation with their own funds instead of simple monetary compensation. In a potential peaceful settlement with the Russian Federation, Ukraine will insist on including an environmental component due to the aggressor’s obligations to provide technical and financial assistance for the elimination of oil spills, the management of hazardous war waste, and the restoration of the nature reserve fund, which was affected by 30% (Hryhorczuk *et al.*, 2024). This approach is consistent with Ukraine’s European aspirations, as the implementation of the environmental sections of *acquis communautaire* will require the restoration of water, air, and soil quality standards, which is directly related to the elimination of the consequences of the war.

Legal mechanisms for ensuring energy security in war conditions should be considered in an indissoluble connection with environmental safety due to the need to balance military necessity and preserve the environment. Ukraine puts this philosophy in its strategic documents, proclaiming the principles of sustainability and greening as one of the priorities of the post-war reconstruction plan. International law is in the process of transformation under the influence of Ukrainian events due to the resumption of discussions on strengthening responsibility for ecocide and the creation of more effective compensation institutions. An objective legal approach to solving environmental problems of war includes professional damage assessment, proper documentation,

bringing the perpetrators and the aggressor state to justice, and mobilising international support for environmental restoration as necessary conditions for ensuring full-fledged energy security with a restored and protected energy system and a restored natural environment (Hryhorczuk *et al.*, 2024; Commission on Security and Cooperation in Europe, 2024). The synergistic effect of the combination of energy and environmental legal mechanisms creates the basis for the establishment of a new paradigm of national security focused on sustainable development. The successful implementation of Ukraine's energy strategy until 2050 requires the integration of sustainable development principles into all aspects of energy policy, including legal support for the transition to a climate-neutral energy sector, while simultaneously achieving the goals of reducing greenhouse gas emissions by 65% by 2030 compared to the level of 1990 (Hurochkina & Kohut, 2023). This conceptual integration opens up prospects for the development of comprehensive legal instruments that can ensure the long-term resilience of the state to energy and environmental threats in future conflicts.

Discussion

The results of the study demonstrate a fundamental transformation of approaches to ensuring energy security in the context of modern military conflicts, confirming the need to integrate environmental principles into strategic planning of national security. The identified patterns are consistent with the theoretical study by M. Radulescu *et al.* (2024), who investigated the impact of environmental regulation, energy efficiency, and green technologies on CO₂ emissions in Chinese provinces, and emphasised the importance of investigating the relationship between environmental regulation and energy security to ensure sustainable development. The identified regional differences and spatial dependence in energy

security correlate with the conclusions of Chinese researchers about the variability of the impact of environmental regulation depending on the degree of fiscal decentralisation and marketability, but the Ukrainian experience demonstrates a fundamentally different context for applying these principles due to military necessity.

The identified patterns complement the study by W. Leal Filho *et al.* (2024), which included a systematic analysis of the environmental consequences of the Russian invasion of Ukraine, emphasising the uniqueness of the Ukrainian situation due to the combination of high density of energy infrastructure with systematic attacks. The researchers noted that the war in Ukraine illustrates the dangers that arise from conflict in an urbanised landscape that is significantly modified by human activity and requires active environmental risk management. The established correlation between the nature of military operations and environmental consequences confirms the thesis that modern conflicts in industrialised regions create fundamentally new challenges for international law and environmental policy. The theoretical foundations of sustainable development were empirically confirmed in the analysis of Ukraine's energy transformation conducted by C. Winkler *et al.* (2024), who formulated criteria for restoring energy systems after large-scale destruction: rapid reconstruction of infrastructure, increasing resistance to external threats, minimising import dependence, and reducing the environmental burden. The introduction of these principles into the practice of compensation mechanisms creates opportunities for achieving the double effect of restoring destroyed infrastructure and modernising the energy system in accordance with the principles of sustainability. The documented transition to the use of renewable energy sources under martial law confirms the possibility of transforming crisis challenges into catalysts for structural change, and the use

of high-quality solar technologies demonstrates the practical implementation of the concept of energy security through source diversification and reduction of dependence on centralised systems.

The established direct correlation between the effectiveness of compensation procedures and the level of international political support was confirmed by B. Steffen *et al.* (2020), who analysed the navigation of the energy transition in the context of global crises. The researchers stressed the need for a coordinated approach to achieving energy security and environmental protection goals through adaptive policies that can withstand economic shocks. The researchers noted that energy policies should simultaneously consider short-term crisis response challenges and long-term decarbonisation goals. In particular, the results found that in military conditions, such coordination becomes critically necessary to prevent a long-term environmental catastrophe with transboundary consequences. The identified mechanisms for integrating environmental and energy principles into strategic planning confirm the concept of shock-resistant policies, according to which energy solutions should be adaptive to crisis circumstances and ensure structural changes in the energy system. The transformation of legal mechanisms from a fragmented response to systemic compensation institutions is consistent with research by A. Boute (2022) on the role of international law in ensuring energy security in the new geopolitical reality. The researcher analysed how the tools of energy trade liberalisation and investment protection contributed to the creation of dangerous dependencies that are now at the centre of threats to energy security. A. Boute (2022) stressed that international energy, trade, and investment law should be reformed to allow states to respond adequately to the use of energy as a weapon without neutralising the contribution of liberalising instruments to efficient energy supply. The results of the study extend

this concept, showing that contemporary hybrid conflicts require fundamentally new legal instruments that would cover not only conventional aspects of energy security, but also comprehensive environmental responsibility. The observed evolution of legal regulation in the context of renewable energy creates new opportunities to simultaneously reduce geopolitical risks and environmental threats.

Documented 230 million tonnes of CO₂-equivalent of direct greenhouse gas emissions due to war-correlate with the results of Q. Wang *et al.* (2024) on the impact of geopolitical risks on the energy transition. Chinese researchers have found that geopolitical risks have a significant positive impact on the energy transition, especially in the face of increased environmental regulation and green innovation development. The results of the study revealed a paradoxical situation where war simultaneously creates large-scale environmental damage and accelerates energy transformation due to the need for rapid synchronisation with European networks and the development of distributed generation. The established non-linear relationship between geopolitical risks and energy transition at different levels of environmental regulation confirms the thesis that stronger green innovation enhances the role of geopolitical risks in promoting energy transformation. The analysis of international precedents shows that effective provision of national security in crisis conditions requires a systematic approach to economic and legal instruments. The study by Y. Kuchmak *et al.* (2024) argued that economic security is a critical component of national security, directly affecting the stability of state development. The researchers identified nine key structural components of Ukraine's economic security: industrial, demographic, energy, foreign economic, investment and innovation, macroeconomic, food, social and financial security. Special attention should be paid to the researchers' conclusion that it is

necessary to strengthen the legal framework and ensure transparency of the financial environment as a basis for overcoming systemic problems. The findings on environmental compensation mechanisms extend this conceptual framework, integrating the environmental component into the overall national security system and reaffirming the importance of international cooperation to effectively address cross-border challenges.

The development of the concept of ecocide as an international crime is consistent with the study by D. Liu (2021) on the creation of environmental damage assessment systems and compensation mechanisms. D. Liu (2021) established a system for estimating the cost of compensation for environmental damage caused by air pollution with an accuracy of 92.3% and a confidence level of 95%. The established high consistency between the developed assessment models and the actual situation confirms the feasibility of applying integrated approaches to quantification of environmental damage. The transboundary nature of the environmental impacts of war complements the research by M. Nevitt (2024) on the relationship between energy security, climate, and military conflicts. The researcher analysed how Russian aggression against Ukraine has created an “environmental war” with far-reaching consequences for long-term progress in the field of environment, energy, and climate security. M. Nevitt (2024) emphasised that the war has had a significant impact on global energy markets, as Europe has finally severed its energy ties with Russia and accelerated the transition to renewable energy. Documented cases of Black Sea pollution and atmospheric transfer of toxic substances to neighbouring countries confirm the thesis that the environmental consequences of military conflicts are not limited to national borders and require a coordinated international response. The identified positive effects of renewable energy consumption and investment in green

technologies correlate with the author’s conclusions that the Russian-Ukrainian crisis creates a unique opportunity to accelerate international decarbonisation and climate efforts.

The established need to integrate environmental principles into strategic planning of energy security finds theoretical substantiation in interdisciplinary research on risk management. The results develop the concept, demonstrating that in the context of contemporary hybrid conflicts, the environmental component becomes not an additional factor, but the basis for ensuring the long-term sustainability of energy systems. The identified effectiveness of the creation of specialised compensation mechanisms confirms the importance of institutional support for environmental responsibility and demonstrates the evolution from ad hoc mechanisms to systematic approaches with expanded mandates. The documented transformation of the Ukrainian energy strategy demonstrates the practical implementation of theoretical concepts of energy and environmental policy integration through accelerated synchronisation with the European network and focus on the development of renewable energy sources.

Conclusions

The study conducted a systematic analysis of the environmental consequences of the destruction of Ukraine’s energy infrastructure due to Russian aggression, based on official statistical data covering over 63,000 damaged energy facilities, losses of approximately 10 GW of generating capacity, and an assessment of total environmental damages exceeding USD 56.4 billion. Key cases of environmental harm were examined in detail, including the destruction of the Kakhovka Hydroelectric Power Plant, the flooding of mines in occupied territories, and attacks on the Zaporizhzhia Nuclear Power Plant. A thorough comparative analysis of international precedents of military influence on energy systems was carried out, covering

the conflicts in the Persian Gulf with the arson of 600 oil wells, the bombing of Yugoslavia with the destruction of industrial facilities, and the conflict with ISIS in Iraq, which allowed identifying typological patterns and the evolution of the use of international legal instruments to compensate for environmental damage. The paper examined the transformation of legal mechanisms for minimising and compensating energy and environmental losses from a fragmented response through ad hoc tribunals to the establishment of systemic compensation institutions with expanded mandates. The paper analysed the development of the concept of ecocide as an international crime and the creation of specialised compensation mechanisms, in particular, the International Register of Damage under the auspices of the Council of Europe with the participation of more than forty countries. There is a critical need to integrate environmental principles into strategic energy security planning through the development of distributed generation, renewable energy sources and technologies for rapid response to environmental incidents to ensure the sustainability of energy systems to future threats.

The results of the study revealed systemic patterns of environmental consequences of military operations against energy infrastructure through the creation of a five-category classification of losses with a monetary estimate of more than USD 200 billion, including greenhouse gases from military operations (USD 42.6 billion), fires (USD 9.1 billion), toxic sediments (USD 31.5 million), construction waste (USD 140 billion) and contaminated land (USD 9-10 billion). A comparative analysis of the four international conflicts established an evolutionary transformation of compensation mechanisms from the successful Kuwaiti precedent with 94% of the funds compensated (USD 4.97 billion out of USD 5.26 billion) to the ineffective Lebanese-Israeli mechanism without any payment, which confirmed the critical

dependence of effectiveness on the level of international political support. The study of the national legal response of Ukraine revealed the creation of specialised institutional mechanisms, including the registration of more than 6,500 environmental crimes through the GPU division and the qualification of the explosion of the Kakhovka HPP as an ecocide, which is an important precedent in international judicial practice. The establishment of innovative legal instruments at the international level through the adoption of 27 UN PERAC principles and the creation of an International Register of Damage under the auspices of the Council of Europe, with an anticipated 6-8 million claims, demonstrated an institutional transformation from fragmented responses to systemic compensation mechanisms with expanded mandates for energy-environmental damages.

The study has some limitations related to the incompleteness of official statistical information on the long-term environmental consequences of war and limited access to documents of the occupied territories, which could provide a more accurate assessment of environmental damage from flooded mines and industrial facilities. Promising areas of further research are the development of specialised methodologies for assessing ecosystem losses from military operations, analysis of the effectiveness of innovative financial mechanisms for compensating environmental losses, and research of legal aspects of using frozen assets of the aggressor state for environmental restoration of affected territories.

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Conflict of Interest

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Стратегія енергетичної безпеки в умовах воєнного стану: екологічні ризики та напрями їх правового врегулювання

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Анотація

Метою роботи було обґрунтування правових механізмів забезпечення енергетичної безпеки в умовах воєнного стану з урахуванням екологічних ризиків для формування комплексної стратегії, орієнтованої на сталий розвиток. Дослідження здійснювалось із застосуванням системно-структурного, компаративного, формально-юридичного та історико-правового методів. У ході дослідження систематизовано екологічні наслідки руйнування енергетичної інфраструктури України внаслідок російської агресії через розробку комплексної методології оцінки енергетично-екологічних збитків в умовах воєнного стану. Створено класифікацію екологічних витрат війни за п'ятьма категоріями з монетарною оцінкою загальною вартістю понад 200 мільярдів доларів Сполучених Штатів Америки: парникові гази від бойових дій та реконструкції становлять 42,6 мільярда доларів, пожежі спричинені війною – 9,1 мільярда доларів, токсичні осадки після підриву Каховської гідроелектростанції – 31,5 мільйона доларів, будівельні відходи та уламки – 140 мільярдів доларів, забруднені та заміновані землі – 9-10 мільярдів доларів. Проведено порівняльний аналіз впливу воєнних конфліктів на енергетичні системи у чотирьох регіонах світу, який виявив еволюційну трансформацію компенсаційних механізмів від успішного кувейтського прецеденту з 94 % виплаченими коштами до неефективних сучасних механізмів без жодної виплати, що підтвердило критичну залежність результативності від рівня міжнародної політичної підтримки. Створено порівняльну матрицю міжнародних прецедентів, яка продемонструвала еволюцію міжнародно-правових механізмів від фрагментарного реагування до системних компенсаційних інститутів з розширенням суб'єктного складу відповідальності. Виявлено типологічні закономірності застосування міжнародно-правових інструментів компенсації, зокрема встановлено пряму кореляцію між ефективністю компенсаційних процедур та рівнем міжнародної політичної підтримки. Результати дослідження концептуалізували формування нової парадигми національної безпеки, що базується на синергетичному поєднанні енергетичних та екологічних правових механізмів у контексті сталого розвитку

Ключові слова: екоцид; компенсаційні механізми; міжнародне гуманітарне право; екосистемні втрати; парникові гази; відновлювальне правосуддя



Quality of legislation as a factor of green financing: A regulatory approach

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Abstract

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The purpose of the study was to provide a theoretical explanation of the relationship between regulatory characteristics and the parameters of green finance flows. The methodology was based on an integrated approach that combined regulatory and comparative legal methods. It was shown that predictable, consistent, and stable regulation enhances capital mobilisation for environmental projects in developing countries, and green finance

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appears as a special regime of sustainable finance with targeted use of funds and enhanced reporting and verification. International taxonomies, disclosure standards, and green bond principles provide the infrastructure to limit greenwashing, while the gap between climate investment needs and actual flows can be explained by the impact of legal environment characteristics on regulatory risk and cost of capital. The Bangladesh and Indonesia case studies have shown that mandatory requirements with clear goals and reporting encourage green assets, while fragmented norms hinder the transformation of the financial sector. China and the United States of America demonstrated different models: a comprehensive taxonomy and coordinated regulation against the decentralised regulatory architecture of green banking. Ireland and Estonia illustrated how the implementation of European Union acts and coordination of institutions increase certainty and transparency. The level of green financing is concentrated: in 2021-2023, global flows amounted to approximately USD 1.3 trillion per year, and more than 60% of green bond issuance is concentrated in jurisdictions with formalised taxonomies and disclosure requirements. Ukraine combines an approach to European standards with significant gaps, and the case of Ukrenergo's green and sustainability-linked bonds demonstrates the clash of well-thought-out regulatory design with high country risk. An agreed and predictable regulatory framework is a necessary prerequisite for the development of green finance, but its impact is realised only in conditions of institutional capacity and macroeconomic stability. The practical significance of the results lies in the possibility of their use by authorities, regulators, and market participants in improving the regulation of green investments

Keywords: legal architecture; legislative support; regulatory risk; taxonomy; environmental impact; financial regulations; regulatory indicators

Introduction

The global environmental crisis and accumulated risks to health and the economy indicate the inadequacy of traditional environmental measures. Under such conditions, the ability of financial systems to quickly redirect capital to green projects becomes of key importance, which directly depends on the quality of the regulatory framework. However, despite the proliferation of green finance instruments, regulation in many jurisdictions remains fragmented and mostly soft-law in nature, and the impact of certain characteristics of the quality of legislation (predictability, consistency, transparency) on the scale of green finance is considered as a determining factor in the development and expansion of relevant flows in states with a transitional regulatory framework.

The study by M. Becker *et al.* (2022) found that the introduction of sustainability labels under the Sustainable Finance Disclosure Regulation (SFDR) and the tightening of disclosure requirements creates a clear signal for the market, as a result of which funds covered by SFDR show a higher Environmental, Social, Governance (ESG) orientation compared to less "sustainable" alternatives. In response, investors are redistributing capital: products with "stronger" regulatory labelling attract relatively larger inflows, while those that are less transparent under SFDR standards lose their competitive position. This means that transparency and regulatory certainty (through classification and disclosure) have a real impact on the direction and scale of green finance flows, rather than being merely a formality. A systematic

review of green bonds conducted by U. Bhutta *et al.* (2022) showed that the development of this market is driven not only by investor demand, but also by the availability of clear standardised requirements for selection, fund management, and information disclosure. The researchers concluded that the characteristics of the regulatory environment are essential factors for both issue volumes and the real impact of green bonds on achieving the sustainable development goals. This approach directly points to the importance of “quality” rules of the game for the functioning of the green instruments market. The growth of the green bond market, as shown in the study by Y. Chen & Z. Zhao (2021), is accompanied by conflicts between international standards and national approaches. Differences in the definition of green projects, classification of sectors and reporting requirements create space for greenwashing (misleading about the green nature of activities or investments by exaggerating or falsifying their environmental impact) and reduce the comparability of instruments between jurisdictions. This means that the harmonisation of legal and taxonomic criteria is a prerequisite for investor confidence in the global green bond market, emphasising the importance of a consistent regulatory framework for scaling up green finance.

The study by B. Hutahayan *et al.* (2024) took the discussion to the level of legal certainty: the perception of green bonds by institutional investors depends significantly on the consistency of legislation, the legitimacy of the regulator, the expected economic benefits, and the clearly defined role of the state. The researchers showed that legal uncertainty and conflicting regulations reduce investors’ willingness to enter green instruments and increase the requirements for returns as compensation for regulatory risk, thereby directly linking the quality of the regulatory framework to their behaviour. Analysis of disclosure regimes in green finance was investigated by S. Steuer &

T. Tröger (2022) and proved that legally binding disclosure requirements serve the function of “fine-tuning” capital flows. Linking disclosure to taxonomies and standardised indicators reduces information asymmetry and directs resources to environmentally sustainable assets, provided that the relevant rules are clear and stable, making reporting regulation a key element of the legal quality of the green finance architecture.

In theoretical terms, S. Eriksson (2024) showed that for European markets for sustainable finance, law is not just a tool for implementing policies, but a “central infrastructure” that determines the very configuration of the market. The researcher outlined how taxonomy, disclosure requirements, reporting standards, and supervisory powers interact, and concluded that the tension between ambitious climate goals and the need for legal certainty for business and finance is one of the main challenges of European regulation. The quality and consistency of the legal framework is seen as key to understanding the effectiveness of sustainable/green finance. V. Brühl (2021), analysing the strategy, instruments, and regulation of green finance in Europe, showed that the European Union (EU) has built a complex multi-level system of norms – from the taxonomy of sustainable activity to bond standards and prudential requirements. The researcher found that this system, on the one hand, reduces the risks of greenwashing and improves market transparency, and on the other hand, creates significant adaptation requirements for market participants and other jurisdictions. The study served as a reference description of the “high-quality” regulatory architecture that developing countries are forced to relate to.

In the Ukrainian context, research by O. Cherbeyako & I. Leshchenko (2025) demonstrated that green finance can become a tool for sustainable development and post-war reconstruction, but its scaling is constrained by macroeconomic instability, high country risk, and institutional

weakness. Attracting significant amounts of green capital is possible only if it approaches European regulatory standards and strengthens institutional capacity, while the quality of legislation itself is determined by them only in general. The legal aspect of the same problem area was proposed by O. Sushch (2024), who, analysing the legal regulation of green investments, in particular green bonds, found fragmentation of national regulation, inconsistency of definitions, procedural gaps, and limited reporting requirements. This concretises legal uncertainties that undermine investor confidence, but are not yet systematically linked to the broader theory of legislative quality, which makes it necessary to further analyse the Ukrainian regulatory framework.

Despite the existence of research on green finance, the theoretical and legal perspective remains insufficiently developed, within which the properties of the regulatory environment (predictability, consistency, stability, operationalisation of environmental goals) would be considered as an independent factor in the scale of green financial flows. Therefore, the purpose of the study was to theoretically substantiate the impact of predictable and coordinated regulation of green investments on the volume and configuration of environmentally oriented financial flows in developing countries. The hypothesis is that predictability and consistency of the regulatory framework determines the scale of green finance in developing countries. Accordingly, the null hypothesis is that the level of consistency of the regulatory framework has no significant impact on the volume of green investments.

Materials and Methods

The study was based on a comprehensive approach combining content analysis, regulatory, comparative law, structural functional, and systems analysis methods to develop a generalised methodological framework for assessing the quality of green finance legislation and its impact

on the development of green finance. The study included 4 stages. At the first stage, the conceptual and analytical method was used to conceptualise the basic categories – “green finance” – “sustainable finance”, “green investments”, “quality of legislation”, and “legal certainty” based on analytical reports of international organisations – United Nations (2022), International Monetary Fund (Goel *et al.*, 2022), United Nations Development Programme (Chen, 2022). On this basis, an analytical model of the quality of legislation in the field of green finance was theoretically constructed: criteria for predictability and clarity, consistency, stability, and coherence, operationalisation of environmental goals, transparency, and accountability were formulated. These categories and criteria were chosen because of their continued presence in the scientific and political discourse on climate investment, and the ability to directly link them to specific legal parameters (taxonomies, disclosure standards, stability, and certainty of norms).

At the second stage, a regulatory method was applied to analyse the key international framework for green and sustainable financing – mandatory EU direct-action regulations, Regulation of the European Parliament and of the Council No. 2020/852 (2020) and Regulation of the European Parliament and of the Council No. 2023/2631 (2023) and proposal / legislative proposal of European Commission (2025) with policy note Sustainable Finance Observatory (Poindessault & Vilpoux, 2025). The framework regional “soft law” document of the Association of Southeast Asian Nations (ASEAN) Taxonomy for Sustainable Finance (ASEAN Taxonomy Board, 2021), the voluntary market principles of industry self-regulation Green Bond Principles (International Capital Market Association, n.d.) and the basic standard for corporate reporting on sustainable development International Financial Reporting Standard S1: General Requirements for Disclosure of Sustainability-related Financial

Information (IFRS S1) (IFRS, n.d.). The choice of these documents was conditioned by the fact that they represent the main types of global regulatory frameworks in the field of green / sustainable finance (mandatory taxonomies and bond standards, regional flexible taxonomy, market principles of self-regulation and universal disclosure standard), and simultaneously act as the main reference points for emerging markets.

At the third stage, using the comparative legal, structural and functional, and case method, the legal architecture and results of green financing for jurisdictions were analysed – Bangladesh (phased implementation of the sustainable finance framework), Indonesia (fragmentation of Corporate Social Responsibility (CSR) and sustainable finance), China (integrated green finance architecture), the United States (green banking and net-zero financing principles), Ireland (national roadmap for sustainable financing), and Estonia (implementation of the EU taxonomy and the sustainable finance roadmap). The choice of these cases was determined by maximising the variability of regulatory models (from complex taxonomies to fragmented regimes, the level of economic development (developing states, large markets, developed jurisdictions), and the degree of approximation to the European model of sustainable finance. For each jurisdiction, separate types of sources were used – specialised country progress report International Finance Corporation (2023), official policy-document of the US Department of Treasury (U.S. Department of the Treasury, 2023) (USA) and analytical report of the European Commission (2023). For each case, the following criteria were identified: key elements of legal quality (predictability of classification, degree of consistency of norms, stability of the regulatory course, institutional capacity of supervision), observed consequences for the green finance market (structure and dynamics of green instruments, diversification of areas, level of regulatory risk).

At the fourth stage, comparative legal and regulatory analytical methods were applied to investigate the national legal framework of green financing of Ukraine. The analysis covered the basic laws – Law of Ukraine No. 3480-IV “On Capital Markets and Organised Commodity Markets” (2006), and Law of Ukraine No. 448/96-VR “On State Regulation of Capital Markets and Organised Commodity Markets” (1996). In addition, the strategic/policy document (roadmap) of the National Securities and Stock Market Commission (NSSMC) Sustainable Finance Roadmap 2025-2030 (National Securities and Stock Market Commission, 2025) and the analytical report of the international financial organisation on green finance and post-war reconstruction (International Finance Corporation, 2023) were also analysed. The regulatory framework was assessed by the clarity of the definition of green bonds and projects, the presence or absence of a national taxonomy, the stability and predictability of changes, the ratio of mandatory norms and “soft law”. To confirm the hypothesis, the dashboards of the international organisation Climate Bonds Initiative (n.d.) and the flagship report Climate Policy Initiative (Naran *et al.*, 2025) were reviewed, as these sources were the most representative for estimating the volume of green debt and overall climate financing in the global dimension. Their analysis allowed comparing the dynamics and geographical concentration of green capital flows with the quality of the regulatory environment in individual jurisdictions and empirically confirming the dependence of the scale of funding on the predictability, consistency, and stability of environmental legislation.

Results

Theoretical and legal foundations and international models of green financing. In the literature, “green finance” is understood as a set of financial relationships, tools, and institutions that

mobilise capital for environmentally sustainable activities – decarbonisation, adaptation to climate change, environmental protection, and resource management (Chen, 2022). It covers, in particular, renewable energy, energy efficiency, sustainable infrastructure, and other green sectors (Goel *et al.*, 2022). The core of green financing consists of green bonds and loans, sustainability-linked bonds/loans, and specialised funds and platforms. They are united by the targeted use of funds and increased requirements for disclosing the environmental effect, which distinguishes these tools from traditional ones. The legal form (bond, loan, share, etc.) generally remains unchanged, with changes primarily affecting the regulatory regime for admission, labelling, monitoring, and reporting (Regulation of the European Parliament and of the Council No. 2020/852, 2020; Regulation of the European Parliament and of the Council No. 2023/2631, 2023). As a legal category, “green investments” are objects of legal regulation for which additional conditions are established in comparison with “ordinary” investments: compliance with the taxonomy of environmental sustainability, the focus of funds on certain types of activities, compliance with environmental and non-financial reporting standards, the possibility of external verification of the green status (International Capital Market Association, n.d., ASEAN Taxonomy Board, 2021). In legal terms, green financing is not just the support of “environmentally useful” projects, but a special regime for regulating financial instruments that combines financial and environmental goals and relies on legally defined criteria and transparency standards (Smoleńska, 2025).

The concept of sustainable finance is broader; it means the integration of Environmental, Social, and Governance (ESG) factors into financial flows and risk management systems (Chiu *et al.*, 2022). Green finance focuses primarily on the environmental dimension, while sustainable

finance additionally covers social and managerial aspects – human rights, working conditions, anti-corruption standards, corporate governance (Smoleńska, 2025). Accordingly, green instruments are a subset of sustainable finance. Regulation of the European Parliament and of the Council No. 2020/852 (2020), formally dedicated to environmentally sustainable activities, interacts with other acts of sustainable finance – rules on information disclosure, business model sustainability management, and due diligence of climate risks. The key role of law is to distinguish truly “green” or “sustainable” tools from greenwashing – when the illusion of environmental responsibility is created without real changes in the asset structure or business strategy (Goel *et al.*, 2022). It is the legal infrastructure of sustainable/green finance (definitions, taxonomies, disclosure requirements and supervisory powers) that allows separate the “marketing” and real “greenness” of financial products, without it, the transformational potential of sustainable finance is reduced to symbolic practices (Smoleńska, 2025).

Green and sustainable finance are directly related to public policy in the field of environment and climate. States’ international commitments are embodied in national energy transition strategies, climate doctrines, and environmental programmes (United Nations, 2022). However, the predominantly programmatic nature of these documents does not guarantee the redirection of financial flows to green sectors. The United Nations (UN) and the International Monetary Fund (IMF) record a significant “financial gap” between available and required investments, especially in developing countries (United Nations, 2022). One of the key reasons is a weak or unformed financial and legal architecture, the quality of which should be described through basic criteria – predictability, consistency, stability, and operationalisation of environmental goals in regulatory requirements (Table 1).

Table 1. Criteria for the quality of green finance legislation

Criteria	Legal content	Standard regulatory indicators
Predictability and clarity	The rules allow investors to assess the scope of rights and obligations in advance, do not contain internal contradictions, and are formulated unambiguously	Clear definitions of green instruments and activities; specified conditions for admission of instruments to the market; understandable reporting requirements
Consistency	Legislation on capital markets, banking, budget, and environmental law do not conflict with each other and reflect a common logic for regulating green finance	No conflicts between environmental goals and financial regulations; references to the same taxonomies and reporting standards in different acts
Stability and consistency	Norms do not change chaotically, changes are predictable in time and are accompanied by transition periods and official explanations	<i>Vacatio legis</i> , implementation roadmaps, public consultations with the market; absence of frequent regulatory “zigzags”
Operationalisation of environmental goals	General climate and environmental goals are translated into specific legal criteria for projects and tools	Taxonomies of sustainable activities; lists of acceptable green activities; mandatory standards for environmental and non-financial reporting
Transparency and accountability	The legislation ensures the availability of information about the greenness of tools and the possibility of external control	Requirements for disclosure of information on the use of funds and environmental impact; external verification of the green status; supervisory powers of the regulator

Source: compiled by the author based on I. Chiu *et al.* (2022), International Finance Corporation (2023), G. Farrelly *et al.* (2024), L. Mjadu (2025), G. Kurunczi (2025), D. Astari *et al.* (2025), D. Hu & C. Gan (2025), F. Jawadi *et al.* (2025), A. Smoleńska (2025)

In the legal doctrine, the “quality of legislation” is described as a set of characteristics: clarity of norms, their internal consistency and hierarchical order, absence of conflicts and gaps, accessibility to addressees, predictability and relative stability of regulation over time. A high-quality law is when it not only formally operates, but also really orients the behaviour of citizens, businesses, and investors. These requirements apply to both the text of the act and the rule-making procedure: transparency of preparation, participation of interested parties, proper justification, assessment of regulatory impact, reasonable *vacatio legis* (reasonable time between publication and entry into force), and the predictability of further changes. The lack of quality of the process leads to a lack of quality of the law, the requirements of clarity, consistency, and stability at the same time concretise the principle of the rule of law, which provides for accessible and predictable norms. Regulation of the European Parliament and of the Council No. 2020/852 (2020)

demonstrates a high level of compliance with predictability and clarity by establishing comprehensive “technical screening criteria”. This provides investors with algorithmic clarity: activities qualify as environmentally sustainable only if specific quantitative indicators are met. Law of Ukraine No. 3480-IV (2006) is characterised mainly by framework regulation. Article 8-1 of the Law contains blanket provisions that refer to subordinate acts of the regulator, which reduces the level of legal certainty for market participants and creates risks of ambiguous interpretation of the terms of issue. According to the criterion of consistency, European legislation is distinguished by end-to-end integration: the definition of Regulation of the European Parliament and of the Council No. 2020/852 (2020) is the regulatory framework for Regulation of the European Parliament and of the Council No. 2023/2631 (2023). This creates a single ecosystem where issuers use unified standards. In the case of Ukraine, there is a certain regulatory disparity. Law of Ukraine

No. 3480-IV (2006) on green instruments is currently insufficiently synchronised with tax and budget legislation, which makes it difficult to create comprehensive incentives for green investment.

Based on the criterion of operationalisation of environmental goals, the most significant difference was identified. Regulation of the European Parliament and of the Council No. 2020/852 (2020) translates abstract climate goals into mandatory legal requirements through the Delegated Acts mechanism (for example, setting limits on carbon dioxide emissions). In Ukrainian legislation, environmental goals are operationalised at the level of qualitative descriptions of acceptable projects (use of processes), but there is no strict regulatory binding to quantitative indicators of the environmental effect, which is a characteristic feature of emerging markets. The transparency and accountability criteria in both systems show a high quality of regulation. Law of Ukraine No. 3480-IV (2006) imperatively establishes the requirement for disclosure of information about the use of funds and the mandatory external verification (second party opinion), which complies with GBP principles. Regulation of the European Parliament and of the Council No. 2020/852 (2020) expands this approach by requiring companies to disclose the share of capital and operating expenses associated with sustainable operations, providing a deeper level of accountability. Regulation of the European Parliament and of the Council No. 2020/852 (2020) is a standard of consistency and operationalisation of norms, while Ukrainian legislation, while ensuring an appropriate level of transparency, requires further detailing of the legal content of concepts to minimise regulatory risks.

Legal certainty as a key element of the rule of law encompasses the clarity and accessibility of norms, the predictability of their application, and the stability of expectations – the inadmissibility of arbitrary, frequent, or retrospective rule changes

(Kurunczi, 2025). In the field of investment and finance, this is critical, since decisions are made on a long-term horizon. The investor assesses legal certainty by the sequence of legislative changes, stability of tax, licensing, and supervision regimes, transparency of procedures for registering instruments (in particular green bonds), market access and disclosure, and the absence of the practice of sudden reforms with minimal transition periods (Astari *et al.*, 2025). Fragmentary and inconsistent norms in the field of sustainable finance and corporate social responsibility lead to the fact that formally there are responsibilities, but there are not enough sanctions, standardised reporting requirements, and effective monitoring (Astari *et al.*, 2025). For the investor, this means increased regulatory risk – the probability of significant changes in legislation, new interpretations of norms or inconsistent judicial practice, which is traditionally higher in developing countries and directly affects the cost of capital and financing conditions, including green projects (Hu & Gan, 2025). Therefore, ensuring legal certainty in the field of green financing is both a matter of legal technology and a condition for financial stability and investment attractiveness.

The regulatory approach focuses not so much on empirical indicators of the volume of green financing, but on the structure, content, and logic of the legal norms that regulate it: the definitions used, green criteria, procedural requirements for issuers and investors, the organisation of supervision and responsibility (Mjadu, 2025). Law is considered as a constitutive element of the financial market: it is the legal constructions of sustainable financing instruments that determine whether they will contribute to the real redirection of capital to environmentally sustainable activities, or remain a purely communication sign (Smoleńska, 2025). In the field of public administration, high-quality legislation acts as a tool for implementing public policy, and not just “serving”

the market: by establishing rules for green financing and coordinating them with other sectoral policies (energy, transport, urban development), the state influences the readiness of private and institutional investors to finance the transition to a low-carbon economy (Chiu *et al.*, 2022).

The legal architecture of green finance in the EU is often considered in the literature as one of the most institutionally developed regulatory approaches aimed at both developed and developing states (Smoleńska, 2025). Regulation of the European Parliament and of the Council No. 2020/852 (2020) creates a high level of certainty through a clear classification logic: “significant contribution” to at least one environmental goal, the principle of “do no significant harm”, minimum social guarantees and detailed technical criteria. The taxonomy structure is constructed as a hierarchical system of categories (goals – activities – performance criteria), which provides a high level of clarity and internal logical ordering. This reduces the scope for discretion in classifying projects as green and, accordingly, the risks of greenwashing. For investors, this structure creates a predictable framework: it is possible to assess whether a specific project meets the requirements of the taxonomy and, therefore, whether it will be perceived by the market as “sustainable” (Mjadu, 2025). Regulation of the European Parliament and of the Council No. 2023/2631 (2023) introduces the EU Green Bond Standard and increases predictability by setting a minimum taxonomic compliance threshold (85%), revenue management requirements, disclosure, and external verification. Together, these acts form a consistent and predictable regime: it is determined which activities can be financed as green, what data the issuer should disclose, and how to attract external verifiers. From the standpoint of the study hypothesis, such regulatory transparency and stability can reduce regulatory risk and potentially contribute

to the scaling of green debt instruments in the EU (Smoleńska, 2025).

ASEAN Taxonomy for Sustainable Finance (ASEAN Taxonomy Board, 2021) is designed as a common framework for Southeast Asian states and provides certainty at the level of a common framework, while consciously laying down phasing and different levels of application depending on data availability and institutional capacity. Unlike the rigidly codified European model, the ASEAN taxonomy is focused on flexibility and allows for transitional activities that are considered necessary for a realistic energy transition (ASEAN Taxonomy Board, 2021). A classic example of “soft law” in the field of green finance is the Green Bond Principles (GBP) of the International Capital Market Association (n.d.). GBP are not mandatory, but their four main blocks (targeted use of funds, project evaluation and selection process, revenue management, reporting) have de facto become the market standard. In jurisdictions without specific legislation, GBP compliance creates minimum expectations for transparency and predictability for investors.

The global framework for information disclosure is provided by the IFRS S1 standard (IFRS, n.d.), adopted by the International Council for Sustainable Development Standards. The standard sets out a single baseline level of disclosure for companies that apply International Financial Reporting Standards (IFRS), covering significant risks and opportunities associated with sustainable development. It is not purely “environmental”, but requires systematic integration of ESG factors into corporate reporting (IFRS, n.d.). From the investor perspective, it is important that ASEAN Taxonomy, GBP and IFRS S1 together form a network of complementary standards: taxonomy determines what is considered green; GBP sets procedural requirements for structuring, issuing, and administering green bonds; IFRS S1 sets what information about risks and

opportunities for sustainable development a company should disclose.

Regulation of the European Parliament and of the Council No. 2020/852 (2020) and Regulation of the European Parliament and of the Council No. 2023/2631 (2023) demonstrate internal consistency: the Green Bond Standard directly “links” the criteria for targeted use of funds to the taxonomic classification, building a single logic “definition → financing → disclosure/verification”. ASEAN Taxonomy, GBP, and IFRS S1 are compatible at the function level (classification/release process/basic disclosure), but their consistency with each other is more practical and voluntary than legally “stitched” into a single regime. EU regulations, as acts of direct action, set the highest formal stability of the rules. The trend towards regulatory “simplification” may also affect the consistency of approaches: the Digital Omnibus Regulation Proposal (European Commission, 2025) is positioned by the European Commission as a package of technical changes to a significant body of digital legislation aimed at providing “immediate relief” for businesses and increasing competitiveness. In terms of sustainable finance, a similar logic can be traced in the “omnibus” approach to taxonomy: an analytical note from the Sustainable Finance Observatory (Poindessault & Vilpoux, 2025) notes that the package includes a review of delegated taxonomy acts (“Climate”, “Environment”, “Disclosures”), which can potentially narrow the perimeter and detail of taxonomic disclosure. This, in turn, can affect the comparability of data for oversight and investors and increase the risks of reducing the controllability of “sustainable” statements.

The high level of operationalisation of environmental objectives is demonstrated by Regulation of the European Parliament and of the Council No. 2020/852 (2020), as it translates them into a set of measurable technical criteria and compliance conditions. Regulation of the European Parliament

and of the Council No. 2023/2631 (2023) specifies the application of these goals at the level of a financial instrument, establishing rules for allocating funds, managing revenues, and confirming compliance with the requirements of the standard. ASEAN Taxonomy also provides for operationalisation, but allows for transitional activities and different levels of classification, which increases its adaptability for economies with different institutional capacities, but makes the approach less strictly unified. Green Bond Principles (GBP) implement environmental goals procedurally (through issue and reporting organisation requirements), but do not set uniform technical thresholds. IFRS S1 operationalises the sustainability component as a requirement for disclosure of risks and opportunities associated with sustainable development, rather than as criteria for the “environmental sustainability” of a particular activity.

In terms of transparency and accountability, Regulation of the European Parliament and of the Council No. 2023/2631 (2023) sets out the most detailed instruments for issuers: pre- and post-issue disclosure, revenue management rules, and mandatory external verification. Regulation of the European Parliament and of the Council No. 2020/852 (2020) enhances transparency through unified criteria for classifying activities as environmentally sustainable. GBP support transparency as a market standard (reporting and transparent project selection process), but without a legal enforcement mechanism. IFRS S1 provides transparency at the corporate reporting level, unifying the basic level of disclosure of financial information to users.

For developing countries, the EU model is useful as a reference for “maximum regulatory certainty”: the taxonomy provides detailed criteria for environmental sustainability Regulation of the European Parliament and of the Council No. 2020/852 (2020), and the Green Bond

Standard – clear requirements for EU green Bond labelling and parameters for the use of funds and disclosure (Regulation of the European Parliament and of the Council No. 2023/2631, 2023). The ASEAN Taxonomy demonstrates a design that maintains certainty at the framework level, but allows for phasing and variability of application depending on data and capabilities, which is critical for jurisdictions with uneven quality of statistics and supervision (ASEAN Taxonomy Board, 2021). GBP can serve as the “minimum” standard for a clear issue procedure where special regulation is still being formed (International Capital Market Association, n.d.), and IFRS S1 – the role of a basic benchmark for the clarity of requirements specifically for sustainability-disclosure (IFRS, n.d.). The key difference for developing countries is whether the instruments form a single linked system: in the EU, the green bond standard is built in the direct logic of taxonomy (Regulation of the European Parliament and of the Council No. 2020/852, 2020; Regulation of the European Parliament and of the Council No. 2023/2631, 2023), which reduces the risk of fragmented rules and contradictions. In the “combined” model (ASEAN Taxonomy + GBP + IFRS S1), consistency is achieved not automatically, but through the way the national regulator “stitches” classification, funding rules and disclosure requirements, and it is this element of integration that determines the institutional quality of the regime.

For developing jurisdictions, the stability of rules is a factor of investor confidence, but it is necessary to maintain the possibility of updates without “regulatory leaps”. EU regulations set a high level of formal stability as binding acts of direct action (Regulation of the European Parliament and of the Council No. 2020/852, 2020; Regulation of the European Parliament and of the Council No. 2023/2631, 2023), however, when implementing foreign models, it should be considered

that technical parameters can be clarified and revised. Therefore, step-by-step approaches (as in ASEAN Taxonomy) are often more suitable for consistent implementation with limited institutional capacity (Goel *et al.*, 2022). In the broader context of batch regulation updates, the logic of omnibus revisions in the EU emphasises that even mature modes can adapt to the pressure of simplification, which must be considered when copying models for a long time (Poindessault & Vilpoux, 2025). The most technically operationalised regulation for transfer to national law is the Regulation of the European Parliament and of the Council No. 2020/852 (2020), as translates political objectives into compliance criteria. Regulation of the European Parliament and of the Council No. 2023/2631 (2023) shows operationalisation at the level of a financial instrument (rules for allocating funds, disclosure, verification). ASEAN Taxonomy offers operationalisation that is compatible with the realities of economic transformation, including transition activities and a level approach (ASEAN Taxonomy Board, 2021). GBP, in turn, operationalise green through procedures (selection, management of proceeds, reporting), which makes them suitable as a temporary basis for market practice (International Capital Market Association, n.d.). IFRS S1 operationalises sustainability as a risk/opportunity disclosure requirement that is important for access to capital, but does not replace taxonomic performance criteria (IFRS, n.d.).

For developing countries, the practical question is what transparency mechanisms are actually implemented without overloading the market. Regulation of the European Parliament and of the Council No. 2023/2631 (2023) lays down the strictest outline of accountability through disclosure and mandatory external scrutiny, whereas Regulation of the European Parliament and of the Council No. 2020/852 (2020) increases transparency through unified criteria for defining

“sustainability”. However, with a weaker independent verification infrastructure, countries often start with GBP as the minimum standard for market transparency (International Capital Market Association, n.d.) and simultaneously increase corporate disclosure through the introduction of approaches compatible with IFRS S1 (IFRS, n.d.). As a result, it is the design of disclosure requirements and their verification practices that are central to investor confidence and reducing the risks of green labelling without proper confirmation (Goel *et al.*, 2022). International reports emphasise that in developing countries, the need for green financing is the most acute, and access to resources is the most limited. Among the reasons are weak institutions, fragmentation of the regulatory framework, and high regulatory risk, which makes investments more expensive or not attractive to private capital at all. Developing countries face barriers: underdeveloped market infrastructure, poor data quality, lack of agreed disclosure standards, and limited ability of regulators to monitor new tools. A clear and consistent regulatory framework is a key prerequisite for expanding sustainable financing in these jurisdictions.

Quality of legislation and the scale of green investment in the world and Ukraine.

In view of the selected criteria for the quality of legislation and the review of international regulatory frameworks, it is advisable to refer to specific jurisdictions (Bangladesh, China, USA, Indonesia, Ireland, and Estonia) in which these approaches have been applied. Bangladesh demonstrates increased predictability through the phased introduction of a sustainable finance framework with clearer categories of “green/sustainable” assets and regular reporting, which reduces legal uncertainty for financial institutions (International Finance Corporation, 2023). China provides a high level of certainty through detailed taxonomic catalogues of green and transitional activities that set clear rules for lending and the debt instruments

market (Yue & Nedopol, 2025). Indonesia, on the contrary, is characterised by a lack of legal certainty: the conflict and fragmentation of CSR and sustainable finance norms complicate their practical application and stimulate formal compliance (Astari *et al.*, 2025). The US has a relatively clear framework in the green banks and GHGRF segment, but the overall regulatory landscape is fragmented, which limits the predictability of long-term conditions for investors (Buehler *et al.*, 2023). Ireland and Estonia are strengthening clarity through roadmaps and an action plan with time benchmarks that help translate EU requirements into national market instruments and practices (Farrelly *et al.*, 2024).

High consistency is evident where classification, funding tools, disclosure, and oversight form a single logic. China demonstrates consistency through harmonisation of banking regulation, capital market, and climate policies that support the development of both green credit and the green/transition bond market (Yue & Nedopol, 2025). Ireland is strengthening coherence through institutional coordination (International Sustainable Finance Centre of Excellence (ISFCOE)) and integrating sustainable finance and climate risks into strategy and oversight practices (Farrelly *et al.*, 2024). Estonia builds coherence through an implementation mechanism (gap analysis, pilots, market consultations) and linking financial policies to national climate goals (European Commission, 2023). Bangladesh demonstrates practical coherence through a gradual increase in banking and reporting requirements (International Finance Corporation, 2023). But Indonesia is characterised by duplication and dispersion of requirements between different acts, which reduces the consistency of the regime (Astari *et al.*, 2025). The US combines consistency within individual programmes (green banks/GHGRF) with the overall fragmentation of the regulatory architecture and the dominance of “soft law”,

which weakens the unified regulatory logic (U.S. Department of the Treasury, 2023).

Bangladesh is characterised by a consistent trajectory of transition from voluntary approaches to a more mandatory framework, which creates a predictable logic of change for financial institutions and promotes the development of green portfolios (International Finance Corporation, 2023). China demonstrates stability through a long-term strategic course to decarbonise and maintain institutional green finance architecture (Yue & Nedopol, 2025). Ireland and Estonia ensure consistency through roadmaps and mechanisms for implementing EU requirements, combining regulatory changes with increasing data quality and market participant competencies (Farrelly *et al.*, 2024). The US shows a mixed picture: more stable instruments in green banking co-exist with increased politicisation and the risk of changing approaches in a broader architecture that increases regulatory risk (Buehler *et al.*, 2023). Indonesia shows that in the absence of a holistic logic and a stable regulatory “framework”, compliance with requirements can be reduced to formal practices (Astari *et al.*, 2025).

In Bangladesh, operationalisation manifests itself through quantitative benchmarks, oversight tools, and regular reporting that translate overall sustainable finance goals into measurable expectations for banks (International Finance Corporation, 2023). China is implementing environmental goals through taxonomic catalogues and developing market instruments (green and transition bonds, speciality products), making “greenness” applicable in lending and the capital market (Yue & Nedopol, 2025). The United States operates targets primarily through a software-tool approach (green banks/GHGRF) and net-zero funding frameworks, but without a single system-wide taxonomy (U.S. Department of the Treasury, 2023). Ireland and Estonia are implementing goals through roadmaps, integrating

climate risks into surveillance and improving data quality, creating prerequisites for practical implementation of EU requirements (Farrelly *et al.*, 2024). Indonesia shows weaker operationalisation due to the conflict of laws and fragmentation of norms, which contributes to “execution by form” rather than by result (Astari *et al.*, 2025).

Bangladesh is characterised by regular reporting and supervisory expectations, which reduce information uncertainty and create a more transparent environment for financial institutions (International Finance Corporation, 2023). China increases transparency through the development of a regulatory framework and a market for green/transition instruments, which increases comparability and reduces information asymmetry for investors (Yue & Nedopol, 2025). The United States demonstrates high efficiency in capital mobilisation under individual programmes, but the overall fragmentation of standards and politicised regulatory environment complicate long-term predictability and comparability of approaches (Buehler *et al.*, 2023). Ireland and Estonia are strengthening transparency through the implementation of EU approaches, the development of data, and institutional coordination and oversight mechanisms (European Commission, 2023). Instead, Indonesia demonstrates that fragmentary and conflicting norms weaken real accountability and encourage compliance formalism instead of transparent disclosure and control (Astari *et al.*, 2025). Case studies show that the combination of clear rules, coherent architecture, consistency of implementation, and transparency/accountability mechanisms creates institutional prerequisites for scaling up green finance. But the fragmentation and conflict of laws of regulation increases legal and informational uncertainty and contributes to the formal implementation of requirements.

Basic legal certainty in Ukraine is provided by the fact that the institution of green bonds is

directly consolidated in the legislation on Capital Markets (Article 18) as a debt instrument with targeted use of funds for environmental projects and requirements for the issuer's reporting (Law of Ukraine No. 3480-IV, 2006). Institutional certainty is enhanced by the presence of a regulator with a mandate to monitor and detail requirements (NSSMC) (Law of Ukraine No. 448/96-VR, 1996). In practical terms, the clarity of the regime is limited by the fact that the classification criteria for "greenness" remain insufficiently standardised, which was outlined in the diagnosis of UNDP (Chen, 2022). The architecture is gradually being formed as a multi-level one: the legislative consolidation of the tool is combined with strategic planning of further steps in the development of the regime. In particular, the National Securities and Stock Market Commission (2025) sets the integration logic (implementation of EU acts, development of a national taxonomy, development of instruments and strengthening of non-financial disclosure), which can potentially "stitch" market instruments with disclosure requirements and regulatory practices. A limitation of coherence is that some of the key components of this regime are still in the design stage, and not completed regulatory integration. The stability of the basic framework is ensured by the existence of legislative regulation of Ukraine and a certain supervisor, and consistency is ensured by the existence of medium-term reform roadmaps (National Securities and Stock Market Commission, 2025). Actual predictability for investors depends significantly on macroeconomic and military risks: scaling up private investment in green reconstruction requires not only rules that are compatible with EU practices, but also effective oversight institutions and a more sustainable environment (International Finance Corporation, 2023).

At the instrumental level, environmental goals are partially operationalised through a green debt instrument (targeted use of funds + reporting)

(Verkhovna Rada of Ukraine, 2024). However, at the level of activity classification, operationalisation is limited by the lack of a national taxonomy and unified criteria for green projects, which makes it difficult to apply the standards equally in practice (Chen, 2022). That is why harmonisation with EU approaches is seen as a path to more measurable criteria and procedures (National Securities and Stock Market Commission, 2025). The current regime of Ukraine contains basic requirements for the issuer's financial statements and general rules of disclosure on the capital market (Law of Ukraine No. 3480-IV, 2006). UNDP diagnostics points to weak post-issue reporting and fragmented bylaws as key gaps that reduce the effectiveness of accountability (Chen, 2022). As an additional guideline for improving the quality of corporate disclosure, IFRS S1 is considered, which sets the structure of sustainability-related disclosure (IFRS, n.d.).

A comparison of Bangladesh, Indonesia, and Ukraine shows three different stages in the development of a regulatory framework for green finance in developing countries. Bangladesh demonstrates a more advanced stage of institutional certainty as the regulatory framework combines classification benchmarks, quantitative parameters, and regular reporting, reducing uncertainty for banks (International Finance Corporation, 2023). Indonesia, in the context of the interaction of sustainable finance with related regulatory requirements (in particular CSR) faces the problem of legal certainty, when the multiplicity and heterogeneity of requirements make it difficult to apply equally (Astari *et al.*, 2025). Ukraine has basic formal certainty due to the existence of legal norms regarding instruments, but the practical clarity of the regime is limited by the lack of a national taxonomy and the dominance of recommendation approaches in a number of components (National Securities and Stock Market Commission, 2025). In Bangladesh, consistency is

evident in the fact that classification benchmarks, monitoring, and reporting are integrated into banking practices as part of a single logic of regulatory expectations (International Finance Corporation, 2023). Indonesia demonstrates the risk of “stratification” of the regime: sustainable finance requirements can exist alongside CSR obligations without a sufficiently clear system logic, which reduces consistency and encourages compliance formalism (Astari *et al.*, 2025). Ukraine is characterised by the emergence of an integration framework at the level of strategies and roadmaps, but the regulatory “cross-linking” between classification, financing instruments, and disclosure is still in the process of development (National Securities and Stock Market Commission, 2025).

Bangladesh illustrates a consistent shift from softer approaches to a more structured regime that creates a predictable trajectory of change for the market (International Finance Corporation, 2023). For Indonesia, the key challenge lies not so much in the lack of norms, but in their internal consistency and predictability of application in related areas, which affects the consistency of implementation (Astari *et al.*, 2025). In Ukraine, strategic documents set a medium-term sequence of reforms, but macroeconomic and military risks significantly limit the stability of the institutional environment and increase the risk perceived by investors (International Finance Corporation, 2023). In Bangladesh, operationalisation is achieved through a combination of quantitative benchmarks and monitoring tools, making regulatory expectations applicable to banks (International Finance Corporation, 2023). Indonesia demonstrates that with regulatory fragmentation, operationalisation can remain formal: rules exist, but do not always translate into a real transformation of financial practices (Astari *et al.*, 2025). Ukraine is partially operationalising environmental goals through the legal consolidation of green bonds and reform roadmaps, but the lack of

taxonomy makes it difficult to standardise the identification of “green” activities and, accordingly, to fully operationalise the regime (Chen, 2022). Bangladesh increases transparency through regular reporting and supervisory expectations, which reduces information asymmetry for the regulator and the market (International Finance Corporation, 2023). Indonesia demonstrates the risk of “form-based” accountability, where heterogeneous requirements contribute to minimising effort instead of transparent comparable practices (Astari *et al.*, 2025). Ukraine has basic elements of transparency at the level of instrument requirements and a strategic course to strengthen disclosure, but the effectiveness of accountability depends on the transition from soft law to more formalised requirements and on increasing the institutional capacity of supervision (National Securities and Stock Market Commission, 2025). Comparison of the three cases allows interpreting Bangladesh as an example of a relatively “mature” regime with clearer operationalisation and accountability, Ukraine as an emerging regime with an existing strategic vector of harmonisation, but with a lack of taxonomic certainty and high external risks, and Indonesia as a case where the key barrier is internal fragmentation and conflict of laws of related norms, which reduces regulatory efficiency.

According to the Climate Policy Initiative (Naran *et al.*, 2025), the average annual amount of global climate funding in 2021-2023 was approximately USD 1.3 trillion, while a significant part of these flows was concentrated in jurisdictions with high predictability and stable regulatory environments, in particular in the EU (~25%), China (~30%), and the United States (US > 10%). Climate Bonds Initiative, (n.d.) shows that more than 60% of global green bond issues come from jurisdictions with formalised taxonomies of environmentally sustainable assets and clear disclosure requirements. This concentration of funding indicates a close relationship between regulatory

quality and attracted investments. Predictability and clarity of legislation are key: investors prefer markets with clear rules of the game that allow them to assess risks in advance. Consistency between environmental, financial, and corporate norms reduces transaction costs and promotes capital scaling through standards recognised by global market participants. Stability and consistency of the legal environment support long-term investments: countries with changes in regulatory policies show higher volatility of financial flows, while stable regimes provide a cumulative effect. The operationalisation of environmental goals through taxonomy mechanisms and reporting standards facilitates the integration of green projects into financial portfolios, increasing their attractiveness to investors, although in itself, without predictability and consistency, is not a sufficient condition for large-scale issuance. Transparency and accountability, post-issue reporting requirements, and external verification support market confidence, but their impact on funding volumes is derived from the overall quality of the legal regime. Green funding is growing in a high-quality regulatory environment, and predictability, clarity, and consistency of legislative norms are the most important criteria for raising capital, while transparency and accountability play a supporting role. Thus, the null hypothesis that there is no influence of the consistency of the regulatory framework on the level of green investment is not confirmed. On the contrary, the lower the predictability and consistency of environmental legislation, the lower the amount of green funding raised.

Discussion

The results of the study showed that the quality of the regulatory framework for green finance in developing countries not only directly affects the scale of green flows, but also determines how much these flows translate into real progress in

achieving environmental and climate goals. This is consistent with the study by X. Sun *et al.* (2025), who, using the example of 46 countries, found that green finance is positively correlated with indicators of sustainable development, but the strength of this link increases significantly with the highest institutional quality. The researchers concluded that the institutional environment serves as an “enhancer” of the green finance effect, without which even significant amounts of green investment give limited results. Predictability, coherence, and stability of legislation are seen as a prerequisite for green capital to truly contribute to the transition to an environmentally sustainable development model, and not remain a purely financial marker.

The results of the study showed that fragmented and unstable legal regulation of green finance increases regulatory risk and reduces investor confidence, which is noticeable in developing countries. Similar conclusions were drawn by M. Çitil *et al.* (2023), who found that green finance and high institutional quality contribute to improved air quality, while weak institutions and regulatory uncertainty offset the environmental impact of green investment. The researchers emphasised that without stable and clear rules, green finance risks becoming a formal tool without significant environmental impact. In cases where green finance is supported by a qualitative regulatory framework (taxonomies, disclosure standards, supervision), it leads to environmental improvements, whereas in conditions of legal uncertainty, it is often reduced to declarations. E. Simeon *et al.* (2024) demonstrated that green finance and renewable energy statistically significantly contribute to the transition to a zero-carbon economy, while economic growth and urbanisation have a more ambivalent effect. The researchers concluded that to realise the potential of green finance, emerging market countries must provide stable and predictable policies that

allow investors to plan long-term investments in clean energy. The volume and sustainability of green financing directly depends on the quality of the legal regime and the consistency of climate policy. These conclusions are consistent with the results of the current study, which shows that without a predictable and coordinated regulatory framework, green finance cannot become a systemic driver of the zero-carbon transition, even with a formal increase in the volume of green instruments. It is the quality of legislation that determines whether green financial flows turn into sustainable results of decarbonisation, or remain mainly a declarative tool.

The study by J. Zhao *et al.* (2023), using the example of the G7 countries, found that green investment generally improves environmental performance, but this impact is non-linear and largely depends on institutional quality. The researchers showed that in jurisdictions with more stable and predictable legal regimes, green investment provides a long-term reduction in pollution and emissions, while under less defined regulation, the environmental effect is significantly weakened. This is consistent with the findings of the current study, which shows that EU, China, or Bangladesh models with clearer taxonomies and consistent disclosure standards provide a higher “return” on green funding based on a comparison of different jurisdictions. But in countries with fragmented or contradictory norms, in particular in terms of regulating sustainable financing, green capital often becomes formal and gives limited environmental results.

The study by M. Byaro & M. Timbuka (2025), analysing countries with different income levels, found that the impact of green growth and institutional quality on environmental sustainability differs significantly between the low-, middle -, and high-income groups. The researchers showed that it is in low-and middle-income states that the improvement of institutional

quality provides the greatest increase in environmental sustainability indicators, while in high-income jurisdictions the effect of additional improvement of institutions is more moderate. These findings support the results of this study, which focuses on developing countries, in particular Ukraine. It was shown that each step towards more predictable, coherent, and stable legislation in the field of green finance significantly changes the investment environment, reducing regulatory risk and expanding the opportunities for mobilising green capital to a much greater extent than in the already mature legal systems of developed countries.

The results of the study showed that the impact of green finance on the economies of developing countries significantly depends on the quality of legislation: where the norms are clear, consistent and stable, green capital is more easily integrated into long-term development strategies. This is consistent with the conclusions obtained by M. Ali *et al.* (2025), who, using a quantum approach, showed that green finance can both support economic growth and produce mixed results depending on the level of institutional quality. The researchers found that in countries with better institutions, green tools are more likely to contribute to sustainable growth, while in jurisdictions with weaker institutions, the effect may be blurry or even contradictory. The quality of legislation is considered as a factor that turns green finance from a formal category into a real development tool and reduces the risks of conflict between economic and environmental goals.

The study by M. Byaro *et al.* (2025) used Asian countries as an example to show that the same configuration of “economic growth + demographic pressure + renewable energy development” can have different environmental consequences depending on the quality of the legal and institutional environment. The researchers proved that institutional quality mitigates the negative impact

of economic and demographic growth on the environment and enhances the positive effect of renewable energy use. Institutions act as a kind of “filter” through which structural changes in the economy pass, determining whether they will lead to deterioration or improvement of environmental indicators. This is consistent with the findings of this study that the legal quality of green finance determines whether the growth of green instruments and the expansion of renewable energy sources can be transformed into real environmental outcomes in developing countries. Without sufficient legal certainty and consistency in the regulatory framework for green finance and renewable energy development, there is a risk that their potential will remain partially unrealised.

N. Maragopoulos (2023) analysed the European Green Bond Standard (EUGBS) as a tool for addressing key shortcomings in the EU green bond market. The introduced standard is designed to overcome the fragmentation of private frameworks by establishing a single set of requirements for “European green bonds”, ensure strict binding of the use of funds to the EU taxonomy, and introduce increased requirements for information disclosure and regulation of external verification. EUGBS is designed to reduce the risks of greenwashing, increase the comparability of instruments, and strengthen investor confidence in the green debt securities market. This correlates with the results of the study, where the EU Green Bond Standard is seen as a regulatory model for developing countries in the process of forming a roadmap for sustainable financing. Detailed standards such as EUGBS are key tools for improving the quality of legislation, reducing regulatory risk, and increasing the transparency of the green bond market, which creates prerequisites for scaling up green financial flows in jurisdictions with a transitional regulatory framework.

The results of the study proved that building consistent green finance architecture (taxonomy,

bond standards, information disclosure regimes) is a key prerequisite for the rapid growth of the green instruments market. This is consistent with the case analysis by L. Lin & Y. Hong (2022), who investigated the development of the green bond market in China. The researchers showed that through active government involvement, special rules, and institutional incentives, China managed to quickly build one of the world’s largest green bond markets, despite some issues with fragmented regulation and differing standards. A legal architecture, even in a transitive economy, can be a crucial factor for scaling green financial instruments. In this study, a similar conclusion is drawn on the examples of Bangladesh and Ukraine – where the state systematically builds a regulatory framework, the green bond market has a significantly higher development potential than in jurisdictions with passive or non-systemic regulation.

The results of the study showed that the EU model is considered as a standard of a high-quality legal framework for sustainable finance, but simultaneously creates challenges for countries seeking to harmonise with European standards. This is consistent with conclusions of D. Zetsche *et al.* (2022), who analysed the EU’s sustainable finance framework in the context of international standards and identified both areas of overlap and significant discrepancies, creating legal uncertainty for cross-border market participants. The researchers concluded that the EU’s complex, multi-level regulatory architecture is both a source of high-quality regulation and a potential source of friction for developing states trying to emulate it. The orientation towards the European model sets the direction for reforms, but the incomplete and fragmented implementation of EU standards does not yet provide the level of legal certainty that exists in the EU itself.

Thus, the quality of legislation in the field of green finance is the main “enhancer” of the green finance effect: it is a predictable, coordinated and

stable regulatory framework that transforms green investments from a formal label to real environmental results. Clear taxonomies and standards reduce regulatory risk and increase the return on green tools. For Ukraine, this means that accelerated improvement of the legal framework is a necessary condition for green financing to become a real driver of decarbonisation and reconstruction.

Conclusions

The results of the study showed that green financial instruments are a subset of the broader system of sustainable finance, in which the integration of Environmental, Social, and Governance (ESG) factors sets the framework for reorienting capital to sustainable development. Green financing in developing countries should be considered as a separate legal regime with specific requirements for project selection, targeted use of funds, and non-financial reporting. The criteria for assessing the legal environment of green finance (certainty, coherence, stability, operationalisation of environmental goals, transparency, and accountability) specify the requirements of the rule of law and determine to what extent investors can predict the consequences of green instruments and plan long-term investments. The European model serves as a benchmark for a detailed legal architecture, while the lack of climate investment in developing countries is also conditioned by the imperfection of the financial and legal system, which increases regulatory risk and cost of capital. The case studies of Bangladesh and China have shown that a mandatory sustainable finance policy with taxonomy and harmonised regulation promotes the institutionalisation and scaling of green instruments, while the example of Indonesia has shown that the dispersion of sustainable finance and CSR rules between different acts leads to formal compliance

with the requirements and does not provide a significant transformation of financial practices towards sustainable development.

American green banks and GHGRF illustrate the mobilisation of private capital without a single taxonomy amid political volatility, while Ireland and Estonia demonstrate that systematic implementation of EU acts through roadmaps, coordination, and data work transforms sustainable finance requirements into a tool for developing financial hubs and building expertise. A comparison of green financial flows revealed that the bulk of climate finance is concentrated in jurisdictions with more predictable and structured regulation: in 2021-2023, the average annual global volume was approximately USD 1.3 trillion, with shares of approximately 30% in China, approximately 25% in the EU, and more than 10% in the US, and more than 60% of global green bond issuance is in jurisdictions with formalised taxonomies and clear disclosure requirements. For Ukraine, it was established that special legislation on capital markets and state regulation and NSSMC reports only form the basis of the green finance regime, but do not yet provide a national taxonomy and mandatory disclosure standards at the EU level. The Ukrainian green finance regime is a transitional one: the focus on EU law is combined with the dominance of “soft law” and dependence on external support, which reduces predictability for investors. The law in the field of green finance performs not only a regulatory, but also a constitutive function, forming the framework within which it is decided whether green capital will become an instrument of deep economic transformation, whether it will remain a marginal market segment in developing countries, including Ukraine. The limitation of the study is its theoretical and legal nature and the lack of empirical verification of the identified patterns. Further research should focus on empirical verification of the impact

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Якість законодавства як чинник зеленого фінансування: нормативний підхід

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Анотація

Метою дослідження було теоретичне пояснення зв'язку між характеристиками регулювання та параметрами «зелених» фінансових потоків. Методологія базувалась на комплексному підході, що поєднував нормативно-правовий і порівняльно-правовий методи. Показано, що передбачуване, узгоджене й стабільне регулювання підсилює мобілізацію капіталу на екологічні проекти в державах, що розвиваються, а «зелене» фінансування (green finance) постає як спеціальний режим sustainable finance з цільовим використанням коштів і посиленою звітністю та верифікацією. Міжнародні таксономії, стандарти розкриття інформації та принципи «зелених» облігацій виступають інфраструктурою обмеження greenwashing, тоді як розрив між потребами

в кліматичних інвестиціях і фактичними потоками пояснюється впливом характеристик правового середовища на регуляторний ризик і вартість капіталу. Кейси Бангладеш та Індонезія показали, що обов'язкові вимоги з чіткими цілями й звітністю стимулюють «зелені» активи, тоді як фрагментарні норми стримують трансформацію фінансового сектора. Китай і Сполучені Штати Америки демонструють різні моделі: комплексна таксономія й узгоджене регулювання проти децентралізованої регуляторної архітектури «зеленого» банкінгу. Ірландія та Естонія ілюструють, як імплементація актів Європейського Союзу та координація інституцій підвищують визначеність і прозорість. Рівень зеленого фінансування є концентрованим: у 2021-2023 роках глобальні потоки становили близько 1,3 трлн дол. на рік, а понад 60 % емісії зелених облігацій припадає на юрисдикції з формалізованими таксономіями та вимогами до розкриття інформації. Україна поєднує наближення до європейських стандартів із суттєвими прогалинами, а кейс зелених і sustainability-linked облігацій «Укренерго» демонструє зіткнення продуманого нормативного дизайну з високим країновим ризиком. Узгоджена й передбачувана нормативна рамка є необхідною передумовою розвитку «green» фінансування, однак її вплив реалізується лише за умов інституційної спроможності та макроекономічної стабільності. Практичне значення результатів полягає в можливості їх використання органами влади, регуляторами та учасниками ринку під час вдосконалення регулювання «зелених» інвестицій

Ключові слова: правова архітектура; законодавче забезпечення; регуляторний ризик; таксономія; екологічний ефект; фінансові регуляції



Constitutional legal foundations of family policy: International comparative analysis

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In the contemporary context of complex demographic crises and socio-economic challenges, the formulation of an effective family policy is a crucial component of state functioning and social stability. The purpose of this study was to determine the optimal constitutional legal frameworks for protecting family rights by establishing the relevance of modern recommendations for updating these national systems. The research employed a comparative-historical method, hermeneutic legal interpretation, and comprehensive analysis to evaluate regulations and legal frameworks. The investigation of legislation from France, Germany, China, and Kyrgyzstan helped to draw theoretical conclusions regarding real problems and successful practices in family policy, particularly concerning social support, migration adaptation, children's rights, and gender equality. It was established that while European nations legally guarantee comprehensive economic support and mandated preschool infrastructure, approaches in China focus on stimulating fertility through targeted financial incentives and tax deductions. Furthermore, the legal landscape of Kyrgyzstan was investigated, and the following features were identified: a reliance on declarative constitutional guarantees that lack the necessary codified funding mechanisms and universal benefit systems to overcome specific challenges like migration and rural resource deficits. It was concluded that a successful family policy requires moving beyond broad declarations to implement concrete, universally accessible statutory mechanisms that harmonise international norms with distinct national socio-economic conditions. The findings and recommendations presented in this study can be utilised by policymakers, legislators, and social welfare developers to reform national family codes and design targeted, sustainable state support programs

Keywords: international law; family rights; rights protection; national legal systems; digitalisation of family policy

Introduction

Family policy plays a fundamental role in the state system, as the family forms the bedrock of society where essential social and cultural values are established. Today, families face acute, multifaceted demographic crises that highlight the vital need for robust state support. For example, the European Observatory on Family Policy notes a severe "childcare gap" across the EU that forces parents to delay returning to work or rely on expensive private solutions, which ultimately depresses birth rates (COFACE Families Europe, 2025). Conversely, Central Asia faces a demographic boom where over

50% of the population is under 30. However, due to underinvestment, children born today may only reach 50-60% of their future productivity potential (Dyson *et al.*, 2025). Because declarative constitutional norms are insufficient to address such complex issues, it is crucial to analyse and adapt legal mechanisms to ensure they effectively protect families from these modern threats.

In response to these challenges, many countries have actively updated their family policies, shaping a new agenda that requires comprehensive economic and legal measures. Italy, for

instance, recently reformed its approach by introducing an integrated early childhood education system for children aged 0-6 to overcome fragmented governance and improve educational equity (Milano *et al.*, 2025). Similarly, Germany has shifted toward preventative, interdisciplinary municipal networks to enhance early intervention coordination between local health and welfare sectors (Council of the Baltic Sea States, 2026). These updated frameworks largely comply with national constitutional mandates and international standards, such as the UN Convention on the Rights of the Child, which obliges countries to create conditions for the development of children and ensure their right to education, medical care, and protection from violence. However, their implementation frequently gives rise to significant legal problems. These crisis responses often spark jurisdictional and financial conflicts between local municipalities and central governments, as well as constitutional disputes over equality and anti-discrimination regarding the eligibility of immigrant or refugee families to access newly expanded support systems (Efremov, 2025). Maintaining a balance between traditional values and adapting to these emerging challenges remains essential for strengthening overall social stability.

The effective application of the rule of law by EU member states plays a direct role in the protection of family rights, with research by C.M. Verga (2024) concluding that the implementation of international standards establishes a vital framework for legal harmonisation across the region. In Central European countries, family protection mechanisms are heavily shaped by distinct regional legal and social characteristics, as highlighted by T. Barzó (2021). Furthermore, the legal protection of the family in nations like Poland continuously evolves in response to both international requirements and shifting social dynamics, which M. Andrzejewski (2021) concluded underscores the ongoing adaptation and

compliance of national norms to meet broader global standards.

In the context of Central Asia, contemporary Uzbek society reflects a distinct concept of the family where state policy successfully prioritises specific foundational objectives to support family units, as analysed by M.K. Abulova (2023). Additionally, family institutions and marital relations in the region often rely on customary legal norms; studies such as those by Z. Aitbaeva *et al.* (2021) demonstrate the enduring influence and unique strengths of traditional approaches to family governance. Within the constitutional framework of Kyrgyzstan, A. Akisheva (2023) showed that the intersection of gender rights and family policy highlights the critical necessity of safeguarding women's rights to ensure equitable family relations. Ultimately, family policy functions as an essential component of overall state social policy, with N.K. Atabekova *et al.* (2023) concluding that addressing contemporary demographic and social challenges is increasingly reliant on the application of innovative legislative and policy responses.

S. Cui & P. Qi (2021) examined the legal regulation of personal information and privacy protection under the Civil Code of the People's Republic of China (2020). This topic has notable potential for further development, as privacy regulation directly affects family relations in the context of digitalisation. A.A. Grynychak *et al.* (2022) analysed the Convention for the Protection of Human Rights and Fundamental Freedoms as a constitutional instrument of European law and order. The study was highly valuable in the context of integrating international standards into national law, but did not consider their direct influence on family law. S. Kraljić (2020) studied Slovenia's new Family Code and the process of de-juridification of divorce. This study demonstrated the significance of reforming family law to ensure its accessibility, but the question of the universality of the proposed approaches was left open.

Studies focusing on the international analysis of family policy provided limited comparisons between countries with distinct approaches. While comparative analysis can reveal the unique advantages or disadvantages of distinct systems, available studies often lack depth in comparing legal systems and policy models, complicating the understanding of which approaches may be most effective in particular contexts. The purpose of the present study was to determine the constitutional legal foundations of family policy within an international and comparative context to establish the relevance of modern recommendations for updating these frameworks. The objectives of the present study were as follows:

- to investigate the theoretical foundations of family policy to establish a baseline for evaluating the relevance of contemporary policy recommendations;
- to evaluate the extent to which new family policies comply with both national legislation across the studied jurisdictions and international standards, including human rights conventions and cross-border agreements;
- to formulate relevant, evidence-based recommendations for harmonising national systems based on specific national features, focusing on Kyrgyzstan alongside international models.

Materials and Methods

Particular attention was paid to international documents such as the UN Convention on the Rights of the Child (1989), the UN Convention on the Elimination of all Forms of Discrimination against Women (1979), the ILO Convention No. 156 (1981), the ILO Convention No. 183 (2000), the European Social Charter (1961), and the Council of Europe Convention on Preventing and Combating Violence Against Women and Domestic Violence (Istanbul Convention) (2011). These instruments lay a comprehensive foundation for the protection of the rights of

the family, gender equality, work-life balance, and the safety of individual members at the international level. These documents serve as a basis for the development of national legal systems that promote the harmonisation of family policy.

National examples studied include the Action Plan on Sexual and Reproductive Health by WHO (2016), Act of the Federal Republic of Germany on the Federal Parental Allowance and Parental Leave (2015), and the report “Time for the Family” (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, 2012) in Germany, the Social Security Code (2025), the Family Code of the Kyrgyz Republic (2003), the Appendix to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic No. 254 (2025), and the Civil Code of the People’s Republic of China (2020). The analysis was conducted to identify similarities and differences in the regulation of family relations in distinct legal systems. The choice of regulations from Germany, France, Kyrgyzstan, and China was determined by their significance in the context of studying family policy, as well as the unique approaches applied in each of these countries.

As part of the literature and legal review informing this study, it is recognised that creating effective family policies requires coherence between legislation, social support programmes, and international standards. The Constitution of the Kyrgyz Republic (2021) prescribes the fundamental rights of citizens, including the right to found a family and protect family values. It guarantees equality of spouses, protection of the interests of minors, and social support for large families, which underlies further development of regulations and state programmes. These provisions are integrated into the Family Code of the Kyrgyz Republic (2003). The Code of the Kyrgyz Republic on Children (2012) complements this legal framework by establishing mechanisms for the protection of minors, guaranteeing their access

to education, medical care, and social support. A significant part of family legislation is the Law of the Republic of Kyrgyzstan No. 184 "On State Guarantees of Equal Rights and Equal Opportunities for Men and Women" (2008).

The methodological framework of the present study included a comparative-historical method of analysing regulations of countries according to criteria such as family policy objectives, financial support, parents' working hours, gender equality, demographic policy, international obligations, which helped to compare the development of family policy in different countries at different stages of its evolution. A comprehensive analysis method was applied to identify problems and challenges in the implementation of family policy in Kyrgyzstan. A comparison of Kyrgyzstan's experience with successful practices in other countries, such as Germany, France, and China, helped to identify areas where Kyrgyzstan's family policy can be improved.

Results

Theoretical foundations. Family policy aims to support family well-being, protect their rights, and create conditions for stable socio-economic functioning. It encompasses targeted measures for diverse groups, including large families, those with disabled children, older persons, and vulnerable populations (Atabekova *et al.*, 2023). Developing accessible social services (education, healthcare, and psychological support) strengthens family resilience, promotes long-term well-being, and fosters social cohesion. Key objectives of family policy include protecting the rights of vulnerable family members, improving economic stability, and facilitating a harmonious work-life balance. By drawing on international practices and local needs, these policies strengthen social solidarity and promote essential values like care and inter-generational ties. Such ties are crucial for building social capital and helping families adapt to

modern challenges like migration, demographic shifts, and social inequality.

Family policy is grounded in constitutional norms that establish principles for state support, providing the legal basis for sectoral laws like family codes and social protection acts (Giyasova *et al.*, 2025). These frameworks regulate demographics and gender policy, ensuring equitable access to vital services while protecting against violence and discrimination. As a cornerstone of the welfare state, family policy mitigates social risks and develops human potential (Ryskaliyev *et al.*, 2019; Amandossuly *et al.*, 2025). Its successful implementation increasingly requires harmonising national legislation with international standards to strengthen social cohesion.

Constitutional law interacts closely with international standards to regulate family, marriage, and property relations while establishing state support principles. Integrating instruments like the UN Convention on the Rights of the Child (1989), which mandates child protection, education, and healthcare, into national systems ensures their practical implementation. Furthermore, treaties such as the UN Convention on the Elimination of all Forms of Discrimination against Women (1979), the Council of Europe Convention on Preventing and Combating Violence Against Women and Domestic Violence (Istanbul Convention) (2011), the European Social Charter (1961), the ILO Convention No. 156 (1981), and the ILO Convention No. 183 (2000) strengthen legal guarantees for gender equality, domestic safety, maternity protection, and work-life balance. Organisations like the UN, UNICEF, and the Council of Europe drive this international cooperation. While these conventions guide national legislation and establish uniform human rights standards, their practical implementation naturally varies according to the specific socio-economic, cultural, and historical contexts of each country or region. Thus, international conventions create

unified guidelines for the formation of family policy, but their implementation depends on the concrete conditions in each country. In countries with prominent levels of economic development, they contribute to the expansion of social guarantees and support for family well-being, while in developing regions, the focus is on combating poverty, protecting motherhood and childhood, and adapting international standards to national traditions and capabilities.

The development of family policy is impossible without considering the educational aspect since the availability of quality education plays a key role in the development of stable family relations and social stability. One of the topical areas of family policy is the development of digital literacy among parents and children, which is critical in the modern global digitalisation era. Access to technology, online education, and digital services allows families to adapt to modern requirements, improve educational and professional prospects, and ensure equal access to the opportunities provided by the digital economy.

Recent political developments and legislation in Europe and China. In EU countries, family policy is focused on a strong level of social protection and the creation of conditions for family development. For instance, in Sweden and Germany, the priority is to combine parents' professional activities with raising children. These countries provide generous benefits, paid childcare leave, and affordable preschool education services, which contribute to the harmonisation of work and family responsibilities. In Sweden, parents can take extended periods of childcare leave with partial or full pay, which helps improve families' standard of living and balance work and personal life (Government Offices' Legal Databases, 1993). Germany implements policies to support large families by providing tax breaks, accessible educational institutions, and a well-developed system of social services, including kindergartens

and family support centres, which play a key role in ensuring family well-being and supporting sustainable family time policies (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, 2012; Shire & Nemoto, 2020).

In Eastern European countries such as Poland, the Czech Republic, and Ukraine, family policy is developing in line with international standards but faces challenges related to economic instability and the need to reform social institutions (Thomas, 2019). National programmes are aimed at supporting families with children, including the provision of maternity capital, subsidies, and child-rearing allowances. Poland has a "500+" system of regular payments to families with children, which contributes to improving the demographic situation and social stability (Andrzejewski, 2021). In Ukraine, family policy is being transformed in the context of integration with the EU, which involves reforming legislation in line with international standards on child protection and gender equality (Grynychak *et al.*, 2022).

The family policies of different countries reflect their unique historical, socio-economic, and cultural priorities. European and Asian nations demonstrate diverse approaches to regulating family relations, as evidenced by frameworks like the Act of the Federal Republic of Germany on the Federal Parental Allowance and Parental Leave (2015), and Civil Code of the People's Republic of China (2020), Social Security Code of France (2025). European countries like Germany and France leverage their strong economies to stimulate birth rates and promote work-life balance through generous financial support, paid parental leave, accessible childcare, and gender equality initiatives. Meanwhile, China is actively transitioning from strict birth control to encouraging fertility through tax incentives and allowances, though soaring living costs and intensive labour cultures remain significant barriers to

population growth. Ultimately, these distinct approaches, whether prioritising progressive economic support in Europe or navigating demographic shifts and traditional values in Asia, highlight the necessity of integrating international standards with national legislation. This adaptation allows countries to balance tradition with innovation, offering valuable models for cross-regional social protection.

A comparative legal analysis reveals fundamental similarities in the goals of family policy across different jurisdictions, yet distinct structural differences in how these goals are legally codified (Munif *et al.*, 2025). For instance, the Act of the Federal Republic of Germany on the Federal Parental Allowance and Parental Leave (2015) explicitly establishes a direct legal entitlement to financial compensation during parental leave. Similarly, the Social Security Code of France (2025) outlines comprehensive statutory mechanisms that guarantee family allowances and infrastructural access to childcare. In the Asian context, the Civil Code of the People's Republic of China (2020) legislatively reinforces the protection of marriage and family, an approach supported by state programmes expanding access to healthcare and social security (Zheng & Shu, 2024). As evidenced by the legal structures in Germany, France, and China, the success of family policy relies heavily on a codified, multifaceted approach that seamlessly integrates economic, social, and cultural legal norms to achieve an equitable society.

Family policy implementation and challenges in Kyrgyzstan. In Eastern Europe and Central Asia, including Kyrgyzstan, family policy is aimed at reducing poverty, strengthening the institution of marriage, and supporting vulnerable families. The focus is on improving the living conditions of large families, developing programmes to help those in need, and supporting women in challenging life circumstances. Kyrgyzstan is actively implementing social programmes aimed at

improving healthcare and providing financial aid to low-income families to improve their quality of life (Atabekova *et al.*, 2023).

Conversely, Kyrgyzstan relies heavily on traditional values and community networks to manage its high birth rate, as limited economic resources constrain comprehensive state assistance for large and low-income families. The interaction of these legislative acts provides a comprehensive approach to protecting the family and creating favourable conditions for its development, but their implementation requires support at the level of state programmes. State programmes to support families in Kyrgyzstan include social support measures for large families, payment of allowances, subsidies for medical services, and tax benefits, as guided by national strategies aiming to modernise family support infrastructure (Appendix to the Resolution..., 2025). These measures help to reduce poverty, create conditions for stable child-rearing, and ensure equal opportunities for all categories of families. Child protection-oriented programmes in Kyrgyzstan include allowances for low-income and large families, subsidies for medical services, support with school meals and textbooks, and targeted assistance for children in difficult life situations.

Thus, family policy in Kyrgyzstan is a multi-layered system that includes legal mechanisms aimed at protecting family rights, supporting vulnerable categories of citizens, and creating conditions for the equal and stable development of family relations. The integration of international standards into national legislation allows factoring in the global trends and adapting successful practices from other countries to local conditions, which further contributes to improving the level of social protection and the sustainable development of family institutions in Kyrgyzstan.

The success of these programmes is confirmed by the positive changes in the socio-economic situation of families in Kyrgyzstan. For

example, according to the Ministry of Labour and Social Development of the Kyrgyz Republic (2023), about 30% of large families received aid under the programme to support large families, indicating considerable coverage. However, the implementation of family policy faces a series of challenges. One of the most prominent factors is the impact of migration, which can destroy family structures and increase the burden on

the remaining family members. Research shows that a high degree of migration leads to adaptation problems for children left without parents and negatively affects the preservation of inter-generational ties. Socio-economic factors such as increased unemployment rates, limited access to quality healthcare and education services, and poverty increase family tensions and reduce the resilience of family institutions (Table 1).

Table 1. Problems and challenges of family policy implementation in Kyrgyzstan

Problems and challenges	Description
Effects of migration	High migration rates cause a breakdown of family ties and increase the burden on the remaining family members.
Socio-economic factors	Increased unemployment rates and limited access to quality healthcare and education services negatively influence the stability of family institutions.
Low availability of quality services	Limited access to quality education and healthcare reduces the well-being of families.
Inequalities in gender policies	Discrimination against women and violation of the rights of family members, especially vulnerable groups such as the elderly and persons with disabilities.
Inadequate state support	Lack of sufficient funding for family support programmes causes limitations in their implementation.

Source: compiled by the authors of this study based on national legislation and strategic programmes, including the Family Code of the Kyrgyz Republic (2003), the Law of the Republic of Kyrgyzstan No. 184 (2008), Constitution of the Kyrgyz Republic (2021), and the Appendix to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic No. 254 (2025)

The implementation of family policy in Kyrgyzstan faces a series of major challenges. One of the key difficulties is the underdeveloped legislative framework, which hinders the resolution of issues related to the protection of the rights of families and children. While the legal system and government strategies attempt to respond to these issues through constitutional guarantees and state programmes, these responses often lack adequacy and timeliness. For example, existing legal mechanisms face challenges in adequately addressing housing inaccessibility, low material security, and discrimination against women and children in family relations, necessitating more comprehensive legislative approaches (Akisheva, 2023). Consequently, current government policies often function more as a declarative attempt

to emulate international standards rather than an effective, functioning mechanism. Additionally, insufficient funding for social programmes strictly limits their effective implementation, further rendering the state's response inadequate.

Social and cultural stereotypes, especially regarding the role of women in society, also hinder the development of family policy, as they limit women's participation in labour and public life. For instance, the enduring influence of customary legal norms in regional marriage relations can sometimes overshadow official gender equality initiatives, demonstrating a significant gap between declarative legislation and actual enforcement (Aitbaeva et al., 2021). Increased levels of poverty and unemployment make it challenging for families to meet their basic needs, which

affects decisions about having children and access to quality services. A prime example of this constraint, and a demonstration of the state's delayed and insufficient response, is that despite existing state aid frameworks, only about 30% of large families actually receive necessary assistance, highlighting critical gaps in welfare coverage (Ministry of Labour and Social Development of the Kyrgyz Republic, 2023).

There is also a problem of low access to education and healthcare services, especially in rural areas, which limits families' opportunities to improve their living conditions. Domestic violence and insufficient legal awareness also create barriers to the effective implementation of family policy. This is particularly evident when vulnerable groups, such as the elderly and persons with disabilities, face ongoing rights violations due to a lack of awareness and inadequate enforcement of legal protections, showing that protective strategies are neither timely nor fully capable of safeguarding those at risk. Finally, weak interaction between public and private structures complicates the implementation of social initiatives. For example, insufficient coordination between local educational institutions and families limits the ability to empower parents, promote teacher accountability, and develop resilient family structures during crises, further indicating that the current framework lacks the systemic integration required to be truly effective (Jailobaeva *et al.*, 2023). All these problems require a comprehensive approach and reforms to improve the situation.

For the successful implementation of family policy in Kyrgyzstan, measures must be developed to reduce the impact of migration, improve access to quality services, and ensure equal rights for all family members. The thorough integration of national and international standards will considerably influence the sustainability and development of family policy. Problems of housing inaccessibility, low material security, and discrimination against

women and children in family relations also exacerbate the challenges of implementing family policy. In this context, comprehensive approaches are needed that factor in the diversity of family situations and promote social protection and the integration of international standards into national family support programmes (Akisheva, 2023).

This demonstrates significant differences from the approach set forth in Article 1 of the Family Code of the Kyrgyz Republic (2003) and the Constitution of the Kyrgyz Republic (2021), which broadly declare state protection of family values and the priority of family upbringing, but often lack the specific financial provisions and structural mandates found in European frameworks. In the Asian context, the Civil Code of the People's Republic of China (2020) legislatively reinforces the protection of marriage and family, an approach supported by state programmes expanding access to healthcare and social security (Zheng & Shu, 2024). Consequently, Kyrgyzstan faces the challenge of advancing beyond declarative constitutional guarantees by adapting concrete international regulatory practices into its national legislation, ensuring these reforms address specific local hurdles such as migration, rural resource deficits, and traditional customary norms.

Kyrgyzstan possesses promising potential to modernise its family policy by integrating specific statutory mechanisms that have proved effective in other jurisdictions. Translating the broad social models of Germany, France, and China into codified Kyrgyz law would systematically improve the quality of life for families and ensure long-term socio-legal stability. A prime example of actionable legislative borrowing is Germany's financial support framework. The German Child Benefit (Kindergeld) system (Federal Ministry for Education, Family Affairs, Senior Citizens, Women and Youth, 2025) provides universal, regular statutory payments to families for each child. In contrast, the current Kyrgyz approach, primarily

regulated by the Appendix to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic No. 254 (2025), is strictly targeted, reaching only a fraction of large or low-income families. Amending Kyrgyz legislation to phase in a universal child benefit system would legally ensure a reduction in financial burdens and foster a more stable demographic environment (Lüth & Zimmermann, 2024).

France offers another distinct legal model through its statutory obligations regarding pre-school education. French legal norms mandate infrastructural provision for kindergartens and nurseries, legally enabling parents to balance work and family. Comparing this to the Law of the Republic of Kyrgyzstan No. 184 (2008) highlights a gap: while Kyrgyz law guarantees equal opportunities, it does not currently compel the state to fund the necessary childcare infrastructure to realise those opportunities. Introducing targeted legislative amendments to mandate and subsidise pre-school network expansion, particularly in rural zones, is essential for making these declarative rights enforceable. China's legislative approach to demographic policy also serves as a critical reference point. While the Civil Code of the People's Republic of China (2020) secures personal and family rights, complementary state initiatives provide young families with concrete financial incentives, such as preferential mortgage conditions and tax deductions. Introducing analogous amendments into the Tax Code and housing legislation of Kyrgyzstan could legally stimulate the creation of new families. Furthermore, incorporating explicit provisions for flexible working hours into the Kyrgyz labour framework is vital to reflect the standards outlined in the ILO Convention No. 156 (1981).

Strengthening the institution of the family also requires an educational mandate. While Germany and France embed family-life preparation courses within their formalised educational

frameworks, the Code of the Kyrgyz Republic on Children (2012) primarily focuses on protective measures. Introducing legally binding educational standards that include financial management and interpersonal relations, adapted to national cultural nuances, would close this developmental gap. Furthermore, a comparative look at healthcare regulation highlights divergent levels of state obligation. The French Social Security Code of France (2025) systematically guarantees free prenatal and postnatal care. Although the Constitution of the Kyrgyz Republic (2021) and the Code on Children (2012) establish the right to health, these rights require deeper legislative codification to mandate free, accessible maternal care and comprehensive vaccination programmes at the municipal level, directly aligning with international sustainable development goals (WHO, 2016).

Addressing families in crisis also requires stringent legal frameworks. Where French and German laws mandate the establishment and funding of social support networks, the Kyrgyz legal system would benefit from statutory requirements explicitly obligating local governments to fund and maintain analogous centres for psychological and legal aid. A major step toward these reforms is the adoption of a comprehensive national family policy strategy that unifies these dispersed regulatory measures into a single, cohesive legal act. Such a document must move beyond generalised aims by prescribing clearly defined legal goals, binding funding mechanisms, and strict performance indicators.

Discussion

The study helped to trace major trends in the constitutional legal foundations of family policy at the international level. Importantly, many of the studies reviewed focused on the protection of human rights and the adaptation of national laws to international standards. This is significant for

understanding how different countries are integrating global norms and values into their legal systems, providing a basis for a more harmonised approach to family protection. The study demonstrated how national legal approaches to family policy were being influenced by international standards such as the European Convention on Human Rights and the Convention on the Rights of the Child. All the studies reviewed drew on international standards for the protection of human rights and the family, analysing various aspects of the impact of legal, social, and economic factors on the well-being of families. D. Osmonova *et al.* (2023) investigated the evolution of family relations in Kyrgyzstan, emphasising the key role of constitutional provisions in strengthening the institution of the family. The findings were consistent with the findings of the present study, highlighting the relevance of the legal framework of family policy in ensuring the sustainability of family structures. The similarity of the studied context and the general approach to the social protection of families explained the proximity of the findings.

P. Zhu *et al.* (2023) focused on analysing the resilience of families in crisis contexts such as the COVID-19 pandemic. The study emphasised that government support is a crucial factor in the adaptation of families to challenging situations. These findings partly overlap with the results presented, as the focus is on the general legal framework, while P. Zhu *et al.* focused on temporary crisis interventions. M.J. Thomas (2019) investigated the influence of internal migration processes in the UK on family structure and function. Although the topic of migration is only indirectly related to family policy, the difference in emphasis – social motivations for migration rather than legal regulation – explained the lower degree of alignment with the findings.

Projects focusing on educational opportunities for girls in Kyrgyzstan emphasised the role of family values and intergenerational dialogue,

which partially correlated with the results of the present study. The emphasis on education as a factor in the formation of stable family structures made these studies relevant in the context of general family policy. A. Stewart-Tufescu *et al.* (2019) explored children's well-being through their personal perspectives. Although only indirectly related to the legal aspects of family policy, this area confirmed the significance of considering children's interests within family structures. J.G. Grzywacz *et al.* (2019) emphasised work-life balance as a valuable element of family well-being. Their study confirmed the need for an integrated approach, which was consistent with the position of integrating family policy with labour and social legislation. The themes of intergenerational interaction through digital learning raised by C. Hébert *et al.* (2020), reflected novel approaches to nurturing and transmitting family values in the context of digitalisation. While these aspects were partly consistent with the findings of the present study, the focus on digitalisation added a new angle to family policy analysis.

K. Jailobaeva *et al.* (2023) demonstrated the responsibility of schools and teachers towards parents in Kyrgyzstan. These findings confirmed the significance of integrating education policy with family policy, stressing the relevance of working together to develop resilient families. E. Brini *et al.* (2021) analysed family life during the pandemic, identifying weaknesses in government support. Their findings were fully consistent with the results presented in the current study, highlighting the necessity of adapting legal and social measures to the emergency. H. Kleven *et al.* (2020) emphasised the role of family policies in reducing gender inequalities. The findings confirmed that the integration of gender into family policies contributed to a balanced distribution of roles in the family. L. Lui & A.K. Cheung (2021) examined the effects of family policies and social norms on marriage and fertility decisions. Their

findings supported the relevance of legal regulation in the context of population policy. G. Melo *et al.* (2023) examined the mental and emotional health of children in low-income families during the pandemic, emphasising the need for comprehensive state support. This aspect partially agreed with the findings presented, confirming the relevance of social protection. A. Reeves *et al.* (2021) explored the relationship between family policies and food security, emphasising the significance of social protection in improving family well-being.

S. Wang & S. Gong (2023) stressed the influence of family policies on gender roles and decisions to marry or have children. These findings were consistent with the results of the present study, supporting the need to consider social and cultural factors in the design of family policies. A studies emphasised the protection of women's rights within family policy (Shire & Nemoto, 2020). This reflects the increased focus on gender equality and women's rights in the contemporary international legal context. These studies showed that protection mechanisms are becoming more comprehensive, including not only legal issues, but also social and ethical aspects. A.A. Grynychak *et al.* (2022) and M. Poniatowski (2022) showed how international legal instruments, such as the European Convention on Human Rights and the Convention on the Rights of the Child, were actively influencing national systems of family rights protection. These studies reflected the desire to integrate national legislations into international legal frameworks, thereby harmonising approaches to the protection of family rights across countries. This created a space for comparative analyses that help to identify both similarities and differences.

Comparative studies that enable an in-depth investigation of the specifics of family policy in different states become key. For instance, S. Kraljić (2020) focused on analysing changes in the family code in Slovenia, while P. Sobczyk (2024)

examined the constitutional foundations of family policy in a broader context. This showed the diversity of approaches to legal regulation of family issues dependent on national contexts and specific cultural features. Furthermore, P. Sobczyk emphasised concrete legal developments, such as judicial reform on divorce, which allows for a better understanding of the practical application of theoretical developments. These studies analysed not only changes in legislation, but also the implementation of reforms at the level of the judiciary, which reflected the real dynamics of law enforcement practice. Notably, such studies contribute to a deeper understanding of the impact of legal changes on the functioning of family policy and the safeguarding of family rights in everyday life.

The present study on family policy in Kyrgyzstan and the study by D. NeJaime (2019) overlapped in a number of aspects, especially in terms of theoretical models and conceptual approaches that can be useful for deeper analyses. D. NeJaime (2019) emphasised the normative framework that defined the rights of parents and children, as well as their interaction in modern society. The problems considered in the present study were largely related to the challenges explored in D. NeJaime's (2019) study, such as the legal framework that defined the rights of parents and children. Thus, most of the studies reviewed confirmed the conclusions about the significance of constitutional legal foundations and the need for a comprehensive approach to the development of family policy. Differences in some aspects were explained by the different research focuses, regional contexts, and specific social problems addressed by the researchers. This emphasised the significance of adapting international practices to specific national features.

Conclusions

The study established that the theoretical foundations of family policy are deeply rooted in the

interaction between national constitutional norms and international legal standards. By investigating these foundations, it was determined that international instruments create a vital baseline for evaluating contemporary policy by setting uniform guidelines for child protection, gender equality, and social support. However, the successful implementation of these frameworks depends heavily on their translation into concrete statutory mechanisms rather than mere declarative norms.

Evaluating the compliance of new family policies revealed structural disparities among the studied jurisdictions regarding how these goals are legally codified. While European nations like Germany and France, alongside China, seamlessly integrate economic, social, and cultural legal norms through specific statutory mandates (guaranteed parental allowances, required pre-school infrastructure, and tax incentives), Kyrgyzstan's approach remains largely declarative. The study found that despite constitutional guarantees, Kyrgyzstan's current legal framework lacks the adequate funding mechanisms and binding structural mandates necessary to effectively counter complex local challenges, including the negative impacts of high migration rates, entrenched socio-economic inequalities, and inadequate service availability.

To harmonise Kyrgyzstan's national system with these international standards and address its specific demographic features, several evidence-based recommendations were formulated. First, it is recommended that Kyrgyzstan transition from a fragmented, targeted assistance model to a codified, universal child benefit system, drawing on successful frameworks like Germany's Federal Parental Allowance and Parental Leave Act.

Second, to realise the constitutional guarantees of equal opportunity, Kyrgyz law must be amended to explicitly mandate and subsidise the expansion of childcare and pre-school infrastructure, mirroring the statutory obligations found in the French Social Security Code. Third, inspired by the Civil Code of the People's Republic of China, introducing complementary financial incentives, such as preferential mortgage conditions and tax deductions, would legally stimulate family stability. Ultimately, these reforms should be consolidated into a comprehensive national family policy strategy that moves beyond generalised aims by prescribing binding funding mechanisms and strict performance indicators.

A limitation of the present study was the lack of available data regarding how specific local cultural and economic characteristics might influence the practical effectiveness of importing these international family policy practices into Kyrgyzstan. Prospects for further research must include a more granular analysis of socio-economic factors, particularly the precise effects of labour migration and economic instability on family cohesion, as well as a broader examination of how family policy intersects with other governmental frameworks to yield comprehensive improvements in quality of life.

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Conflict of Interest

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Конституційно-правові основи сімейної політики: міжнародний порівняльний аналіз

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Анотація

У сучасному контексті складних демографічних криз та соціально-економічних викликів формування ефективної сімейної політики є надзвичайно важливим компонентом функціонування держави та соціальної стабільності. Метою цього дослідження було визначення оптимальних конституційно-правових основ захисту сімейних прав шляхом встановлення актуальності сучасних рекомендацій щодо оновлення цих національних систем. У дослідженні використовувалися порівняльно-історичний метод, герменевтичне правове тлумачення та комплексний аналіз для оцінки нормативно-правових актів і правових баз. Дослідження законодавства Франції, Німеччини, Китаю та Киргизстану допомогло зробити теоретичні висновки щодо реальних проблем та успішних практик у сімейній політиці, зокрема щодо соціальної підтримки, міграційної адаптації, прав дітей та гендерної рівності. Було встановлено, що в той час як європейські країни законодавчо гарантують всебічну

економічну підтримку та обов'язкову дошкільну інфраструктуру, підходи в Китаї зосереджені на стимулюванні народжуваності через цільові фінансові заохочення та податкові пільги. Крім того, було досліджено правовий ландшафт Киргизстану та виявлено такі особливості: опора на декларативні конституційні гарантії, яким бракує необхідних кодифікованих механізмів фінансування та універсальних систем пільг для подолання специфічних викликів, таких як міграція та дефіцит ресурсів у сільській місцевості. Зроблено висновок, що успішна сімейна політика вимагає виходу за межі широких декларацій для впровадження конкретних, загальнодоступних законодавчих механізмів, які б гармонізували міжнародні норми з відмінними національними соціально-економічними умовами. Висновки та рекомендації, представлені в цьому дослідженні, можуть бути використані політиками, законодавцями та розробниками систем соціального забезпечення для реформування національних сімейних кодексів і розробки цільових, сталих програм державної підтримки

Ключові слова: міжнародне право; сімейні права; захист прав; національні правові системи; цифровізація сімейної політики



Constitutional and legal aspects of tax benefits for the elderly: A comparative international analysis

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The purpose of the study was to conduct a comparative international analysis of the legal regulation of tax benefits for the elderly, identify key challenges and differences in national approaches, and develop recommendations for optimising the legal mechanisms used to provide such benefits. The study conducted a comparative analysis of tax legislation and examined relevant legal frameworks. A systemic approach applied in the study enabled the consideration of legal, economic, and demographic factors affecting the effectiveness of tax incentives. The study demonstrated that Germany, Japan, and Kyrgyzstan applied different forms of tax relief for the elderly, including deductions for medical expenses, exemptions from property tax, reductions in taxable income, and tax incentives for caregiving. Notable differences were identified in the scale and implementation mechanisms of these measures. In Germany and Japan, tax benefits were closely integrated with social protection systems and consider demographic realities related to an ageing population. In contrast, Kyrgyzstan applied a more limited approach due to economic and administrative constraints. The findings highlighted the importance of a comprehensive and adaptive approach to granting tax relief, including the development of transparent implementation mechanisms, improved access to information for citizens, and regular monitoring of benefit effectiveness. International experience from Germany and Japan demonstrated the need to align tax policy with broader social protection strategies, including support for family-based care and the promotion of economic participation among older citizens. The practical value of the research lies in its recommendations for improving tax relief for elderly citizens through simpler procedures, better access to benefits, and stronger links with social protection policy

Keywords: economic security; social policy; economic stability; demographic challenges; population ageing; economic context

Introduction

With the growing number of elderly individuals in many countries and the increasing complexity of their socio-economic conditions, the issue of tax benefits for pensioners had become particularly urgent. Pensioners represented one of the most vulnerable segments of the population. Governments introduced tax exemptions and relief schemes to ensure their social welfare and alleviate their economic burden. However, the legal aspects surrounding the provision of tax benefits to pensioners remained underexplored, and legislative gaps often hindered the effective implementation of such measures in practice. The

challenges that required resolution include the wide variation in national approaches to granting tax benefits, which may result in unequal conditions for pensioners from different social groups. In addition, issues such as the accessibility of benefits for low-income individuals, the complexity of application procedures, and the lack of awareness among pensioners about their rights persist. Nevertheless, international organisations were attempting to establish common standards of social protection for the elderly, though the effectiveness of such initiatives requires detailed analysis of national practices (Kurylo *et al.*, 2026).

Tax benefits for elderly individuals were central to many contemporary studies, which explored aspects of fiscal incentives, social justice, and economic security for people of retirement age. B. Brewer *et al.* (2021) looked at whether income tax breaks for senior citizens have an impact on economic growth, considering these benefits as more than just a specific welfare tool. The study took into account the widespread tax breaks for senior citizens, which may have an impact on growth through labour-market behaviour, migration, consumption, and other economic decisions. This source was pertinent to the current study because it backed the notion that tax benefits for senior citizens should be examined as a tool for economic policy as well as a social safety net. A. Dada (2024) examined Poland's tax relief programme for working seniors and evaluated whether it offered enough tax and contribution benefits to support ongoing employment. The authors concluded that, while the relief may help some groups, especially those with lower pension entitlements, it cannot be considered a clearly significant incentive for all working seniors using a case-study approach, source analysis, legal acts, and inductive reasoning. This source was pertinent because it demonstrated that the effectiveness of tax benefits for senior citizens depended on both their actual financial and motivational impact as well as their legal existence.

A. Andrejovska & J. Glova (2022) examined the Slovak Republic's effective average tax rate in relation to EU nations as a component of tax competitiveness. In order to investigate the connection between tax burden, foreign direct investment, and competitiveness, the authors computed effective average tax rates for cross-border investments and employed cluster analysis. This source was pertinent because it clarified how tax benefits fit into a larger fiscal system where tax preferences must strike a balance between social

goals, economic competitiveness, and budgetary sustainability. D. Miles (2026) looked at the social and financial strain that ageing populations put on society, particularly with regard to pensions and the viability of retirement systems. This study was important because it demonstrated that public finance, pension stability, and demographic adaptation should all be taken into account, when determining tax policy for senior citizens. B.A. Nayeji *et al.* (2025) highlighted the need for sustainable mechanisms to finance the healthcare needs of older adults by comparing health financing policies for ageing populations across seven countries. Their findings were relevant to this study because healthcare access, medical deductions, and the decrease in financial vulnerability in old age were all strongly linked to tax benefits for senior citizens.

Using Vietnam as a case study, H.O. Nguyen *et al.* (2023) examined the impact of population ageing on personal income tax revenue. This source backed up the claim that as the population ages, tax revenue structures change and governments must modify tax laws to preserve fiscal balance and safeguard senior citizens. R. Jaimes & E. Westerhout (2023) examined retirement patterns and demographic shifts in order to determine the best social security policies for an ageing population. Their research was crucial to the current analysis because it connected social security design, labour income, taxes, and retirement choices in the context of population ageing. Despite the abundance of research, considerable gaps remained. There was insufficient analysis of the long-term financial impact of tax benefits on pensioners. No unified methodology existed for evaluating the effectiveness of tax relief in a comparative international context. Studies on the adaptation of successful international practices to national frameworks were extremely limited. The purpose of this study was to conduct a comparative legal analysis of tax benefit

regulation for elderly individuals in different countries (specifically Germany, Kyrgyzstan, and Japan), to identify key problems in this domain, and to develop recommendations for enhancing the effectiveness of legal mechanisms in the implementation of such benefits. The objectives of the study include:

1) to analyse the features of legal regulation regarding tax benefits for elderly individuals in selected countries;

2) to identify key differences and commonalities in the approaches to the application of tax benefits in Germany, Kyrgyzstan, and Japan;

3) to propose recommendations for improving the legal regulation of tax benefits for elderly individuals in Kyrgyzstan, drawing on international experience.

Materials and Methods

Research methodology ensured a systematic and comprehensive approach to examining the legal aspects of tax benefits granted to elderly individuals. This enabled the identification of key features and differences in national approaches and the most effective implementation mechanisms. The study involved a comparative analysis of legislation in countries with varying levels of economic development, socio-demographic characteristics, and legal traditions. This approach allowed for the consideration of diverse factors influencing the design and implementation of tax benefits, including economic stability, the level of state funding for social policy, and the degree of responsiveness to demographic challenges. The main stages of the study were schematically presented in Figure 1.

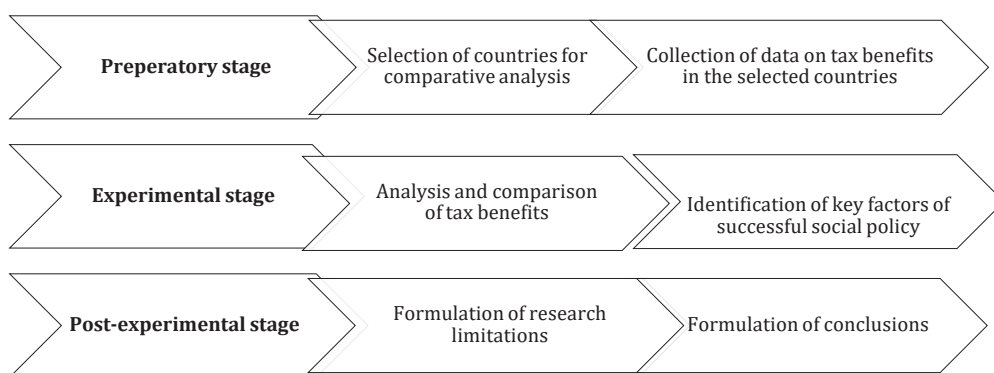


Figure 1. Research design

Source: developed by the authors

The study also included an analysis of existing issues such as the accessibility of benefits for beneficiaries, the transparency of procedures, and their overall effectiveness. This made it possible to identify legal and practical gaps that required further refinement and to formulate recommendations aimed at optimising tax regulation in an international context. Three countries were selected for the study based on their differing approaches to providing tax benefits to elderly individuals

within the framework of social protection. The sample included Germany, Kyrgyzstan, and Japan. Germany was known for its well-developed social protection system and effective use of tax instruments to support elderly individuals. The German model was focused on offering tax deductions, reducing the taxable base, and applying progressive tax rates to minimise the financial burden on pensioners. Kyrgyzstan represented a transitional economy, where tax benefits were more limited in

scope and often concentrate on basic taxes, such as property or income tax. Kyrgyzstan provided an opportunity to analyse the characteristics of tax relief in a context of constrained budgetary resources and to identify barriers to their effective allocation. Japan was selected as a country with a unique demographic profile, characterised by a high proportion of elderly citizens. In Japan, tax benefits were integrated into a broad spectrum of social policies, including special deductions for older individuals, incentives for continued employment, and additional support for those caring for elderly relatives.

The analysis of these countries across selected indicators enabled the identification of the primary factors influencing the development and implementation of tax relief. Each country was analysed for the period 2020-2024 with regard to the application of key tax benefit instruments. These instruments included deductions from taxable income, exemptions from specific types of taxes, tax credits, rate reductions, and special support programmes for pensioners delivered through the tax system. The following research methods were employed in the study. The comparative method was used to examine the differences and similarities in the legal regulation of tax benefits for elderly individuals in Germany, Kyrgyzstan, and Japan. This approach enabled the identification of the specific features of each country's system, consideration of their economic and demographic distinctions, and evaluation of the effectiveness of the instruments used. The systems method was employed for a comprehensive analysis of the interrelationships between tax policy, social protection, and demographic trends. This method facilitated a view of tax benefits as part of a broader framework of social support for elderly populations. The legal method was used to analyse tax relief regulations and international agreements and recommendations concerning the social protection of elderly individuals.

National legislation from Germany, Kyrgyzstan, and Japan was analysed, alongside international standards and practices. Analysis of Germany was based on documents and reports by European Commission (2018; 2023), OECD (2023). It was analysed data from Federal Ministry of Labour and Social Affairs (2022; 2023; n.d.). The legal analysis also included a detailed examination of the German regulatory acts, including Property Tax Act (1973), Wealth Tax Act (1974), and Germany Income Tax Act (2009). Additional attention was given to Inheritance Tax and Gift Tax Act (1974), Social Code (SGB) Book V – Statutory Health Insurance (1988), and Motor Vehicle Tax Act (2002). Investment Tax Act (2018) was also analysed as part of the legal framework regulating tax preferences related to investment income. The study analysed Japanese legislation governing income taxation, pension insurance, inheritance taxation, healthcare-related deductions, property taxation, local taxation, employment of older persons, and social security contributions. The principal legal sources included Employees' Pension Insurance Act (1941), Inheritance Tax Act No. 73 (1950), and Income Tax Act No. 33 (1965). The Health Insurance Act No. 70 (1922), the Act on Stabilisation of Employment of Elderly Persons No. 68 (1971), and social security legislation were also examined. The analysis of Kyrgyzstan relied on the Kyrgyz Republic. Multi-annual Indicative Programme 2021-2027 (2021) and The World Bank (2023). The main legal sources included Law of the Kyrgyz Republic No. 57 (1997) and Tax Code of the Kyrgyz Republic (2022). Civil Code of the Kyrgyz Republic (1996) and Land Code of the Kyrgyz Republic No. 45 (1999) were also analysed as part of the national legal framework governing property- and land-related tax provisions. Demographic and contextual indicators were considered using data from Statista (2026a; 2026b; 2026c). The comparative analysis of Germany, Japan, and Kyrgyzstan enabled an inspection, of

which approaches have proven most effective, what barriers remained to their implementation, and how successful practices might be adapted for use in an international context.

Results

The results of research highlight a comparison of tax relief programmes for senior citizens in Kyrgyzstan, Germany, and Japan. Attention is drawn to the legal basis, types of benefits, the extent of financial support, and the administrative accessibility of tax relief measures. This perspective

allows for the identification of both universal principles of social protection and national variations shaped by institutional, economic, and demographic factors. The tax relief system for elderly individuals in Germany is among the most developed and detailed in Europe (Table 1). It is based on a range of legal instruments, with the German Income Tax Act (2009) playing a central role in regulating personal taxation, including the provision of tax benefits. This system is designed in accordance with demographic changes, economic sustainability, and social equity.

Table 1. Tax relief system for elderly individuals in Germany

Type of tax relief	Legal framework	Amount of relief (as a percentage or fixed amount)
Reduction of income tax for pensioners	Germany Income Tax Act (2009)	Reduction of taxable base by EUR 1,000 for single pensioners (if annual income is below EUR 20,000)
Property tax relief for elderly people	Property Tax Act (1973) and Wealth Tax Act (1974)	Exemption from property tax for pensioners aged 65+ with an annual income below EUR 35,000
Medical expense deduction	Social Code (SGB) Book V – Statutory Health Insurance (1988)	Deduction of up to 7.5% of income for medical expenses (if total exceeds EUR 1,000)
Inheritance tax relief for elderly individuals	Inheritance Tax and Gift Tax Act (1974)	Exemption of EUR 500,000 for spouses and EUR 400,000 per heir (for pensioners aged 70+)
Transport tax reduction for elderly citizens	Motor Vehicle Tax Act (2002)	Discount of 20-30% on vehicle tax for individuals aged 65+, depending on the region
Property tax exemption for elderly individuals	Property Tax Act (1973)	Exemption from land tax on real estate valued below EUR 100,000
Income tax reduction for employed pensioners	Germany Income Tax Act (2009)	5% reduction in income tax for employed pensioners with annual income under EUR 30,000
Investment income tax relief for pensioners	Investment Tax Act (2018)	Exemption from tax on investment income up to EUR 10,000 per year

Source: European Commission (2018), M. Haisch & S. Arlich (2023), Federal Ministry of Labour and Social Affairs (2023), PwC (2024)

One of the defining features of the German pension system is the gradual increase in the taxable portion of pension income, introduced with the 2005 reform. For individuals retiring in 2020, 80% of pension income is subject to taxation. The taxable share increases annually. For example, individuals retiring in 2025 will see approximately

83.5% of their pension income taxed. This gradual increase will continue until 2058, when pension income is expected to become fully taxable (SteuerGo, n.d.). The reform reflects efforts to ensure the long-term sustainability of the pension system amid demographic changes, including increased life expectancy. In 2023, average

life expectancy in Germany was approximately 78.5 years for men and 83.2 years for women (German Federal Statistical Office, 2026). Moreover, a mechanism of tax relief for elderly taxpayers exists in Germany, known as the Altersentlastungsbetrag, which applies to individuals aged 64 and over. In 2023, this deduction amounted to 15.2% of income, capped at EUR 722 per year. However, this relief is gradually being phased out for new pensioners to maintain a balanced tax burden over time. More specifically, recent reforms include the 2025 increase and nationwide unification of the contribution assessment ceiling for statutory pension insurance to EUR 8,050 per month, or EUR 96,600 per year, which eliminated the previous distinction between eastern and western Germany (Federal Ministry of Labour and Social Affairs, n.d.). In addition, the 2025 pension package aims to stabilise the pension level at 48% until 2031 and to expand pension credits for child-rearing periods (The Federal Government, 2025). These reforms aim to ensure the financial sustainability of the pension system without drastically raising the retirement age or reducing benefits.

Some German federal states introduced additional tax benefits for senior citizens. For instance, in Bavaria and North Rhine-Westphalia, older individuals may benefit from reduced property taxes, provided they reside in their own home or flat. This encourages senior citizens to maintain financial independence and reduces the burden on the state social protection system. The demographic structure of Germany greatly influences

its tax policy. As of 2023, individuals aged over 65 comprised 22.3% of the total population. Furthermore, projections indicate that this share will increase to 28% by 2040, driven by high life expectancy and a low birth rate of 1.5 children per woman in 2023 (European Commission, 2023). These trends place increasing pressure on the pension system and necessitate the redistribution of tax resources. The economic stability of Germany enables the funding of extensive social programmes. In 2022, the social expenditure budget totalled approximately EUR 1,178.5 billion, a substantial part of which was allocated to support for elderly citizens (Federal Ministry of Labour and Social Affairs, 2022). Nevertheless, the growing number of pensioners requires continued optimisation of the tax system. The tax relief system for older adults in Japan forms an integral part of the broader social protection framework, which is adapted to the country's unique demographic and economic conditions. Japan is one of the most aged societies in the world; according to the Ministry of Internal Affairs and Communications (2023), more than 29% of the population is aged over 65, the highest proportion globally. This demographic pressure prompted the government to develop measures supporting older citizens, including through targeted tax relief. The taxation system of Japan is governed by several legal instruments, including the Income Tax Act No. 33 (1965) and the Employees' Pension Insurance Act (1941). These statutes provide for a range of reliefs and deductions aimed at reducing the tax burden on elderly individuals (Table 2).

Table 2. Tax relief system for older adults in Japan

Type of tax relief	Legal framework	Amount of relief (as a percentage or fixed amount)
Reduction in personal income tax for pensioners	Income Tax Act No. 33 (1965)	Exemption of up to ¥1.2 million from the taxable base; tax rate reduced from 10% to 5%
Exemption from tax on pension payments	Employees' Pension Insurance Act (1941)	Exemption of up to ¥4 million per year for pension income
Inheritance tax relief for elderly individuals	Inheritance Tax Act No. 73 (1950)	Exemption of ¥20 million for spouses, and ¥6 million for each heir

Table 2. Continued

Type of tax relief	Legal framework	Amount of relief (as a percentage or fixed amount)
Medical expense deduction	Health Insurance Act No. 70 (1922)	Deduction for expenses exceeding 7.5% of annual income
Property tax exemption for older adults	Income Tax Act No. 33 (1965)	Exemption of up to 50% on one property
Local tax subsidies for older residents	Municipal regulations	Exemption of up to 50% on local taxes for low-income elderly citizens
Reduction in transportation tax	Legislation on transportation expenses for older adults	30-50% discount on public transport costs
Exemption from investment income tax	Income Tax Act No. 33 (1965)	Exemption of up to ¥1.5 million on annual investment income
Tax relief for employed older adults	Act on Stabilisation of Employment of Elderly Persons No. 68 (1971)	Income tax rate reduced to 5% for earnings not exceeding ¥2 million
Reduction in social insurance tax for the elderly	Social security legislation	30-50% exemption from contributions for citizens over the age of 70

Source: N. Yoshino *et al.* (2019), J.J. Pérez *et al.* (2021), KPMG Tax Corporation (2024)

A key component of the tax regime in Japan for older individuals is the income tax exemption for those whose annual earnings do not exceed a specific threshold. In 2023, this threshold stood at ¥1.03 million (approximately USD 7,500) for single pensioners (National Tax Agency, 2025). This provision supports a basic standard of living for low-income elderly individuals, including those solely reliant on state pensions. Individuals aged over 65 are also entitled to a special tax deduction known as the Elderly Deduction. In 2023, this deduction amounted to ¥480,000 (approximately USD 3,500) for single elderly persons, and ¥380,000 (approximately USD 2,800) for those living with family. This deduction applies to the overall taxable base, significantly reducing the tax burden (OECD, 2023). The tax system of Japan also includes inheritance tax relief under the Inheritance Tax Act No. 73 (1950). Older adults transferring assets to their heirs benefit from enhanced exemptions. In 2023, the basic tax-free threshold for inheritance was ¥30 million (approximately USD 218,000), plus ¥6 million (around USD 44,000) per heir. These provisions aim to support intergenerational wealth transfer

and promote family values. Elderly citizens may also claim deductions on medical expenses exceeding 5% of their annual income. In an ageing society, this is particularly crucial, given that older individuals typically allocate a substantial portion of their income to healthcare (Moretto *et al.*, 2008; Fedenko *et al.*, 2025). According to the Ministry of Health, Labour and Welfare, the average annual medical expenses for an elderly individual in 2022 amounted to approximately ¥800,000 (around USD 5,800) (Statista, 2026b).

Local authorities in Japan also provide supplementary benefits for older citizens. In prefectures such as Hokkaido and Okinawa, for instance, low-income elderly individuals are either exempt from paying housing tax or receive substantial reductions. These measures reduce the financial burden on pensioners, particularly in regions with a high cost of living. The demographic situation in Japan directly influences the development of tax policy. According to projections by Statista, by 2040, individuals over the age of 65 will comprise 35% of the total population (Statista, 2026a). In 2023, the life expectancy was 81.6 years for men and 87.3 years for women, necessitating increased

expenditure on pensions and healthcare. Economically, Japan faces growing pressure on its pension fund and a shrinking tax base due to a declining working-age population (Fukuda & Okumura, 2021). In response, the government introduced measures aimed at encouraging employment among older citizens. Individuals who continue working beyond retirement age (65 years) receive income tax relief and pension bonuses. In 2023, the proportion of employed pensioners reached 25%, representing a record high.

The tax relief system of Japan for older citizens reflects a high level of adaptation to the demographic and economic conditions. It aims to reduce the tax burden, maintain a basic standard of living, and stimulate economic activity among older people. Nevertheless, in the context of ongoing population ageing and rising social expenditure, continuous revision and modernisation of tax policy remain necessary (Efremov, 2026). The experience of Japan is valuable for other nations

facing similar demographic challenges and may serve as a model for the development of effective systems of social support. The system of tax relief in Japan for older people forms part of a comprehensive government policy aimed at supporting employment and social welfare for the elderly. In a context of demographic ageing, where those aged over 65 accounted for approximately 29% of the population in 2023, the Japanese government took steps to ensure an adequate standard of living and promote active participation by older citizens in economic life (Statista, 2026c). However, given the constraints on public finances, the tax relief system in Japan has specific features and notable limitations. Kyrgyzstan, as a developing economy, faces a range of challenges, including low income levels, insufficient public funding, and a high degree of dependency among vulnerable social groups on state support. These conditions shape the tax policy aimed at supporting older citizens (Table 3).

Table 3. Tax relief system for older people in the Kyrgyz Republic

Type of tax relief	Legal framework	Amount of relief (as a percentage or fixed amount)
Reduction in personal income tax for pensioners	Tax Code of the Kyrgyz Republic (2022)	Reduction of the income tax rate for pensioners by 10%
Exemption from tax on pension payments	Law of the Kyrgyz Republic No. 57 (1997)	Full exemption from tax on all pension payments up to 100,000 som per year
Property tax relief for older people	Tax Code of the Kyrgyz Republic (2022)	Exemption from property tax for pensioners over the age of 60
Reduction in vehicle tax	Tax Code of the Kyrgyz Republic (2022)	50% discount on vehicle tax for pensioners
Property tax exemption on inherited property	Tax Code of the Kyrgyz Republic (2022)	Exemption from property tax when property is inherited by older individuals
Exemption from tax on gifts from close relatives	Civil Code of The Kyrgyz Republic (1996)	Exemption from tax on gifts from close relatives up to 200,000 som
Land tax relief for older citizens	Land Code of the Kyrgyz Republic No. 45 (1999)	Exemption from land tax for pensioners over the age of 65
Subsidies on local taxes for pensioners	Tax Code of the Kyrgyz Republic (2022)	Subsidy on local taxes for pensioners with an annual income below 30,000 som
Income tax reduction for working pensioners	Tax Code of the Kyrgyz Republic (2022)	Reduction of income tax rate by 15% for working pensioners

Source: Kyrgyz Republic. Multi-annual Indicative Programme 2021-2027 (2021), World Bank (2023)

The tax relief system in the Kyrgyz Republic is based on the provisions of the Tax Code of the Kyrgyz Republic (2022), along with a number of subordinate regulations governing tax preferences and exemptions. The primary focus lies in supporting individuals with low incomes and ensuring a minimum level of social protection for older people. According to Article 208 of the Tax Code of the Kyrgyz Republic (2022), older citizens whose income does not exceed the established non-taxable minimum are exempt from paying personal income tax. In 2023, this threshold was set at 200,000 soms per year (approximately USD 2,300). This measure is intended to safeguard older people with limited financial resources, particularly those who rely on pensions and other social benefits. Men aged 63 and above, and women aged 58 and above, may benefit from property tax relief. As stipulated by Article 342 of the Tax Code of the Kyrgyz Republic (2022), such citizens are exempt from property tax on their sole residence, provided it does not exceed 80 square metres for flats and 120 square metres for detached houses. This provision is particularly relevant for single pensioners, who often lack alternative sources of income.

Pension-age citizens are also exempt from land tax, provided the land is used for subsistence farming (Demi *et al.*, 2021). This preferential regime is intended to support older residents in rural areas, where a significant proportion of the population is engaged in agriculture. Older citizens living in remote and high-altitude regions benefit from partial exemption from excise duties on fuel used for heating (Teta *et al.*, 2025). These relief measures are governed by government decrees and vary according to the region's climatic conditions. Older people in the Kyrgyz Republic face a number of challenges, including low pension levels and limited access to healthcare services (Chipegin, 2024). In 2023, the average pension amounted to approximately 7,500 soms (around

USD 87), one of the lowest figures among Central Asian countries. This compels many older individuals to continue working, particularly in rural areas. The country's demographic structure also influences its tax policy (Koumpias *et al.*, 2021). Although the proportion of older citizens in Kyrgyzstan is lower than in more developed countries, population ageing is progressing. According to The World Bank (2023), the life expectancy in 2023 was 67 years for men and 75 years for women.

The application of tax relief measures in the Kyrgyz Republic varies across regions. In densely populated areas such as Chüy Region and the city of Bishkek, older citizens have greater access to tax benefits due to more developed infrastructure. In contrast, remote regions, including Naryn and Batken, face limited access to such entitlements, owing to low public awareness and insufficient engagement from local authorities (World Bank, 2023). The tax relief system for older citizens in Kyrgyzstan is designed to reduce poverty and provide basic social protection. Despite considerable economic constraints, the country seeks to support its most vulnerable populations through a flexible system of tax preferences. However, the effectiveness of these measures relies on the modernisation of the legal framework, improved public awareness, and increased funding for social support programmes. The Kyrgyz experience highlights the importance of accounting for regional and economic disparities when developing tax policy aimed at supporting the elderly (United Nations Development..., 2022).

A comparative analysis of tax relief schemes for older people in Germany, Kyrgyzstan, and Japan indicates both universal approaches to supporting ageing populations and significant differences arising from the economic, demographic, and cultural characteristics of each country. These differences are essential for understanding which strategies can be adapted or improved to mitigate the challenges of population ageing. In

all three countries, the primary aim of tax relief policies is to reduce the financial burden on older citizens and enhance their social protection. Germany's tax relief system encompasses a wide range of categories, including income, property, and inheritance (Link, 2019). For instance, pensioners with low incomes are eligible for medical expense deductions of up to 7.5 per cent of their income, while inheritance tax allowances permit exemptions of up to EUR 500,000 for transfers of property to close relatives. This approach reflects the country's strong fiscal capacity and its commitment to maintaining social stability in the face of demographic ageing, with those over 65 comprising 22 per cent of the population in 2023.

The tax relief system of Japan is more targeted, addressing challenges stemming from demographic shifts. With 30 per cent of citizens already over the age of 65, the country faces pressing demands for investment in long-term care and healthcare services (Zhou & Zhang, 2022). Tax deductions for caring for elderly relatives can reach ¥200,000, and tax relief on healthcare expenses ensures access to essential support. Unlike the German model, Japan places greater emphasis on family involvement, incentivising households to participate in caregiving for older family members. Kyrgyzstan, with limited fiscal resources, implements more modest tax relief schemes that aim to address the basic needs of older people. For example, pensioners earning less than KGS 150,000 annually are exempt from income tax, and individuals over 70 who own a single residence are not required to pay property tax. These measures aim to guarantee a minimum level of social protection, given the country's under-resourced pension system, which lacks the financial sustainability of those in Germany or Japan. Furthermore, unlike other countries, Kyrgyzstan's strong tradition of multigenerational households reduces the necessity for specific tax incentives to support caregiving within families.

The principal distinction between the countries lies in the scale and focus of their tax relief measures (Huff, 2022). Germany adopts a comprehensive approach, offering substantial tax reductions across various domains, including inheritance and property ownership. Japan concentrates on addressing demographic challenges by introducing incentives that encourage family-based care. Kyrgyzstan, constrained by its economic capacity, targets its support towards the most vulnerable segments of the population by granting exemptions from core taxes. The analysis demonstrates that all three countries acknowledge the importance of healthcare expenditure, housing accessibility, and the promotion of family-based support. However, approaches to the administration of tax relief differ. In Germany, tax relief is automatically factored into income tax declarations, increasing accessibility. The Japanese system requires a separate application, which may create barriers for low-income citizens. In Kyrgyzstan, procedures are also simplified yet hindered by the limited digitalisation of the tax system.

The findings indicate broader patterns in the design and implementation of tax relief systems across different socio-economic and demographic contexts. Japan, for example, could improve coverage by simplifying the procedures for accessing tax relief. Kyrgyzstan could expand the scope of available relief measures by leveraging international financial assistance or implementing targeted programmes. Germany may serve as a model for a comprehensive approach that integrates tax incentives with a robust system of social guarantees. Such measures would not only improve the well-being of older citizens but also help mitigate the effects of population ageing, easing pressure on state resources and enhancing the quality of life for older generations. A comparative assessment of tax relief systems for older people in Kyrgyzstan, Germany, and Japan highlights

several areas in which Kyrgyzstan's legal framework could be strengthened. Key recommendations are based on successful international practices, adapted to Kyrgyzstan's unique socio-economic and demographic context.

Expanding the range of tax relief measures for older citizens and making them more targeted remains essential. As of 2024, tax relief in Kyrgyzstan is largely limited to exemptions on income and property taxes for certain categories of individuals. Drawing on the German example, it would be feasible to introduce deductions related to healthcare and long-term care costs. In Germany, for instance, taxpayers may deduct up to 7.5 per cent of healthcare-related expenses from their taxable income. While Kyrgyzstan operates with more limited resources, it could implement a modified version of this approach, allowing modest deductions to help offset healthcare and medication costs for pensioners. It is necessary to promote family-based support for older people through tax mechanisms. The Japanese experience demonstrates that tax relief aimed at supporting households that care for elderly relatives can have a substantial impact in ageing societies. In Kyrgyzstan, where intergenerational family ties remain strong, such measures could receive broad public support. For example, tax deductions or exemptions for family members providing care may serve as an effective tool for reinforcing family-based care models (Arachi *et al.*, 2012).

A third key step involves the simplification and digitalisation of procedures for accessing tax relief. One of the main strengths of the German system lies in the automation of benefits through income tax declarations. Kyrgyzstan could adopt a similar model, allowing older citizens or their caregivers to receive eligible benefits automatically, without the burden of submitting numerous certificates and supporting documents. This is particularly relevant given the low level of digital literacy and the limited availability of administrative

services in rural areas. It is also worth considering the gradual introduction of inheritance tax relief, should such taxes be implemented in Kyrgyzstan in the future. In Germany, significant exemptions are granted for inherited property transferred to close relatives, enabling families to retain assets and maintain financial stability. In the Kyrgyz context, such a measure could serve as a long-term strategy to reduce wealth inequality and support families with older dependents.

Finally, improving public awareness of available tax benefits is of critical importance. One of the issues identified during the analysis is the insufficient awareness among older citizens regarding their rights and entitlements. In this regard, the implementation of educational programmes, similar to those conducted in Japan, would be appropriate. In Japan, local authorities regularly organise seminars and consultations, where older residents can receive guidance on tax matters and benefit entitlements. Kyrgyzstan could adapt this practice by engaging local government bodies and civil society organisations. The implementation of these recommendations would not only enhance the welfare of older citizens but also strengthen public trust in the tax system and the state more broadly. Nevertheless, it is essential to recognise that the proposed measures require legislative reform and adequate funding, which may be secured through international assistance and the optimisation of public spending.

Discussion

The study demonstrated differences and commonalities in approaches to tax benefits for elderly individuals in Germany, Kyrgyzstan, and Japan. These findings were of critical importance for understanding the impact of tax policy on the socio-economic status of elderly citizens and for formulating practical recommendations to improve such systems in countries with varying levels of economic development and demographic

characteristics. The results underscored the necessity of a comprehensive and balanced approach to the development of tax relief systems, which should consider not only modern social and economic conditions, but also future demographic trends. Germany and Japan were already experiencing the consequences of population ageing, with individuals over the age of 65 comprising approximately 22% of the population in Germany and over 28% in Japan. In these contexts, tax relief systems served not only as mechanisms of social support, but also as tools for encouraging economic participation among older adults. Kyrgyzstan, by contrast, was in the early stages of demographic ageing, with those over 65 accounting for approximately 6% of the population.

A. Carter & R. Breunig (2019) focused on the legal challenges associated with tax benefits. Researchers pointed to the absence of clear international standards in this area, which results in legal conflicts, when national tax systems interact. Furthermore, the authors emphasised the complexity of defining the categories of elderly individuals entitled to such benefits, which in some cases led to the exclusion or discrimination of certain groups. The findings of the present study corresponded with this position, as the comparison of Germany, Japan, and Kyrgyzstan showed that eligibility criteria, types of relief, and administrative procedures differed considerably across national systems. S.-H. Lee *et al.* (2023) examined the differences in approaches to taxing the elderly across countries with varying levels of economic development. Scientists noted that, in developed countries, tax benefits formed an integral part of social policy, whereas, in developing countries, their use was constrained by the lack of a systematic framework. The researchers stressed that developing countries often lacked effective monitoring mechanisms for the implementation of tax benefits, resulting in their uneven distribution. This conclusion was consistent with this study, which

found that Germany and Japan applied more comprehensive and institutionally coordinated tax relief systems, while Kyrgyzstan's approach was narrower and more dependent on basic exemptions. The comparison also showed that the limited digitalisation of administrative procedures in Kyrgyzstan reduced the accessibility of tax benefits, especially for elderly citizens in rural areas.

Researchers L. Calahorrano *et al.* (2018) and A. Neubert *et al.* (2019) focused on the demographic challenges associated with population ageing. The author's study demonstrated that the increasing proportion of elderly individuals within the general population necessitates the adaptation of tax systems to ensure the sustainability of public finances. Scientists emphasised that tax benefits must be integrated into broader strategies for pension reform and social protection. Study supported this conclusion with examples from Germany and Japan, where tax relief was closely linked to healthcare support, pension policy, and incentives for older people to continue participating in the economy. Kyrgyzstan, on the other hand, had not yet created such an integrated model, despite the fact that the country's population was gradually getting older, which suggested that earlier policy adaptation was necessary. M. Krajnak (2019) drew attention to the need to consider regional features, when developing a tax policy for the elderly. Researcher's findings showed that, in Eastern European countries, tax benefits were often granted without consideration of local economic conditions, which undermined their effectiveness. This study also found that access to tax benefits in Kyrgyzstan was impacted by regional differences, especially in rural areas, where senior citizens may have less access to digital services, administrative support, and information. While regional variation was still important in certain local tax and social support measures, Germany and Japan, in contrast, exhibited more structured mechanisms for implementing benefits.

N.R. Ureta-Baquezea & N.M. Palacios-Ced-ño (2023) addressed the issue of transparency in tax systems. The authors argued that a lack of transparency in tax administration frequently obstructed the effective application of tax benefits. Researchers stressed the need for the development of clear procedures for submitting applications and for minimising bureaucratic barriers. The findings of the present study supported this argument, as accessibility and procedural clarity were identified as central factors influencing the effectiveness of tax relief for elderly citizens. Germany's more automated approach reduced administrative barriers, while Japan and Kyrgyzstan relied more heavily on application-based or less fully digitalised procedures, which may limit the actual use of available benefits. O. Zidar (2019) drew attention to issues of legal enforcement. Scientists observed that, in a number of countries, laws concerning the provision of tax benefits often remained declarative and lack effective implementation mechanisms. This results in the inefficient allocation of resources and infringed upon the rights of elderly citizens. The present study confirmed that the practical effectiveness of tax benefits depended not only on their formal recognition in legislation, but also on the existence of transparent procedures, monitoring mechanisms, and sufficient administrative capacity. This was particularly evident in Kyrgyzstan, where the legal framework provided certain exemptions, but their implementation remained less comprehensive than in Germany and Japan.

Japanese researchers, such as S. Fukuda & K. Okumura (2021), noted that tax relief for family-based elder care encourages relatives to participate in caregiving, thereby reducing the burden on public social services. The study confirmed that such measures, including tax deductions for family cared of up to ¥150,000 per year, had a positive impact on the sustainability of family ties and contributed to improved quality of life

for elderly individuals. Nevertheless, the findings diverged from those of certain other studies. For instance, J.J. Pérez *et al.* (2021) argued that in countries with limited economic resources, the implementation of tax relief may be ineffective due to low tax collection rates. However, this study demonstrated that even under such conditions, tax relief can play an important role if targeted at priority social groups and supported by automation and simplification measures. The findings showed that the effectiveness of tax relief for elderly citizens depended on its alignment with demographic, social, and economic conditions. Germany and Japan demonstrated more flexible and differentiated systems: Germany prioritised medical deductions, property-related relief, and incentives for continued employment, while Japan emphasised family-based support and care-related benefits. By contrast, Kyrgyzstan applied a more limited and less adaptive model, which weakened its capacity to respond to population ageing and regional disparities.

Conclusions

The analysis of the taxation systems in the countries under study demonstrated that each employs tax relief as a tool of social support for elderly citizens, adapted to their specific demographic and economic contexts. Germany demonstrated a high degree of systematisation and automation in its tax relief mechanisms. These reliefs aimed to ensure the financial independence of older individuals, maintain their access to healthcare services, and encourage family-based care. In Japan, tax relief also played a substantial role, with an emphasis on encouraging family involvement in elder care and ensuring financial stability in retirement. Examples included deductions for the care of elderly relatives and tax concessions for elderly small business owners. These measures helped to mitigate the consequences of an ageing population, while supporting continued economic

engagement among the elderly. In Kyrgyzstan, the tax relief system for elderly citizens was considerably less developed and was largely limited to exemptions from property and income taxes for specific categories of individuals. This limited scope reflected the country's economic constraints and the absence of a comprehensive strategy to address the challenges of population ageing.

The comparative analysis identified both shared and divergent approaches to tax relief for elderly citizens. All three countries recognised the importance of supporting older people through the tax system, yet Germany and Japan applied broader and more differentiated mechanisms, including deductions, exemptions, family-related benefits, and more accessible administrative procedures. Kyrgyzstan, by contrast, relied mainly on simplified reliefs that insufficiently reflected the diverse needs of elderly citizens and remained less accessible, especially in rural areas due to limited automation. The study recommended expanding tax relief in Kyrgyzstan through medical expense

deductions, supported for family caregivers, incentives for elderly entrepreneurs, simplified digital procedures, and improved public awareness, with the aim of reducing poverty, improving healthcare access, and strengthening social justice. The study was limited by its reliance on legal and comparative analysis, without empirical assessment of how elderly citizens actually access and use tax benefits in practice. Future research should include surveys or interviews with older people, tax officials, and social policy experts to evaluate the practical effectiveness, accessibility, and social impact of these benefits.

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Конституційні та правові аспекти податкових пільг для людей похилого віку: порівняльний міжнародний аналіз

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Анотація

Метою дослідження було проведення порівняльного міжнародного аналізу правового регулювання податкових пільг для людей похилого віку, виявлення основних проблем та відмінностей у національних підходах, а також розробка рекомендацій щодо оптимізації правових механізмів, що застосовувалися для надання таких пільг. У рамках дослідження було проведено порівняльний аналіз податкового законодавства та вивчено відповідні правові рамки. Системний підхід, застосований у дослідженні, дозволив врахувати правові, економічні

та демографічні фактори, що впливали на ефективність податкових стимулів. Дослідження продемонструвало, що Німеччина, Японія та Киргизстан застосовували різні форми податкових пільг для людей похилого віку, включаючи відрахування на медичні витрати, звільнення від податку на нерухомість, зменшення оподаткованого доходу та податкові стимули для догляду. Виявлено суттєві відмінності у масштабах та механізмах реалізації цих заходів. У Німеччині та Японії податкові пільги тісно інтегровані з системами соціального захисту та враховували демографічні реалії, пов'язані зі старінням населення. Натомість Киргизстан застосовував більш обмежений підхід через економічні та адміністративні обмеження. Результати дослідження підкреслили важливість комплексного та гнучкого підходу до надання податкових пільг, що включало розробку прозорих механізмів реалізації, покращення доступу громадян до інформації та регулярний моніторинг ефективності пільг. Міжнародний досвід Німеччини та Японії свідчив про необхідність узгодження податкової політики з більш широкими стратегіями соціального захисту, включаючи підтримку догляду в сім'ї та заохочення економічної активності серед літніх громадян. Практична цінність дослідження полягає в його рекомендаціях щодо вдосконалення податкових пільг для літніх громадян шляхом спрощення процедур, покращення доступу до пільг та зміцнення зв'язків із політикою соціального захисту.

Ключові слова: економічна безпека; соціальна політика; економічна стабільність; демографічні виклики; старіння населення; економічний контекст



Current issues of civil contracts concluded between citizens and economic entities of the state

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The aim of the study was to identify current challenges in the performance of contractual obligations by the parties to civil contracts in the context of the Kyrgyz Republic. To achieve this aim, an online survey was administered to 100 respondents aged over 18 with experience of entering into civil contracts with economic entities of the state. The data revealed that civil contracts were most frequently concluded with banks (56%), state institutions (42%), utility services (17%) and landlords (16%). In most cases, contracts were signed without the involvement of legal experts and were preceded by independent examination of the proposed terms (62%). More than half of the respondents (51%) admitted that their knowledge was insufficient to objectively assess the quality of the proposed conditions. Superficial acquaintance with, or complete disregard of, contractual terms often resulted in breaches of contract, with successful litigation recorded in only 11% of cases reviewed. One in four respondents (26%) did not know, where to turn in the event of an infringement of their rights, while one in three (31%) knew but preferred not to approach the relevant authorities. Responses to open-ended questions helped to highlight the most pressing issues relating to civil contracts concluded between citizens and state economic entities: weak legal protection of citizens, formalism and bureaucracy in judicial and executive systems, insufficient digitalisation of contract processes, low levels of legal literacy among the population, limited access to pre-trial and judicial remedies, non-enforcement of court decisions, and challenges in the areas of tenancy and privatisation. Strategies proposed to address these problems included improving legal literacy, strengthening legal discipline, developing alternative dispute resolution mechanisms, enhancing legislation, reinforcing enforcement of judicial decisions, introducing anti-corruption measures within the justice system, and implementing digital solutions

Keywords: legal literacy; legal protection; digitalisation; bureaucracy; pre-trial settlement; standard contract; electronic digital signature

Introduction

Civil contracts form the foundation of legal relations between citizens and economic entities, ensuring legal certainty and predictability in the fulfilment of obligations. In the Kyrgyz Republic, the development of a market economy had been accompanied by a rise in the number of such contracts, which in turn necessitated improvement of the regulatory framework. However, practice showed that existing legislation faced a range of problems, including insufficient standardisation of contract terms, regulatory gaps, and low levels of legal literacy among the population. These shortcomings adversely affected contractual relations,

leading to an increase in litigation. According to M.H. Almajali *et al.* (2024), civil contracts were the most common form of legal act in the sphere of special law, as it viewed as a system conducive to progress in various areas of activity. O. Moroz (2020) identified several features of civil contracts, including voluntariness of conclusion, consensuality, equality of the parties, and legal force. Researcher also emphasised that a civil contract retained legal force regardless of whether it was concluded orally or in writing. J.A. Vogel *et al.* (2024) classified the most common types of civil contracts: sale and purchase, lease, contract

work, services for remuneration, gift, tenancy, energy supply, credit, loan, and licence. The structure of contracts may vary depending on their type. T.B.A. Duong *et al.* (2023) discussed changes in the structure of contracts in specific sectors, such as construction, as a response to sectoral development and emerging challenges.

Scientist S. Rajeev (2023) highlighted the advantages of contracts, including legal protection of the parties, clear recording of cooperation terms, guarantees of performance, as well as transparency and accountability. M.N. Haikal & S. Mahmudah (2024) argued that the emergence of new tools, such as digital signatures, strengthens the system of civil contracts. The authors noted progress in creating opportunities and infrastructure for the use of electronic signatures in diverse transactions, including purchase and sale, management of receivables, and other agreements. N.K. Martam (2024) expressed a similar view, stating that digital signatures provided efficiency, flexibility, and convenience for contractual parties. Thus, civil contracts were seen as a means of safeguarding and securing the parties. Despite these advantages, the conclusion and execution of civil contracts were nonetheless associated with certain difficulties. According to T. Pulatov (2025), the key challenges were poorly drafted contracts and the absence of effective mechanisms to monitor performance. Scientist recommended consistent integration of legal theory with technological design, combining human interpretation of contractual terms with automated execution. C. Kontos *et al.* (2024) stressed that the emergence of new tools for contract conclusion and performance entailed addressing technical, social, and ethical challenges, including ensuring the security of parties using digital signatures in civil contracts.

Overcoming these challenges effectively also required an examination of the most frequent causes of contract breaches. According to the Supreme Court of the Kyrgyz Republic (n.d.), 38%

of civil cases concerned breaches of contractual obligations, including delays in performance, unilateral refusal to comply with terms, and ambiguous contractual wording. J. Jastrzębski (2023) found that a key reason for breaches lain in the divergence between concepts of liability in civil and general law. Based on systematic, structural, dialectical, historical and formal analysis of the Civil Code of the People's Republic of China, Q. Qi *et al.* (2023) concluded that premature withdrawal from a contract by one party was the principal cause of termination. A. Gazybekova *et al.* (2024), analysing civil contracts in the Kyrgyz Republic, found that lengthy registration processes and insufficient transparency were the main reasons for termination. The analysis also pointed to an insufficient number of studies on the implementation of civil contracts in Kyrgyz Republic. Some of the reviewed works were also outdated, failing to reflect key technical, social, ethical and other changes in the conclusion and execution of civil contracts. The purpose of this study was to examine the current problems of civil contracts concluded between citizens and economic entities in the Kyrgyz Republic. The research objectives were to identify the most pressing issues in the implementation of civil contracts, determine the causes of these problems, and develop strategies for overcoming them.

Materials and Methods

The study relied on responses from an online survey on the features of concluding and executing civil contracts between citizens and state economic entities. The survey was conducted in 2025 among 100 respondents ($n = 100$), who met the following selection criteria: aged at least 18; resident in the Kyrgyz Republic for the past five years; experience of concluding civil contracts with state economic entities; and provision of informed consent for data collection and processing. Exclusion criteria included lack of relevant experience and refusal to provide consent.

The survey was conducted in compliance with the Code of Ethics of the American Sociological Association (1997). Anonymity and confidentiality of the participants' data were guaranteed. Participants were recruited through announcements in targeted groups on Facebook and LinkedIn. Additional recruitment was carried out through local forums and platforms, including Limon.kg (n.d.), Kaktus.media (n.d.) and 24.kg (n.d.). The announcements contained brief information on the purpose and objectives of the study and eligibility requirements, participation was anonymous, voluntary and unpaid. Candidates, who agreed to these conditions received a link to the online survey form hosted on Google Forms. The form was launched on the day the announcements were posted and remained active for 21 days. At the end of this period, the form was closed, making it impossible to add or amend responses. The data obtained were analysed using Microsoft Excel. The questionnaire comprised 16 questions divided into the following categories: General Information About Respondents (age, education level, type of employment); Experience of Concluding Civil Contracts (types and forms of contracts entered into); Awareness and Legal Literacy (factors preceding the signing of contracts); Violations and Problems (common scenarios in concluding and executing contracts). A separate section entitled Respondent's Opinion aimed to capture public trust in civil contracts. In addition to multiple-choice questions, this section included open-ended questions designed to identify reasons preventing citizens from actively using contracts and to suggest measures that could improve transparency

and protection of contracting parties. The responses were subsequently used to formulate recommendations for addressing the pressing issues in concluding and implementing civil contracts between citizens and state economic entities.

Results

Features of concluding and implementing civil contracts between citizens and state entities

An analysis of respondents' demographics revealed that the overwhelming majority (63%) were aged between 36 and 50. Almost all (90%) had completed compulsory secondary education. More than half (52%) also had vocational secondary education, while one in five (21%) had higher education. The data suggested that relatively high educational attainment influences the quality of decision-making, when signing contracts with state economic entities. In terms of employment, most respondents were employees (57%) or entrepreneurs (29%). Students, the unemployed and pensioners formed a relatively small proportion of the sample (14%). The second block of questions explored respondents' experiences of concluding civil contracts. They were asked whether they had ever signed such contracts with various organisations – banks, utilities, landlords, construction companies. This question also served as an additional exclusion criterion to ensure that all participants had relevant experience. Three respondents (3%) without such experience were excluded. The remaining participants were asked to select one or more types of organisations with which they most frequently concluded contracts. The results were presented in Table 1.

Table 1. Experience of concluding contracts with economic entities

No.	Economic entity	Respondents with experience, %
1	Banks (credit, mortgage, etc.)	56
2	Utility services	17
3	Landlords	16
4	Construction companies	7
5	State institutions	42

Table 1. Continued

No.	Economic entity	Respondents with experience, %
6	Other	15

Source: developed by the authors

So, the most common scenario was the conclusion of civil contracts with banks, landlords, and utility providers. In the analysed sample, contracts with construction companies were the least common. The responses revealed that only 17% of respondents had experience of signing contracts with utility providers. This statistic contradicted the fact that the overwhelming majority of respondents were users of utility services. The contradiction can be explained by the fact that contracts with utility providers often took the form of public offers – that was, it was concluded automatically on the basis of using a service. The absence of a written contract may explain, why respondents rarely reported interactions with utilities. This assumption was indirectly confirmed by answers to the question on how often contracts were concluded in written form. According to the responses, 89% of respondents preferred written contracts, signing them always (72%) or sometimes (28%). Oral contracts were preferred by 8%, while 3% could not recall the form of contract used.

Further analysis revealed that the frequency of written contracts does not necessarily correlate with high awareness or legal literacy. This conclusion was drawn from the responses to the Awareness and Legal Literacy block. Respondents were asked how often they read contracts before signing them. While 64% said that always read them, a significant proportion selected “sometimes” (23%), “rarely” (8%), or

“never” (5%). Those, who reported reading civil contracts were then asked to assess their own understanding of the terms. Only half (51%) claimed full understanding; 36% assessed their understanding as partial, while 13% admitted difficulties in interpreting contract terms. These findings pointed to relatively low awareness and legal literacy in concluding civil contracts with economic entities. One way to improve awareness would be to seek legal advice, when signing contracts. However, only 12% of respondents said they consulted lawyers. About half (52%) considered legal assistance unnecessary, while 36% indicated that would be open to receiving such advice before signing. This suggested that over one-third of respondents recognised their own lack of knowledge and would welcome expert help. Respondents were also asked to identify breaches and problems they had faced, when signing civil contracts with economic entities. Breaches were reported by 53 respondents (52%), 62% of whom admitted that they themselves were the party responsible. Those, who had faced breaches were asked to analyse the causes. The most common was misunderstanding of terms, cited by 58%. Other frequent reasons were financial difficulties (16%) and non-performance by the counterparty (19%). Contractual errors were mentioned by 8%. Those, who had faced breaches were then asked to assess whether they had approached courts or other bodies. Results were shown in Table 2.

Table 2. Appeals to courts or other bodies regarding disputes under civil contracts

No.	Response	Respondents, %
1	Yes, successfully	12
2	Yes, but it did not help	31

Table 2. Continued

No.	Response	Respondents, %
3	No, did not know where to go	26
4	No, did not want to get involved	31

Source: developed by the authors

So, only 12% of respondents reported successful appeals to courts or other competent bodies, whereas 31% stated that their appeal did not lead to an effective outcome. Some respondents lacked information, about where to seek assistance in contractual disputes, while others deliberately avoided formal proceedings. These results indicated a low level of confidence in judicial and pre-trial protection mechanisms, combined with insufficient legal awareness among citizens involved in civil contractual relations. In the penultimate section of the questionnaire, respondents were asked to assess their own level of trust in civil contracts as a tool for protecting their rights and to discuss the factors that determined it. It was found that only 21% of respondents fully trust civil contracts, while 47% chose the “rather trust” option. A low level of trust in civil contracts was expressed by 18% of respondents, and 14% reported no trust at all. Respondents, who agreed to assess their trust in civil contracts as a rights-protection instrument were then invited to answer open-ended questions to identify the factors hindering active use of such contracts and the measures that could improve the transparency and protection of the parties. The answers obtained were used to develop recommendations for improving the institution of

civil contracts concluded between citizens and economic entities of the Kyrgyz Republic. In the final part of the study, respondents were asked whether they would like to take a short course or receive a guide on protecting their rights under civil contracts. About half (51%) confirmed the importance of the proposed course or guide, a further 34% selected “maybe”, and only 15% rejected the importance of taking an informational course or receiving a themed guide. These data were consistent with the earlier responses indicating a low level of awareness regarding the conclusion and implementation of civil contracts and a desire to raise it through expert support. Thus, respondents’ answers provided insight into the current problems in concluding contracts between citizens and economic entities of the Kyrgyz Republic, as well as strategies for overcoming them.

Problems in the implementation of civil contracts in the Kyrgyz Republic

An analysis of responses to the open-ended questions in the separate section Respondent’s Opinion identified seven ($n = 7$) groups of factors affecting the implementation of contractual obligations in the Kyrgyz Republic. The factors identified in the study were documented in Table 3.

Table 3. Problems of civil contracts in the Kyrgyz Republic

No.	Problem	Content
1	Low level of legal protection	In Kyrgyzstan, citizens often lack access to qualified legal assistance, especially in the regions
		State structures (housing and utilities (ZhKH), architectural planning assignment (APZ), state enterprises) dictate the contract terms. The citizen signs a “template” contract with no possibility of changing the terms

Table 3. Continued

No.	Problem	Content
2	Formalism and bureaucracy	A bureaucratic system is entrenched in state institutions, hindering the effective performance of contracts
		Deadlines for services are prolonged; obligations are not fulfilled due to “technical reasons”
3	Insufficient digitalisation; problems with electronic contracts	Despite the development of the Tunduk (the national public services portal) system and the digitalisation of public services, concluding electronic contracts remains difficult
		The legal status of certain electronic documents and identity verification is unclear
4	Low level of legal literacy among the population	Some citizens do not understand that unfair and unlawful contract terms can be challenged
		The country records instances of contracts with knowingly disadvantageous terms (e.g., high penalties, unilateral price changes)
5	Difficult pre-trial and judicial protection of citizens’ rights	The judicial system is overloaded and sometimes shows dependence on administrative structures
		When a citizen tries to defend their rights, they face delays, excessive formalism, and unpredictability of decisions
6	Non-enforcement of court decisions	Winning a case in court does not always guarantee enforcement of the judgment
		There is insufficient performance by the bailiff service and an unwillingness by state enterprises to comply voluntarily
7	Problems in the sphere of leasing and privatisation	When citizens lease land, assets, or premises from the state, there is a lack of clarity about renewal terms, an increased risk of corruption in allocation, and the likelihood of abrupt changes in the regulatory framework

Source: developed by the authors

Table 3 showed that legal imbalance was one of the key factors behind weak legal protection when civil contracts were signed between citizens and economic entities. The reason for this imbalance was limited access to lawyers and legal information, especially for residents of aimaks and small towns. The lack of information meant that citizens do not always know their rights and agree unconditionally to the terms offered. An illustration of this factor was the signing of a contract with a state entity, for example a utilities enterprise. According to Article 400 of the Civil Procedure Code of the Kyrgyz Republic (2017), such contracts were adhesion contracts, in which one party fully formulated the terms and the other must either accept them or forego the service. An adhesion contract was signed, for example, when a citizen contacted the heating network to connect a house to the system. The contract in this case cannot be edited, does not specify exact

timeframes for remedying emergencies, and does not offer transparent coefficients. Refusing to sign the contract led to the dwelling being disconnected from the heating network, placing the citizen in a deliberately vulnerable position.

Formalism and bureaucracy were also mentioned among the factors affecting the performance of contracts between citizens and economic entities. According to respondents, rigid bureaucratic procedures delay the contracting process and receipt of assistance, with responsibility for delays shifted to technical reasons. Formalism and bureaucracy result in services specified in the contract not being provided or only partially provided. An illustration of the negative impact of formalism and bureaucracy was the difficulty of obtaining state compensation for homeowners affected by landslides, floods, or earthquakes in certain regions, for example in Osh or Jalal-Abad oblasts in April 2024 (UNICEF. Kyrgyzstan, 2024).

After submitting a multi-stage document package, including inspection reports and certificates from the ayyl okmotu and the Ministry of Emergency Situations (MES), homeowners sign a contract with the capital construction department. Respondents stated that from submission of documents to signing the contract took on average 6-12 months, during which residents of affected homes were forced to live in unsuitable conditions. If inappropriate wording was found in the inspection reports, homeowners may be refused a contract and compensation.

Insufficient digitalisation and problems with signing electronic contracts also negatively affected citizens' interactions with economic entities (Ketners, 2025). Although the digital infrastructure of the Kyrgyz Republic included various tools, such as the Tunduk (n.d.) public services portal, citizen e-cabinets, e-notary and electronic signatures, their use remained limited by low digital literacy. An illustration of this issue was an attempt to sign a land lease agreement, where the lessee used a digital signature but the lessor does not. In this case, signing a paper contract may be problematic due to its inactive status in the electronic system. According to the survey, the population's low level of legal literacy was one reason for civil contracts that grossly infringed the rights of the parties. Common violations included contracts with hidden penalties, for example, where the tenant was forced to pay a fine for each day of late payment. Kyrgyz Republic also still saw contracts, in which important terms and details were written in small print and go unnoticed by inattentive citizens or those with poor eyesight. Examples of infringements of citizens' rights included terms providing for daily penalty interest for late payment, a company's ability to debit funds from all a client's accounts, and the absence of any right to return goods. Citizens with lower levels of education sign such contracts without knowing that Article 317 of the Civil Procedure Code of the

Kyrgyz Republic (2017) recognised the invalidity of transactions that infringed consumer rights.

In addition to the factors listed, respondents also noted difficulties with pre-trial and judicial protection of citizens' rights. According to the responses, this problem persisted because the country's judicial system was slow and overloaded, making it difficult for citizens to defend their rights. One example provided by respondents was the purchase of a flat in an unfinished building. If construction deadlines were breached, the claimant goes to court, where the case may take 1-1.5 years to consider, during which the paid-for housing remained inaccessible. An even more negative scenario was the developer's bankruptcy, as a result of which the claimant was deprived of compensation for the lost housing. In respondents' view, difficulties with pre-trial and judicial protection were compounded by non-enforcement of court decisions. Analysis of the open-ended responses showed that winning a case in court does not guarantee receiving what the court awarded. This was a systemic problem, whose causes may include poor performance by the bailiff service, resistance from defendants, and the absence of sanctions for evasion of enforcement. An example offered by respondents was an employee bringing a claim to recover wage arrears. The court upheld the claim, and the bailiff service sent the enterprise a demand to settle the debt to the employee. Enforcement of the judgment, however, may be delayed or not carried out at all if the enterprise cites a lack of funds.

Respondents also mentioned problems in the sphere of leasing and privatisation that affected the performance of contractual obligations by citizens and economic entities. Based on the detailed responses, it was concluded that there was no clear and transparent framework for renewing lease agreements. According to some respondents, decisions on renewal and/or changes to lease terms were taken at the level of local

administrations without the involvement of the tenant. Such behind-the-scenes decision-making demotivates tenants, who were then reluctant to invest in improving land plots, buildings, and so on, knowing that renewal may be refused without explanation. From the open-ended responses it became clear that citizens often find themselves in a vulnerable position, when signing contracts with the country's economic entities. This vulnerability was due to a number of external factors, many of which were systemic. A detailed examination

of these factors provided insight into strategies for improving interactions between citizens and state entities.

Strategies for addressing problems in the implementation of civil contracts in the Kyrgyz Republic

Based on the analysis of difficulties, strategies were developed for implementing civil contracts between citizens and economic entities in Kyrgyzstan. The key strategies were documented in Table 4.

Table 4. Strategies for implementing civil contracts concluded between citizens and economic entities

No.	Strategy	Key elements
1	Improving legal literacy among citizens and entrepreneurs	Training seminars, online courses, and awareness campaigns Support for advisory centres at government bodies and NGOs
2	Strengthening contractual discipline	Introduction of standard-form contracts, especially in high-volume areas (lease, supply, services, etc.) Mandatory specification of enforcement mechanisms: fines, penalties, pledges, guarantees
3	Developing alternative dispute resolution (ADR)	Expansion of mediation, arbitration, and private tribunals Introduction of simplified procedures for minor disputes
4	Improving legislation	Updating the Civil Code and introducing new approaches to the drafting and interpretation of contracts Clear regulation of electronic contracts and digital signatures
5	Enhancing enforcement of court judgments	Improving the performance of the bailiff service Electronic monitoring of enforcement (digitalisation of enforcement proceedings)
6	Anti-corruption measures in the justice system	Increasing transparency of court processes (online access, video broadcasts) Strengthening liability for breaches of procedural deadlines and abuse of rights
7	Implementing digital solutions	Platforms for concluding, storing and monitoring the performance of contracts Electronic registration of contracts in key areas (real estate, leasing, procurement, etc.)

Source: developed by the authors

Raising the legal literacy of the parties was one of the priority tasks in resolving conflicts related to the performance of contracts between citizens and economic entities. The survey results also showed that respondents supported the idea of information courses, guides, and other activities aimed at increasing awareness of the specifics of concluding and performing contracts between citizens and economic entities. As of 2025, a

number of initiatives to improve legal awareness had been introduced in Kyrgyzstan. One of the most significant was the establishment of a Legal Clinic at the American University of Central Asia (n.d.) to train law students in solving key legal issues. At secondary-school level, public awareness is raised through the "Fundamentals of Law" course taught in years 10-11, with some assignments aimed at practical tasks such

as modelling a sale and purchase agreement. However, these educational initiatives were insufficient and could be supplemented by: developing and disseminating informational materials such as guides, brochures, or infographics; providing online consultations, including via Telegram, WhatsApp and other popular messengers; collaborating with business associations to run large-scale awareness projects; and creating an online library of model contracts with subsequent categorisation, for example “premises lease”, “sale and purchase agreement”, or “deposit agreement”. Creating a catalogue of standard-form contracts would also help strengthen contractual discipline, which at the time of the study remained rather weak. Strengthening contractual discipline was possible, among other things, by articulating counterparty liability for breach of contract terms. Such liability may take the form of fines or penalties. It was anticipated that expanding awareness-raising initiatives will reduce errors, when concluding civil contracts, increase the number of citizens capable of defending their rights independently, and strengthen trust between counterparties. Given the courts’ workload, it was recommended to develop alternative dispute resolution methods, including mediation, arbitration, negotiations involving a neutral party, and conflict management within organisations. Of these, mediation was the most commonly used in the Kyrgyz Republic, with the relevant law adopted in 2018 and amended in 2023 (Law of the Kyrgyz Republic No. 256, 2025). Low public awareness, however, limits the application of this law and increases pressure on the courts. To further develop mediation, it was recommended to conduct outreach among potential counterparties, to train professional mediators, and to broaden the list of matters that can be resolved through this method, such as lease disputes, domestic conflicts, debt recovery, and so forth.

Based on the survey results, it was also recommended to strengthen the enforcement of court

judgments by improving the work of bailiffs and introducing electronic monitoring of enforcement. Efficiency can be increased by expanding the number of bailiffs, as staff shortages lead to months-long delays. According to respondents, enforcing certain judgments, including debt recovery from an individual, can take from several months to several years. Further roll-out of the e-Notarius system was also recommended, enabling the status of court proceedings to be tracked through online platforms. In addition to expanding e-Notarius, other digital solutions could be introduced. One example was the use of smart contracts in the context of land and real estate leases. It was also proposed to develop the country’s digital infrastructure so that portals such as Tunduk portal and E-Salyk were accessible to citizens regardless of whether they live in urban or rural areas. To improve the effectiveness of implementing contracts between citizens and state economic entities, anti-corruption measures within the justice system were recommended. In addition to measures already introduced, such as tracking court decisions via the Digital justice (n.d.) platform, the following changes may be recommended: guaranteeing the independence of the Judicial Selection Council from political influence; monitoring judges’ asset declarations and lifestyles; refining electronic systems to ensure publication of all court decisions without exception; strengthening civic oversight of compliance with court rulings; and holding public hearings in anti-corruption cases. Thus, the purpose of the proposed recommendations was to enhance the effectiveness of interactions between citizens and the country’s economic entities. The effectiveness of such interaction was considered in terms of transparency, accountability, and proportionality of liability for breaches of contractual obligations. It was assumed that improved effectiveness will help increase the level of trust between contracting parties, as well as broader public trust in state institutions and economic entities.

Discussion

The central idea of this study was that breaches of contractual obligations between citizens and economic entities undermine public trust in state institutions. In this work, low public trust was reflected in the fact that 31% of respondents prefer “not to get involved” with certain state institutions (for example, the judicial system), when their rights are seriously violated. The assertion of a link between compliance with contractual obligations and public trust was supported by earlier publications, including R. Mahmud (2021). Based on a survey of 1,440 respondents in Indonesia, the author concluded that an initially high level of public trust and support for state institutions remained stable if previously reached agreements were honoured. J. Ferdous (2024) emphasised a statistically significant positive relationship between the commitment of state institutions to certain democratic ideals and citizens’ trust. According to that researcher, such ideals included transparency and accountability – both of which, in the system of civil contracts, were substantiated as important in this study. D.H. Peters (2024) highlighted that incident in key sectors, such as healthcare, have led to a crisis of public trust. C. Lahusen (2024) noted that in some EU countries trust had reached historical lows, indicating the need to rethink interactions between citizens and certain state institutions and economic entities. Although the recommendations presented here were developed for Central Asian countries, subsequent verification would facilitate their scaling across different economic, political and sociocultural contexts.

Based on the survey results, the study concluded that breaches of contractual obligations often occurred through the fault of economic entities offering contracts for signature without clearly defined timeframes, commitments undertaken, or liability for breach. The relevance of the factors contributing to breaches, as cited in

this work, was also supported by other studies, including Q.H. Nguyen Pham (2024). Analysing the experience of certain Vietnamese construction companies, that expert concluded that political mechanisms influence the performance of construction contracts. A parallel was drawn between Q.H. Nguyen Pham’s (2024) work and the present study, in which specific political mechanisms – for example, unilateral decisions on lease renewal – were considered as reasons for breakdowns in interactions between citizens and economic entities. F. Parisi *et al.* (2024) and X. Li *et al.* (2024) stressed that the absence of effective accountability mechanisms made breaches of contractual obligations a systemic problem that undermined a society’s economic development. M. Al Hafiz & Sukirno (2024), and A. Romero & D. Esenarro (2024), proposed tightening counterparty liability as a means of addressing contractual breaches. According to M. Loewe *et al.* (2025), clear criteria for liability for non-compliance with contractual terms foster more effective interaction between counterparties. This conclusion aligned with the recommendation in the present work to strengthen the enforcement of court decisions, including through electronic monitoring. Electronic monitoring guarantees transparency in the performance of contractual obligations and in liability for non-performance. O. Karaman *et al.* (2026) analysed the development of the digital educational environment and its impact on specialist training, highlighting skills relevant for managing and assessing legal documents, including contracts between citizens and business entities. Researchers emphasised the role of automated knowledge assessment, which created opportunities to integrate practical exercises involving the analysis of civil legal transactions into educational programmes. V. Bondarenko *et al.* (2022) examined methods for developing the professional competence of patrol police officers, including simulated situational tasks that can

model scenarios of legal relations between citizens and business entities. The authors stressed the importance of practical exercises that train skills in analysing and applying rules governing civil contracts and legal transactions.

These results were in line with recent Kyrgyz research that highlighted how the digital transformation of contractual and judicial processes was becoming increasingly important to the success of civil-law relations. B. Makembaeva (2023) demonstrated that increased procedural transparency, quicker access to case information, and the modernisation of court administration were all associated with the digitisation of the Kyrgyz Republic's judiciary. In a similar vein, A. Maralbaeva (2024) contended that although this process was still constrained by organisational, legal, technological, and pedagogical obstacles, the shift from discrete ICT tools in courts to an integrated digital justice portal was essential for enhancing access to justice. In the area of private-law relations, A. Askar (2025) also pointed out that more precise regulation of electronic contracts, digital signatures, automated transactions, and online registries was necessary as civil-law relations become more digital. These investigations corroborated conclusion that people's capacity to enter into, oversee, and enforce contracts with economic organisations was weakened by limited digitalisation and ambiguous technological procedures. Therefore, in addition to being a technical reform, the creation of easily accessible digital platforms, legally recognised electronic contracts, and transparent online monitoring mechanisms should be seen as a way to improve institutional trust, legal certainty, and the practical protection of citizens' contractual rights (Zhyvko *et al.*, 2022). M. Blikhar *et al.* (2023) pointed out the shortcomings of the regulatory framework and the low effectiveness of measures, which create risks for the stability of concluding civil contracts in commercial and private relations.

The use of various electronic platforms was considered in this study as a way to enhance the effectiveness of implementing contractual obligations between citizens and economic entities. The suitability of recommending digital solutions was supported by earlier research, including A. Ayesha & J. Tarun (2024). According to these experts, using electronic platforms improved communication between contracting parties, helping economic entities to understand and adapt their activities to citizens' needs. J. Staporek (2024) argued that the ability to adapt proposed terms to the parties' requirements increased the likelihood of concluding civil contracts and fulfilling obligations. H. Babirye Nsereko *et al.* (2023) noted that digital tools enabled more effective tracking of performance of obligations, which was a key element of an effective contract. M.O. Ezeh *et al.* (2024) emphasised that, unlike paper contracts, electronic contracts contained fewer errors and inaccuracies, thereby increasing the likelihood of compliance with contractual obligations. This conclusion was consonant with the idea advanced in this work regarding the need to transition from paper to electronic contracts by developing the institution of the electronic digital signature. According to the survey, the Kyrgyz Republic was only partially prepared for such a transition, as the implementation of certain digital documents was impossible in areas with unstable or no internet coverage.

This work proposed conducting the digitalisation of contractual obligations in parallel with raising public awareness about how such obligations were implemented. The survey indicated that public awareness of civil contracts with economic entities was insufficient and can be improved through outreach initiatives. The importance of such initiatives had been confirmed by previous research, including M. Voican (2024), who viewed educational initiatives as a preparatory stage for concluding a contract. According to that expert, understanding contract terms

facilitated planning and subsequent objective evaluation of the parties' interaction. A.W. Kiboi & J.K. Maalu (2023) emphasised the importance of educational initiatives in drafting smart contracts, streamlining processes, and objectively assessing agreements. D.G.S. Mangku & N.P.R. Yuliartini (2024) pointed to the link between the parties' awareness and the likelihood of signing a mutually beneficial contract. This assertion illustrated the examples in the present work of contracts drafted in violation of Article 317 of the Civil Procedure Code of the Kyrgyz Republic (2017). In the context of the examples provided, a high level of awareness means refusing to sign knowingly unworkable contractual terms. The importance of signing mutually beneficial contracts was illustrated by I. Ruhunka & J.D.D. Dushimimana (2024), who assessed the relationship between contract management – which entailed studying and adopting acceptable terms – and organisational efficiency. According to those experts, contract management strategies can increase an enterprise's efficiency by 19.2%. This study partially supported the idea advanced here that prior examination of contract terms guaranteed citizens' financial security, helping them avoid unfair charges, unlawful penalties, and so on. It was, however, noted that the factors affecting enterprises' financial efficiency may differ from those determining citizens' financial well-being (Vazov & Hristozov, 2025). Thus, many of the conclusions and recommendations presented in this work find support in earlier studies. In particular, the importance of compliance with contractual agreements concluded between citizens and economic entities for maintaining public trust in state institutions was confirmed. The review of prior research also corroborated the relevance of several recommendations presented here for increasing the effectiveness of contractual interactions between citizens and economic entities. These included proposals to use digital platforms to improve the transparency of

contractual relations and to raise public awareness of their legal features. In analysing the available data, it was taken into account that much academic research focused on enterprises, institutions, or economic sectors, whereas the object of the present study was citizens engaged in contractual relations with economic entities.

Conclusions

The study identified key problems accompanying the conclusion and implementation of civil contracts between citizens and economic entities in the Kyrgyz Republic. So, entering into civil contracts remained common among the population, especially in banking services, leasing, and utilities. Barrier was the low level of legal literacy, as a result of which many citizens do not read or do not understand contract terms and rarely seek legal assistance (12%). It was recorded a low level of trust in judicial and pre-trial protection mechanisms: more than half of respondents do not regard the court system as an effective means of protecting their rights. Refusal to go to court was often caused not only by scepticism (31%) but also by a lack of knowledge about, where and how to file complaints (26%). So, there was a legal imbalance between contracting parties. State bodies and large economic entities impose standard-form, often disadvantageous terms with no opportunity for discussion (contracts with state institutions were reported by 42% of respondents, and contracts with banks by 56%). This practice reduced citizens' legal protection and increased the risk of breaches (52%). It was also found that insufficient digitalisation and limited access to electronic platforms (especially in the regions) hinder the use of modern tools – such as the electronic digital signature or online contract registration. This led to bureaucratisation of procedures and reduced the transparency of contractual relations. On the basis of the data obtained, the study recommended improving

citizens' legal literacy, especially in the regions, through online courses, explanatory guides, legal consultations, and accessible libraries of standard-form contracts. It also proposed expanding alternative dispute resolution mechanisms, clarifying the legal status of electronic contracts, and digitalising contractual processes through electronic signatures, online platforms, and monitoring tools. Additional measures included strengthening the enforcement of court decisions, increasing bailiffs' accountability, and improving transparency within the judicial system. Together, these measures were intended to make contractual relations more transparent, efficient, and fair, while strengthening institutional trust and protecting the rights of contracting parties.

This work had limitations, including a relatively small sample of respondents and constraints associated with conducting online surveys. Future research should expand the sample and carry out comparative analysis of mechanisms for implementing contractual obligations in different Central Asian countries.

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Актуальні питання цивільних договорів, укладених між громадянами та суб'єктами господарювання держави

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Анотація

Метою дослідження було виявлення сучасних проблем у виконанні договірних зобов'язань сторонами цивільних договорів у контексті Киргизької Республіки. Для досягнення цієї мети було проведено онлайн-опитування 100 респондентів віком від 18 років, які мали досвід укладення цивільних договорів з державними економічними суб'єктами. Дані показали, що цивільні договори найчастіше укладалися з банками (56 %), державними установами (42 %), комунальними службами (17 %) та орендодавцями (16 %). У більшості випадків договори підписувалися без залучення юридичних експертів і не супроводжувалися незалежним вивченням запропонованих умов (62 %). Більше половини респондентів (51 %) визнали, що їхні знання були недостатніми для об'єктивної оцінки якості запропонованих умов. Поверхневе ознайомлення з умовами договору або їх повне ігнорування часто призводило до порушення

умов договору, при цьому успішне вирішення спору в судовому порядку було зафіксовано лише в 11 % розглянутих випадків. Кожен четвертий респондент (26 %) не знав, куди звернутися у разі порушення своїх прав, тоді як кожен третій (31 %) знав, але вважав за краще не звертатися до відповідних органів. Відповіді на відкриті запитання допомогли виявити найгостріші проблеми, пов'язані з цивільними договорами, укладеними між громадянами та державними господарськими суб'єктами: слабкий правовий захист громадян, формалізм і бюрократія в судовій та виконавчій системах, недостатня цифровізація договірних процесів, низький рівень правової грамотності населення, обмежений доступ до досудових та судових засобів правового захисту, невиконання судових рішень, а також проблеми у сферах оренди та приватизації. Стратегії, запропоновані для вирішення цих проблем, включали підвищення правової грамотності, зміцнення правової дисципліни, розвиток альтернативних механізмів вирішення спорів, вдосконалення законодавства, посилення виконання судових рішень, запровадження антикорупційних заходів у системі правосуддя та впровадження цифрових рішень

Ключові слова: правова грамотність; правовий захист; цифровізація; бюрократія; досудове врегулювання; типовий договір; електронний цифровий підпис



Contemporary paradigm of human rights: Balancing universality and cultural relativism

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Abstract

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The study aimed to examine practices of relativisation of human rights in selected jurisdictions. The methodology was based on comparative law and systematic generalisation, which made it possible to critically examine the conceptual foundations of universalism and relativism and identify their practical manifestations. As a result, three main approaches to analysis of the relationship between universalism, moral relativism and interculturalism were identified. Based on an analysis of state practice, the study established that deviations from universal standards were most often justified by reference to traditional values without the development of clear legal mechanisms, which reduced the level of international guarantees for the protection of individuals. At the same time, the existence of a universal core of rights, in particular the prohibition of torture, slavery and genocide, which are not subject to relativisation, was confirmed. An analysis of constitutional

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practice in Ukraine, France, India revealed different strategies for reconciling universal standards with national traditions. In addition, the jurisprudence of the European Court of Human Rights (cases “S.A.S. v. France”, “Lautsi v. Italy”), as well as the decisions of the Inter-American Court of Human Rights and the African Court on Human and Peoples’ Rights were studied, confirming the importance of cultural context in the interpretation of human rights. The practical significance of the conclusions lies in their use for developing human rights strategies, adapting international standards, and improving education and institutional practices in this field

Keywords: globalisation; socio-cultural differences; morality; legal systems; autonomy; pluralism

Introduction

The issue of human rights remains highly relevant in the modern world, as globalisation processes, increased intercultural contacts and intensified migration flows have confronted the international community with the problem of reconciling universal standards with the cultural and legal characteristics of individual states. According to the Convention on the Elimination of All Forms of Discrimination against Women (1979), more than 70 states expressed official reservations to international conventions, citing “national traditions” or “religious norms”. This indicates the existence of significant conflicts between the proclaimed universality of rights and the practice of their implementation. The main problem lies in the absence of a comprehensive model that would harmonise universal standards with culturally determined practices, without replacing human rights by local traditions that may restrict them. The conflict between universalism and cultural relativism creates the risk of double standards in international law, undermines trust in human rights institutions, and complicates the implementation of international treaties, complicates the work of international voluntary organisations (Akhmetova *et al.*, 2025; Kurylo *et al.*, 2026). The universality of human rights has long been considered an indisputable achievement of the international community, but the realities of intercultural interactions, religious diversity and the specifics of

national legal systems have called into question the possibility of their full harmonisation with local traditions. The question of the relationship between universalism and cultural relativism in the field of human rights is becoming increasingly relevant, as it determines not only the level of legitimacy of international standards but also the practical effectiveness of the mechanisms for their implementation.

The researchers examined the tension between universal human rights standards and cultural relativism, including states’ reservations to international conventions, conflicts in implementation, and the impact of national traditions and legal systems on the effectiveness of human rights protection. R.M. Khazhynskyi (2024) explored the problem of universality and relativism in the modern human rights system, with an emphasis on the emergence of somatic rights. The study demonstrated that the emergence of a new generation of rights related to physicality, medical and bioethical aspects further exacerbate the conflict between universalist and relativist concepts. The study emphasised that an excessive emphasis on universality leads to the neglect of cultural and ethical contexts, while relativism threatens to fragment the legal system. The M.V. Hromovchuk’s (2022) study demonstrated that excessive formalisation of legal norms without incorporating the socio-cultural orientations

of society leads to a loss of their legitimacy. The author emphasised that a balance is needed between legal principles and value orientations, otherwise universal standards remain alienated from the everyday life of citizens.

V. Sewpaul & L. Kreitzer (2021) explored the role of emancipatory social work, Ubuntu philosophy, and Afrocentrism in the context of human rights violations. The authors showed that these approaches could be effective antidotes to the cultural and legal challenges faced by certain communities. Their study highlighted the importance of integrating local values into universal legal norms while preserving fundamental human rights principles. This research offered perspectives for harmonising global standards with local practices, but its limitation was the lack of specific legal mechanisms for implementing such ideas. S. Khan (2021) examined how Pakistan attempted to balance Western concepts of human rights with Islamic law. The author emphasised the complexity of adapting international standards to the Islamic legal system and national conditions.

In turn, O. Balynska *et al.* (2024) studied the transformation of human rights content under the influence of globalisation. The study showed that globalisation has significantly changed perceptions of human rights, particularly in the context of economic and social processes. This study provided a theoretical context for research on how universal standards could be adapted to new conditions but did not offer specific models for adapting international legal norms to cultural differences. P. Wadud (2025) provided a feminist intersectional response to the inviolability of fundamental human rights, emphasising the significance of racial, gender and other social factors in the protection of women's rights. The study emphasised the need to preserve universal standards when integrating cultural and social contexts, but the study focused more on theoretical aspects and did not propose specific legal

mechanisms to achieve a balance between universalism and relativism.

The aim of the study was to examine and systematize relativist practices and principles applied across different jurisdictions. To achieve this goal, the study focused on analysing theoretical approaches to universalism and cultural relativism in human rights, identifying barriers to harmonising international standards with national cultural and legal practices, and developing a conceptual framework for reconciling universal standards with cultural diversity while avoiding both relativistic fragmentation and rigid formal universalism.

Literature Review

Within the framework of cultural relativism, it is asserted that human rights are not absolute or universal in nature, but are shaped by the specific traditions and values of each society. However, certain rights are considered universal and not subject to adaptation in the context of cultural relativism, in particular the right to life, the prohibition of torture, slavery and genocide. These rights are recognised as immutable and binding on all states, regardless of cultural differences. Other rights, such as the right to freedom of religion, the right to family life and cultural identity, can be adapted to reflect the cultural and social characteristics of specific communities, if this does not violate fundamental human rights, such as the right to freedom from discrimination or violence. This approach preserves the balance between universal human rights principles and cultural diversity, while preserving their fundamental essence.

Since the end of the 20th century, awareness of the importance of cultural context has grown. As D. Eggel *et al.* (2022) emphasise, universalism was formed as a political and legal instrument of global knowledge management, but its perception in different regions was uneven. V.L. Derkach (2022) points to the normative autonomy of

cultures within philosophical pluralism, where rights only make sense in a local environment. M.J. Bennett (2023) viewed this process through the prism of interculturalism, emphasising the significance of intercultural sensitivity for the interaction of universal and local approaches. O. Myroniuk (2024) showed that misunderstanding of the universality of rights most often arises in countries experiencing social or economic instability (Latin America, sub-Saharan Africa, South Asia). A similar position is developed by M.K. Sinha (2023), who emphasised the complexity of combining universal norms with cultural pluralism in developing countries. M. Budiana (2024) has shown that in Southeast Asian countries, cultural and social traditions are often used as an argument for deviating from universal legal standards, as these countries consider it essential to preserve traditional ways of life and values that may conflict with generally accepted international norms. Thus, a comparison of national constitutional acts and universal human rights standards reveals significant variations in approaches, which are determined by historical circumstances as well as cultural, religious and political factors, which significantly affect the effectiveness of the integration of international legal norms into national legal systems.

In human rights discourse, the approach of interculturalism gained prominence, focusing efforts not on contrasting the universal and the local, but on the identification of points of intersection between different cultural paradigms. Interculturalism was perceived as a dialogue that recognised the equality of cultures, but at the same time formed common normative foundations at the intersection of different traditions. In this respect, human rights were regarded as the result of constant intercultural coordination, rather than strict adherence to predetermined universal norms. Thus, human rights remained central to the development of national, international and

transnational strategies aimed at ensuring social justice, dignity and legal equality. Relative universalism, complemented by elements of interculturalism and critically informed moral relativism, was recognised as the most promising approach in a globalised world, where there was a growing need for flexible but ethically sound approaches to human rights.

According to H. Zhang (2023), ideas of individual rights were often ignored in favour of collective rights, which could limit personal freedom. However, the study showed that economic development and improving the well-being of the population remained the declared priority, which, in their opinion, required the concentration of power in the hands of the state leadership, rather than its restriction in the name of individual rights. In such conditions, social and cultural rights that strengthened state institutions and collective identity gained priority. V. Muntarbhorn (2021) emphasised the need to develop a specific Asian and post-colonial legal response, calling for the restoration of the Asian perspective in international law. The studies argued that many parts of Asia opposed liberal approaches to human rights that focused on individual freedoms and insisted on the freedom to choose the path of development independently. In this sense, Asia's problems related to development and ethnic diversity were significantly different from those in Europe and therefore required autonomous approaches.

Instead, the research process demonstrated that the issues of ethnic diversity and the priority of collective interests did not always require an autonomous approach but could be reconciled with universal principles through mechanisms of contextual interpretation. The results did not indicate a complete rejection of universalism, but only its adaptation to socio-cultural characteristics without undermining basic legal guidelines. A.A.M. Hassanein (2025), an expert in Islamic law, explored the paradox of the relationship between

universalism and relativism. These analyses indicate that the implementation of human rights within the Islamic legal system required the integration of Sharia concepts. Although achieving a universal consensus remained difficult, it was not impossible. Therefore, there were options for harmonising Islamic law with international standards through the application of the doctrine of “discretion” by international bodies and the use of the “maqasid al-sharia” (the objectives of Sharia) and “maslahah” (public interest) by states with a Muslim legal tradition.

Materials and Methods

The study was theoretical in nature and based on international legal acts. – UN Charter (1945), Universal Declaration of Human Rights (1948), the Geneva Conventions of 12 August 1949 (1949), Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II) (1977), the Refugee Convention (1951), Rome Statute of the International Criminal Court (1998), International Covenant on Economic, Social and Cultural Rights (1966), Vienna Declaration and Programme of Action (1993) – reflecting the peculiarities of human rights implementation in various socio-cultural environments. The study was conducted as a theoretical and comparative legal analysis of the interaction between universal human rights standards and culturally, religiously, and historically conditioned models of their implementation in national and regional legal systems. The research focused not only on selected constitutional models of Ukraine, France, and India, but also on regional human rights protection systems, including the European, African, and Inter-American systems, in order to identify different mechanisms of contextual interpretation, legal relativisation, and adaptation of universal human rights norms. The selection of Ukraine, France, India was made to ensure a comparative

analysis of different legal systems and constitutional models representing varying degrees of integration of international human rights standards with national cultural, religious, and legal traditions. In addition to these constitutional models, selected regional and national cases from Africa and the Americas were included as illustrative examples of legal relativisation in judicial practice. Their inclusion was not intended to create a comprehensive country-by-country comparison, but to demonstrate how regional courts and quasi-judicial bodies address conflicts between universal human rights standards, collective rights, cultural traditions, religious norms, indigenous practices, public order, and national security considerations. The analysis also included national constitutional acts of states with different models of human rights protection, in particular the Constitution of Ukraine (1996), the Constitution of the French Republic (1958), the Constitution of India (1950). This was used for a comparative legal analysis of different systems for guaranteeing human rights and their correlation with universal standards. The case study method was used to analyse legal approaches to the interaction between universal human rights and cultural traditions. In particular, the practice of the European Court of Human Rights (ECHR) was studied, namely the cases of *S.A.S. v. France* (2014) and *Lautsi v. Italy* (2009).

Judicial practice in national jurisdictions where conflicts between universal standards and local traditions occurred was emphasised. The study examined several key cases from the African Commission on Human and Peoples' Rights. Finally, was considered, highlighting state responsibility in cases of gender-based violence and failure to ensure effective protection of women's rights. The cases were selected according to three criteria: first, the presence of a direct conflict between universal human rights standards and national, cultural, religious, or historical specificities; second, the relevance of the case for explaining

judicial approaches to the margin of appreciation, legal pluralism, collective rights, freedom of religion, gender equality, freedom of expression, or indigenous rights; third, the ability of the case to illustrate different regional models of balancing universality and contextual adaptation.

Abstraction and generalisation were applied to construct a comprehensive conceptual framework of the interaction between universalist and relativist approaches in human rights theory, while the analogy method enabled the comparison of interdisciplinary interpretations from philosophy, sociology, and law. A systematic approach was used to examine human rights as a complex, multidimensional phenomenon operating within both the global legal order and culturally specific normative systems. The case study method was additionally employed to analyse practical manifestations of these theoretical approaches in judicial practice, in particular the jurisprudence of the European Court of Human Rights in *S.A.S. v. France* (2014) concerning restrictions on religious dress in the name of secularism, and *Lautsi v. Italy* (2009) regarding the display of religious symbols in public schools, as well as the practice of the African Commission on Human and Peoples' Rights in cases concerning freedom of expression and state security restrictions. Country Reports on Human Rights Practices: India (2023) also used, which provided for the consolidation of a wide range of civil, political, social, economic and cultural rights.

Results and Discussion

Comparative constitutional models of human rights implementation in other countries.

A comparison of universal standards with the national constitutional acts of different countries reveals significant variability in the application of human rights principles, which is determined by the historical, cultural, religious and political contexts of each individual state. Studying these

differences is relevant for analysis of how each country adapts international norms to its unique conditions. In Ukraine, in accordance with the provisions of the Constitution of Ukraine (1996), the principle of direct application of international law is enshrined. In France, according to the Constitution of the French Republic (1958), the importance of human rights and freedoms is also emphasised, but in contrast to Ukraine, there is a certain amount of discretion regarding the integration of cultural traditions. This is particularly evident in matters of secularism, where the French legal system separates religion and state institutions. A comparative analysis of the constitutional provisions of Ukraine and France reveals different models of implementing international norms within national legal systems. In Ukraine, the Constitution establishes the principle of direct applicability of international treaties, which ensures their integration into the national legal order without additional transformation.

In particular, Article 9 of the Constitution of Ukraine (1996) stipulates that international treaties in force, consented to be binding by the Verkhovna Rada of Ukraine, form part of national legislation. This provides a legal basis for the direct application of international human rights standards and strengthens their universal character within the domestic legal system. Constitution of the French Republic (1958) also recognises the importance of human rights and freedoms; however, their implementation follows a more indirect model based on constitutional review and the principle of secularism. According to Article 1 of the Constitution of the French Republic (1958), France is an indivisible, secular, democratic, and social state ensuring equality before the law regardless of religion. This indicates that the incorporation of international norms is mediated through national constitutional principles, particularly *laïcité*, which ensures a strict separation between religion and state institutions. Thus,

Ukraine represents a model of direct incorporation of international law, whereas France demonstrates an adaptive model in which international norms are interpreted through national constitutional principles and socio-cultural specificities.

In India, according to the Constitution of India (1950), a complex constitutional system combines enforceable Fundamental Rights with non-justiciable Directive Principles of State Policy, creating a structured balance between universal human rights standards and socio-cultural and developmental priorities of the state. This dual framework is particularly evident in the regulation of religious personal laws governing marriage and family relations, where cultural and religious traditions coexist with constitutional guarantees of equality. A concrete example is the case *Shayara Bano v. Union of India and Others* (2017), in which the Supreme Court of India declared the practice of instant triple talaq unconstitutional as it violated the fundamental rights to equality and non-discrimination under the Constitution of India. This case illustrates how the Indian judiciary limits certain cultural-religious practices when they conflict with constitutional human rights standards, while still preserving a plural legal system that accommodates religious norms in other domains. In terms of human rights theory, this approach represents a moderated or “structured” form of legal relativism rather than absolute relativism, as it does not reject universal human rights norms but adapts their implementation within a culturally plural legal order. Thus, the Indian model reflects a hybrid approach in which universal principles of equality and dignity are constitutionally guaranteed, yet their practical application is continuously mediated through national traditions and socio-cultural realities (Country Reports..., 2023). This approach reflects a compromise between universalism, which provides for universal equality of human rights, and the specific local needs and traditions of the country.

Furthermore, the cases *Shayara Bano v. Union of India and Others* (2017), *Brigadier General Maude Aminun Kano V. Nigeria Army & Anor* (2008), *Republic v. Mohamed Abdow Mohamed* (2013) were analysed as key judicial and quasi-judicial precedents addressing the protection of fundamental rights in different socio-legal contexts. These cases collectively highlight issues related to gender equality and personal law reforms, unlawful detention and political participation, freedom of expression and press freedom, as well as the role of state authorities in ensuring compliance with constitutional and international human rights standards. Overall, the examined jurisprudence demonstrates the ongoing tension between national legal frameworks, cultural or security-based justifications, and universal human rights obligations, particularly in relation to individual liberties, due process, and protection against arbitrary state interference.

The cited Judgment of the European Court of Human Rights in Case No. 43097/15 (2024), reflect the ongoing evolution of contemporary human rights jurisprudence within the framework of balancing universal human rights standards and cultural diversity. These cases illustrate how the Court continues to interpret the European Convention on Human Rights as a living instrument, capable of adapting to complex social, cultural, and legal contexts across member states. In these decisions, the Court reaffirms the principle of universality of human rights while simultaneously acknowledging the doctrine of the margin of appreciation. This approach allows states a certain degree of discretion in implementing human rights obligations, particularly in areas where moral, cultural, or religious sensitivities differ significantly between societies. As a result, the Court seeks to maintain a delicate equilibrium between legal uniformity and respect for national identity.

Overall, these judgments demonstrate that contemporary human rights protection is increasingly

characterised by interpretative flexibility rather than rigid standardisation. They indicate a judicial tendency toward contextual balancing, where universal norms are upheld as fundamental, yet their application is shaped by cultural and societal conditions. This confirms the dynamic nature of human rights law in addressing tensions between universality and cultural relativism.

Positive examples of ECHR enforcement in the cases of *Lautsi v. Italy* (2009) and *S.A.S. v. France* (2014) demonstrate attempts to balance the right to religious self-expression with the fundamental principles of democracy, in particular internationally guaranteed human rights and freedoms. In these cases, the ECHR sought to balance the interests of individuals in the context of their religious freedom with the need to protect social order and security in societies based on secular principles. In its judgment in *S.A.S. v. France* (2014), the ECHR considered the issue of banning the wearing of full Muslim dress in public places in France, emphasising the importance of combating terrorism and ensuring public order, while seeking to consider the applicant's right to personal freedom and religious beliefs. Similarly, in the Case of *Lautsi v. Italy* (2009) considered the issue of displaying Christian crosses in Italian state school classrooms. The ECHR's position recognises the importance of traditional religious symbols, while emphasising the need to respect the rights of minorities, in particular the right to religious freedom, which is a substantial component of democratic principles.

A comparative analysis of France and Italy demonstrates two different models of regulating religious expression in public space, which directly reflects the tension between universal human rights standards and national interpretations of secularism. In France, the principle of *laïcité* is legally enshrined through the Law of France No. 2004-228 (2004) regulating, in accordance with the principle of secularism, the wearing of

symbols or clothing indicating religious affiliation in state primary and secondary schools, which prohibits the wearing of visible religious symbols, including the Islamic hijab, in public schools in order to ensure state neutrality and equality among citizens. This approach represents a strong form of institutional secularism, where individual religious expression is limited in the public sphere to protect a universal model of civic identity. In contrast, Italy demonstrates a more flexible approach, where religious symbols in public institutions, such as crucifixes in classrooms, are generally permitted. In the landmark case *Lautsi v. Italy* (2009), the ECHR upheld Italy's right to maintain crucifixes in public school classrooms, emphasising the "margin of appreciation" doctrine, which allows states a certain level of discretion in balancing religious neutrality with cultural and historical traditions. This reflects a model of moderated relativism, where national identity and cultural heritage are considered legitimate factors in interpreting human rights obligations. Thus, while France applies a strict universalist-secular model limiting religious visibility in public institutions, Italy adopts a culturally embedded approach that allows greater contextual flexibility. Together, these cases illustrate how European states operationalise different degrees of relativism in the implementation of the right to freedom of religion, balancing universal human rights norms with national constitutional traditions.

In negative examples of the application of human rights standards within the selected countries, limitations of universal norms are observed in different legal and cultural contexts. In France, the strict interpretation of secularism has led to restrictions on the wearing of religious symbols in public schools, including the Islamic hijab, which has been criticised as limiting freedom of religious expression in the name of state neutrality. In India, despite constitutional guarantees of equality, the persistence of certain religious

personal laws has been associated with unequal protection of women's rights in matters of marriage, divorce, and inheritance, revealing tensions between constitutional universalism and cultural pluralism. Overall, these examples demonstrate how national legal frameworks may lead to selective or restrictive implementation of international human rights standards, illustrating different forms of legal and cultural relativism in practice. This approach significantly weakens the legal image of states, as it leads to situations where human rights and freedoms may be restricted due to religious beliefs or cultural traditions that contradict universal human rights. The lack of integration of international norms into the national legal systems of such countries raises doubts regarding their ability to meet international obligations and guarantee the protection of human rights. It may also lead to the isolation of such states in the international arena, as they do not comply with the basic human rights standards required for participation in global institutions.

Religious and cultural relativism in regional and national human rights jurisprudence (ECHR, Africa, and domestic courts). According to research conducted by J.D. Strauß (2024), M. Alkış (2024) and E. Lafaye de Micheaux (2024), such situations are common in several African and Asian countries, where cultural and religious arguments are often placed above universal human rights norms. In the before the African Commission on Human and Peoples' Rights highlighted systematic restrictions on freedom of expression and political participation under emergency and security legislation influenced by religious and state doctrines. The Commission found violations of fundamental rights, emphasising that national security and religious justification cannot override core human rights obligations. The judiciary acknowledged the importance of cultural and religious context while simultaneously affirming the supremacy of constitutional protections,

illustrating a moderated form of legal relativism within a plural legal system. This case demonstrates the practical challenges of aligning international human rights standards with decentralised and tradition-based legal orders. In Ethiopia, before the African Commission revealed restrictions on freedom of expression justified by state security and political stability concerns. The Commission stressed that such limitations must remain proportionate and cannot undermine the essence of protected rights.

The analysed cases demonstrate that in African jurisdictions international human rights law is often relativised through three main legal mechanisms: legal pluralism (coexistence of state, customary, and religious law), broad interpretations of public order and security exceptions, and constitutional or legislative incorporation of cultural and religious norms into domestic legal systems. Despite formal adherence to international treaties, states frequently invoke cultural specificity, religious legitimacy, or national security to justify deviations from universal standards. However, regional judicial and quasi-judicial bodies, particularly the African Commission on Human and Peoples' Rights, consistently attempt to reassert minimum universal standards by limiting excessive reliance on relativist justifications and reinforcing the binding nature of core human rights obligations. C.J. Allsobrook (2023) adds that in certain regions of Asia, there is a tendency to use cultural traditions as a means of restricting human rights, with national courts often refusing to apply international standards in favour of local practices. In France, limitations on visible religious symbols in public institutions, particularly the prohibition of hijabs in public schools, reflect a strict secularist approach that prioritises state neutrality over individual religious expression. In India, tensions arise in the application of personal religious laws, where women's rights in marriage and inheritance may be constrained by

community-based legal traditions. and Africa, religious norms often carry more weight in judicial practice than international obligations, creating serious problems for the integration of universal human rights into local legal systems. E. Lafaye de Micheaux (2024) also noted that in many parts of the world where traditional and religious influences are strong, the application of universal legal norms requires considerable effort and adaptation to local realities, creating certain legal and social barriers.

The observation made by K. Tanbir (2022) regarding the role of states in ensuring human rights showed how participation in international treaties was often accompanied by reservations based on cultural grounds. Although the study confirmed that this did not always take the form of open discussion and that commitments were made through the ratification of treaties, often with reservations related to the incompatibility of provisions with cultural or religious norms. The integrative model previously described is replaced by the analytical approaches developed by E.R. Hogemann (2020) and A.O. Marchenko (2023), which reinterpret the relationship between universalism and cultural relativism in human rights law. E.R. Hogemann (2020) proposes a post-dichotomous framework that rejects the strict opposition between universalism and relativism and instead emphasises the existence of a dynamic normative continuum in which human rights are simultaneously universal in essence and context-sensitive in application. In contrast, A.O. Marchenko (2023) focuses on the role of religion in shaping both universalist and relativist discourses, arguing that religious norms may function either as a source of limitation or as a complementary interpretative framework for human rights implementation.

In the context of the previously analysed judicial practices, these approaches allow for a more nuanced interpretation of regional jurisprudence,

particularly in the African and Inter-American human rights systems, where courts combine universal standards with cultural and contextual considerations. For example, the African regional mechanisms demonstrate a stronger inclination toward communitarian values and socio-cultural adaptation, while the Inter-American Court maintains a more structured balance between universality and limited contextual flexibility. These tendencies reflect the analytical position of E.R. Hogemann (2020), who conceptualises such variations not as contradictions but as different expressions of a unified human rights system.

At the same time, A.O. Marchenko's (2023) emphasis on religion is particularly relevant for the analysis of national legislation and constitutional frameworks, where religious and cultural norms often influence the scope of rights implementation. This is evident in states that apply reservation mechanisms or constitutional restrictions based on religious or cultural identity, thereby illustrating the practical tension between universal human rights standards and contextual legal orders. Thus, both approaches provide a comprehensive analytical lens for evaluating judicial practice and national legislation within the broader discourse of human rights relativism and universalism.

M. Káčer (2021) took a more moderate position, advocating the concept of relative universality. Such works noted that functional and conceptual universality were more often realised at the level of concepts. Most of the articles of the Universal Declaration were based precisely on this level. International treaties also left room for local differences. Human rights were not a panacea, but they remained a substantial element in the struggle for justice. Relative universality was a resource that could be used to build a more humane society. In practice, this was confirmed by the same list of universal rights recognised by all international organisations. For example,

Article 1(3) of the UN Charter (1945) contained a reference to the promotion of rights and freedoms for all without distinction (Popovski, 2024). The International Covenant on Economic, Social and Cultural Rights (1966) was ratified by 174 countries. The preamble to both documents emphasised that human rights derive from the dignity of the individual.

The African Charter on Human and Peoples' Rights (1981) and the Arab Charter on Human Rights (2004) also emphasised dignity as a supreme moral value. The Vienna Declaration and Programme of Action (1993) enshrined the universality of rights as an indisputable fact. All international acts contained a unified list of rights recognised by the global community. As of 2025, none of the 193 UN member states had renounced the provisions of the Universal Declaration of Human Rights (1948). Article 1, which dealt with the equality and freedom of all people, remained universally recognised.

It was stated that political rights, unlike natural rights, were usually linked to citizenship. Their scope was determined by the domestic legislation of each state and was of a recommendatory nature. The articles of the Universal Declaration of Human Rights (1948) began with the words "Everyone has the right...", which indicated the natural law origin of rights and their binding nature for states. Although the declaration was not an international treaty, its provisions were considered norms of customary international law. They were reflected in the constitutions of many states.

It is separately noted that the problem of universality lies in the absence of a single moral system. Both cultural absolutists, supporting injustice for the sake of preserving traditions, and absolute universalists, who could justify violations for the sake of achieving an ideal, were criticised. One contemporary researcher noted that human rights are, paradoxically, relatively universal. The described paradigm of human rights was

increasingly associated with the need to incorporate context and pluralism in the process of realising rights. The effectiveness of existing conventional and institutional mechanisms in the field of human rights largely depended on their ability to adapt to regional specifics, including cultural relativism and unique historical and legal factors.

Mechanisms of legal relativisation of international human rights standards in national and regional legal systems. The jurisprudence of the ECHR has illustrated this contextual approach through the consistent application of the doctrine of "discretionary power". Although this doctrine was not explicitly enshrined in the Convention for the Protection of Human Rights and Fundamental Freedoms, its formal recognition was enshrined in Protocol No. 15 (Gümüştas, 2021), which emphasised respect for the national identity of the participating states. The doctrine of "discretion" was consistent with the provisions of the Vienna Convention on the Law of Treaties (1969), particularly regarding the dynamic interpretation of international legal norms. Thanks to this, the provisions of the Convention could be adapted to new social and political realities that were not foreseen at the time of its conclusion. The application of this doctrine provided states with a certain degree of autonomy in interpreting human rights, incorporating national traditions, social values and historical experience, while maintaining uniform standards within the European human rights space.

Another approach to the consideration of the regional context was applied within the inter-American and African regional human rights protection systems. In particular, the IACHR applied an evolutionary interpretation of the provisions of the American Convention on Human Rights: Pact of San Jose, Costa Rica (1969), independently interpreting them considering cultural identity and historical circumstances. In cases concerning the right to life of indigenous peoples,

the right to life required expanded guarantees in response to historical practices of forced assimilation and prolonged marginalisation on the American continent (Table 1).

Table 1. Interpretation of the right to life in cases concerning indigenous peoples

Case	Case core	The Court's approach to the right to life	Cultural context/Customs
Villagrán Morales v. Guatemala	Intentional killing of five street children by the police; lack of protection	The right to life includes the state's obligation to create conditions that guarantee a dignified existence	The court recognised the vulnerability of street children as a "social group" requiring special protection, including cultural characteristics
Yakye Axa Indigenous Community v. Paraguay	Loss of access to traditional lands, death of community members due to lack of food and medicine	The interpretation of the right to life includes economic and social components (food, water, and healthcare).	The court recognised that the community's way of life was inextricably linked to the land, and that this should be addressed in the interpretation of rights
Sawhoyamaxa Indigenous Community v. Paraguay	Loss of access to traditional lands, death of community members due to lack of food and medicine	The right to life is the state's obligation to ensure minimum conditions for existence and the protection of vulnerable groups	The court emphasised the community's spiritual connection to the land and the need to respect cultural and religious practices

Source: compiled by the authors based on Case of the Villagrán-Morales et al. (Street Children) v. Guatemala" (1999), S. Sklar (2005), U.U. Ewelukwa (2006), Case of the Sawhoyamaxa Indigenous Community v. Paraguay (2013)

The jurisprudence of the African Court on Human and Peoples' Rights (AfCHPR) reflected the specificity of the African Charter on Human and Peoples' Rights (1981), which emphasised the importance of historical tradition and African civilisation (Preamble), as well as collective rights, social obligations and respect for the community (Articles 17-29). These principles became the normative basis for both the AfCHPR and the African Commission on Human and Peoples' Rights, including cultural specificity and traditions in the general human rights discourse. From a practical point of view, this approach facilitated a balance between the universality of human rights and the regional context, ensuring the realisation of rights in a manner that was sensitive to the context and at the same time consistent with international standards.

The implementation of relativism in the decisions of regional international courts in Africa and the Americas is reflected in a gradual balancing between universal human rights standards and the socio-cultural, historical, and legal specificities

of states. The African Commission on Human and Peoples' Rights and the AfCHPR frequently incorporate the principle of "African particularism," acknowledging the relevance of traditional norms, collective rights, and communitarian development approaches in cases concerning socio-economic rights violations in Nigeria and systemic human rights issues in Zimbabwe. In the Inter-American human rights system, particularly in the jurisprudence of the Inter-American Court of Human Rights, national context is also taken into account; however, priority is generally given to universal standards of the American Convention on Human Rights, which limits the scope of acceptable relativism and encourages convergence toward harmonised human rights interpretation, especially in cases involving state responsibility for human rights violations and discrimination in Chile and Honduras.

In contrast, national relativism is implemented through domestic strategies, constitutional principles, and legislative mechanisms that prioritise

cultural, religious, or historical specificities over universal norms. Within this approach, the state acts as the primary interpreter of the scope of international human rights obligations, which may result in reservations to international treaties, constitutional limitations, or selective incorporation of human rights standards. Thus, while regional courts tend to seek a balance between universalism and contextual adaptation, national relativism is more strongly oriented toward the primacy of internal legal and cultural systems.

The obtained results are consistent with the theoretical position of D. Eggel *et al.* (2022), who explain universal human rights as a product of historical legal convergence, particularly after the adoption of the Universal Declaration of Human Rights (1948) and subsequent UN treaties, where states such as Germany, Canada, and South Africa incorporated international standards into constitutional frameworks through judicial interpretation and treaty incorporation mechanisms. This demonstrates that universality functions as an evolving normative consensus rather than a fixed legal doctrine. A similar analytical approach is proposed by V.L. Derkach (2022), who links cultural relativism to specific legal systems such as India and Iran, where family law, gender norms, and religious regulations significantly shape the application of international human rights standards. For example, in India, personal religious laws influence marriage and inheritance regulation, while in Iran, Sharia-based legal frameworks directly affect gender equality and freedom of expression, illustrating how cultural autonomy operates as a structural filter in rights implementation. Ignoring regional specificities can only serve to bolster the propaganda of terrorist groups operating in the regions (Ketners, 2025).

These findings are further supported by M.J. Bennett (2023), who emphasises intercultural competence in global legal practice, particularly in multicultural societies such as France, the United

States, and the United Kingdom, where courts and institutions must balance secular constitutional principles with increasing religious and cultural diversity. This is evident in debates on religious symbols in public space in France and accommodation of religious practices in public institutions in the UK and US. The integrative model of E.R. Hogemann (2020) and A.O. Marchenko (2023) is reflected in comparative jurisprudence of regional courts, including the European Court of Human Rights and the African human rights system. For instance, in *S.A.S. v. France* (2014), the ECHR allowed restrictions on religious dress under the principle of margin of appreciation, while in African Commission practice, cases from Nigeria and Sudan show stronger reliance on cultural and religious justification in limiting certain rights. E.R. Hogemann's continuum model explains these differences as variations in contextual application rather than contradictions.

In contrast, M. Budiana (2024) presents a strong relativist model evident in jurisdictions such as Afghanistan and Brunei, where reservations to the Convention on the Rights of the Child (1989) and Convention on the Elimination of All Forms of Discrimination against Women (1979) explicitly prioritise Sharia-based norms over international obligations, particularly in family law and gender equality. This approach raises concerns about fragmentation of universal standards due to conditional treaty compliance. Finally, the classical universalist position of O.M. Bukhanevych *et al.* (2021) is reflected in global treaty participation, where nearly all UN member states, including Ukraine, France, and Brazil, have ratified core human rights instruments such as the International Covenant on Civil and Political Rights (1966), confirming the normative assumption that human rights derive from inherent human dignity and are universally applicable regardless of cultural differences.

Thus, the comparative analysis demonstrates that regional human rights courts in Africa and

the Americas tend to operate within a dynamic equilibrium between universal standards and context-sensitive interpretation, although the degree of accepted relativism varies significantly between systems. The African human rights system shows a stronger openness to socio-cultural particularism, whereas the Inter-American Court of Human Rights maintains a more constrained form of contextualisation grounded in the primacy of the American Convention. At the national level, relativism becomes more pronounced, as states directly mediate international obligations through constitutional and legislative filters that may limit or condition universal norms. The reviewed theoretical approaches collectively suggest that universality in human rights should be understood as an evolving consensus shaped by historical convergence rather than a fixed normative structure. Overall, the findings indicate that the tension between universalism and relativism is not resolved but institutionalised within a multi-layered legal framework ranging from global treaties to regional and domestic adjudication.

Conclusions

The study conducted an in-depth analysis of the interaction between universal human rights principles and their culturally conditioned interpretations, particularly in the context of differences in the interpretation of human rights in different socio-cultural conditions. A conceptual approach was developed that effectively combines international legal standards with local traditions and cultural differences. This not only determined the essence of human rights, but also to incorporate the social.

It was studied three main approaches to the interaction between universal norms and cultural traditions: radical universalism, moral relativism, and interculturalism. Each of these approaches has unique specifics. Interculturalism proposes finding common points of intersection between

universal and local approaches, which prevents extremes and ensures flexibility in the implementation of human rights in different countries.

The analysis demonstrates that human rights implementation is shaped by a persistent tension between universal standards and national contextual adaptations, where states such as Ukraine and France represent different constitutional models of integrating international norms, India illustrates a hybrid system balancing constitutional rights with religious personal laws, and countries such as Iran, Afghanistan, and Brunei show stronger relativist approaches through reservations and reliance on Sharia-based frameworks, particularly in areas of gender equality and family law; at the same time, judicial practice in the ECHR (including *S.A.S. v. France* and *Lautsi v. Italy*) and African human rights mechanisms, as well as cases from Nigeria, Sudan, and Kenya, demonstrate that courts often allow limited contextual flexibility while still preserving minimum universal standards, especially in matters of religious freedom, public order, and non-discrimination; overall, the comparative evidence shows that contemporary human rights protection operates through a combination of universal obligations and culturally conditioned interpretations, resulting in a hybrid and variable global system rather than a uniform model.

Further research aims to expand the geographical scope of the analysis to include Latin American countries, as well as to conduct more detailed thematic studies on the application of the human rights hybridisation model to the most controversial issues, such as freedom of religion or gender equality. This approach can provide a more detailed analysis of the challenges and opportunities for the application of universal legal standards in different contexts.

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Сучасна парадигма прав людини: Пошук балансу між універсальністю та культурним релятивізмом

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Анотація

Метою дослідження було вивчення практик релятивізації прав людини в окремих юрисдикціях. Методологія ґрунтувалася на порівняльному праві та систематичному узагальненні, що дозволило критично проаналізувати концептуальні засади універсалізму та релятивізму та виявити їхні практичні прояви. У результаті було виявлено три основні підходи до аналізу взаємозв'язку між універсалізмом, моральним релятивізмом та інтеркультуралізмом. На основі аналізу державної практики в дослідженні встановлено, що відхилення від універсальних стандартів найчастіше обґрунтовувалися посиланням на традиційні цінності без розробки чітких правових механізмів, що знижувало рівень міжнародних гарантій захисту особи. Водночас було підтверджено існування універсального ядра прав, зокрема заборони тортур, рабства та геноциду, які не підлягають релятивізації. Аналіз конституційної практики в Україні, Франції та Індії виявив різні стратегії узгодження універсальних стандартів із національними традиціями. Крім того, було досліджено судову практику Європейського суду з прав людини (справи «S.A.S. проти Франції», «Лаутсі проти Італії»), а також рішення Міжамериканського суду з прав людини та Африканського суду з прав людини та народів, що підтвердило важливість культурного контексту в тлумаченні прав людини. Практичне значення цих висновків полягає в їхньому застосуванні для розробки стратегій у сфері прав людини, впровадження міжнародних стандартів та вдосконалення освітніх програм і інституційних практик у цій галузі.

Ключові слова: глобалізація; соціокультурні відмінності; мораль; правові системи; автономія; плюралізм



Legal framework for environmentally sustainable urban development: The Canadian model and directions for reforming Ukrainian legislation

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This article examined the legal regulation of environmentally sustainable urban development through a comparative analysis of Canadian and Ukrainian regulatory approaches to green construction and spatial planning. The purpose of the study was to identify the key elements of effective sustainable construction governance and to assess the prospects for their implementation within Ukrainian urban planning legislation, particularly in the context of post-war reconstruction, climate adaptation, and European integration. The study was based on an analysis of regulatory frameworks and enforcement practices in Canada, including federal environmental legislation, model building codes, provincial regulatory instruments, and municipal planning acts. Particular attention was paid to mechanisms for integrating environmental requirements into planning documentation, permitting procedures, whole-building life-cycle assessment, zoning regulation, and green public procurement instruments. The results of the study demonstrated that the effectiveness of the Canadian regulatory model was ensured by the systematic integration of environmental requirements into strategic planning, building standards, zoning policies, and permitting procedures, operating within a multi-level governance system and supported by preventive regulatory control at the design stage. It was established that the effectiveness of sustainable construction governance depended not only on the formal establishment of standards, but primarily on their integration across all stages of construction activity, including the application of life-cycle assessment, staged energy performance standards, and environmentally oriented public procurement instruments. At the same time, the analysis indicated that the Ukrainian legal framework remained fragmented and predominantly focused on the technical aspects of energy efficiency, which limited the effective implementation of sustainable development principles in the construction sector. The findings suggested that improving the effectiveness of legal regulation in Ukraine required a transition from a formally oriented regulatory model to one focused on practical effectiveness, the systematic integration of environmental criteria, and institutional support for their implementation

Keywords: green building regulation; environmental law; urban planning law; multi-level governance; building lifecycle assessment; energy efficiency regulation; environmental zoning

Introduction

In the context of global climate change, rapid urbanisation, and increasing anthropogenic pressure on the environment, the issue of legal regulation of environmentally sustainable urban development has become particularly relevant. The construction sector is one of the largest consumers of energy resources and a major source of greenhouse gas emissions worldwide. According to international environmental

research, buildings and the construction industry account for approximately one-third of global carbon emissions, which necessitates the transformation of legal mechanisms regulating urban development in accordance with the principles of sustainable development and environmental safety (World Green Building Council, 2022; Organisation for Economic Co-operation and Development, 2025).

This issue is particularly significant for Ukraine in the context of post-war reconstruction, infrastructure modernisation, and integration into the European legal space. The reconstruction of destroyed cities creates a unique opportunity to develop a new model of urban regulation focused on energy efficiency, climate resilience, and rational use of natural resources. At the same time, the current system of legal regulation of construction activities in Ukraine is characterised by fragmented environmental requirements and insufficient integration of environmental policy into spatial planning (Hoshovskyi, 2025).

Scientific studies by T. Sartori *et al.* (2022) and M. Bowick *et al.* (2024) demonstrate a growing scholarly interest in the legal regulation of sustainable construction and green architecture. These authors emphasise the interrelationship between environmental policy and urban development, in particular examining the mechanisms for implementing energy efficiency standards, building lifecycle assessment, environmental certification systems, and spatial planning instruments. Research by the World Economic Forum (2024) and K. Feickert *et al.* (2025) analyse legal instruments for integrating climate policy into building regulations and construction governance frameworks, highlighting the importance of multi-level regulation that combines strategic planning, technical standards, and municipal urban planning tools. Further studies by M. Lewis *et al.* (2022) and Clean Energy Canada (2022) address the role of public procurement as a mechanism for promoting the use of low-carbon building materials, as well as the impact of environmental zoning on sustainable urban development.

Ukrainian academic literature also addresses issues related to building energy efficiency, legal regulation of environmental safety in urban development, and the development of green architecture. However, most domestic studies focus primarily on technical aspects of building standards

or environmental impact assessment procedures, while comprehensive analyses of the integration of environmental policy into urban planning regulation remain insufficiently developed (Andreytsev, 2020; Topazly, 2024; Makarova *et al.*, 2025). Comparative legal research examining international experience and providing practical recommendations for reforming national legislation is particularly limited.

The purpose of this article was to examine the Canadian model of legal regulation of environmentally sustainable urban development and to identify opportunities for implementing its key elements within Ukrainian legislation. To achieve this purpose, the following research objectives are defined:

- to analyse the multi-level system of legal regulation of sustainable construction in Canada;
- to examine mechanisms for integrating environmental policy into spatial planning and building standards;
- to assess the current state of legal regulation of green architecture in Ukraine.

Literature Review

Contemporary research on the legal regulation of environmentally sustainable urban development is developing at the intersection of environmental law, urban planning regulation, and sustainable development policy. An analysis of international and Ukrainian scholarly literature demonstrates the gradual formation of an integrated approach to incorporating environmental standards into the legal regulation of construction activities and spatial planning (World Green Building Council, 2022; Organisation for Economic Co-operation and Development, 2025).

In international academic discourse, research on sustainable construction and green urban development can be grouped into three main research directions. The first research direction is technical and regulatory in nature and

focuses on the development of methodologies for whole-building life-cycle assessment and the standardisation of environmental characteristics of construction materials. A significant contribution to this field has been made by T. Sartori *et al.* (2022), who systematised international approaches to the application of Whole-Building Life-Cycle Assessment (WBLCA) as a tool for evaluating the environmental impacts of buildings throughout their entire life cycle. Further development of practical WBLCA standards is reflected in the work of M. Bowick *et al.* (2024), who formulated national methodological guidelines for integrating life-cycle assessment into architectural design and urban planning regulation in Canada. Comparable methodological approaches are also advanced by research conducted at the University of British Columbia, which produced applied guidelines for incorporating WBLCA into building project planning (University of British Columbia, 2023). At the international level, research by the World Green Building Council (2022) emphasises the importance of Environmental Product Declarations and harmonised life-cycle inventory databases as prerequisites for legally enforceable low-carbon construction standards.

The second direction is political and regulatory and concentrates on the development of economic and normative mechanisms aimed at stimulating environmentally sustainable construction. In this context, studies conducted by BC Housing (2021) are particularly relevant, as they analyse the effectiveness of step-based energy efficiency standards under the BC Energy Step Code as a regulatory pathway for transitioning the construction sector towards net-zero emission buildings. Research by Clean Energy Canada (2022) substantiates the role of green public procurement policies, particularly Buy Clean mechanisms, as effective tools for creating market demand for low-carbon construction materials. Similar regulatory and policy instruments are

examined by M. Lewis *et al.* (2022) and K. Feickert *et al.* (2025), as previously mentioned.

The third direction of international research is associated with the development of institutional models of multi-level governance in sustainable construction. Practical mechanisms for integrating environmental performance requirements into urban planning regulation have been implemented at the municipal level in cities such as Vancouver, where environmental building criteria are embedded in rezoning approval procedures (City of Vancouver, 2024). Broader analytical perspectives on multi-level governance are provided by studies by the World Economic Forum (2024) and the Organisation for Economic Co-operation and Development (2025), which emphasise the necessity of coordinated environmental policy implementation across national, regional, and municipal levels in order to achieve climate and sustainability objectives.

In Ukrainian scholarship, the legal regulation of environmentally sustainable urban development is predominantly examined within the broader framework of sustainable territorial development, environmental safety, and spatial planning. Research is generally structured along three main directions: (1) the integration of environmental requirements into territorial planning and natural resource use (Shemshuchenko & Malysheva, 2005; Yevstihnieiev, 2019; Andreytsev, 2020); (2) the development of a legal framework for sustainable territorial development and the coordination of environmental and urban planning policies (Martynova, 2016; Ustymenko, 2019); and (3) the development of institutional and legal mechanisms for ensuring environmental safety and integrating environmental criteria into urban planning regulation (Ilina, 2008), including compliance control, institutional monitoring, regulatory supervision, and the harmonisation of Ukrainian legislation with international environmental and climate

standards (Pidtserkovna, 2013; Cherp *et al.*, 2018; Petretska & Mashika, 2024).

Overall, the analysis of international and Ukrainian scholarly literature demonstrates that global practice has developed comprehensive legal mechanisms for regulating environmentally sustainable construction that combine technical standards, economic incentives, and institutional frameworks of multi-level governance. At the same time, Ukrainian academic research remains largely focused on theoretical foundations of sustainable development and environmental law, while legal mechanisms for implementing modern instruments such as lifecycle assessment, step-based energy efficiency standards, and green public procurement remain insufficiently explored. This gap substantiates the need for further comparative legal research aimed at adapting international regulatory experience to the reform of national urban planning legislation.

Materials and Methods

The methodological basis of this study is formed through a combination of general scientific and special legal approaches, which made it possible to examine the legal regulation of environmentally sustainable urban development as a complex, multi-level phenomenon. The conceptual framework of the research is grounded in the integration of environmental law, urban planning regulation, and sustainable development theory, with particular attention paid to the relationship between regulatory design and the actual effectiveness of legal norms.

The key research method employed in this study is comparative legal analysis, which was used to examine the Canadian model of sustainable construction governance and to assess the possibilities for its implementation within the Ukrainian legal framework. This method enabled the identification of structural differences between regulatory systems, in particular with

regard to multi-level governance, the integration of environmental requirements into spatial planning, and the role of preventive regulatory mechanisms. Through this approach, it became possible to evaluate not only formal legal provisions but also their functional effectiveness in practice.

The formal legal (dogmatic) method was applied to analyse the content and structure of regulatory legal acts governing urban development and environmental regulation. Its application made it possible to identify internal inconsistencies, regulatory gaps, and the degree of integration of environmental criteria into construction-related legislation. The systematic method, in turn, enabled the examination of interconnections between environmental policy, building standards, planning instruments, and public procurement mechanisms, thereby revealing the place and role of sustainable construction within the broader system of public law regulation.

The study was conducted in several consecutive stages. At the first stage, Canadian regulatory frameworks were analysed, including federal environmental legislation, national model building codes, provincial regulatory instruments, municipal planning acts, and policy strategies. Particular attention was paid to mechanisms integrating environmental requirements into planning documentation, permitting procedures, and building standards. At the second stage, Ukrainian legislation in the field of urban development, environmental impact assessment, and building regulation was examined in order to determine its structural characteristics and identify existing regulatory gaps. At the third stage, a comparative analysis was carried out, making it possible to identify key differences in regulatory approaches and assess their effectiveness.

In addition, the method of legal modelling was used to conceptualise directions for improving Ukrainian legislation in the field of sustainable construction. This method facilitated the formulation

of proposals regarding the integration of environmental criteria into urban planning regulation and the development of performance-based regulatory instruments. Analytical and synthesis methods were applied to generalise the obtained results and identify key trends in the development of sustainable construction governance.

The empirical basis of the study consists of several categories of sources. First, regulatory legal acts at various levels, including Canadian federal legislation, building codes, provincial and municipal regulatory instruments, as well as Ukrainian laws and building standards. Second, analytical reports and policy documents of international organisations and governmental institutions were used to assess contemporary regulatory trends. Third, materials reflecting enforcement practice, including official reports and publicly available case descriptions, were analysed in order to evaluate the practical effectiveness of regulatory mechanisms. The use of this methodological framework ensured a consistent and structured analysis of the research problem and provided a reliable basis for the comparative legal assessment of environmentally sustainable urban development regulation.

Results

Multi-level regulatory model of sustainable construction in Canada. The Canadian experience in regulating environmentally sustainable urban planning and green building provides an important reference model for the modernisation of Ukrainian urban development legislation. The relevance of this regulatory model is particularly pronounced in the context of post-war reconstruction, climate adaptation, and Ukraine's European integration processes. Canadian regulatory practice demonstrates a systemic governance framework in which environmental protection, spatial planning, and architectural design are integrated through multi-level governance

mechanisms and performance-based regulatory instruments (Treasury Board of Canada Secretariat, 2023; Natural Resources Canada, 2024).

A. Federal level. At the federal level, sustainable construction governance is primarily shaped by strategic policy instruments and environmental legislation. The Canada Green Buildings Strategy establishes national climate targets for the construction sector, including lifecycle assessment requirements for large-scale development projects and commitments to achieving net-zero emissions in federal real property by 2050 (Natural Resources Canada, 2024). Similarly, the Greening Government Strategy establishes public procurement requirements prioritizing low-carbon construction materials through Buy Clean procurement mechanisms (Treasury Board of Canada Secretariat, 2023).

Legislative regulation is further strengthened through amendments to the Canadian Environmental Protection Act (1999), which formally recognizes the right to a healthy environment and expands regulatory control over toxic construction materials and environmental pollutants. In addition, the Impact Assessment Act (2019) requires comprehensive environmental assessment of major infrastructure and development projects at early planning stages, thereby reducing reliance on post-construction mitigation measures and reinforcing preventive environmental regulation.

The federal regulatory framework plays a strategic coordinating role by establishing national sustainability objectives, financial instruments, and procedural standards, including public procurement requirements and lifecycle inventory database development, which stimulate transformation in construction markets and building standards (Clean Energy Canada, 2022). International regulatory practice increasingly incorporates embodied carbon limits and environmental performance requirements into building codes and performance-based regulatory systems, reflecting

the transition from purely technical construction standards toward integrated sustainability governance frameworks (ASHRAE, 2021). The National Building Code of Canada (2020) and the National Energy Code of Canada for Buildings (2020) provide the technical foundation of sustainable construction governance. These model codes establish minimum performance requirements related to building energy efficiency, thermal performance of building envelopes, and engineering system efficiency. The National Energy Code of Canada for Buildings (2020) introduces a performance-based regulatory pathway toward net-zero energy-ready buildings by 2030, offering multiple technical compliance options. However, research indicates that model codes primarily establish baseline sustainability requirements and achieve regulatory effectiveness only when complemented by provincial and municipal implementation mechanisms (Efficiency Canada, 2022).

B. Provincial level. Provincial governments perform a critical intermediary function by translating federal climate objectives into enforceable regulatory frameworks adapted to regional construction markets. A notable example is the British Columbia Energy Step Code (2017), which introduces progressive performance-based energy efficiency requirements through stepwise compliance levels leading to net-zero operational carbon targets by 2030 and net-zero energy-ready buildings by 2032. Unlike traditional regulatory approaches that impose uniform performance thresholds, the step-code model introduces incremental compliance stages, allowing the construction industry to gradually adapt to increasingly stringent sustainability requirements. Comparative research demonstrates that stepwise regulatory models significantly improve market readiness and reduce resistance to regulatory reform (BC Housing, 2021; Feickert *et al.*, 2025).

C. Municipal level. Municipal governments serve as primary operational regulators of

sustainable construction through zoning bylaws, rezoning approval procedures, and development permitting systems. The City of Vancouver (2024) provides one of the most advanced examples of municipal sustainability regulation, requiring WBLCA during rezoning applications and offering alternative compliance pathways based on near-zero or low-emission building performance standards. Similarly, the Toronto Green Standard (2025) establishes mandatory minimum environmental performance requirements while encouraging higher sustainability tiers through financial incentives, development bonuses, and density adjustments. These instruments allow municipalities to integrate environmental performance directly into urban planning decision-making processes, linking development feasibility to sustainability outcomes.

Municipal zoning regulation also incorporates green infrastructure requirements, including green roofs, stormwater retention systems, biodiversity corridors, and density-based sustainability incentives, thereby transforming environmental standards into economically relevant development parameters. Canadian regulatory practice actively integrates market-based and technological instruments supporting environmental performance measurement and compliance monitoring. Environmental Product Declarations, Whole-Building Life-Cycle Assessment methodologies, energy modelling tools, and digital monitoring platforms such as ENERGY STAR Portfolio Manager provide quantifiable sustainability metrics that enhance regulatory transparency and accountability (World Green Building Council, 2022). Environmental Product Declarations and harmonised lifecycle databases are essential regulatory tools enabling embodied carbon assessment and compliance monitoring across construction supply chains (Circle Economy, 2022).

Voluntary certification systems, including LEED and the Zero Carbon Building Standard

(Canadian Green Building Council, 2025), function as complementary market-driven regulatory mechanisms that encourage sustainability innovation beyond mandatory legal requirements. Public procurement policies, particularly Buy Clean programs, further stimulate the development of lifecycle inventory databases and promote low-carbon construction material supply chains (Lewis *et al.*, 2022).

These instruments enable performance-based regulatory governance by introducing measurable indicators such as embodied carbon metrics, lifecycle emissions values, and energy use intensity benchmarks, thereby strengthening evidence-based regulatory decision-making. Monitoring and enforcement mechanisms constitute an essential component of Canadian sustainable construction regulation. Federal and provincial regulatory authorities actively apply enforcement notices, stop-work orders, and financial penalties to ensure compliance with environmental and building standards. Public disclosure systems, including mandatory energy performance reporting and stakeholder participation procedures, further enhance regulatory accountability and transparency (Environment and Climate Change Canada, 2001)

Empirical evidence indicates that regulatory compliance is reinforced through reputational risk, financial sanctions, and administrative enforcement mechanisms, which collectively create strong incentives for early integration of environmental standards into project design and development planning. Canadian authorities also publish enforcement decisions, issue stop-work orders, and impose administrative penalties to ensure compliance with environmental and construction standards. Public disclosure of enforcement decisions and access to performance data significantly strengthen regulatory compliance across the construction sector. Moreover, public consultation procedures and Indigenous rights

protection mechanisms incorporated within the Impact Assessment Act (2019) provide additional participatory oversight instruments and reinforce accountability in infrastructure and development decision-making processes (Environment and Climate Change Canada, 2021; Environment and Climate Change Canada, & Health Canada, 2025).

The Canadian experience in sustainable construction demonstrates an effective multi-level regulatory model that integrates environmental protection, spatial planning, and architectural design. At the federal level, strategic goals and standards are established, forming the basis for implementing environmental requirements in construction. Provincial governments adapt these national objectives to regional conditions using stepwise and flexible mechanisms to ensure energy efficiency. Municipal authorities implement practical measures through zoning regulations, building permits, and incentives to achieve high sustainability standards. This comprehensive approach ensures the effective integration of environmental, economic, and technical aspects in the planning and execution of construction projects.

Comparative effectiveness of the Canadian regulatory model and its adaptation potential for Ukraine. The Canadian regulatory framework for sustainable construction is frequently regarded as more institutionally coherent and operationally effective than both European and Ukrainian regulatory approaches due to several structural characteristics. First, Canada demonstrates a high level of policy integration combining national sustainability strategies, technical building codes, and local implementation mechanisms, commonly conceptualised as “front-to-back regulatory integration.” Regulatory development follows a clearly structured hierarchy: federal strategic policy objectives and procurement instruments → national model building codes → provincial step-based regulatory pathways → municipal performance-oriented

planning requirements. In contrast, the European Union primarily establishes directive-based policy targets, including those provided by the Energy Performance of Buildings Directive, while implementation mechanisms vary considerably among member states, resulting in regulatory diversity but often lacking consistent phased transition frameworks (Directive of the European Parliament and of the Council No. 2018/844, 2018).

Second, step-based building codes function as an effective instrument for managing construction market transformation. The regulatory experience of British Columbia demonstrates that incremental performance-based pathways provide clear compliance deadlines and allow the construction sector to adapt progressively to increasingly stringent energy efficiency and carbon reduction standards. Although the European Union establishes long-term climate neutrality objectives, the absence of unified staged implementation frameworks across regions reduces the predictability of regulatory transition mechanisms (British Columbia Energy Step Code, 2017; BC Housing, 2021).

Third, Canadian regulatory policy places significant emphasis on environmentally oriented public procurement as a market transformation driver. The Buy-Clean procurement framework explicitly prioritises embodied carbon performance in public construction and infrastructure projects, thereby rapidly stimulating market demand for low-carbon construction materials and supporting the development of sustainable supply chains. While comparable procurement initiatives exist within the European Union, their coordination and uniform implementation across national procurement systems remain comparatively less consistent (Clean Energy Canada, 2022).

Fourth, the Canadian regulatory model combines mandatory baseline requirements established through technical building codes with market-oriented incentive mechanisms, including

voluntary certification systems, financial subsidies, and performance-based development bonuses. This dual regulatory architecture ensures baseline safety and performance standards while simultaneously encouraging higher sustainability performance through economic incentives and competitive market advantages (Efficiency Canada, 2022).

A key element of Canadian legislation that demonstrates strong adaptation potential for Ukraine is long-term strategic planning of environmentally sustainable construction. Canadian federal policy frameworks establish clearly defined targets for achieving zero-carbon buildings and energy-efficient urban development (Treasury Board of Canada Secretariat, 2023; Natural Resources Canada, 2024). In contrast, Ukrainian urban planning legislation currently contains fragmented environmental provisions primarily implemented through environmental impact assessment procedures and technical building standards.

Ukraine already has a foundational regulatory framework supporting sustainable construction, including the the Law of Ukraine No. 3038-VI "On Regulation of Urban Development Activity" (2011), the Law of Ukraine No. 2118-VIII "On Energy Efficiency of Buildings" (2017), and the Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment" (2017). However, the key limitation of Ukrainian regulatory policy lies in the absence of an integrated national sustainable construction strategy. Unlike the Canadian regulatory system, which integrates construction governance, climate policy, and energy regulation, Ukrainian environmental regulation remains fragmented across sectoral domains.

The proposed reform model envisages the development of a National Green Building Strategy establishing climate targets for the construction sector, introducing low-carbon construction performance standards, and integrating environmentally oriented public procurement instruments into urban development governance.

Ukrainian State Building Norms perform a function similar to Canadian national building codes; however, they primarily establish minimum technical performance requirements and do not provide phased regulatory pathways for progressive sustainability performance improvement.

Urban planning regulation remains one of the least developed levels of sustainability governance levels in Ukraine. In Canada, municipalities serve as the primary drivers of green building policy implementation. In contrast, Ukrainian zoning regulation often remains predominantly formal, rarely incorporates climate adaptation considerations, and exerts limited influence on architectural sustainability performance. Accordingly, the research proposes the introduction of environmental zoning frameworks, mandatory green infrastructure requirements, and density regulation based on environmental performance indicators.

Environmental performance requirements in Ukraine are often evaluated only after the completion of project design. The proposed regulatory reforms include the introduction of mandatory life-cycle assessment of buildings, verification of environmental performance of construction materials, and integration of sustainability performance criteria into urban planning conditions and development restrictions. Green building certification in Ukraine remains predominantly voluntary and receives limited governmental support. Therefore, it is recommended to introduce financial incentives, tax benefits, and preferential public procurement eligibility criteria for certified sustainable construction projects. Furthermore, regulatory control in Ukraine largely terminates following building commissioning. Consequently, the study proposes the introduction of operational energy performance monitoring, periodic building sustainability certification procedures, and digital energy efficiency registers to ensure long-term compliance with environmental performance standards.

Empirical enforcement practice in Canada demonstrates that preventive regulatory governance supported by administrative, civil, and criminal liability mechanisms significantly enhances environmental compliance in the construction sector. Numerous enforcement cases are documented in both regulatory authority reports and media publications. One of the most common areas of regulatory enforcement involves occupational and environmental safety compliance related to asbestos handling during demolition and construction activities. The provincial regulator WorkSafeBC actively imposes substantial financial penalties and issues stop-work orders against companies violating hazardous materials management regulations. For example, in Williams Lake, a construction operator was fined CAD 467,496.80 for repeated high-risk asbestos violations, including engaging unlicensed contractors and failing to implement appropriate exposure control measures (Williams Lake company fined nearly \$500,000 for asbestos-related issues, 2025). A comparable enforcement case occurred in Esquimalt, British Columbia, where a contractor was fined more than CAD 61,000 for unsafe demolition activities involving asbestos-containing materials (Island firm fined \$61,000 for high-risk asbestos violations during demolition work, 2025). Earlier enforcement actions further demonstrate systematic use of administrative penalties and stop-work orders for hazardous materials violations, reinforcing regulatory compliance and occupational safety standards across the construction sector (Asbestos risk leads..., 2021; Wilson, 2022; WorkSafeBC, 2024).

A Montreal-based holding company, 4422236 Canada Inc., was fined CAD 260,000 after pleading guilty to violations of the Environmental Protection Act of Canada (1999) and PCB Regulations. The investigation revealed that the company had used equipment containing PCB concentrations exceeding legal limits and failed to comply with

a federal environmental protection compliance order. As a result, the company was added to the Environmental Offenders Registry, reinforcing regulatory transparency and enforcement accountability (Wilson, 2020). Another significant enforcement area concerns the regulation of residential development companies. In Ontario, the Home Construction Regulatory Authority (HCRA) has initiated disciplinary proceedings against developers who systematically violated licensing requirements and housing warranty regulations. The regulator is authorised to impose administrative sanctions, initiate licence suspension or revocation procedures, and prohibit non-compliant developers from conducting construction activities or marketing residential properties, thereby ensuring regulatory compliance and consumer protection within the housing sector (Global News, 2025).

In several high-profile cases, the regulator commenced licence revocation procedures that effectively prohibited developers from conducting construction activities and marketing newly built residential units. Some investigations also resulted in judicial proceedings against corporate executives responsible for regulatory violations (Global News, 2025). Public disclosure of enforcement cases performs an important regulatory function. First, it generates significant reputational risks for companies, directly affecting investment attractiveness and eligibility to participate in public infrastructure procurement. Second, media coverage of enforcement sanctions strengthens the preventive effect of environmental regulation by encouraging construction industry actors to improve compliance practices. Third, substantial financial penalties and court decisions contribute to the development of enforcement jurisprudence and increase the expected economic costs of regulatory non-compliance.

The Canadian enforcement system incorporates several key mechanisms designed to

influence non-compliant developers. The most frequently applied instrument is the issuance of stop-work orders requiring the immediate suspension of construction activities until regulatory violations are corrected. These orders are often accompanied by significant financial penalties. Additionally, administrative sanctions and compensatory payments may be imposed depending on the scale of environmental harm and regulatory breach severity. In cases involving deliberate misconduct or serious risks to public health and safety, criminal prosecution may be initiated, potentially resulting in substantial fines or imprisonment.

Another important enforcement mechanism involves licence revocation or restrictions on professional activity. Regulatory authorities such as the Home Construction Regulatory Authority may initiate procedures to suspend or revoke developer licences, particularly in cases involving repeated or systemic violations. Such sanctions effectively prevent companies from continuing construction operations or selling residential properties. Public pressure and civil litigation also play a significant role in enforcement practices. Local communities, affected residents, and environmental non-governmental organisations frequently initiate lawsuits or participate in administrative review procedures, thereby increasing the likelihood of project delays, modification requirements, or cancellation.

Circumvention of mandatory regulatory requirements in Canada is generally considered a high-risk strategy. The expected financial and reputational costs associated with regulatory sanctions, construction suspension, litigation, and public disclosure often significantly exceed any short-term economic benefits derived from non-compliance. Enforcement practice demonstrates numerous cases involving substantial penalties for asbestos safety violations and licensing breaches enforced under WorkSafeBC regulatory authority, HCRA disciplinary procedures, and federal environmental

enforcement proceedings under the Environmental Protection Act of Canada (1999).

Canadian regulatory authorities increasingly rely on a combination of financial sanctions and regulatory measures, including stop-work orders and licence revocation procedures. In certain circumstances, criminal liability may also be imposed. Consequently, compliance strategies must be integrated into construction project governance at the earliest stages of design and planning.

From a professional practice perspective, two operational implications are particularly important. First, comprehensive documentation of environmental compliance is required, including Environmental Product Declarations, building energy modelling documentation, and construction waste management plans. Second, proactive engagement with regulatory authorities and local communities significantly reduces litigation risks and minimises the probability of stop-work enforcement actions.

The analysis of the Canadian sustainable construction regulatory framework demonstrates that its effectiveness is determined not only by the existence of technical standards but primarily by the integration of environmental policy into urban planning legislation, construction codes, public procurement policy, and permitting procedures (World Economic Forum, 2024; Organisation for Economic Co-operation and Development, 2025). In contrast, Ukraine's green construction regulatory framework currently relies predominantly on technical energy efficiency requirements and remains structurally fragmented, which limits its practical effectiveness. Consequently, adaptation of the Canadian experience requires not only amendments to individual building standards but also structural transformation of the overall construction governance model.

In particular, provisions of DBN V.2.6-31:2021 "Thermal insulation and energy efficiency of buildings" (2021) require further development.

The current regulation establishes minimum technical requirements for thermal performance of building envelopes and engineering systems but does not incorporate progressive performance pathways comparable to those implemented through the BC Energy Step Code in the Province of British Columbia (BC Housing, 2021). Contemporary research demonstrates that step-based energy standards represent an effective regulatory instrument for facilitating gradual market transition toward net-zero buildings (Feickert *et al.*, 2025). Therefore, alignment with international sustainability governance models requires the introduction of staged energy performance standards, including defined long-term targets for achieving net-zero-ready buildings. Additional regulatory amendments should incorporate mandatory airtightness testing and building energy modelling during the design stage as prerequisites for obtaining construction permits, which has been recognised as an effective compliance mechanism in performance-based regulatory systems (Simonen *et al.*, 2017).

Significant revision is also required for DBN V.2.2-15:2019 "Buildings and structures. Residential buildings. Basic provisions" (2019) which establishes spatial and technical parameters for residential development. While the current regulation emphasises sanitary and functional requirements, it contains limited provisions regarding environmental performance of construction materials. International research confirms that embodied carbon in construction materials constitutes a substantial proportion of total building emissions throughout the building life cycle (World Green Building Council, 2022). Research demonstrates that material selection significantly influences embodied carbon emissions, with low-carbon structural materials such as timber providing substantial climate mitigation potential (Himes *et al.*, 2020). Accordingly, regulatory reform should incorporate embodied carbon

assessment requirements and mandatory application of Environmental Product Declarations for publicly funded and large-scale development projects. Such regulatory mechanisms enable environmental performance monitoring beginning at the material production stage and contribute to lifecycle-based sustainability governance (Sartori et al., 2022).

Comparative regulatory analysis further demonstrates that environmentally sustainable architectural development is most effective when environmental requirements are directly embedded within urban planning legislation and permitting procedures (Organisation for Economic Co-operation and Development, 2025). The Law of Ukraine No. 3038-VI "On Regulation of Urban Development Activity" (2011) establishes the fundamental legal framework for territorial planning and construction governance; however, environmental provisions remain largely declarative and lack systematic implementation mechanisms. Therefore, targeted legislative amendments are required to strengthen environmental integration into urban development regulation.

Article 1 of the Law of Ukraine No. 3038-VI (2011), which defines core terminology of urban development activity, requires supplementation. The introduction of definitions such as sustainable construction, green architecture, and building life-cycle assessment would create a legal foundation for further regulatory development of environmental construction standards and ensure consistency with internationally recognised sustainability governance frameworks.

Article 2 of the Law of Ukraine No. 3038-VI (2011), which establishes principles of urban development activity, should incorporate provisions requiring mandatory integration of environmental criteria into territorial planning and construction design processes. These principles should include building energy efficiency, reduction of construction carbon footprint, rational use of

natural resources, and climate change adaptation. International regulatory practice demonstrates that embedding sustainability principles at the legislative level significantly increases regulatory effectiveness and enforcement capacity (Organisation for Economic Co-operation and Development, 2025).

Substantial improvement is also required for Article 16 of the Law of Ukraine No. 3038-VI (2011), which regulates the structure and content of urban planning documentation. Comparative planning research confirms that environmental performance assessment integrated into master planning and zoning processes improves long-term urban sustainability outcomes (World Economic Forum, 2024). Therefore, master plans, detailed territorial plans, and zoning documentation should incorporate mandatory environmental performance assessments, including analysis of building energy characteristics, microclimate impacts, and renewable energy utilisation potential.

Article 29 of the Law of Ukraine No. 3038-VI (2011), regulating issuance of urban planning conditions and restrictions, should be supplemented with provisions enabling the establishment of environmental development requirements. Municipal authorities could be authorised to define mandatory building performance indicators, green roof implementation requirements, stormwater management systems, and minimum landscaping standards. Similar regulatory mechanisms are widely implemented in Canadian municipal planning systems and have proven effective in integrating sustainability standards into local development governance (City of Vancouver, 2024).

Article 31 of the Law of Ukraine No. 3038-VI (2011), defining the composition of construction project documentation, should require inclusion of building life-cycle assessment results for publicly funded and large-scale development projects. Lifecycle-based regulatory approaches allow evaluation of environmental impacts

throughout the entire operational lifespan of buildings and significantly improve sustainability governance effectiveness (Bowick *et al.*, 2024).

Article 34 of the Law of Ukraine No. 3038-VI (2011), regulating procedures for obtaining the right to perform construction works, should incorporate requirements for verification of environmental compliance of construction materials. Developers should be required to submit Environmental Product Declarations or equivalent documentation confirming compliance with environmental safety and energy performance standards. Such regulatory requirements have been identified as key instruments for controlling embodied carbon emissions within construction supply chains (World Green Building Council, 2022).

Further improvement is required for Article 40 of the Law of Ukraine No. 3038-VI (2011) regulating developer participation in infrastructure development. The introduction of investment incentives for developers implementing green technologies, including reductions in development contributions and urban planning performance bonuses, reflects international best practices for stimulating sustainable construction markets (Organisation for Economic Co-operation and Development, 2025).

In addition, the Law should incorporate a dedicated article establishing environmental construction standards, including the development of a national green building certification system and defining its application within public and municipal construction projects. Certification-based regulatory mechanisms function as effective market-driven instruments encouraging voluntary compliance with sustainability performance benchmarks (World Green Building Council, 2022). Implementation of these legislative reforms would contribute to the development of a comprehensive legal framework for green architecture, facilitate integration of environmental standards into spatial planning regulation, and

establish legal preconditions for sustainable construction development in Ukraine. Adaptation of Canadian regulatory experience would strengthen environmental safety in the construction sector and support effective and climate-resilient post-war territorial reconstruction.

Discussion

The findings obtained in this study generally confirm that the legal regulation of environmentally sustainable urban development cannot be effective under conditions of fragmented normative influence and instead requires the integration of multi-level governance, technical standards, building life-cycle assessment procedures, environmentally oriented public procurement (EOPP), and mechanisms ensuring actual compliance with environmental requirements. In this respect, the position advanced in this study partially aligns with the conclusions of A. Miroshnychenko (2025), who substantiates the necessity of a comprehensive, multi-level governance design in the housing and construction sector, as well as with the approach of Ye. Fareniuk & H. Fareniuk (2025), who emphasise the importance of unified methodologies for energy efficiency assessment and the integration of European standards into national legal frameworks. However, the analysis conducted above reveals a somewhat different picture: well-designed regulatory models, in and of themselves, do not guarantee the achievement of environmentally significant outcomes unless they are supported by effective implementation instruments, measurement systems, market-based incentives, and adequate institutional capacity. For this reason, the conclusions of the aforementioned authors regarding normative and institutional modernisation are generally supported; however, they are insufficient to explain why certain regulatory models lead to tangible transformations in construction practices, whereas others remain largely declarative. This

divergence may be explained by differences in analytical perspective: while Ukrainian scholars predominantly focus on the “design of rules”, the present study is primarily concerned with the “effects of rules”, that is, the actual effectiveness and practical outcomes of legal regulation.

A similar correlation may be observed between the findings of this study and the works of T. Kryvomaz (2020) and V. Hrachuk *et al.* (2024). V. Hrachuk *et al.* (2024) rightly emphasises the need to reorient legal regulation from a traditional energy paradigm towards renewable energy sources and energy efficiency, while T. Kryvomaz convincingly demonstrates the importance of the institutional environment, investment climate, and state support for the development of green building. These conclusions generally correspond with the findings of the present study, as both the Canadian regulatory experience and the proposed directions for adaptation in Ukraine confirm the decisive role not only of formal environmental standards, but also of the broader governance and economic context within which they are implemented. At the same time, arguments that reduce the success of the green transition primarily to the modernisation of the regulatory framework or to general improvements in the institutional environment appear somewhat incomplete, since the above analysis demonstrates that particular importance should also be attributed to specific procedural mechanisms – namely, stepwise energy codes, the mandatory application of WBLCA, Buy Clean procurement instruments, environmental zoning requirements, digital registries, and post-occupancy monitoring. Therefore, in this respect, the results of the present study both develop and further specify earlier findings, translating them from a general theoretical framework into the domain of concrete legal instruments.

A comparison with international scholarship provides grounds for a more precise delineation of the novelty of the findings obtained. Thus,

C.J. Circo (2008) substantiates that the scaling of green building requires coordination at higher levels of governance, as local fragmentation reduces regulatory effectiveness. D. Matisoff *et al.* (2016), proceeding from the logic of market failures, demonstrate the necessity of employing a broad portfolio of policy instruments, while E. Choi (2010) empirically shows that a combination of regulatory and incentive-based mechanisms is more effective than their separate application. D. Dickson (2025), in turn, aptly draws attention to the asymmetry between the relatively well-regulated domain of operational energy and the significantly weaker institutionalisation of embodied carbon (i.e., greenhouse gas emissions associated with the production, transportation, and installation of building materials). The conclusions reached by these scholars are entirely pertinent and are largely supported by the findings of the present study, as the Canadian regulatory model analysed in this article effectively confirms the efficiency of precisely such a combined and multi-level approach to legal regulation. At the same time, in contrast to the aforementioned authors, this study shifts the analytical focus from examining individual policy or economic mechanisms to their legal integration within a coherent model of urban planning regulation. Therefore, while international scholars predominantly explain why a policy mix is effective, the analysis conducted herein demonstrates how such a combination of instruments may be legally structured within the system of urban planning legislation and adapted to the Ukrainian context.

Within the body of research devoted to whole-life carbon (WLC) and life-cycle assessment (LCA), the findings of this article most closely correspond to the several works. In particular, T. Lützkendorf & M. Balouktsi (2022) convincingly demonstrate that, in the absence of harmonised system boundaries, modules, and

databases, the assessment of embodied carbon (i.e., greenhouse gas emissions associated with the production, transportation, construction, and end-of-life stages of building materials) remains highly context-dependent. F. Pomponi & A. Moncaster (2018) emphasise the existence of a “performance gap” between design-stage projections and actual building performance. M. Röck *et al.* (2023) substantiate the need to shift from an operational energy-centred approach to a whole-life perspective; S. Lousada *et al.* (2025) demonstrate the significance of LCA not only as a measurement tool but also as a basis for policy justification; I. Hetman (2025), in turn, highlights that European integration and post-war reconstruction create a window of opportunity for the institutionalisation of LCA in Ukraine. At the same time, recent international studies further reinforce these conclusions. M. Bowick *et al.* (2024) demonstrate that lifecycle-based regulatory approaches enhance sustainability governance effectiveness by enabling the assessment of environmental impacts across the entire lifespan of buildings. A. Himes *et al.* (2020) show that material selection significantly influences embodied carbon emissions, with low-carbon materials such as timber offering substantial mitigation potential. T. Sartori *et al.* (2022) emphasise that the mandatory use of Environmental Product Declarations (EPD) enables environmental performance monitoring already at the material production stage. In this respect, the results of the present study are broadly aligned with the aforementioned approaches, as they likewise proceed from the growing importance of embodied carbon, the dependence of regulatory decisions on data quality, and the need to transition from voluntary to mandatory instruments. However, in contrast to predominantly methodological or conceptually critical studies, the present article does not confine itself to the question of what should be measured and how, but rather addresses how these

methodologies should be embedded within the system of legal regulation of urban planning activity. It is precisely here that the principal distinction lies: while international scholars primarily construct the theoretical framework of whole-life carbon, this study seeks to propose a legal mechanism for its institutionalisation in Ukraine, taking into account the Canadian regulatory experience.

The findings of this study should also be considered in relation to research devoted to green public procurement (GPP) and the market for safe and environmentally sustainable materials. V. Khalina *et al.* (2020) aptly conceptualise GPP as a component of the public governance system and emphasise the need to integrate the life-cycle principle into procurement procedures. V. Pso-ta (2020) substantiates that, in the absence of a unified methodology for applying life-cycle costing (LCC) in tendering procedures, the burden of assessment is excessively placed on contracting authorities, resulting in the fragmented operation of the mechanism. These conclusions are, in general, supported by the authors of the present study. At the same time, the analysis conducted above demonstrates that the problem lies not only in the absence of methodologies or data, but also in a broader deficit in the operationalisation of procurement policy in the construction sector. For this reason, international approaches that link GPP not merely to the formal articulation of environmental requirements, but to concrete implementation instruments, appear more persuasive. Thus, M. Ahmed *et al.* (2024) show that GPP is effective only when integrated with LCA, life-cycle costing (LCC), and digital tools; A. Kozuch (2025) convincingly explains the “intention-action gap” by reference to deficits in organisational capacity, market readiness, and bureaucratic barriers; Ch. Senseney *et al.* (2023), together with co-authors, propose an applied, instrument-oriented approach – namely, Buy Clean – based on the use of environmental

product declarations (EPD) and clearly defined rules of material comparability. Additional support for the proposed regulatory approach is provided by research on performance-based building standards. K. Feickert *et al.* (2025) demonstrate that step-based energy standards constitute an effective regulatory instrument for facilitating a gradual transition towards net-zero buildings, while K. Simonen *et al.* (2017) confirm the effectiveness of airtightness testing and energy modelling as compliance mechanisms. In this respect, the findings of the present study are more closely aligned with the international line of argumentation, as they support the conclusion that the key obstacle is not the absence of environmental benchmarks as such, but rather the lack of procedures, data, standardised comparison formats, and institutional capacity to implement the relevant requirements in practice. Accordingly, the conclusions of Ukrainian scholars regarding the fundamental importance of LCC and life-cycle approaches are supported; however, in light of the findings of this study, they should be considered within a broader framework – as part of a comprehensive system of instrumental support for GPP/Buy Clean, rather than as a self-sufficient solution.

Thus, the comparative analysis conducted provides grounds for arguing that the findings of this study, on the one hand, develop existing Ukrainian scholarship on normative harmonisation, institutional coherence, and the greening of urban planning policy and, on the other hand, bring the research closer to the international paradigm oriented towards empirically validated instrument effectiveness, multi-level governance, and the measurability of regulatory impact. This also explains the principal divergences from a number of previous studies: they stem not so much from disagreement over ultimate objectives as from the distinction between a normative, design-oriented logic and a results-oriented analytical logic of research. In this sense, the

conclusions drawn in this article do not contradict earlier scholarly approaches; rather, they refine them by shifting the discussion from a general justification of the need for sustainable construction to the question of which specific legal mechanisms effectively ensure its implementation within the framework of contemporary urban planning policy.

Conclusions

This article examined the legal regulation of environmentally sustainable urban development, with particular emphasis on the Canadian model and the possibilities for its implementation in Ukraine. The stated research objective – namely, to identify the key elements of effective sustainable construction governance and to assess the prospects for their incorporation into national legislation – was generally achieved. The study showed that the Canadian regulatory model was characterised by a high degree of integration and multi-level governance. The analysis of legislation and enforcement practice made it possible to establish that the effectiveness of environmentalisation in construction was ensured through a combination of strategic policy frameworks, model building codes, step-based regulatory instruments, and municipal planning tools. The results indicated that sustainable construction was achieved not solely through the establishment of technical standards, but primarily through the integration of environmental requirements into spatial planning procedures, permitting processes, and economic regulatory instruments. It was found that the application of whole-building life-cycle assessment, staged energy performance standards, and environmentally oriented public procurement served as a key factor in ensuring the actual effectiveness of regulatory impact. At the same time, enforcement and liability mechanisms played an important role by shaping the preventive nature of

legal regulation and encouraging compliance with environmental requirements.

The analysis also led to the conclusion that the Ukrainian legal framework in this field remained fragmented and predominantly focused on the technical aspects of energy efficiency. Environmental criteria remained insufficiently integrated into urban planning documentation and permitting procedures, which, to a certain extent, limited the practical implementation of sustainable development principles in the construction sector. Summarising the results obtained, it was stated that effective legal regulation of environmentally sustainable urban development required not only the formal establishment of relevant standards, but also their systematic integration across all stages of construction activity. Conceptually, this pointed to the need to move from a model focused on the formal design of legal norms to one oriented towards their

practical effectiveness, institutional support, and the measurability of regulatory impact.

Prospects for further research lay in the development of legal and organisational mechanisms for integrating life-cycle assessment into the system of urban planning regulation, the analysis of economic instruments for stimulating sustainable construction, and the assessment of the institutional capacity of public authorities to ensure the implementation of these approaches in the context of post-war reconstruction.

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Conflict of Interest

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Правова основа екологічно сталого міського розвитку: канадська модель та напрями реформування законодавства України

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Анотація

У статті досліджено правове регулювання екологічно сталого міського розвитку шляхом порівняльного аналізу канадських та українських нормативних підходів до зеленого будівництва і просторового планування. Метою дослідження було визначення ключових елементів ефективного регулювання сталого будівництва та оцінка можливостей їх імплементації у законодавстві України у сфері містобудування, зокрема в умовах післявоєнної відбудови, кліматичної адаптації та європейської інтеграції. Дослідження ґрунтувалося на аналізі нормативно-правових актів та правозастосовної практики Канади, включаючи федеральне екологічне законодавство, модельні будівельні кодекси, провінційні регуляторні

інструменти та муніципальні акти планування. Особливу увагу приділено механізмам інтеграції екологічних вимог у містобудівну документацію, дозвільні процедури, оцінку життєвого циклу будівель, зонування та інструменти «зелених» публічних закупівель. Результати дослідження засвідчили, що ефективність канадської регуляторної моделі забезпечується системною інтеграцією екологічних вимог у стратегічне планування, будівельні норми, політику зонування та дозвільні процедури, що функціонують у межах багаторівневої системи врядування та підтримуються превентивним контролем на стадії проєктування. Встановлено, що ключову роль відіграє не лише формальне закріплення стандартів, а їх інтеграція у всі етапи будівельної діяльності, включаючи застосування оцінки життєвого циклу будівель, поетапних стандартів енергоефективності та інструментів екологічно орієнтованих публічних закупівель. Водночас з'ясовано, що українська правова система залишається фрагментарною та переважно орієнтованою на технічні аспекти енергоефективності, що обмежує ефективність впровадження принципів сталого розвитку у сфері будівництва. Узагальнення отриманих результатів дозволяє стверджувати, що підвищення ефективності правового регулювання в Україні потребує переходу від формально-нормативної моделі до моделі, орієнтованої на практичну ефективність, системну інтеграцію екологічних критеріїв та інституційне забезпечення їх реалізації

Ключові слова: регулювання «зеленого» будівництва; екологічне право; містобудівне право; багаторівневе врядування; оцінка життєвого циклу будівель; регулювання енергоефективності; екологічне зонування



Sanctions of the European Union as an instrument for the protection of human rights: Current state, challenges and prospects for legal regulation

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Abstract

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This article examines the sanctions policy of the European Union as an instrument for the protection of human rights, with a particular focus on the EU Global Human Rights Sanctions Regime of 2020. The aim of the study was to outline the current state of the legal framework, identify the challenges associated with its implementation, and propose directions for its further development. A systematic approach was employed, combining formal legal, comparative legal and historical legal methods. The article considered the development of the global sanctions regime as a "horizontal" (thematic) instrument that enables targeted responses to serious human rights violations regardless of jurisdiction, through a combination of travel bans, asset freezes and prohibitions on making funds available. Practical application has demonstrated its suitability for supporting international human rights standards and facilitating coordination with international partners; however, it has also revealed inconsistencies and selectivity in listings, largely dependent upon the requirement for unanimity within the Council of the European Union. Several procedural risks have been identified, including limited transparency regarding the reasoning behind listings,

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difficulties faced by sanctioned individuals in accessing evidential material, and inconsistencies in national implementation, particularly concerning visa restrictions and the identification and freezing of assets. The absence of corruption as an independent ground for sanctions narrows the scope of the regime in comparison with its counterparts in the United States and the United Kingdom, thereby limiting its effectiveness against networks in which human rights abuses are intertwined with kleptocratic practices. Cross-regime coordination of sanctions lists has increased, yet remains incomplete, creating opportunities for circumvention. The practical significance of this research lies in the potential use of its findings to broaden the substantive criteria that may justify the imposition of sanctions, enhance transparency and the frequency of list reviews while safeguarding the right to defence, institutionalise monitoring of sanctions implementation at EU level, and strengthen international coordination

Keywords: restrictive measures; targeted sanctions; EU global sanctions regime; international sanctions law; EU foreign policy

Introduction

The use of sanctions to protect human rights is no longer merely a political signal; it has become a tool expected to yield tangible results: a change in the behaviour of violators, the isolation of officials responsible, and support for victims. As of 2025, it is the European Union that is expected to act as a consistent defender of human rights, and not merely as an economic union; thus, the question arises as to whether actual sanctioning practices correspond to the declared values. This concerns not only pressure on authoritarian regimes, but also whether sanctions can be legally sound, proportionate and capable of withstanding judicial scrutiny, without becoming a form of political punishment without due process. Furthermore, there is a growing demand for sanctions not to remain a declaratory mechanism of foreign policy, but to actually hinder further human rights violations and prevent the guilty parties from maintaining a financial presence within the European legal order. At the same time, an important question remains open within the Union itself: whether a sanctions regime designed to respond to serious human rights violations can become a stable instrument applied without selectivity, political compromise, or double standards.

There is no consensus in the academic literature as to whether sanctions actually function as a tool for improving human rights, and this debate concerns not only political expediency but also actual effectiveness and compliance with the rule of law. Some studies describe sanctions as a largely ineffective or even counterproductive tool: empirical analyses of the consequences of economic and targeted sanctions show that, in some cases, they do not lead to a change in the behaviour of regimes. P.H. Egger *et al.* (2024) have shown that sanctions are sometimes accompanied by an increase in repression against the opposition and civil society, as political elites shift external pressure onto vulnerable groups. The focus of such studies is the actual practice of applying sanctions in specific states; the subject is the causal link between sanctions and the level of violence or the restriction of rights, and their conclusion is that sanctions alone do not guarantee a reduction in human rights violations and may have the side effect of consolidating the power of the perpetrators.

At the same time, F.A. Giumelli (2024) and T. Hamilton *et al.* (2024) note that targeted sanctions (smart sanctions), particularly when combined with political and diplomatic pressure and

public, personalised exposure, are capable of performing a deterrent and preventive function: they individualise responsibility, demonstrate international support to victims, restrict specific individuals' access to financial resources and channels of legitimisation, and lay the groundwork for subsequent criminal or quasi-criminal prosecution of these individuals through international legal or national mechanisms. In these works, the object of study is not states in general, but specific natural and legal persons included on sanctions lists, and the subject is the mechanism of their individual accountability; the authors conclude that personalised sanctions can serve as a form of foreign policy "accountability pressure", provided that decisions are properly justified and partners act in a coordinated manner.

E. Korkea-aho & L. Lonardo (2025) analyse the EU's Global Human Rights Sanctions Regime itself as a new stage in the evolution of the Union's foreign policy: this regime is viewed as an attempt to provide the Council of the EU with a tool extending beyond the geographical boundaries of a specific state, enabling the punishment of individual perpetrators for serious human rights violations regardless of jurisdiction, and thereby positions the EU as an actor aspiring to consistent leadership in the protection of fundamental values; it is noted that the European Commission has secured greater influence in the emergency response process, which has strengthened the role of interest groups and third countries in decision-making. I. Zamfir (2023) emphasises that this regime is still in the process of formation: the literature highlights its selectivity, limited scope, dependence on unanimity among Member States, the need to expand the substantive grounds (in particular, to add corruption as a separate ground) and the need for greater alignment with related regimes in the US and the UK. In parallel, S. Eckes (2022) raises the question of whether such a regime complies with the EU's own legal

standards: the researchers note that the inclusion of a person on the sanctions list entails restrictions on freedom of movement, interference with property rights and an impact on business reputation, and therefore requires transparent justification, access for sanctioned persons to the grounds for sanctions, and effective judicial review by the Court of Justice of the EU. Ultimately, the academic challenge lies not merely in assessing the "effectiveness of sanctions", but in determining the limits within which EU sanctions can simultaneously remain an instrument of political pressure on human rights violators and be legitimate from the perspective of the rule of law. It is precisely this dual dimension – the practical effectiveness of sanctions and their legal soundness – that determines the relevance of this work and defines its objective: to analyse how the EU attempts to reconcile the foreign policy expediency of sanctions in the field of human rights with the requirements of legal certainty, procedural guarantees and predictability for those subject to them.

The aim of the study was to determine the extent to which the European Union consistently employs sanctions as an instrument for the protection of human rights, as well as what legal challenges arise in the implementation of such a policy and how overcoming them might influence the further development of the sanctions regime.

Materials and Methods

Conceptually, this study draws on a number of theoretical principles articulated in discussions regarding the effectiveness of measures such as targeted/smart sanctions, and the requirements of the rule of law: the right to know the grounds for a decision, access to evidence, judicial review and proportionality of intervention (Hafner-Burton, 2014; Eckes, 2022; Hamilton *et al.*, 2024). The research materials consist of official legal acts of the European Union that directly established and specified the global sanctions regime in the field of

human rights, as well as subsequent acts concerning its application and judicial review. The key foundational documents are: Decision of the Council of the European Union No. 2020/1999 (2020), which first defined the content of the “global” sanctions regime for serious human rights violations, and Council Regulation of the European Union No. 2020/1998 (2020), which established the legal consequences of such a regime at the level of Union law – asset freezing, a ban on the provision of funds, an entry ban, etc. To analyse the actual practice of applying the regime, Council implementing acts were used, by which specific natural and legal persons were added to the sanctions lists and subject to travel bans and asset freezes (Council Decision of the Council of the European Union No. 2021/372, 2021; Council Implementing Regulation of the Council of the European Union No. 2021/371, 2021; Council Decision of the Council of the European Union No. 2021/481, 2021). To assess how the EU justifies individual liability and to what extent these decisions withstand judicial review, the following cases were consulted: Judgment of the General Court of the European Union in Case No. T-212/22 (2023), in which the Court explicitly examined the adequacy of the reasoning and the evidential basis for including specific individuals on sanctions lists under the human rights regime. A comparative dimension was provided by an analysis of the legal frameworks of similar global personal sanctions regimes in the United States – the Global Magnitsky Human Rights Accountability Act (2016) and Executive Order of the President of the United States No. 13818 (2017), which allow sanctions to be imposed for both serious human rights violations and corruption) and the Global Human Rights Sanctions Regulations 2020 of the United Kingdom (2020), which establish an autonomous post-Brexit mechanism for targeted sanctions for torture, extrajudicial executions, slavery and other grave human rights violations).

To record the scale and coordinate the practical application of sanctions by different jurisdictions, as well as to quantitatively compare the lists of sanctioned individuals in the EU, the US, the UK and Canada, analytical summaries and comparisons of sanctions lists have been used to document the degree of cross-listing (LexisNexis Risk Solutions, n.d.).

The methods employed included: a formal legal analysis of the aforementioned EU Council acts and US/UK acts to establish the criteria for inclusion on the lists; an analysis of documents (EU Council implementing decisions for 2021 and EU case law since 2020) to reconstruct the actual application of the regime; a comparative legal analysis to highlight the differences between the mandates of the EU, the US and the UK; and a quantitative element – a comparison of the coverage of sanctions lists across different jurisdictions and the extent of their overlap, which is used later in the “Results” section to assess the effectiveness and coherence of the regime.

Results

Sanctions (referred to in official EU documents as “restrictive measures”) are adopted within the framework of the Common Foreign and Security Policy (CFSP) of the EU. Pursuant to Articles 75 and 215 of the Consolidated Version of the Treaty on the Functioning of the European Union (2012), decisions to impose sanctions are adopted unanimously by the Council of the European Union under the CFSP framework. Subsequently, where implementation concerns matters falling within EU competence, such as the freezing of assets or restrictions on financial transactions, corresponding EU regulations may be adopted to give effect to those decisions. This two-stage mechanism was also applied when establishing the global sanctions regime for human rights violations – on 7 December 2020, the Council of the European Union adopted Decision of the Council of the European

Union No. 2020/1999 (2020) and, in parallel, Council Implementing Regulation of the Council of the European Union No. 2021/478 (2021), which established a new sanctions regime. This regime became the European Union's third "horizontal" sanctions regime (following the thematic regimes against the use of chemical weapons, adopted in 2018, and against cyberattacks – in 2019). Unlike traditional geographically targeted sanctions (which are directed against specific countries or governments), horizontal regimes allow for the targeting of any individuals worldwide responsible for certain types of prohibited conduct (in this case, serious human rights violations).

The new sanctions regime is designed to significantly expand the EU's ability to respond to gross human rights violations, regardless of where they occur. This mechanism applies to both state officials and non-state actors (including organisations and groups) involved in serious crimes against human rights. Council Regulation (EU) No 2020/1998 (2020) provides an exhaustive list of such violations, including: genocide; crimes against humanity; torture and inhuman or degrading treatment; slavery; extrajudicial or arbitrary executions and killings; enforced disappearances; arbitrary arrests or detentions. In addition, individuals responsible for other violations of human rights and freedoms may be subject to sanctions if such acts are widespread or systematic. Examples cited include: human trafficking; sexual and gender-based violence; and violations of the freedom of peaceful assembly, association, thought, expression, religion or belief. Thus, the criteria cover both the most serious crimes infringing on fundamental rights and mass or systematic repressive practices. In terms of its structure, the new regime is largely modelled on similar measures previously introduced by the EU's partners – primarily the US and the UK, which had already established their own global targeted sanctions regimes against individuals

responsible for serious human rights violations and/or corruption by 2020 (Global Magnitsky Human..., 2016; Executive Order of the President of the United States No. 13818, 2017; The Global Human Rights..., 2020).

In terms of its structure, the new regime is largely modelled on similar measures previously introduced by the EU's partners – primarily the US (Global Magnitsky Human..., 2016) and the UK (The Global Human Rights..., 2020). Sanctions that may be imposed on the relevant persons include: 1) a ban on entry into EU countries for natural persons; 2) the freezing of assets of natural and legal persons (blocking of funds and property within the EU); 3) a ban on the provision of funds or resources to sanctioned individuals by any person within the EU's jurisdiction. These sanctions are typical of "Magnitsky" regimes in other states. A key feature is that restrictions on entry and movement apply uniformly across the entire territory of the Union (within the Schengen area), whilst financial sanctions oblige all Member States to identify and freeze the assets of the designated persons. The Regulation also provides for narrow exceptions (derogations) – for example, the possibility of authorising transactions involving frozen funds to cover the basic needs of the families of sanctioned persons, to pay for legal services or for humanitarian purposes (cision of the Council of the European Union No. 2020/1999, 2020).

The decision-making procedure under this regime remains intergovernmental: the Council of the EU unanimously adopts the list of persons subject to sanctions, following a proposal from Member States or the EU High Representative for Foreign Affairs. The list is reviewed annually with the possibility of its extension. This means that despite the "global" nature of the regime, the political will of each Member State is decisive for the inclusion of a particular violator on the list.

The first sanctions under the new regime were introduced as early as the beginning of 2021;

on 2 March 2021, the Council of the European Union adopted Council Implementing Regulation No. 2021/371 (2021) and No. 2021/372 (2021), which added four high-ranking officials of the Russian Federation to the list in connection with their involvement in the persecution and unlawful detention of Alexei Navalny; asset freezes and a ban on entry into the EU were imposed on them. This marked a fundamentally new step, as for the first time EU restrictive measures were imposed not within the framework of a separate “country-specific” regime, but specifically on the basis of serious human rights violations defined under a global regime (torture, arbitrary detention, denial of the right to a fair trial). Subsequently, on 22 March 2021, the Council of the European Union adopted the following package: Council Implementing Regulation (EU) 2021/478 (2021) and Council Decision (EU) 2021/481 (2021), which simultaneously imposed sanctions on 11 individuals and 4 organisations from various jurisdictions for serious human rights violations, in particular in connection with mass repression against the Uyghur minority in the Xinjiang Uyghur Autonomous Region of China, the suppression of peaceful protests and political killings in North Korea, Libya and Chechnya (Russian Federation), as well as torture and extrajudicial killings in South Sudan and Eritrea. The broad geographical scope of the Council’s initial decisions demonstrated that the regime was conceived from the outset as a global mechanism for individual accountability, rather than as a tool for responding solely within the confines of a single conflict or a single country.

Subsequently, the application of sanctions for human rights violations within the EU was uneven. In total, over the first four years of the regime’s operation, around 150 entities were added to the list – by the end of 2024, 115 individuals and 33 legal entities from various countries were subject to sanctions (Schreiber, 2024). A significant

portion of the list consists of Russian military commanders, officials and judges implicated in war crimes and repression both within the Russian Federation and in the occupied territories of Ukraine (Portela *et al.*, 2025). For example, following the outbreak of full-scale war against Ukraine in 2022, Russian army officers and propagandists responsible for atrocities against the civilian population were added to the list under the human rights regime. The inclusion of these individuals took place in parallel with broader sanctions measures against the Russian Federation, reflecting a desire to hold specific perpetrators of violations of international humanitarian law to account. Apart from Russians, a significant proportion of the list consists of individuals from countries such as Myanmar (responsible for the junta’s crimes against the Rohingya people), Iran (involved in the violent suppression of protests and the execution of demonstrators), North Korea, Syria, and certain African states. Despite this, it is clear that many gross human rights violations around the world remain unaddressed by the EU – as of 2024, this mechanism has covered only a fraction of cases, whilst known repressive actions in other countries (for example, in Ethiopia during the conflict in Tigray, in Saudi Arabia, and so on) have not been met with sanctions.

The application of the EU’s global human rights sanctions regime has been uneven. The trend has shown that listings occur in waves: in 2022, the EU relied in most cases on other existing sanctions regimes (including country-specific and thematic regimes concerning Iran, the Russian Federation, etc.), whilst updates to the global human rights list itself were limited (Portela *et al.*, 2025). In 2023, the Council of the EU again used this mechanism to respond, in particular, to systematic human rights violations during the suppression of protests in Iran and to violence by military regimes in Myanmar and Sudan, which indicates the gradual consolidation of the regime

as an instrument of individual accountability for the most serious human rights violations. As of early 2025, this regime not only remains in force but has also been extended by the Council of the EU until at least 8 December 2026, which clearly indicates the Union's intention to use it as a permanent feature of its foreign policy in the field of human rights.

Assessing the effectiveness of sanctions as a means of protecting human rights remains inherently challenging because outcomes cannot be reduced to a simple determination that sanctions have either “worked” or “failed”. A study prepared for the European Parliament notes that there is currently limited evidence regarding the direct impact of EU sanctions on the human rights situation within specific states and that, more generally, “little is known about the impact and effectiveness” of the regime (Portela *et al.*, 2025). However, the authors do not conclude that the mechanism is ineffective. On the contrary, they argue that effectiveness should be assessed not solely by reference to ultimate improvements in human rights conditions but through a broader set of intermediate indicators. The study highlights, in particular, the following criteria: firstly, the quality of the legal framework for sanctions (the presence of clearly formulated and substantiated grounds for listing an individual, and the ability of these acts to withstand judicial scrutiny); secondly, the intensity and consistency of the regime's application (the regularity of list updates, the timeliness of responses to new violations); thirdly, the material consequences for sanctioned individuals (asset freezes, restrictions on access to financial resources and international legitimacy); fourthly, the level of coordination with partners, namely the extent to which names included by the EU are duplicated on the sanctions lists of the US, the UK and other states. It is on the basis of these criteria that the study draws a cautiously positive conclusion: the regime has demonstrated an ability

to personalise accountability for serious human rights violations, exerts financial and political pressure on specific officials and institutions, and signals support for victims. At the same time, the authors acknowledge that a proven causal link between EU sanctions and actual improvements in the human rights situation on the ground has been observed only sporadically, and therefore requires further monitoring and documentation (Portela *et al.*, 2025).

In a study prepared for the European Parliament, the effectiveness of the EU's global human rights sanctions regime is assessed not as an abstract capacity to “improve the human rights situation”, but through specific metrics proposed by the authors of this study (Portela *et al.*, 2025). Firstly, the study analyses the impact of sanctions on the behaviour of those against whom they are imposed, specifically whether the sanctions have led to personnel changes, the removal of certain officials, or a reduction in their involvement in documented violations. Secondly, it examines the extent to which such individuals' ability to continue their abuses has been curtailed: whether their assets have been frozen, access to financial flows and international business contacts restricted, and their movement impeded. Thirdly, the law enforcement and institutional implications are assessed, in particular the coordination of EU actions with partners, the use of sanctions as part of broader international pressure, and the resilience of EU Council acts to judicial challenge. Fourthly, specific human rights outcomes on the ground are recorded, namely whether detainees have been released, the scale of the most serious violations has been reduced, or the practices of state bodies have been corrected. It is precisely these indicators that the authors of the study use as criteria for concluding that the regime has had a “cautiously positive” impact: EU human rights sanctions have demonstrated the ability to personalise accountability and exert targeted

pressure on individual violators, however, causally proven changes in the overall human rights situation remain fragmentary and are recorded only in isolated cases (Portela *et al.*, 2021).

To eliminate ambiguity in the understanding of “effectiveness”, a three-tiered “output – outcome – impact” framework is used below. It is proposed that “output” should capture the legal and organisational results of the regime: the stability and quality of the grounds for listings, the frequency of reviews, the volume and duration of asset freezes, the proportion of cross-listings with allies, as well as indicators of the judicial robustness of acts (the proportion of decisions successfully upheld by the Court of Justice of the European Union). “Outcome” refers to behavioural and institutional changes among the target groups and the environment: personnel shifts, voluntary resignations, the severing of funding and supply chains, increased transaction costs for sanctioned individuals, as well as “legal effectiveness” in the form of withstanding judicial scrutiny. Impact refers to concrete human rights improvements that have already been achieved (release of detainees, reduction in torture/arbitrary arrests, amendments to subordinate legislation, etc.).

Empirical and review studies from 2020-2025 indicate that targeted sanctions are more likely to generate tangible outputs and outcomes (restricted access to resources, reputational and transaction costs for those affected) than rapid human rights impact changes at the national level. This is summarised by comparative reviews of the effects of sanctions and a case study of the Belarusian context (Zelyova, 2021; Miadzvetskaya & Challet, 2022; Egger *et al.*, 2024). In the case of Belarus, changes in the incentives of elites and difficulties in accessing finance for those targeted have been observed, yet without a rapid improvement in aggregate human rights indicators, confirming the gap between outcome and impact (Miadzvetskaya & Challet, 2022). The legal stability

of acts (proper justification, periodic review and withstanding judicial scrutiny) is a necessary condition for the regime’s effectiveness, as the repeal of acts undermines the signal and enforcement (Tilahun, 2021; Lonardo, 2023). The effect of sanctions increases under conditions of inter-alliance coordination and synchronisation of lists, which reduces “loopholes” and raises costs for violators (Giumelli, 2024; Egger *et al.*, 2024). Based on the above, the overall assessment of the EU’s global human rights regime is cautiously positive: it delivers strong outputs (targeting, regular updates) and relevant outcomes (restricting violators’ opportunities), whilst proven impacts remain limited and context-dependent.

The shift from outcomes to impact requires, firstly, greater transparency regarding the rationale behind decisions and the establishment of clear indicators for review and delisting, in order to reduce the risk of reversals and enhance legal certainty (Tilahun, 2021; Lonardo, 2023). Secondly, deeper coordination with key partners (the US/UK/Canada) is needed in selecting targets and timing announcements, which enhances the cumulative effect (Giumelli, 2024). Thirdly, the issue of addressing corruption as a systemic driver of human rights violations must be resolved – either through a separate anti-corruption regime or by expanding the substantive criteria, in line with the current EU sanctions policy agenda (Korkea-aho & Lonardo, 2025).

The effectiveness of sanctions as an instrument for the protection of human rights depends to a large extent on the coordination of actions by states that apply targeted sanctions for serious human rights violations and/or corruption. In this context, “coordination among like-minded partners” refers to the degree of overlap in the lists of sanctioned individuals across different jurisdictions, that is, so-called cross-listings – instances where the same natural or legal person is simultaneously included on the European Union’s

sanctions lists under the global human rights sanctions regime, on the US lists under the Global Magnitsky Act, and on the national lists of the United Kingdom and Canada, which cover both serious human rights violations and corruption (Portela *et al.*, 2025). According to the results of a comparative analysis of the lists conducted for the European Parliament, the level of such cross-listings remains low: as of 2023, only around 3% of individuals against whom Canada had imposed sanctions for serious human rights violations or corruption were simultaneously included in the EU's global human rights sanctions regime (Portela *et al.*, 2025). This means that a significant proportion of individuals appear in only one jurisdiction (for example, under Canadian or US sanctions) but not in the other, which reduces the restrictive effect of the sanctions: such individuals retain the ability to move assets, conduct financial transactions or travel in those states where they are not formally designated as subject to sanctions. This discrepancy stems not only from political priorities but also from structural differences between the regimes: the EU regime in its current form covers serious human rights violations, whereas the US Global Magnitsky regime and the Canadian sanctions regime also allow for sanctions to be imposed for significant corruption; Similarly, following Brexit, the UK regime under the Global Human Rights Sanctions Regulations 2020 of the UK (2020) allows for targeted punishment for torture, extrajudicial executions, slavery and other serious violations, but operates independently of EU decisions (Portela *et al.*, 2025). Despite these differences, there are examples of coordinated action: on 22 March 2021, the Council of the EU adopted acts adding to the lists individuals responsible, in particular, for repression against the Uyghur population in the Xinjiang Uyghur Autonomous Region of China; these actions were accompanied by parallel sanctions announcements by the United States, the United

Kingdom and Canada, which significantly amplified the political signal and international pressure (Council of the European Union, 2021c; Council of the European Union, 2021d). Academic assessments emphasise that the further expansion of the circle of states implementing comparable personal sanctions regimes (in particular, the adoption of their own "Magnitsky laws" in jurisdictions outside the EU and North America), as well as the establishment of information exchange between them, is seen as a key condition for enhancing the effectiveness of sanctions on a global scale.

The European Union and the United States of America have developed similar "Magnitsky-style" sanctions regimes aimed at holding accountable those responsible for serious human rights violations and corruption. A contemporary global trend has emerged whereby various democratic states have introduced thematic "Magnitsky sanctions", beginning with the United States and subsequently extending to Canada, the United Kingdom, the European Union, Australia, and others (Hamilton *et al.*, 2024). These measures belong to the category of targeted sanctions, namely personalised restrictive measures imposed on specific individuals and entities, as distinct from broad economic embargoes. Such sanctions typically involve asset freezes and travel bans imposed upon identified perpetrators, and these are precisely the instruments employed by both the United States and the European Union within their respective regimes (Pavlidis, 2023). As a result, a new mechanism of international accountability has emerged, complementing traditional judicial remedies. Although sanctions do not constitute criminal punishment in the formal legal sense, they signal the international community's condemnation of serious misconduct and create tangible material consequences for those responsible.

At the same time, significant differences exist between the sanctions mechanisms of the European Union and the United States, reflecting

differences in jurisdiction, legal foundations, and substantive scope. First, the United States Global Magnitsky regime possesses a broader mandate. Under the Global Magnitsky Human Rights Accountability Act of 2016, sanctions may be imposed on foreign persons responsible for gross violations of internationally recognised human rights, including extrajudicial killings, torture, and other serious abuses, as well as those involved in significant corruption. Moreover, Executive Order No. 13818 (2017) further expanded the criteria by authorising sanctions in response to serious human rights abuses and corruption more generally, rather than limiting measures solely to cases of “significant” corruption. By contrast, the European Union has thus far confined its global sanctions regime exclusively to human rights-related conduct. The regime encompasses the gravest violations, including genocide, crimes against humanity, torture, slavery, extrajudicial executions, enforced disappearances, and other serious human rights violations or abuses (Pavlidis, 2023).

It is worth noting that the issue of including corruption in the EU sanctions regime is under active discussion. Large-scale corruption among high-ranking officials directly undermines democratic institutions and the rule of law, creating a breeding ground for human rights violations, and should therefore be prosecuted in the same way as purely “human rights” crimes. European Commission President Ursula von der Leyen, in her 2022 State of the Union address, also announced an initiative to add corruption to the criteria for EU sanctions. Thus, the main substantive difference is that the US already has an integrated mechanism for punishing both human rights violations and corruption, whereas the EU currently acts only against human rights offenders, thereby somewhat losing its potential to “surgically” target global networks of kleptocrats. According to T. Tsertsvadze (2023), the absence of an anti-corruption component places the EU behind other

Western states in the use of sanctions to counter serious corruption.

Secondly, decision-making mechanisms and legal procedures for applying sanctions differ significantly between the US and the EU, a consequence of the specific nature of their governance systems. In the US, the Global Magnitsky Human Rights Accountability Act of 2016 is a federal law, the implementation of which is delegated to the executive branch: decisions on adding individuals to the sanctions list are made by the President (de facto by the State Department and the Treasury Department via OFAC) in consultation with Congress. The American process is quite flexible and efficient: sanctions lists are updated via presidential decrees, and the criteria set out in the law are broad enough to allow for the inclusion of perpetrators from any country in the world in response to confirmed cases of human rights abuses or acts of corruption. In practice, the United States Government announces new Global Magnitsky sanctions packages on a regular basis. Notably, it has become customary to unveil significant sanctions designations on 10 December, International Human Rights Day, thereby reinforcing the United States’ claim to global leadership in promoting accountability for human rights violations and corruption (LexisNexis Risk Solutions, n.d.).

The European Union, for its part, acts through a common foreign policy, which requires a collective decision by all Member States (Zamfir, 2023). EU sanctions are imposed by a unanimous decision of the Council of the EU within the framework of the CFSP (Consolidated version of the Treaty on the Functioning of the European Union, 2012), on a proposal from the EU High Representative for Foreign Affairs (Portela *et al.*, 2025). Where a decision entails economic restrictions, such as asset freezes or financial prohibitions, it must be implemented by a separate legislative act – a joint resolution of the Council and the European Commission (based on Article 215 of the Consolidated

version of the Treaty on the Functioning of the European Union (2012)). Thus, the EU procedure is usually more protracted and complex, as it requires the consensus of 27 countries. This may result in delays or the dilution of sanctions lists due to the political interests of individual Member States. Both the US and the EU emphasise the importance of close coordination of their sanctions policies: recently, there has been a drive towards greater alignment of sanctions lists among allies (LexisNexis Risk Solutions, n.d.), so that violators cannot evade accountability by exploiting loopholes. It is noteworthy that, despite shared objectives, the overlap in individuals on the sanctions lists of the US, the EU and other partners remains fairly limited (LexisNexis Risk Solutions, n.d.). This is explained both by differences in criteria and priorities, and by factors of procedural independence: each jurisdiction conducts its own assessment of evidence and makes decisions autonomously.

Thirdly, it is worth comparing the scope of implementation of the two regimes – that is, how many individuals and organisations have actually been subject to sanctions. Since the launch of the Global Magnitsky Act in the US (the first wave of sanctions in late 2017), sanctions have been imposed on a significantly larger number of entities than in the EU. According to estimates as of early 2025, the US Global Magnitsky list comprised over 600 individuals and entities from more than 60 countries (LexisNexis Risk Solutions, n.d.). This is more than four times the combined list of the UK and the EU as of early 2025 (LexisNexis Risk Solutions, n.d.). The US lead is explained by both a broader mandate (including corrupt officials) and a longer duration of the programme: the US began imposing such sanctions earlier than the EU and has had time to accumulate more cases (LexisNexis Risk Solutions, n.d.). The European Union, meanwhile, is only just rolling out its mechanism. The first EU sanctions lists under the new regime appeared in March 2021, and 23 individuals were

added to the list during 2021 (Tsertsvadze, 2023). Thus, as of early 2025, around 88 entities were subject to EU sanctions for human rights violations (LexisNexis Risk Solutions, n.d.). This is still fewer than on the US list, but the growth rate is accelerating noticeably, indicating that the EU is building up its capacity to actively utilise the new regime. In the longer term, extending the EU framework to encompass corruption could substantially increase the number of designated persons, given that many instances of serious human rights violations are closely connected to corrupt practices. Examples include the diversion of public funds by authoritarian regimes to finance coercive apparatuses responsible for repression and abuse. The US is likely guided by foreign policy priorities when selecting targets (imposing sanctions on a case-by-case basis), rather than automatically sanctioning all key figures in corruption rankings. For the EU, this means that the inclusion of an anti-corruption element must be accompanied by the development of clear criteria and a transparent procedure for selecting targets, in order to ensure the objectivity and consistency of the Union's actions with its partners.

Despite the differences outlined above, the US and EU sanctions regimes also share a number of common features and advantages that reinforce their complementarity on a global scale. Both regimes are based on the principle of individual accountability – punishing specific perpetrators rather than imposing collective punishment on entire populations. This is consistent with the 'smart sanctions' approach, which minimises harm to the wider population whilst targeting offenders precisely. Both the EU and the US emphasise that such sanctions are preventive in nature – they are designed to deter potential offenders by demonstrating the inevitability of consequences. It is important that both sanctions regimes provide legal mechanisms to protect the rights of the sanctioned individuals themselves, which distinguishes

them from arbitrary repression: in the US and the UK, those placed on the list have the right to apply to the authorities for an administrative review of the decision, as well as to challenge their inclusion on the list through the courts. The situation is similar in the EU: all Council decisions on sanctions are subject to judicial review by the Court of Justice of the EU, and those on the lists may file applications for removal, citing insufficient evidence or violations of procedural rights.

Discussion

The analysis has identified a number of key challenges affecting the effectiveness and legitimacy of EU sanctions in the field of human rights. Many of these issues have already attracted the attention of researchers and human rights defenders, and discussing them allows to compare the EU's experience with the assessments of other authors. Upholding legal safeguards and the rule of law within the EU itself is one of the key challenges facing the functioning of the global human rights sanctions regime after 2020. Targeted sanctions impose significant restrictions on the rights of listed individuals: a ban on entry and movement within the Union directly interferes with freedom of movement, which is recognised as a fundamental right under international human rights law; the freezing of assets and the prohibition on the provision of economic resources restrict the ability to dispose of one's property and income, thereby affecting the protection of property; public listing as a human rights violator affects business reputation and may result in the loss of access to financial and contractual relations in Member States.

Such consequences are evident, for example, in cases where entry bans and account freezes are imposed on individuals listed in the EU Council's sanctions regulations; these measures are of a long-term nature and are not merely declaratory, as banks, counterparties and public authorities are obliged to refuse financial transactions and any

economic interaction with sanctioned individuals (Council Implementing Regulation of the Council of the European Union No. 2021/478, 2021; Council Implementing Regulation of the Council of the European Union No. 2021/371, 2021). Under these conditions, the EU, as a legal order, is obliged to ensure that the inclusion of a person on the list is based on sufficiently specific factual grounds, clearly stated reasoning and the possibility of effective legal protection, rather than merely on political expediency. Research highlights that the listing procedure remains largely opaque: decisions are taken by the Council of the EU at intergovernmental level, the justifications published in the annexes to regulations and decisions are sometimes presented in summary form, and the full body of evidence (including intelligence) is not always disclosed to the sanctioned individual, which complicates the exercise of the right to defence and the verification of the validity of the charges. Despite the formal right to challenge one's inclusion before the Court of Justice of the European Union, the effectiveness of judicial review depends on the extent to which the Council is able to prove the individual responsibility of the person concerned and to provide adequate justification as to why that specific person is the target of the sanctions. In a number of cases since 2020, the General Court has explicitly pointed to the inadequacy of such justification and annulled the sanctions against individual applicants. Thus, in the case of *Prigozhina v. Council* (2023), the court held that a family relationship with a person already subject to sanctions is not, in itself, sufficient grounds for automatic inclusion on the sanctions list, and required the Council to provide specific facts demonstrating the applicant's personal involvement in or benefit from actions constituting grounds for sanctions. Similarly, in 2024, EU courts partially annulled the restrictive measures imposed on certain Russian businessmen, finding that the Council had not demonstrated their role

in supporting prohibited activities with sufficient conviction and had not adequately justified their continued inclusion on the list following changes in their status (in particular, stepping down from management positions and divesting assets). These examples highlight two interrelated issues. Firstly, the scale and nature of the sanctions constitute a very significant interference with an individual's rights (travel bans, asset freezes, reputational damage), effectively amounting to quasi-punishment without a criminal conviction. Secondly, the mechanism for judicial review formally exists and is capable of overturning the Council's acts, but it operates *ex post*, after the restrictions have been in place for months, and thus does not eliminate the risk of disproportionate interference at an early stage. This is precisely why the academic literature emphasises the need to improve the quality of the reasoning sections of sanctioning acts, to review lists regularly, and to ensure access to the key grounds for listing an individual, so as to make this instrument both effective and compliant with EU rule of law standards.

There are as yet no precedents for the revocation of human rights regimes, but, as C. Eckes (2022) notes, ensuring the right to defence and a fair trial is a constant challenge: the EU must strike a balance between the operational effectiveness of sanctions and their legal robustness. One solution could be to improve the procedure for reviewing sanctions lists: more frequent reviews, allowing individuals to submit information regarding their innocence, appointing independent experts to verify evidence, and so on. Ensuring a high standard of legality is also critical for the regime's legitimacy in the eyes of the public: if courts regularly overturn Council decisions due to errors, this will undermine confidence in the instrument itself. On the other hand, careful selection of targets and a sound evidential basis will reduce the risks of successful challenges and, as a result, strengthen the authority of the sanctions mechanism.

Particular attention should be devoted to the question of how human rights sanctions fit within the broader foreign policy identity of the European Union. The academic literature advances the argument that, through sanctions, the EU seeks to act as a bearer of "collective sovereignty", namely as an actor capable of establishing standards of conduct at the global level on behalf of the Union and demanding their observance beyond its own borders (Beaucillon, 2023). According to this view, sanctions regimes, and especially the global sanctions regime for human rights violations, function not merely as technical instruments of pressure directed at specific individuals, but as mechanisms for projecting the EU's normative power. When the Council of the European Union adopts measures such as asset freezes or travel bans against foreign officials, it effectively asserts that the Union possesses the authority to determine which forms of conduct are so unacceptable from a human rights perspective that they warrant transnational consequences. This resembles a form of extraterritorial application of value-based standards: even where the conduct in question has occurred outside the Union, within the territory of a third state and against its own citizens, the EU claims the right to respond through financial and legal measures by excluding such individuals from its economic and legal infrastructure. Such an approach transforms human rights into an area in which the Union seeks to act not merely as a "club of Member States" but as a unified holder of public authority in the external sphere. At the same time, this approach generates criticism from states that perceive such sanctions as an infringement upon their sovereignty and an attempt to impose European human rights standards in the absence of a universally agreed international legal mechanism (Beaucillon, 2023). In other words, the more actively the European Union employs targeted human rights sanctions, the more it assumes the role of a global normative

actor, while simultaneously exposing itself to accusations of selectivity and double standards, particularly from states of the Global South.

At the same time, the question arises of regional leadership and the competitiveness of the EU's sanctions policy within the wider Western bloc. On the one hand, sanctions are seen as a mechanism through which the European Union seeks to maintain its own agency within the international security architecture, without reducing its role to that of a junior partner to the US. This involves demonstrating the ability to independently identify human rights violators, formulate sanctions packages, defend them legally in EU courts, and compel member states to implement them, which in theory should reinforce "the EU's status as a regional (and sometimes global) centre of gravity" in matters of security and human rights (Cardwell, 2023). On the other hand, practice shows that such leadership is not absolute and often proves to be reactive. A significant proportion of the EU's human rights sanctions initiatives align with existing measures taken by the US or the UK, which have a longer tradition of applying targeted sanctions for corruption and serious human rights violations. In academic discourse, this is presented as ambivalence: the European Union simultaneously positions itself as an independent centre of sanctions policy and, at the same time, relies heavily on its partners for political legitimacy, evidence gathering and the identification of individuals. For the human rights regime, this means that it is a test not only of internal legal robustness (quality of reasoning, judicial review), but also of the EU's ability to transform sanctions into a systemic instrument of its international authority, rather than merely a confirmation of solidarity with its allies (Beaucillon, 2023; Cardwell, 2023).

Adopting a sanctions decision is only the first step; ensuring its effective implementation is equally important. Within the European Union,

responsibility for enforcing sanctions is shared between the supranational and national levels. The European Commission monitors compliance with financial sanctions, including asset freezes and prohibitions on making funds available, and may initiate infringement proceedings against Member States that fail properly to implement EU regulations. However, as noted in the literature, the Commission's powers to monitor sanctions involving travel bans are considerably more limited. Responsibility for enforcing visa and entry restrictions rests entirely with national authorities, including border agencies and consular services. And although Member States coordinate their actions within the Schengen Information System, there have been cases where sanctioned individuals have visited EU countries, citing exemptions (for example, to participate in international forums, which is permitted as an exception for the performance of duties in intergovernmental organisations). The Commission has no means of compelling a state to deny entry to such a person or to penalise it for a breach, which effectively undermines the effectiveness of the entry restrictions. Another dimension is the enforcement of sanctions by the business sector. Companies in the EU are obliged to freeze the accounts of sanctioned individuals and to refuse to provide them with services. However, practice shows that effectiveness depends on the awareness and diligence of the private sector. There may be cases where sanctioned individuals hold assets through complex schemes (trusts, shell companies), and it is difficult to detect them without an active stance from state authorities.

Political coordination and unanimity. As the analysis has shown, the requirement for unanimity when adopting sanctions often becomes an obstacle to a prompt and fair response to human rights violations. For example, in 2021, the EU was unable to impose sanctions on any individual implicated in the mass killings of

civilians in Ethiopia (the Tigray region), despite the existence of ample evidence of war crimes. At the same time, an increasing number of studies are drawing attention to the “human dimension” of sanctions policy and the real consequences that targeted restrictions have for human rights in the target states. An analysis of the regimes in Myanmar and Zimbabwe shows that so-called “smart” sanctions guarantee neither consistent pressure on the elites nor predictable democratisation: the outcome depends on the configuration of the domestic regime, the availability of alternative economic partners, and the elites’ ability to shift the burden of sanctions onto the population (Rochat, 2024). Research on multinational companies operating in sanctioned jurisdictions demonstrates that market exit, triggered by reputational pressure and the risk of secondary sanctions, can paradoxically worsen the human rights situation: assets are transferred to entities close to the regime, and workers lose their jobs without adequate safeguards (Thein *et al.*, 2024). Similar effects are observed at the macro level: econometric estimates show a link between sanctions and increased emigration from authoritarian states, signifying a “brain drain” of the most active segment of society and placing additional pressure on the socio-economic rights of those who remain (Gutmann *et al.*, 2024). For the EU, this raises the question of the need for systematic assessments of the impact of sanctions on human rights and the introduction of minimum standards for “responsible disengagement” for businesses, so that targeted measures do not become a factor in the erosion of social rights in third countries.

Another important dimension of the debate concerns the issues of bias and legitimacy in sanctions decision-making. Comparative analysis of EU and US practice suggests that both sanctions “senders” display a degree of selectivity and double standards. The intensity and frequency of

restrictive measures appear to depend not only upon the gravity of the underlying violations but also upon factors such as the economic significance of the target state, the structure of trade relations, and the presence of diaspora communities capable of mobilising political pressure (Schneider *et al.*, 2025). Research examining the appropriateness of restrictive measures further highlights a “pendulum effect” between targeted and sectoral sanctions. Where individual sanctions fail to achieve the desired political outcome, policymakers often revert to broader sectoral restrictions, thereby increasing the risk of disproportionate consequences for the wider population (Cookman, 2024). At the same time, studies examining sanctions as instruments of multilateral diplomacy, particularly in the context of the Iranian nuclear negotiations, demonstrate that perceptions of the sender’s legitimacy have a direct impact upon whether the target state views sanctions as an incentive to compromise or as politically motivated punishment that must simply be endured (Niemeier & Schneider, 2024; Isaac & Fouda, 2025). In the context of the EU Global Human Rights Sanctions Regime, this suggests that transparency in the selection criteria, the adequacy of the evidential basis for designations, and the consistent application of standards across different regions are not merely legal requirements but also political conditions for the effectiveness and acceptability of sanctions as a human rights instrument.

Comparing the EU’s global regime with other “Magnitsky-type” instruments provides a better understanding of its place within the broader architecture of the fight against impunity. National laws such as Canada’s Justice for Victims of Corrupt Foreign Officials Act (2017) create parallel channels for holding perpetrators accountable for serious human rights violations and corruption, whilst simultaneously shaping expectations regarding the role of democratic states in

the global “public order” (Arabi & Lilly, 2020). An analysis of the US “Magnitsky Act” as the foundation of a global system of anti-corruption sanctions demonstrates how thematic regimes are gradually weaving themselves into a transatlantic network, where key democratic actors coordinate lists and criteria, yet simultaneously preserve their own political priorities (Lizak & Skuza, 2024). Against this backdrop, the EU, on the one hand, positions its global regime as a legally balanced and more “procedural” alternative, whilst on the other hand, it reproduces the typical problems of sanctions policy: vague boundaries of “proximity” to offending regimes, which justify inclusion on the list, and the risks of an expansive interpretation of the criteria, as evident in the analysis of the Union’s counter-terrorism sanctions (Datzer *et al.*, 2024). The experience of the UN Security Council’s universal sanctions against North Korea further demonstrates that even restrictions formally “legitimised” within the UN system have limits in terms of their compatibility with international law and the principle of proportionality if their cumulative socio-economic impact goes beyond the specifically defined objective (Kondoch, 2024). Taken together, this underscores that the further development of EU sanctions in the field of human rights cannot be limited to technical adjustments to procedures: a systematic reassessment of the balance between the symbolic, preventive and punitive functions of sanctions is required, taking into account empirical data on their actual impact on human rights and democratic development.

Finally, it should be noted that, in practice, the Council of the European Union frequently gives preference to country-specific sanctions regimes where such frameworks already exist. The Global Human Rights Sanctions Regime therefore often functions as a supplementary or residual mechanism, applied in situations not covered by other sanctions programmes. This was

the case, for example, with sanctions imposed on individuals connected with Chechnya and Libya, where no dedicated country-specific sanctions regime was available. Whilst this approach is understandable from a policy perspective, since geographical regimes allow for more comprehensive measures, including sectoral restrictions directed at particular governments, it also creates a risk of duplication and inconsistency between different sanctions frameworks. The European Union has succeeded in establishing a global human rights sanctions regime; however, the effective realisation of its full potential requires addressing the challenges identified above. Comparison with the findings of other scholars demonstrates that concerns regarding the need for greater transparency, consistency, and the expansion of sanctions criteria are widely shared within the academic and policy communities. This reinforces the validity of the proposals advanced in this study for the further development and improvement of the legal framework governing EU sanctions policy.

Conclusions

The European Union has established itself as an influential actor that uses sanctions to uphold and protect human rights on the international stage. The introduction in 2020 of the Global Sanctions Regime for serious human rights violations marked a significant milestone in the evolution of the EU’s sanctions policy, demonstrating its commitment to a values-based approach in foreign affairs. The current state of this regime is characterised by its institutional anchoring in EU law and the first results of its application: as of 2024, around 150 individuals and entities worldwide implicated in crimes such as torture, repression and war crimes have fallen under its scope. EU sanctions have thus become a globally oriented instrument capable of responding in a targeted manner to serious

human rights violations irrespective of the jurisdiction in which they occur.

At the same time, the analysis highlighted a number of challenges that prevent the full realisation of the potential of sanctions as an instrument for the protection of human rights. First, political disagreement among Member States, stemming from the requirement of unanimity, results in selectivity: certain particularly serious violations, especially those involving strategic partners of the European Union, remain unaddressed, thereby undermining the consistency of EU policy. Secondly, the issue of compliance with legal standards needs to be addressed: the EU must ensure a transparent and fair sanctioning process to guarantee the rights of those included on the lists and withstand judicial scrutiny. Thirdly, there are problems with the implementation and monitoring of sanctions: in practice, effectiveness depends on the conscientious implementation of measures by all Member States and the private sector; and EU oversight is currently limited. Fourthly, the current EU sanctions regime does not cover corruption, which reduces its effectiveness in combating regimes where corruption and human rights violations are closely intertwined. Finally, the EU faces reputational risks on the international stage: critics point to double standards and the illegitimacy of unilateral sanctions, prompting a need to improve communication and seek broader support.

The future development of the legal framework governing EU human rights sanctions lies in the gradual refinement of both the regulatory framework and implementation practice. Priority measures may include reform of the sanctions decision-making process through consideration of a limited departure from the unanimity requirement, at least in matters relating to human rights, or the development of mechanisms designed to facilitate consensus-building, such as enhanced preliminary consultations and a stronger role for the High

Representative in forging agreement among Member States. Strengthening legal safeguards should also be prioritised through greater transparency regarding listing criteria, the development of clear guidelines and indicators for assessing whether sanctions should be maintained or lifted, and improvements to judicial review procedures. This could potentially involve the establishment of an independent expert body responsible for examining sensitive evidence in closed proceedings; expanding the scope of the regime – either by supplementing the existing regime with an anti-corruption element, or by introducing a separate parallel anti-corruption sanctions mechanism (as proposed by the European Commission in 2023). This would address a significant gap and ensure a more comprehensive approach to countering abuses that go hand in hand with human rights violations; enhancing the effectiveness of implementation – establishing a permanent sanctions monitoring system within the EU structure (for example, appointing a special representative for sanctions or a working group within the European External Action Service), developing standards for member states' reporting on measures taken, and involving the European Banking Authority and other regulators more closely to oversee the financial aspect; strengthening international coordination – more active coordination of sanction measures with partners (the US, the UK, Canada, etc.), exchanging lists of potential sanction targets, and jointly announcing new packages on symbolic dates (for example, ahead of International Human Rights Day or Anti-Corruption Day). Such coordination will enhance the global impact of sanctions and reduce opportunities for circumvention.

In conclusion, EU human rights sanctions generally meet their stated objective – to serve as a tool for protecting fundamental rights and freedoms – yet their effectiveness is uneven. The regime requires further development to become

a truly comprehensive and sustainable element of European foreign policy. The prospects for its evolution are closely linked to the political will of the Member States: if the EU wishes to maintain its role as a global leader in the defence of human rights, it must ensure that the sanctions mechanism is as effective, fair and consistent as possible. Implementing the outlined improvements will enhance the effectiveness of sanctions, strengthen confidence in them and ensure a greater contribution to the protection of human rights worldwide,

which will, in fact, constitute further progress in the legal regulation of this sphere.

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Санкції Європейського Союзу як інструмент забезпечення прав людини: сучасний стан, виклики та перспективи правового регулювання

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Анотація

У статті досліджено санкційну політику Європейського Союзу як інструмент забезпечення прав людини з фокусом на Глобальному режимі санкцій ЄС у сфері прав людини 2020 року. Метою дослідження було окреслити сучасний стан правового режиму, виявити виклики його застосування та запропонувати напрями вдосконалення. Застосовано системний підхід і поєднання формально-юридичного, порівняльно-правового, історико-правового методів. Розглянуто процес оформлення глобального режиму санкцій як «горизонтального» (тематичного) інструменту, що дозволяє адресно реагувати на серйозні порушення прав людини незалежно від юрисдикції, поєднуючи заборону в'їзду, замороження активів і заборону надання коштів. Практика застосування засвідчила його придатність для підтримки міжнародних стандартів прав людини та координації з партнерами, але висвітлила нерівномірність і вибірковість включень, залежних від вимоги однаковості в Раді ЄС. Ідентифіковано процесуальні ризики: обмежена прозорість обґрунтувань, складність доступу підсанкційних осіб до доказової бази, неоднаковість національного виконання (візові обмеження, виявлення/замороження активів). Відсутність корупції як самостійної підстави звужує охоплення режиму порівняно з аналогами США та Великої Британії, що обмежує вплив на мережі, де порушення прав людини поєднані з клептократією. Перехресна координація санкційних списків різних режимів зростає, однак залишається неповною, що створює «вікна обходу». Практична значущість дослідження полягає у можливості використання його результатів для розширення матеріальних критеріїв, що можуть слугувати підставою для запровадження санкцій, підвищення прозорості і частоти перегляду списків із гарантіями права на захист, інституціалізації моніторингу виконання санкцій на рівні ЄС та поглиблення міжнародної координації.

Ключові слова: обмежувальні заходи; цільові санкції; глобальний санкційний режим ЄС; міжнародне право санкцій; зовнішня політика ЄС



Establishing a cause-and-effect relationship in military environmental crimes: Criminalistic aspect of protecting the right to life in practice of the European Court of Human Rights

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The study aimed to conduct a comparative legal analysis of the tools and procedures for verifying the causal link between the destructive impact of armed conflicts on the environment and violations of the right to life. The research was based on an examination of the body of legislation and the practice of applying international human rights standards within the jurisdictions of Ukraine, the Netherlands and Azerbaijan. The research established that, as of April 2026, Ukraine had developed a precise model for the criminalisation of war-related environmental damage, with the total amount of recorded environmental damage reaching UAH 6.763 trillion. The study determined that the Dutch investigative system is based on the formation of integrated chains of evidence, where data on the toxicity of weapons allow large-scale pollution to be classified as a direct threat to public safety. The study established that, in the case law of the European Court of Human Rights, the environmental consequences of armed conflicts may be deemed a violation of the fundamental right to life, provided that a real and foreseeable risk to civilians is demonstrated. Large-scale destruction of ecosystems and climate-related damage pose a long-term threat to the population's safe existence. The study demonstrated that the use of innovative digital recording and open-source intelligence tools ensures the proper documentation of damage in cases where physical access to affected areas is restricted. The study established that environmental safety must be regarded as an integral prerequisite for the realisation of the right to life. Furthermore, the study noted that compensation and reparation mechanisms may be regarded as one of the avenues for restoring violated environmental and human rights safeguards. The practical significance of the study is determined by possible use of results by investigative bodies and forensic experts to develop effective procedures for documenting, proving and internationally verifying war-related environmental crimes in the context of protecting the right to life

Keywords: environmental damage; documentation of damage; ecocide; forensic examination; evidence gathering; investigation methodic; criminalistic innovations

Introduction

The period of global instability and large-scale armed conflicts has necessitated a re-evaluation of the legal protection of the environment, not merely as a natural resource, but as a prerequisite for the realisation of the right to life. As of early 2026, the environmental consequences of hostilities were no longer regarded as inevitable collateral damage but had acquired the status of independent objects of criminal infringement, requiring precise proof. Establishing a direct link between the destructive impact on ecosystems and the

death or injury of a person is a central challenge in criminal proceedings and international humanitarian law. The complexity of investigating such acts stems from the long-term effects of pollution, the cross-border nature of the damage, and the need to integrate innovative forensic technologies into traditional evidence-gathering procedures. The development of effective methodologies for documenting environmental crimes within the context of Article 2 of the European Convention on Human Rights (ECHR) (1950) is a priority task,

transforming technical data on the condition of soil or water into legally significant arguments for the protection of human dignity.

The issue of the admissibility of innovative digital evidence – which serves as a key tool for documenting war-related environmental damage and substantiating threats to the right to life – was examined by V. Shevchuk *et al.* (2025a). Analysing the practice of using artificial intelligence in criminal proceedings, the authors found that, due to the lack of a specific regulatory framework governing algorithms, the defence moves to have such evidence ruled inadmissible in 73.5% of cases. The findings demonstrated that, without resolving the issue of forensic verification of digital traces (in particular OSINT data and satellite monitoring), the effective demonstration of a causal link between environmental destruction and its consequences for the population in international courts will remain procedurally vulnerable. The issues of forensic support for the investigation of war crimes and the integration of international standards of environmental justice into the national system of evidence were further examined by V. Shevchuk *et al.* (2025b). The researchers analysed European experience in documenting the consequences of armed conflict. Their research demonstrated that, to properly document war damage and substantiate international claims, Ukrainian investigative practice requires a thorough doctrinal overhaul and adaptation to state-of-the-art forensic examination methodologies.

The concept of “agroecocide” as a framework for interpreting the destruction of agriculture during the war in Ukraine was introduced by R. Kazak *et al.* (2026). The authors argued that existing legal doctrines regulate agricultural damage only in a piecemeal manner; they therefore proposed the introduction of Article 441-1 into the Criminal Code of Ukraine (2001) to strengthen preventive mechanisms and ensure soil restoration. S.O. Kharytonov *et al.* (2023) examined the

national realities of criminal law protection of the environment and their compliance with international standards. The researchers demonstrated that, to improve the effectiveness of combating environmental offences, it is necessary to refine the system of sanctions and procedural rules, covering growing environmental awareness in society. D. Rawtani *et al.* (2022) analysed the prospect of environmental damage resulting from the war in Ukraine and its impact on human health and the planet. The researchers found that damage to industrial infrastructure leads to the contamination of water resources and the air, necessitating urgent reform of the International Criminal Court’s mandate to include environmental crimes within its jurisdiction. G. Chiarini (2022) examined the procedural aspects of ecocide dating back to the Vietnam War. The author developed seven macro-amendments to the Rome Statute of the International Criminal Court (1998), focusing on standards of proof and the prosecutor’s discretion. D.P. van Uhm & R.C.C. Nijman (2022) studied the convergence of environmental crimes with other types of serious offences, in particular organised crime. The researchers identified three types of criminal groups involved in the illegal trade in resources and demonstrated that the traditional boundaries between environmental and general criminal law are ineffective for interpretation of contemporary challenges. Kh. Marych & M. Pohorilets (2023) examined the specifics of establishing a legal framework for liability for war crimes against the environment. The authors investigated the constituent elements of the mechanism for punishment and compensation for damage caused to ecosystems in the context of armed aggression against Ukraine. Their findings established that the environmental damage caused has a long-term negative impact on people’s lives and health, and that the effective enforcement of liability in national and international courts requires clear documentation of the facts of the

offences, with the mandatory involvement of specialist expert assessments. The environmental history of wars and mass violence was summarised by R.P. Tucker & J.R. McNeill (2025). The authors found that whilst pre-industrial weapons had a limited impact on the environment, modern preparations for war are a central aspect of the organisation of societies, making future cyber-wars new environmental threats. R.J. Wenning & T.D. Tomasi (2023) proposed using the American Natural Resource Damage Assessment (NRDA) methodology to interpret the consequences of the war in Ukraine. The researchers demonstrated that remote preliminary assessment of damage during a conflict allows for the prioritisation of rehabilitation measures. Y.D. Wirtu & U. Abde-la (2025) analysed the military consequences for the planet through the lens of ecocide and the mass degradation of biological forms. The scientists identified patterns of destruction in the wars in Vietnam, the Persian Gulf and Ukraine, calling for the creation of international treaties that would guarantee the absence of environmental degradation in post-war countries. The issue of animal and nature rights in the context of the “just war” theory was raised by C. Wanner (2025). The researcher argued that a shift in perspective in favour of ecosystems could radically alter the assessment of the legitimacy of military action.

Despite substantial research, there are gaps that require comprehensive study. In particular, there is a lack of analysis of practical approaches to establishing a causal link between specific tactical actions (the blowing up of dams, shelling of chemical depots) and violations of the right to life in the case law of the European Court of Human Rights (ECHR).

The study aimed to conduct a comparative legal analysis of the link between war-related environmental damage and the violation of the right to life. To achieve this aim, the following objectives were set: to analyse the case law of the

ECHR regarding state obligations in the context of environmental and man-made threats, with a view to establishing criteria for proving a risk to life; to examine the legal frameworks of Ukraine, the Netherlands and Azerbaijan in the context of defining war-related environmental damage as a threat to the survival of the population; to assess the use of forensic methods and innovative recording technologies as an auxiliary tool for proving a causal link between military acts, the destruction of ecosystems and the consequences for human life.

Materials and Methods

The study was theoretical, legal and comparative in nature. The methodological framework of the study was developed through the integration of theoretical approaches, which facilitated a multi-level analysis of the algorithms used to establish a cause-and-effect relationship in military environmental offences. The sample of countries included Ukraine – as an example of war-related environmental damage and its impact on the realisation of the right to life in conflict situations; the Netherlands – as an example of internationally coordinated evidence-gathering regarding environmental threats to life; and Azerbaijan – as an example of the use of international legal mechanisms for environmental protection following an armed conflict. This approach facilitated the comparison of different legal models, ranging from the direct criminalisation of environmental damage to the protection of the right to life through the prism of environmental security.

Comparative legal analysis served as the main research method. The criteria for comparing Ukraine, the Netherlands and Azerbaijan were standardised according to the following parameters: 1) the key legal framework for the protection of the environment and life; 2) the existence of criminal liability for environmental damage or war crimes against the environment; 3) the link

between environmental damage and risks to life and health; 4) the state's obligations regarding the prevention of hazards and effective investigation; 5) the evidence required to establish a causal link; 6) sanctions or legal consequences; 7) the existence of international legal response mechanisms. The comparative legal method was applied to the following bodies of law – the Criminal Code of the Republic of Azerbaijan (1999), the Criminal Code of Ukraine (2001), and the Criminal Code of the Netherlands (1881) – to identify the elements of offences related to the destruction of ecosystems and threats to life. To examine the procedural aspects of gathering and assessing evidence during wartime, a dogmatic analysis was conducted of the legislative provisions of Ukraine (Criminal Procedure Code..., 2012), the Netherlands (International Crimes Act..., 2003) and Azerbaijan (Criminal Procedure Code..., 2000) was used to examine the procedural aspects of evidence collection and assessment during wartime; this facilitated an interpretation of the rules governing the admissibility of technical data in courts. Comparative method was used to identify differences in the interpretation of the “environmental basis of the right to life” between the national legislation of Ukraine, the Netherlands and Azerbaijan, and Directive (EU) No 2024/1203 of the European Parliament and of the Council “On the Protection of the Environment Through Criminal Law and Replacing Directives 2008/99/EC and 2009/123/EC” (2024). The case-study method was employed to analyse case law, specifically the judgments of the ECHR concerning environmental and man-made risks to life under Article 2 of the European Convention on Human Rights (1950). The following cases concerning Turkey were examined: Case of Öneriyıldız v. Turkey (2004), Case of M. Özel and Others v. Turkey (2015), Case of Oruk v. Türkiye (2014). Furthermore, data from the Case of Brincat and Others v. Malta (2014) and the Case of Cannavacciuolo and Others v. Italy (2025) were

examined. These materials were analysed to trace the evolution of the concept of the state's positive obligations regarding the prevention of danger and the effective investigation of environmental threats. To identify effective methods for establishing a causal link between the use of weapons and environmental consequences for human life, the court's decision in the MH17 case (The court's decision..., 2022) was examined.

Descriptive and analytical synthesis of secondary statistical data covering the period of active hostilities (2022 – April 2026) was used for a quantitative assessment of the extent of the damage. This method was used to objectively confirm the scale of environmental degradation. The analysis focused on official secondary data from international and national sources (Ministry of Environmental Protection and Natural Resources of Ukraine, n.d.; European Court of Human Rights and Council of Europe, 2026; De Klerk *et al.*, 2026). These documents were examined and compared in terms of the number of recorded environmental incidents, the amount of damage caused and the volume of climate-related emissions, which made it possible to verify the intensity of the war's impact on the basic conditions of human existence. A systemic-structural approach was used to analyse the activities of institutions such as the National Office for Serious Fraud, Environmental Crime and Asset Confiscation (n.d.), the Netherlands Forensic Institute (n.d.) and the Core International Crimes Evidence Database (CICED) (n.d.) (European Union Agency for Criminal Justice Cooperation, n.d.). The activities of these institutions were examined exclusively concerning the organisational mechanisms for the cross-border preservation of evidence of environmental damage.

The procedural algorithm for documenting the consequences of the bombing of the Kakhovka hydroelectric power station (HPP) and the shelling of industrial facilities was examined using the case-study method to detail the procedural

framework for the collection, preservation and secure transfer of environmental samples (Operational information on..., 2023). The research materials also included official numerical, technical, expert and administrative sources documenting military environmental damage. In particular, the following were considered as national documentation tools: the “EcoZagroza” (n.d.) platform, Order of the Ministry of Environmental Protection and Natural Resources of Ukraine No. z0406-22 “On Approval of the Methodology for Determining the Amount of Damage Caused to Land and Soils as a Result of Emergency Situations and/or Armed Aggression and Hostilities During Martial Law” (2022), as well as materials from the State Environmental Inspectorate of Ukraine (The environment of Chernihiv..., 2025). The international dimension of documenting the consequences was examined using data from the Register of Damages for Ukraine (11th council meeting, 2026) and official reports from the Europol Operational Taskforce (Europol sets up OSINT..., 2023). These materials were used as supporting tools to establish the fact of damage, its source, scale, dynamics and potential impact on human life and health. Information and analytical methods were applied to technical reports (Conflict and Environment Observatory and Norwegian People’s Aid, 2025) and European initiatives (CyberEast+, CyberUA..., 2026). These documents examined the specific nature of the application of innovations, whilst the entire technical section concerning satellite imagery, artificial intelligence, open-source intelligence (OSINT) and digital platforms was considered solely as a supplementary evidential tool for verifying the toxicity of munitions. Combining these methods with analytical sources from the Supreme Court of Ukraine (Urkevych, 2025) and the Council of Europe (CyberUA: Strengthening capacity..., n.d.) ensured the scientific validity of the results obtained. Furthermore, the methodological difficulties stem from the complexity of establishing a

causal link between military action, environmental damage and the risk to life, due to limited physical access to contaminated sites under martial law.

Results

As of April 2026, the Ukrainian legal system faced the need to link war-related environmental damage not only to ecocide or breaches of the laws and customs of war, but also to a risk to human life within the meaning of Article 2 of the European Convention on Human Rights (1950). Environmental damage caused by war poses a risk not only to environmental protection interests but also to human physical survival, as the destruction of water, soil, air, energy and industrial infrastructure is capable of directly or indirectly affecting the lives, health and basic conditions of existence of the civilian population. In this context, the environmental consequences of armed conflict may be assessed through the lens of Article 2 of the ECHR, provided that a real and foreseeable risk to life is established, the state was aware of such a risk, and there was a failure to take adequate preventive measures or a failure to conduct a proper subsequent investigation. The central finding of the study was a causal chain model: military action – damage to an environmentally hazardous facility – contamination of water, soil or air – exposure of the population – a real risk to life or death – the state’s duty to prevent, investigate and ensure protection. This model addressed forensic methods of documentation as a tool for establishing a link between military-induced environmental damage and the right to life. Within the Ukrainian legal system, this approach requires the integration of criminal law provisions on ecocide and war crimes with the legislation and standards of the ECHR. The legal basis for classifying such acts in Ukraine is founded on the provisions of Section XX of the Criminal Code of Ukraine (2001). Article 441 (“Ecocide”) defines this criminal offence as the mass destruction of

flora or fauna, the poisoning of the atmosphere or water resources, and the commission of other acts that may cause an environmental disaster. As noted in the Supreme Court of Ukraine's judicial interpretations (Urkevych, 2025), the defining feature of ecocide is its object – the ecological security of humanity, that is, a state of the environment that prevents the emergence of dangers to human life and health. In addition to Article 441, wartime environmental crimes are classified under Article 438 ("War Crimes") as cruel treatment of prisoners of war or the civilian population, which is prohibited under international law. The blanket nature of this provision requires reference to the provisions of international humanitarian law, in particular Article 35(3) and Article 55 of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) (1977), which prohibit methods or means of warfare intended to cause, or likely to cause, widespread, long-term and severe damage to the natural environment. In this context, the verification of damage is not a prohibited method of warfare, but a procedural means of proving the consequences of such a violation. The sanctions provisions of the Ukrainian model include Article 441 of the Criminal Code of Ukraine, which provides for a term of imprisonment of between eight and fifteen years for ecocide, as well as Article 438 of the Criminal Code of Ukraine, which provides for a term of imprisonment of between eight and twelve years, and, where combined with intentional murder, from ten to fifteen years or life imprisonment. A key aspect of this harmonisation is that, in the event of a person's death as a result of ecological terrorism, the act falls under Part 2 of Article 438 or Article 442-1 ("Crimes against humanity"), where extermination is defined as the creation of living conditions aimed at destroying part of the population, in particular by depriving them of access to water.

In contrast to the Ukrainian approach, which treats ecocide as a separate offence, the Dutch legal system integrates environmental protection within the framework of threats to public health and human life. Articles 173a and 173b of the Criminal Code of the Netherlands (1881) establish liability for the intentional or negligent release of substances into the soil, air or water. The key criterion for establishing a causal link is the "likelihood of danger to the life of another person". If such pollution results in death, penalty is up to fifteen years' imprisonment. This illustrates a model in which environmental harm is not an end for the purposes of classification, but a means of infringing upon the right to life. At the same time, the Netherlands has implemented international standards through the International Crimes Act of the Netherlands (2003), where Section 5(5)(b) explicitly classifies as a war crime an attack causing "widespread, long-term and severe damage to the natural environment", provided that such damage is disproportionate to the anticipated military advantage. This wording is consistent with the Rome Statute of the International Criminal Court (1998) and draws a parallel with Article 438 of the Criminal Code of Ukraine (2001); however, Dutch legislation stipulates liability of superiors for negligence in preventing such consequences in greater detail (Article 9 of the International Crimes Act of the Netherlands).

Azerbaijan's experience in this field has become relevant due to the armed conflict over Nagorno-Karabakh, where environmental factors have become a tool in the legal confrontation between states (Bern Convention Arbitration..., 2023). Azerbaijan's legal strategy is based on the use of international arbitration as a means of establishing liability for environmental damage. At the same time, this strategy is also underpinned by the national environmental legal framework. Article 39 of the Constitution of the Republic of Azerbaijan (1995) enshrines the right of every person to live in a

healthy environment, to receive information about the actual environmental situation, and to receive compensation for damage to health or property caused by a breach of environmental requirements. Law No. 678-IQ of the Republic of Azerbaijan “On the Protection of the Environment” (1999) defines the legal, economic and social foundations of environmental protection, and it aims to ensure environmental safety, prevent the harmful impact of human activities on natural ecosystems, conserve biodiversity and ensure the rational use of natural resources. In particular, in January 2023, the Republic of Azerbaijan initiated arbitration proceedings against Armenia under the Bern Convention Arbitration (The Republic of Azerbaijan v. The Republic of Armenia). The essence of the claims was to demonstrate that prolonged military activity had caused the mass destruction of forests, the pollution of water resources and the disruption of ecosystems on which the livelihoods of local communities depend. Deforestation can increase the risks of soil erosion, flooding, land degradation and the loss of natural barriers that protect the population; water pollution directly affects access to safe drinking

water, sanitation, people’s health and the ability to practise agriculture; whilst the destruction of ecosystems undermines a region’s ability to provide its population with water, food, clean air and other basic resources (Petrov *et al.*, 2025). In the context of Article 2 of the European Convention on Human Rights (1950), this case may be used as an illustrative example of how war-induced environmental damage can pose a risk to the life, health and basic conditions of existence of communities, however, independently, it does not automatically establish a violation of the right to life without proving jurisdiction, the foreseeability of the risk, a causal link and the effectiveness of the state’s response (Bern Convention Arbitration..., 2023). It was appropriate to compare Ukraine, the Netherlands and Azerbaijan not only in terms of the form of criminalisation of environmental damage, but also in terms of how the relevant legal model links war-related environmental damage to risks to life, the state’s positive obligations, evidence of a causal link and international legal response mechanisms. It is precisely according to these criteria that the comparative results have been systematised in Table 1.

Table 1. Comparative models of the relationship between war-related environmental damage and risk to life in Ukraine, the Netherlands and Azerbaijan

Comparison criteria	Ukraine	Netherlands	Azerbaijan
Key regulatory framework for the protection of the environment and life	Constitution of Ukraine (1996), Law of Ukraine No. 1264-XII “On Environmental Protection” (1991), Criminal Code of Ukraine (2001), Criminal Procedure Code of Ukraine (2012)	Constitution of Netherlands (1983), Criminal Code of Netherlands (1881), International Crimes Act of Netherlands (2003), Environment and Planning Act of the Netherlands (2024)	Constitution of the Republic of Azerbaijan (1995), Law of the Republic of Azerbaijan No. 678-IQ (1999), Criminal Code of the Republic of Azerbaijan (1999), Criminal-Procedure Code of the Republic of Azerbaijan (2000), Bern Convention Arbitration (The Republic of Azerbaijan v. The Republic of Armenia) (2023)
How is environmental damage linked to a risk to life	On grounds of environmental safety as a prerequisite for human life and health, on the grounds of Article 441 of the Criminal Code of Ukraine (ecocide) and Article 438 of the Criminal Code of Ukraine (violation of the laws and customs of war)	Due to risk to life posed by soil, water or air pollution, due to liability for the hazardous release of substances and war crimes against the environment	On grounds of the right to a healthy environment, compensation for damage, and the demonstration that deforestation, water pollution and the degradation of ecosystems are undermining the livelihoods of communities

Table 1. Continued

Comparison criteria	Ukraine	Netherlands	Azerbaijan
Positive obligations of the state	Prevention of environmentally harmful consequences of war, documentation of damage, and investigation of the link between environmental damage and risks to life	Prevention of hazardous pollution, investigation of man-made and environmental risks, and the use of specialist expertise	Environmental protection, access to environmental information, compensation for damage and an international response to the consequences of the conflict
Evidence to establish a causal link	Data from the "EcoZagroza" platform, materials from the State Environmental Inspection, satellite imagery, data from UAVs, OSINT, soil, water and air samples, toxicological and environmental assessments, medical data	Expert reports, toxicological studies, digital materials, telecommunications data, findings from specialist institutions, international coordination of investigations	Arbitration documents, environmental reports, data on deforestation, water pollution, land degradation and the impact on livelihoods
Relation to Article 2 of the ECHR (Right to life)	Article 2 of the European Convention on Human Rights (1950) may be invoked provided that a real and foreseeable risk to life is established, along with the State's knowledge of the danger, a causal link and the effectiveness of the investigation	The national legal framework is closely aligned with the standards of the ECHR regarding hazardous activities, man-made risks and the State's positive obligations	Article 2 of the ECHR may be used as a framework for assessing whether environmental damage poses a risk to the lives and basic conditions of existence of the population
Sanctions or legal consequences	Criminal liability under Articles 441 and 438 of the Criminal Code of Ukraine, the possibility of compensation mechanisms through the Register of Damages	Criminal liability for hazardous pollution and international crimes, penalties depend on the consequences (including death)	International legal liability, arbitration claims, compensation and environmental consequences
International legal response mechanism	ECHR, the International Criminal Court, the Register of Damages for Ukraine, international legal assistance	ECHR, Eurojust, JIT, ICC, specialised expert cooperation	Bern Convention, international arbitration, and the potential application of ECHR standards

Notes: DEI – State Environmental Inspectorate, UAV – unmanned aerial vehicle, OSINT – Open-Source Intelligence, ECHR – European Court of Human Rights, ICC – International Criminal Court, JIT – Joint Investigation Team

Source: compiled by the authors

The case law of the ECHR concerning Article 2 of the European Convention on Human Rights (1950) is of fundamental importance for the study of war-related environmental damage, as the Court regards the right to life not only as a prohibition on the arbitrary deprivation of life, but also as a source of positive obligations on the part of the state in situations involving hazardous activities, man-made disasters and environmental

risks. In such cases, the assessment focuses not only on the fact of death, but also on whether the danger was real, foreseeable and known to the state authorities, and whether they could have taken reasonable measures to prevent or minimise it. In the case of *Öneryıldız v. Turkey* (2004), the Court established an approach whereby the state has a positive obligation to establish a legal and administrative system for the protection of

life in the context of hazardous activities. In the context of war-related environmental damage, this means that the destruction or inadequate control of environmentally hazardous facilities may be assessed not only as damage to the environment but also as a risk to the lives of the population, if the state was or should have been aware of the danger (Denissova *et al.*, 2025). In the Case of *M. Özel and Others v. Turkey* (2015), the ECHR linked the state's liability to the foreseeability of natural or man-made hazards, the availability of information regarding the risk of infrastructure destruction, and the failure to take appropriate preventive measures. This standard for assessing the foreseeability of risk and the fulfilment of the state's positive obligations to protect life is relevant to war crimes against the environment, since, following damage to dams, industrial plants, chemical storage facilities, energy infrastructure or water supply systems, the key question becomes: was the risk to the population's lives foreseeable, and were measures taken to evacuate, warn the public, contain the pollution and conduct a subsequent investigation. In the Case of *Oruk v. Türkiye* (2014), the Court applied Article 2 of the ECHR to a situation where the civilian population suffered harm as a result of the abandonment of hazardous military materials (unexploded ordnance) and emphasised the significance of correlation between the operation of a hazardous facility, the actions or inaction of the authorities regarding its isolation, and the consequences for human life. In the context of the destruction of hydraulic structures during wartime, this approach allows for the construction of an evidential model centred not only on the fact of destruction itself, but also on the subsequent chain of events: flooding, pollution, exposure of the population, loss of life or a real risk to life. In the Case of *Brincat and Others v. Malta* (2014), the ECHR recognised the significance of the long-term impact of hazardous substances on human health and life. This

approach is crucial in the context of war-related environmental damage, as toxic contamination of soil, water or air may have a delayed rather than an immediate effect. Consequently, a causal association in such cases may be established not only based on instantaneous death, but also based on the long-term exposure of the population to hazardous substances. In the Case of *Cannavacciuolo and Others v. Italy* (2025), the Court considered long-term environmental pollution and the ineffectiveness of the state's response to a known danger. This standard made it possible to establish that, for Article 2 of the ECHR, it is essential not only to establish the fact of environmental damage, but also to assess whether the state's response was sufficient, timely and capable of effectively protecting people from danger. A synthesis of this case law has formed a central model of causation for war-related environmental crimes: military action – damage to an environmentally hazardous site – pollution of water, soil or air – exposure of the population – a real risk to life or death – the state's duty to prevent, investigate and ensure protection.

Establishing a causal link in this category of cases requires proving that a specific military act led to contamination which was the direct or indirect cause of the loss of life. In the case law of the ECHR, notably in the case of *Ukraine and the Netherlands v. Russia* (2022), the existence of an "administrative practice" of systematic violations, including attacks on civilian infrastructure, was recognised. The inter-state cases *Case of Ukraine and the Netherlands v. Russia* (2022) and *Case of Ukraine v. Russia (re Crimea)* (2024) are of subsidiary importance for the application of aforementioned standards to military environmental damage. It is advisable to use them not as the primary source of environmental criteria, but as material for issues of jurisdiction, control, attribution of state actions, administrative practice and the assessment of evidence in the context of

armed conflict. This approach allows the standards established in the Case of Öneriyıldız v. Turkey (2004) and the Case of M. Özel and Others v. Turkey (2015) to be applied to situations where military action causes environmentally hazardous consequences and poses a risk to the lives of the population. At the same time, as early as the admissibility stage in the Case of Ukraine and the Netherlands v. Russia, the ECHR established a framework for the examination of evidence in the subsequent consideration of inter-state complaints against Russia. The Court recognised that there were, *prima facie*, sufficient grounds to examine allegations concerning Russia's jurisdiction over the war in eastern Ukraine, in particular through its military, political and economic support for illegal armed groups, as well as its influence on their activities. The significance of this judgment for war crimes against the environment lies in the fact that it demonstrates the ECHR's approach to establishing a link between the actions of a state, the structures under its control, and violations of the European Convention on Human Rights (1950) in the context of an armed conflict. This approach may also be used to establish a causal link between military operations, the destruction of environmentally hazardous facilities, environmental pollution, and a threat to or violation of the right to life. To establish a possible breach of Article 2 of the ECHR in cases concerning war-related environmental damage, it must be shown that the state in question had jurisdiction or effective control over the territory, facility or actions that caused the harmful consequence. That the risk to life was real and foreseeable; that the state knew or ought to have known of such a danger; that it failed to take reasonable and feasible measures to prevent or minimise it; that there is a causal link between the environmental damage and the threat to life; and that, following the loss of life or a catastrophic event, no effective, independent and timely investigation was

carried out. The Court emphasised the importance of establishing jurisdiction and attributing responsibility for the actions to the State, which, in conditions of martial law, requires a combination of environmental expert assessments with forensic analysis of the means of warfare. In particular, the judgment in the Case of Ukraine v. Russia (re Crimea) (2024) demonstrated the Court's approach to assessing evidence through the prism of "logical coherence", where the causal link between the occupation policy and the deterioration in the living conditions of the civilian population was regarded as a coherent practice. The development of the ECHR's case law in cases concerning Azerbaijan provides additional tools for establishing a causal link through the concept of interim measures. In the Interim measures in the case of Armenia v. Azerbaijan (No. 4) (2022), the Court applied Rule 39 concerning the Lachin Corridor (Rules of Court, 2006), emphasising the need to ensure safe passage for persons requiring medical assistance. Although the dispute had political undertones, the legal argument was based on Articles 2 and 8 of the European Convention on Human Rights (1950), under which restrictions on access to safe passage, medical care, water, energy and other resources necessary for the survival of the population were regarded as creating a real risk of irreparable harm to life. The application of Rule 39 in the context of the Lachin Corridor can serve as a supporting example of how access to basic resources, medical care and safe passage may be relevant to the assessment of risk under Articles 2 and 8 of the ECHR. For Ukraine and the Netherlands, who are joint applicants in the case against Russia, this precedent is key to demonstrating that even in the absence of direct shelling, the destruction of water treatment or power supply systems (environmental infrastructure) constitutes an act that threatens life (Case of Ukraine..., 2022). The ECHR's statistical overview for 2025 recorded an increase in inter-state cases

related to conflicts (12 cases out of a total of 15), in which Ukraine and Azerbaijan are key parties. The Court emphasised that in 2025, the right to life was found to have been violated in 42 cases, a significant proportion of which concerned the

ineffectiveness of investigations into deaths in conflict zones (European Court of Human Rights and Council of Europe, 2026). The ECHR's criteria for assessing environmental and man-made risks are provided in Table 2.

Table 2. ECtHR's criteria for assessing environmental and man-made risks under Article 2 of the ECHR

ECHR criterion	Content of criterion	Basic cases	Use for military environmental damage
Actual and anticipated risk	Danger to life must be sufficiently specific, rather than abstract	Case of <i>Öneryıldız v. Turkey</i> (2004), Case of <i>M. Özel and Others v. Turkey</i> (2015)	Destruction of HPP, chemical storage facilities, industrial sites or water supply systems may pose a foreseeable risk to the population
State's awareness of the risk	The state was aware of, or ought to have been aware of, the danger	Case of <i>Oruk v. Türkiye</i> (2014), Case of <i>M. Özel and Others v. Turkey</i> (2015)	Control over the site must be demonstrated, as must the existence of prior data on its hazardous nature, reports to the authorities or expert warnings
Appropriate preventive measures	State was required to take reasonable measures to minimise the risk	Case of <i>Öneryıldız v. Turkey</i> (2004), Case of <i>Brincat and Others v. Malta</i> (2014)	Evacuation, public warnings, protection of high-risk facilities, and prevention of attacks on environmental infrastructure
Causal relationship	Correlation between dangerous acts or omissions and death or a risk to life is required	Case of <i>Oruk v. Türkiye</i> (2014), Case of <i>Cannavacciuolo and Others v. Italy</i> (2025)	Military action must be directly linked to damage to property, pollution, exposure of the population and harm to life or health
Effective investigation	Following a loss of life or a disaster, the state must conduct an independent and effective investigation	Case of <i>Öneryıldız v. Turkey</i> (2004), Case of <i>M. Özel and Others v. Turkey</i> (2015)	It is necessary to conduct examinations, take samples, collect satellite data, prepare medical documents, and identify the causative agent and the mechanism of infection

Source: compiled by the authors based on European Convention on Human Rights (1950); Case of *Ukraine and the Netherlands v. Russia* (2022); Interim measures in the case *Armenia v. Azerbaijan* (No. 4) (2022); Case of *Ukraine v. Russia* (re Crimea) (2024)

Consequently, establishment of a causal link in accordance with the standards of the ECHR requires the Ukrainian and Azerbaijani authorities not only to record the death, but also to prove that the environmental consequences of the war were foreseeable and that the aggressor state failed to take measures to minimise them. The forensic aspect of safeguarding the right to life in April 2026 is based on the use of innovative recording technologies. Article 84 of the Criminal Procedure Code of Ukraine (2012) (CPC) defines evidence as factual data obtained following the procedure stipulated by law. The circumstances subject to proof under Article 91 include the nature and extent of environmental damage. In this

context, the recording of evidential information must be conducted not only following national requirements of the Code regarding the relevance, admissibility and reliability of evidence, but also considering international standards for handling electronic evidence. In particular, the Council of Europe's CyberUA project is specifically aimed at improving the handling of electronic evidence in criminal proceedings relating to war crimes and human rights violations in the context of Russia's aggression against Ukraine (CyberUA: Strengthening capacity..., n.d.).

In the context of evidence gathering (Article 93 of the Criminal Procedure Code of Ukraine (2012)), this is impossible without the use of remote sensing,

UAVs and artificial intelligence technologies for the analysis of satellite imagery. Such technologies established a chain of evidence in cases where access to the scene of the incident by investigators or environmental inspectors is difficult or dangerous (CyberEast+, CyberUA..., 2026). Remote sensing, satellite imagery, photographic and video evidence from UAVs, as well as OSINT analysis, make it possible to establish the time, location, scale and dynamics of environmental damage, and to link it to a specific military act. This approach is consistent with the Methodology for Determining the Extent of Damage Caused to Land and Soil as a Result of Armed Aggression, which explicitly permits the use of remote sensing data, soil sample analyses, expert reports, documents, materials, information from any sources and operational reports to establish the fact of land contamination or littering (Order of the Ministry of Environmental Protection and Natural Resources of Ukraine No. z0406-22, 2022). This makes it possible to document environmental damage in real time in areas where investigators' physical access is restricted. The main tool for the initial recording of war-related environmental damage and the creation of an electronic evidence base is the "EcoZagroza" (n.d.) platform, developed by the Ministry of Environmental Protection and Natural Resources of Ukraine (Ministry of the Environment), which automated collection of geolocated data on environmental risks. As of 2026, over 11,223 instances of environmental damage caused to Ukraine by Russia had been recorded, with the total amount of losses reaching UAH 6.763 trillion (Ministry of Environmental Protection and Natural Resources of Ukraine, n.d.). At the same time, the digital recording of environmental damage is not limited to domestic government platforms. A key international mechanism is the Register of Damages for Ukraine, which compiles claims regarding damage caused as a result of Russian aggression. As of early 2026, the Register's

Council reported over 45,000 claims submitted, as well as the introduction of new categories for the State of Ukraine, legal entities, and regional and local authorities concerning the damage to or destruction of infrastructure and assets. This indicates a shift from simply documenting the environmental and infrastructural consequences of the war to formalising them within an international compensation mechanism (11th Council meeting, 2026). The forensic model for establishing a causal link in wartime conditions was exemplified by the Dutch case of MH17. In this case, the court established a "comprehensive evidential framework" in which photographs of the rocket's contrail were cross-referenced with satellite imagery of the launch site and data from mobile phone masts. This methodology is relevant to the investigation of war-related environmental crimes, as it allows a specific weapon (for example, a missile that struck a toxic waste storage facility) to be linked to the consequences for people through the following chain: military act – weapon – location – environmental release – death (The court's decision..., 2022). The Netherlands Forensic Institute (n.d.) has become a key centre ensuring the independence and objectivity of investigations, which is essential under ECHR standards. The NFI's mission is conducted through a combination of over forty areas of expertise, including the analysis of digital traces from encrypted devices and toxicological investigations. Compared with the Ukrainian "EcoZagroza" platform, the Dutch JIT model is based on the deep integration of international specialists, ensuring a "chain of custody" at the international level (The criminal investigation, n.d.). This makes it possible to identify those responsible for issuing orders that led to environmental disasters through the analysis of intercepted communications and OSINT data. In particular, the Dutch practice of critically assessing expert reports linked to interested parties (such as a court's refusal to accept reports from

“Almaz-Antey” due to their lack of transparency) is an approach that demonstrates the advisability of engaging independent EU environmental laboratories to verify the toxicity of munitions (The court’s decision..., 2022).

One of the key examples for modelling cause-and-effect relationships is the destruction of the Kakhovka HPP on 6 June 2023. According to Ukrainian authorities, following the destruction of the facility, a spill of at least 150 tonnes of lubricant into the Dnipro River was recorded, along with the flooding of areas where 3,470 tonnes of liquid fertiliser (UAN) were stored (Operational information on..., 2023). In the context of Article 2 of the European Convention on Human Rights (1950), this incident may be used to argue that there was a risk to life, provided that control over the facility, the foreseeability of the danger, a causal link between the destruction and the consequences for the population, and an inadequate response by the responsible state can be established. In this context, the causal link has a multi-level structure: primary act (detonation) – mechanical flooding (loss of life) – secondary pollution (contamination of water resources) – long-term effect (destruction of ecosystems and risks to the health of future generations). This model of evidence is corroborated by the practice of the State Environmental Inspectorate, which, following military strikes, documents not only the fact of the attack but also the specific environmental consequences. For example, following a drone strike in the town of Nizhyn on 1 December 2025, inspectors surveyed the scene, identified damage to tanks containing a urea-ammonia mixture and ammonia water, recorded the spread of hazardous substances across the terrain, took soil samples for instrumental and laboratory analysis, and prepared materials for submission to law enforcement agencies to document environmental crimes (The environment of Chernihiv..., 2025). This example demonstrated a practical chain of

evidence: a military strike – damage to a hazardous facility – a toxic substance leak – soil contamination – laboratory analysis – calculation of damage – transfer of materials to the criminal prosecution authorities. Article 100 of the Criminal Procedure Code of Ukraine (2012) requires a special procedure for the storage of such physical evidence, particularly where its long-term storage poses a danger to life or the environment. The Environmental Inspectorate has estimated the damage to water resources caused by the Russian terrorist attack at UAH 2 billion, whilst the overall loss of biodiversity continues to rise (Crispino *et al.*, 2022; Svitlana Grinchuk: Environmental..., 2025).

The establishment of a violation of the right to life in the case law of the ECHR in connection with the Kakhovka disaster is based on the concept of “inevitable risk”. Russia, provided it has established control over the facility, may be regarded as a State whose actions or omissions are potentially subject to assessment under Article 2 of the European Convention on Human Rights (1950) in connection with the risk to the lives of the civilian population resulting from flooding, as well as the possible failure to take appropriate measures to evacuate the population and minimise the sanitary and epidemiological consequences. A legal analysis of the objects of legal protection under Article 5 of Law of Ukraine No. 1264-XII (1991) confirms that people’s health and lives are subject to state protection against the negative effects of an adverse environmental situation. Article 50 of the Constitution of Ukraine (1996) explicitly guarantees the right to a safe environment and compensation for damage, which, in conjunction with Article 27, establishes a national framework for the protection of the right to life.

In this study, climate-related damage was one of the long-term consequences of war-induced environmental damage, which may affect safe

living conditions. According to the report “Climate damage caused by Russia’s War in Ukraine” (De Klerk *et al.*, 2026), total greenhouse gas emissions resulting from the war are estimated at 311 million tonnes of CO₂ equivalent, whilst the calculated climate damage exceeds USD 57 billion. In the context of Article 2 of the European Convention on Human Rights (1950), these figures are of secondary importance: they confirm the long-term nature of war-related environmental damage, but do not replace an analysis of the specific causal link between a hazardous event, public exposure and the risk to life. Forensic expert reports are central in proving environmental damage to human health. Article 242 of the Criminal Procedure Code of Ukraine (2012) imposes a duty on the investigator to ensure that an expert examination is conducted to establish the causes of death and the extent of environmental damage. An innovative aspect is the conduct of comprehensive expert assessments that combine data from toxicological analyses of soil and water samples with medical indicators of morbidity among the population in affected areas (Pilecka *et al.*, 2017). Expert assessments relating to the toxicity of munitions and explosive weapon remnants are becoming increasingly relevant. A study by the Conflict and Environment Observatory (CEOBS) on southern Ukraine states that most munitions contain heavy metals and explosive chemicals, including arsenic, chromium, copper, trinitrotoluol, TNT, cyclotetramethylenetetranitramine (HMX) and cyclotrimethylenetrinitramine (RDX), which are toxic to humans, animals and ecosystems. The study also shows that documenting this type of damage requires a combination of remote analysis, field surveys, interviews with local communities, targeted soil and water sampling, and subsequent laboratory analysis (Conflict and Environment Observatory and Norwegian People’s Aid, 2025). This interdisciplinary model makes it possible to prove not only the fact of contamination,

but also its origin, intensity, toxicity and potential impact on human life and health. The use of blockchain technologies to record the chain of custody for digital materials and the results of sample analyses can support process of proving these claims (Bruno *et al.*, 2019). Such technologies do not in themselves ensure the admissibility of evidence in international or national courts, as admissibility depends on the lawfulness of collection, proper procedural documentation, preservation, verification of authenticity, the relevance of the evidence to the subject matter of the case, and its assessment by the court. At the same time, blockchain can help confirm the integrity of a digital record, the time of its creation, the absence of unauthorised alterations, and the transparency of the transfer of materials between the parties to the proceedings (Wójcik *et al.*, 2022). When combined with the requirements regarding the authenticity, proper preservation and admissibility of electronic evidence, this approach may enhance the evidential value of material obtained via OSINT, UAVs, satellite imagery or digital platforms, provided, however, that they are processed in accordance with the Criminal Procedure Code of Ukraine and international standards for electronic evidence (Convention on Cybercrime, 2001; CyberUA: Using OSINT..., 2026). Under Article 20-2 of Law of Ukraine No. 1264-XII (1991), state supervisory authorities may use photography, video recording and space technologies as auxiliary means of documenting the circumstances of an offence. The international legal dimension of environmental protection in Ukraine should be linked to Article 71 of Law of Ukraine No. 1264-XII, which provides for Ukraine’s participation in international cooperation in the field of environmental protection and the application of the provisions of an international treaty where such a treaty establishes rules different from those in national environmental legislation. As a candidate for EU membership, Ukraine is adapting its

legislation to Directive (EU) No. 2024/1203 of the European Parliament and of the Council (2024), which requires the criminalisation of acts causing long-term and significant damage to ecosystems. In 2025, the Committee on Environmental Policy and Nature Management of the Verkhovna Rada of Ukraine established a working group on the implementation of the provisions of the Directive on the protection of the environment through criminal law (Working Group on the implementation..., 2025). The Research Service of the Verkhovna Rada of Ukraine has also prepared an analytical report on the key provisions of the Directive, which focuses on the criminalisation of environmental offences, the liability of natural and legal persons, sanctions, attempts to commit environmental crimes, the protection of whistleblowers and cooperation between states. This provides additional tools for protecting the right to life, as environmental degradation is recognised as a serious offence (Musayeva *et al.*, 2026).

World Bank statistics (RDNA4) indicate that direct damage to the environment and infrastructure amounted to 176 billion USD, whilst reconstruction needs are estimated at USD 524 billion over the next decade (Updated assessment of Ukraine's..., 2025). A priority area is the demining of territories (almost 23% of Ukraine's land area as of 2025), which is a prerequisite for restoring a safe living environment (Svitlana Grinchuk: Environmental..., 2025).

The latest environmental legislation in the Netherlands, in particular the Environment and Planning Act of the Netherlands (2024), introduces a broader interpretation of the physical environment, including infrastructure, water, soil and air as a single object of protection. Article 1.2(4) of this Act expressly states that an impact on the environment is deemed to include an impact on people if they suffer harm as a result of natural elements. This provision is the legal embodiment of the concept of "environmental justice",

whereby the right to life is protected through the maintenance of a "healthy physical environment" (Article 1.3 of the Environment and Planning Act of the Netherlands). For Ukraine and Azerbaijan, which face the problem of landmines and long-term pollution, this legal framework makes it possible to establish a causal link even when harm to health occurs years after the end of hostilities. Institutionally, the Netherlands has established a specialised National Office for Serious Fraud, Environmental Crime and Asset Confiscation (n.d.) (Functioneel Parket), which deals exclusively with environmental crimes. This body works in close collaboration with Eurojust, ensuring the coordination of cross-border investigations via the CISED database (European Union Agency for Criminal Justice Cooperation, n.d.). CISED was used to store and analyse hundreds of files containing satellite imagery and video evidence relating to war crimes in Ukraine, thereby creating a solid evidential foundation for future proceedings before the ECHR and the International Criminal Court. Netherlands' cooperation with Ukraine within the framework of the "Tallinn Mechanism" and demining projects has highlighted that restoring the ecological balance is a prerequisite for the realisation of the right to life. The Netherlands' contribution of USD 1 million to the International Centre for the Prosecution of the Crime of Aggression (ICPA) confirms its strategic approach to combating impunity for crimes whose consequences have a global climate impact (The Netherlands and Ukraine, n.d.).

A key element of a person's legal status as a subject of protection in relation to war-related environmental crimes is ensuring access to environmental information (Article 9 of Law of Ukraine No. 1264-XII (1991)). Soil contamination covering an area of over 1.4 million m² and land littering affecting 54.8 million m² pose a real threat to the development of minors (Ministry of Environmental Protection and Natural Resources of

Ukraine, n.d.). As part of the criminal proceedings initiated following the bombing of the Kakhovka HPP (case No. 2202323000000307), investigative authorities are employing OSINT methods to identify the units responsible for planting explosives on the dam, thereby linking the intent to destroy the ecosystem to a direct threat to the lives of thousands of people (Operational information on..., 2023). The international dimension of OSINT's use in documenting war crimes in Ukraine is confirmed by the establishment of the Europol Operational Taskforce (OTF), whose aim is to assist in the investigation of major international crimes committed following the full-scale invasion by Russian armed forces on 24 February 2022. The OTF's remit is to identify suspects and establish their involvement in war crimes, crimes against humanity or genocide by collecting and analysing intelligence from open sources. Europol has emphasised that, given the unprecedented volume of online material, particularly from the internet and social media, OSINT can assist investigators in verifying and documenting instances of war crimes. The task force is led by the international crimes' investigation units of the Dutch police and the German Federal Criminal Police Office, with support from Europol and its Analysis Project Core International Crimes; 14 countries have joined the OTF's work, including Belgium, France, Germany, Ireland, Italy, Lithuania, the Netherlands, Portugal, Slovakia, Slovenia, Spain, Norway, the United Kingdom and the United States (Europol sets up OSINT..., 2023). This demonstrates that the establishment of a causal link in military environmental crimes can be based not only on national evidence but also on internationally coordinated OSINT verification, which helps to link a specific military act, the perpetrator and the environmental consequences.

A comparative legal analysis of Ukraine, the Netherlands and Azerbaijan has shown that war-related environmental damage becomes relevant

to Article 2 of the European Convention on Human Rights (1950) when it poses a real and foreseeable risk to life, is linked to the actions or inaction of the state, and is not accompanied by adequate preventive measures or an effective investigation. Ukraine presented a model of direct criminalisation of ecocide and the documentation of harm through criminal proceedings, environmental methodologies, official digital platforms and expert assessments. The Netherlands demonstrated a model combining criminal liability for hazardous pollution, international crimes and specialised institutional expertise. Azerbaijan's experience highlighted the significance of international arbitration and the right to a healthy environment in establishing the environmental consequences of conflict. Consequently, forensic techniques in such cases should be regarded as a supplementary tool for proving a causal link between military action, environmental damage and risk to life, rather than as the primary focus of the investigation.

Discussion

Study results showed that, as of April 2026, establishing a causal link in war-related environmental crimes can be regarded as a key element in safeguarding the right to life, with forensic tools supporting process of proving a case under Article 2 of the European Convention on Human Rights (1950). The discrepancy identified during the study between the direct criminalisation of ecocide in Ukraine and the integrated approach adopted by the Netherlands was significant for interpretation of the evolution of international criminal law. The findings confirmed that the Ukrainian model, based on Article 441 of the Criminal Code of Ukraine (2001), proposed an approach in which environmental security was regarded as a prerequisite for the physical survival of the population. This correlated directly with the arguments of V.V. Haltsova *et al.* (2024),

who noted that national approaches to the criminalisation of ecocide were characterised by historical determinism, and that the absence of a unified international mechanism precluded the possibility of full accountability in the context of global harm. The present study suggests that Ukraine's experience may contribute to a re-examination of the doctrinal foundations discussed by J. Rigo-García (2025). The author argued that, although the Rome Statute does not contain a separate offence of ecocide, but only a provision on a war crime involving an intentional attack with the intent to cause large-scale, long-lasting and serious damage to the natural environment, the full-fledged establishment of ecocide as an autonomous international crime requires clearer threshold criteria for damage, which is partly reflected in the operation of the Ukrainian platform "EcoZagroza".

A comparison of the findings regarding the use of innovative means of documentation (UAVs, AI) with the concept of the "evolutionary link" between ecocide and war, as proposed by R. Killean (2025), revealed common vectors of transformation. The researcher argued that contemporary advocacy had extended the scope of ecocide to peacetime, yet the principles of *lex specialis* still limited its applicability in conflicts. This study found that, as of early 2026, forensic verification using satellite imagery strengthens the evidence base for establishing a causal link between a specific military act and a long-term threat to life, although it does not replace legal classification. The importance of this link was emphasised by M.J. Kelly (2025) using the example of the mass death of cetaceans in the Black Sea. The author noted that Ukraine's choice of how to prosecute environmental crimes carried legal weight for the international community, creating a public record from which the aggressor cannot evade accountability. This study confirmed these arguments, demonstrating that proving intent to destroy

ecosystems in cases concerning the sabotage of the Kakhovka HPP forms a potential legal basis for classifying the acts as crimes against humanity, provided the relevant elements are proven. One aspect of the discussion centred on the choice between anthropocentric and ecocentric approaches. The findings regarding the protection of the right to life through environmental safety in the Netherlands revealed a certain contradiction with the conclusions of K.J. Heller (2025). The researcher criticised the elite activism of the Vietnam War era for emphasis on protection of people from the consequences of environmental damage rather than on protecting nature, which, in his view, condemned the concept of ecocide to the status of a rhetorical device. However, this study demonstrated that it is precisely through the protection of human beings that, in early 2026, avenues for holding those responsible for war-related environmental destruction to account under the law are opening. This coincided with the experience of Colombia, analysed by J. Galindo & H. Herrera (2025). The authors noted a shift in transitional justice from anthropocentrism towards recognising non-human entities as victims of conflict. A discussion of the International Criminal Court's procedural capabilities through the lens of ecocide was reflected in the work of G. Lee (2026). The researcher argued that acts of ecocide could be prosecuted under the ICC's existing four core crimes, even without amending the Rome Statute. The findings of this study regarding the Dutch JIT model confirmed this possibility, as joint investigation teams began using environmental evidence as early as 2025 to substantiate charges of war crimes. At the same time, the link identified between environmental collapse and state failure, as illustrated by the example of Syria and described by M.L. Bremme & S.S. Regilme (2025), contributed to the analysis of the Azerbaijani case. The authors argued that ecocide acted as a "threat multiplier", leading to mass

population displacement. This study identified an identical pattern in Nagorno-Karabakh, where arbitration under the Berne Convention has become a means of establishing liability for the disruption of the living conditions of entire communities.

The findings of this study regarding the long-term effects of military pollution were consistent with the arguments put forward by P. Hough (2022). Study noted that military ecocide had a long history, but the stigmatisation of such practices by academics had helped to mitigate their worst manifestations through demands for reparations. The issue of reconciling ecocide with environmental law – which D. Robinson (2022) considered the most complex conundrum – was resolved in this study through the broadening of the concept of the “physical environment” in Dutch legislation of 2024. The role of comprehensive expert assessments in determining the toxicity of munitions, identified in this study, is consistent with the proposal by M. Gillett *et al.* (2025) regarding the integration of environmental science with international law. The authors argued for the need to transition from the binary “fact-value” distinction in favour of mixed assessments, which was used by the Netherlands Institute for Forensic Science. A key element of the scientific debate was the issue of legitimacy in the Anthropocene era. A. Branch & L. Minkova (2023) cautioned that prosecutions for ecocide at the International Criminal Court could lead to distorted outcomes for the environment due to the limitations of the political context. This study demonstrated that systematic OSINT verification and the theoretical potential for implementing the concept of blockchain-based custody chain recording can ensure adequate transparency, which will help to minimise political risks. This correlated with the call by R. Killian & D. Short (2025) for the development of robust definitions of crime based on flexibility and predictability. The dogmatic approach to criminalisation proposed by

W. Hongwei (2024) served as the theoretical framework for the analysis of Article 441 of the Ukrainian Criminal Code. The author argued that the protection of environmental rights must be grounded in the right to life as a threshold, consistent with the practice of the ECHR regarding the state’s positive obligations in the sphere of man-made and environmental risks. The criteria for criminal liability and the subjective element of the offence, as examined by F.V. Arias & A.-K. Reinefeld (2024), were reflected in the analysis of directors’ liability for negligence under the Dutch International Crimes Act. Lastly, A. Dumont’s (2022) scepticism regarding the prospects of including ecocide in the Rome Statute due to the absence of corporate liability has been partially refuted by the findings of this study.

Consequently, as of April 2026, establishing a cause-and-effect relationship in the context of war-related environmental crimes is based on the convergence of scientific methods and legal standards for the protection of human beings. The findings of this study were consistent with the work of international authors regarding the importance of verifying the long-term consequences and destructive nature of military impact on biodiversity. The significance of the findings is determined by the revelation that environmental harm can be regarded as a threat to the right to life, which requires the ECHR to apply the concept of “inevitable risk”, provided that the real and foreseeable nature of such a danger is proven. The analysis demonstrated that legal reasoning is evolving from merely noting the destruction to establishing effective mechanisms for its forensic and procedural documentation in the interests of future justice.

Conclusions

The study substantiated a model for establishing a causal link in war-related environmental crimes, whereby war-related environmental damage

should be assessed not merely as a criminal offence, but as a factor posing a real risk to life. The study demonstrated that environmental destruction may pose a real risk to the lives of the civilian population or form part of a broader mechanism for the violation of the right to life, provided that a causal link, the foreseeability of the risk and control over the hazardous facility can be established. The study found that, as of April 2026, Ukraine had established a regulatory framework for the direct criminalisation of ecocide, in which environmental safety is recognised as a material foundation of the right to life.

The scale of environmental damage was quantified by recorded environmental losses amounting to UAH 6.763 trillion and the registration of over 11,000 instances of environmental damage, which attests to the intensity of the war's impact on the environment. A comparison with the experience of the Netherlands has demonstrated the existence of institutional specialisation within investigative bodies and the application of "comprehensive evidential frameworks", where digital traces and the results of toxicological analyses of munitions can be used to establish a chain of attribution for the offence. The Azerbaijani case demonstrated the possibility of using international arbitration to formalise environmental claims in an inter-state dispute following an armed conflict. The study determined that, in the practice of the ECHR, the establishment of a causal link is based on the concept of "foreseeable risk". Accordingly, the destruction of environmental infrastructure, particularly in the case of the Kakhovka disaster, may be regarded as a potential breach of the state's obligation not to kill and its positive duty to protect the population from the consequences of the disaster, provided that the relevant elements are proven.

The forensic aspect of the study demonstrated that the use of UAVs, artificial intelligence technologies and blockchain-based chain-of-custody

recording for soil samples serves as an auxiliary tool for gathering evidential information in cases where physical access to the contaminated area is blocked; however, the admissibility of this evidence depends on the procedural rules governing its collection, preservation and assessment by the court. The study established that the integration of OSINT methods helps to determine the time, place and source of the contamination, as well as potential perpetrators and the link between military action and environmental consequences; however, it cannot independently prove long-term effects on public health. Such a conclusion requires comprehensive environmental, toxicological and medical evidence. The findings indicate that the effectiveness of protecting the right to life in early 2026 depends directly on the ability of law enforcement systems to treat environmental data as fully valid evidence in court. Based on the study, it is recommended that national investigative authorities refine their methods for integrating digital and traditional evidence to build a robust case demonstrating causal links before international human rights bodies.

The limitations of this study stem from the absence, as of early 2026, of established case law from the ECHR specifically regarding the direct recognition of war-related environmental damage as a violation of Article 2 of the ECHR. Prospects for further research lie in examining the legal frameworks governing the use of satellite monitoring as a preliminary finding in cases concerning global environmental damage.

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Conflict of Interest

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Встановлення причинно-наслідкового зв'язку у воєнних екологічних злочинах: криміналістичний аспект захисту права на життя у практиці ЄСПЛ

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Анотація

Метою проведеного дослідження був порівняльно-правовий аналіз інструментів та процедур верифікації причинно-наслідкового зв'язку між деструктивним впливом збройних конфліктів на довкілля та порушенням права на життя. Процес наукового пізнання базувався на вивченні

нормативних масивів та практики застосування міжнародних правозахисних стандартів щодо юрисдикцій України, Нідерландів та Азербайджану. У ході роботи встановлено, що станом на квітень 2026 року в Україні сформовано прецизійну модель криміналізації воєнної екологічної шкоди, де загальна сума зафіксованих збитків довкіллю сягнула 6,763 трильйона гривень. Виявлено, що нідерландська система розслідування базується на формуванні інтегрованих доказових ланцюгів, де дані про токсичність зброї дозволяють кваліфікувати масштабне забруднення як безпосередню загрозу безпеці населення. З'ясовано, що у практиці Європейського суду з прав людини екологічні наслідки збройних конфліктів можуть визначатися посяганням на фундаментальне право на життя за умови доведення реального та передбачуваного ризику для цивільних осіб. Масштабні руйнування екосистем та кліматичні збитки становлять довготривалу загрозу для безпечного існування населення. Обґрунтовано, що застосування інноваційних засобів цифрової фіксації та розвідки з відкритих джерел забезпечує належне документування шкоди у випадках обмеженого фізичного доступу до уражених територій. Визначено, що екологічна безпека має сприйматися як невід'ємна умова реалізації права на життя. Додатково констатовано, що компенсаційні та репараційні механізми можуть розглядатися як один із напрямів відновлення порушених екологічних і правозахисних гарантій. Практична значимість дослідження полягає в тому, що його висновки можуть бути використані слідчими органами та судовими експертами для формування ефективних алгоритмів документування, доказування й міжнародної верифікації воєнних екологічних злочинів у контексті захисту права на життя

Ключові слова: шкода довкіллю; документування шкоди; екоцид; судова експертиза; збирання доказів; методика розслідування; криміналістичні інновації

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