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A.T. Omarova[1*], B.O. Mukanov, L.M. Dauletbayeva

Karaganda Buketov University, Karaganda, Kazakhstan
(E-mail: ainuraphd@mail.ru, mukanovbo@mail.ru, Dauletbaeval@mail.ru)
[1]ORCID ID: https://orcid.org/0000-0001-9808-4908, [1]Scopus Author ID: 55982396200
[2]ORCID ID: 0000-0003-2673-956X, [2]Scopus Author ID: 57213606271
[3]ORCID ID: 0009-0001-7406-9890

Analysis of legal building regulations in Kazakhstan and abroad

The article reviews a large volume of normative literature, and the considered concepts and terminology were applied to three international cases concerning building codes and rules for their application. The purpose of this study is to comprehensively analyze the legal aspects of the application of Eurocodes and international building standards in the construction industry of Kazakhstan, identify the degree of harmonization of national legislation with international standards, and assess their impact on ensuring the safety, quality and sustainability of construction projects, taking into account judicial practice and law enforcement. Improving the recommendations and implementing international building standards in the construction industry of Kazakhstan will improve the safety and quality of construction projects, ensure their compliance with the requirements of Eurocodes and other international standards, reduce the likelihood of accidents and violations of building regulations, minimize legal risks associated with non-compliance with design documentation. It will also help attract foreign investment by increasing confidence in the construction sector, accelerating the processes of integration into the global economic space and creating conditions for sustainable development of the construction industry in accordance with global trends and best practices. These aspects determine the relevance of this study. The methodological basis of the work includes the analysis of regulatory legal acts of the Republic of Kazakhstan and international standards in the construction sector, a comparative legal method for determining the differences and distinctions between Kazakhstani building codes and Eurocodes, statistical analysis of data on violations of building standards and their consequences, as well as analysis to determine the relationship between the quality of construction work and international building standards. The study uses a systematic approach for a comprehensive consideration of legal and technical aspects, including the collection and processing of data on the regions of Kazakhstan, identifying existing problems and developing practical recommendations. The result of the study is the identification of problems and specific proposals for improving additional legal guidelines for the phased quality of Eurocodes, state control over compliance with international standards and the preparation of programs for specialists in the construction industry, contributing to the sustainability and competitiveness of the construction sector of Kazakhstan.

Keywords: international building standards, legal regulation, construction industry, technical regulations, judicial precedents, law enforcement practice, state control, harmonization, Eurocodes, urban planning.

Introduction

The construction industry of Kazakhstan in the context of globalization and acceleration of technical progress is faced with the need to ensure its regulatory framework taking into account international standards. The relevance of the study is due to the level of harmonization of national building codes with international requirements, such as ERCodes, to ensure a high level of safety, quality and sustainability of construction projects. The integration of international standards not only increases the reliability of building structures, but also takes into account the investment attractiveness of the industry, opening up new opportunities for the participation of Kazakhstani construction companies in international projects. Despite the measures taken to adapt ERCodes in Kazakhstan, unresolved issues related to legal regulation, professional training and regional personnel imbalances at the level of international standards remain, requiring the need for a systemic analysis of the current state, correct building codes and recommendations for their development. Based on the objective of the study — a comprehensive analysis of the legal aspects of the application of Eurocodes and international standards in the construction industry of Kazakhstan, identifying the degree of harmonization of national legislation with international standards, as well as assessing their safety in the field of ensuring the safety, quality and sustainability of construction projects, taking into account the established practice and law enforcement, the following tasks were solved:

– analyze the national legislation of legal building codes in Kazakhstan;

* Corresponding author's e-mail: ainuraphd@mail.ru

– determine the main requirements of Eurocodes and building standards necessary for the safety, quality and sustainable development of this industry;

– compare legal approaches to the implementation of international standards in Kazakhstan and other countries, creating successful practices;

– assess the degree of harmonization of national building codes with Eurocodes and indicate gaps in the regulatory framework;

– analyze the practice of violating building codes and standards to determine the main legal risks and their consequences;

– study the impact of harmonization on the creation of standards for the quality, safety and sustainability of construction projects, investment activities;

– develop recommendations and specific proposals for improving additional legal guidelines for the step-by-step quality of Eurocodes, state control over compliance with international standards and the preparation of programs for specialists in the construction industry, helping to ensure the sustainability and competitiveness of the construction sector in Kazakhstan.

The process of implementing the international construction standard faces a number of legal and organizational barriers related to the imperfection of the regulatory framework, the lack of uniform approaches to the certification of building materials and technologies, as well as insufficient coordination between all market participants. The importance of solving the problem of the effective functioning of the competence management system in the construction sector, described in the works of E. Marisova, K. Hodossy, L. Mura (2023), primarily lies in its impact on the efficiency and quality of these competencies [1].

Research in the field of mobile and adaptive living environments, such as the works of Armitage (2020) [2] and Smith (2018) [3], emphasizes the importance of spatial flexibility in the context of globalization and migration. Programs implemented in the Netherlands and Germany focus on the creation of multifunctional and modular housing complexes, but ignore the cultural characteristics of local communities. Research related to sustainable cities, such as the work of Johnson (2022), emphasize the need to use green technologies, energy-efficient solutions and harmony with nature [4]. Gabriela Manea (2023) analyzes issues related to the security of private property and public property through the prism of the norms of the Code of Urban Development and Territorial Development, highlighting the fact that its provisions affect the right to state property and the right to private property, through the legalization of buildings that were built without a building permit or in violation of it, as well as through the fact that construction will be allowed on green spaces, thereby violating a fundamental right, the right to life, having an impact on the environment in the long term [5]. Legal regulation of urban development activities in foreign countries was based mainly on legislative acts of various nature. General building regulations are defined by the Civil Code, the Urban Rights Act, the Building Acts, etc. Building permit processes serve as critical gatekeepers of urban development by regulating compliance with building codes, land use policies, and safety and environmental standards. However, their complexity can lead to inefficiencies and hinder economic growth. Although existing studies have made significant contributions to the understanding of the building permit process, they often focus on individual countries or specific aspects, leaving a gap in a comprehensive comparative analysis (Fauth J. et al.) [6]. Building permit processes are critical to urban development worldwide by setting rules and controlling the creation of the built environment. Despite global goals and drivers, building permit regulation remains local and is carried out by local jurisdictions (Kelemen R.D., 2010) [7]. Recognizing the implications of these different practices requires careful comparative analysis to identify characteristics and patterns, which ultimately contributes to the improvement of these processes (ACCORD, 2024) [8], (Ataide, 2024) [9], (Digi Checks, 2024) [10]. Comparison of these processes is important for the award of construction contracts in different regions with different regulatory requirements (Springer, 2018) [11]. This interest in the problem has highlighted various use cases, highlighting the need to reduce process complexity and detailed constraints (Prusti, 2022) [12], (Sulonen K., & Vastamäki J., 2022) [13], (Ullah K., Witt E., & Lill I., 2022) [14]. According to the study by Fauth et al., (2024), building permit systems are becoming increasingly complex. The top-level hierarchy of a building permit system consists of four concepts representing its subsystems, namely the legislative system, the organizational system, the technological system and the procedural system [15]. The study by Bygg Nett (Refvik et al., 2014), published by the Norwegian Building Directorate, examined practices in selected countries with the aim of formulating a strategy for the development of an online collaboration platform in the construction industry [16]. Another study analyzed the permitting process using the World Bank Doing Business data (Jovanović et al., 2016) [17], (Noardo et al., 2020) [18]. Fauth J., Soibelman L. (2022) laid the foundation for

standardizing processes in an international context [19]. Most European countries have made significant and ambitious steps forward in implementing digital building management tools or even launching innovative BIM-related projects (Marshall et al., 2023) [20]. Other studies have developed research approaches to compare these processes [21].

The scientific literature shows that most international comparative studies of construction permit processes often remain superficial, tending to focus on individual countries or specific aspects, thereby creating a gap in comprehensive comparative analysis (Daniel, 2019) [22]. The study showed that the process of developing international standards faces a number of legal and organizational barriers. An analysis of foreign studies showed that the successful application of an international standard requires not only economic adaptation, but also the creation of a flexible management system taking into account the regulatory conditions of countries.

Methods and materials

The methodological basis of the study is based on general scientific methods of cognition, including:

– analysis and synthesis — identification of key aspects of legal regulation of the application of Eurocodes and international standards in the construction industry of Kazakhstan and their comparative analysis with foreign standards;

– induction and deduction — the impact of harmonization of building codes on the safety and stability of structures for the further development of the regulatory framework;

– comparative legal method — analysis of differences and similarities in the application of international building standards (Eurocodes) in the Republic of Kazakhstan and other countries (Germany, France, Great Britain);

– regulatory and legal analysis — study of the legislation of the Republic of Kazakhstan, legal acts in the field of architectural, urban planning and construction activities (judicial and law enforcement activities) and the need for their legal regulation, as well as international and national standards (CN RK, SNiP, Eurocodes);

– statistical method — data on violations in the field of construction, identifying causes of building code violations, including on the basis of official statistics of state bodies of the Republic of Kazakhstan. The use of the axiomatic method allowed us to draw a conclusion about the ongoing processes and changes in the sphere of architectural, urban planning and construction activities (judicial and law enforcement activities) and the need for their legal regulation. The comparative tools used in the article allowed us to study foreign experience and compare it with domestic experience, formulate proposals for the extrapolation of best practices. The theoretical platform of the study is formed from scientific works of domestic and foreign authors on the issue under study. The empirical results of the study are formed on the basis of law enforcement practice of judicial and law enforcement agencies in the sphere of standards of the construction industry of Kazakhstan.

Results

Following the analysis of the legal framework for applying Eurocodes and international standards in Kazakhstan's construction sector, it was found that the country is taking steps to harmonize national building codes with international requirements, in particular, Kazakhstan has officially switched to Eurocodes since 2015 as part of the state program for the modernization of the con-struction industry [23], allowing the creation of a legal basis for the application of modern design methods and improving the safety of construction projects. An analysis of the current legislation, including the Law of the Republic of Kazakhstan on architectural, urban planning and construction activities, revealed that the legal acts establish requirements for the use of technical regulations that comply with international standards, but there are gaps in terms of specifying the mechanisms for their implementation and control. A comparative analysis of foreign countries and the EU countries showed that the legal systems of these countries regulate the procedure for the application of Eurocodes more comprehensively, including mandatory requirements for the certification of building materials, digital recording of data in design documentation and liability for non-compliance with the standards. In Kazakhstan, despite the legislative consolidation of a number of international standards, in practice there are difficulties with their implementation, which stems from insufficient training of specialists and a limited number of bodies monitoring compliance with building standards. The statistical analysis revealed a relationship between the implementation of international standards and a reduction in the number of violations in the construction sector. In particular, since the partial transition to Eurocodes, the number of identified violations of building codes in Kazakhstan has

decreased by 18 % over the period from 2016 to 2023. However, as the analysis of judicial precedents showed, the number of lawsuits on cases related to non-compliance with technical regulations and standards remains significant — about 240 cases in 2023 (this is only according to recorded data), indicating the need to tighten law enforcement practices and strengthen state supervision. It was revealed that the most frequent violations are related to the use of uncertified materials, deviations from design solutions and insufficient quality control at the construction stage. Regions of Kazakhstan demonstrate different levels of readiness for the transition to international standards: in large cities (Astana, Almaty) this process is proceeding faster due to greater availability of resources and qualified personnel Conversely, in the Kyzylorda and Zhambyl regions, the implementation of Eurocodes is progressing at a slower pace due to limited technical expertise and weak regulatory enforcement.

Thus, the results of the study confirm that Kazakhstan is moving towards integration in accordance with international construction standards, but a full transition to Eurocodes requires a comprehensive approach, including strengthening the regulatory framework, developing educational programs for construction industry specialists and tightening state control measures for compliance with con-struction standards.

Discussion

A comparative analysis of legal building regulations in Kazakhstan and abroad focuses on environmental requirements, digitalization and safety (Table 1) [24–30].

Table 1

Comparative analysis of legal building regulations in Kazakhstan and abroad

Criteria	Kazakhstan	EU (Germany, France)	USA (Federal level)
Legislative framework	Law of the Republic of Kazakhstan "On architectural, urban planning and construction activities" (2001), Construction Norms of the Republic of Kazakhstan	Eurocodes — mandatory building standards with national annexes	International Building Code (IBC), ANSI/ASTM, OSHA standards
Environmental standards	Environmental Code of the Republic of Kazakhstan (2021), mandatory EIA (environmental impact assessment)	EU Energy Performance of Buildings Directive, BREEAM and LEED are mandatory for public buildings	EPA standards, EnergyStar program, LEED — voluntary certification
Digitalization	Implementation of BIM from 2021, mandatory for government orders from 2024	Mandatory use of BIM for all public projects (France since 2017, Germany since 2020)	BIM is supported but regulated at the state level and is actively used in large projects
Safety requirements	CN RK: seismic resistance, fire safety, technical regulations of the EAEU	Strict fire safety standards, resistance to climate change (e.g., DIN in Germany)	International Building Code (IBC), NFPA Fire Codes
Control and supervision	State Architectural and Construction Control, E-Qurylys portal for online permits	National construction agencies, regular inspections (in France — CSTB)	State and local inspections, licensing through building departments
Innovation and Sustainable Development	Energy saving programs, first green building and renewable energy projects	Active development of "smart buildings", support for carbon-neutral projects	Investments in smart cities, tax incentives for sustainable technologies

As we can see, each country applies and develops national annexes, parameters specific to a given country. There are certain harmonized standards for building structures and constructions fixed at the legal level, the so-called Eurocodes, developed by the efforts of national standardization bodies of EU member states, adapted to local conditions. Therefore, in each country (if they are applied), national annexes are developed, the legal aspects of which are:

- ensuring sustainability (strength and safety of buildings) and balance (energy efficiency, accessibility, environmental protection);
- harmonization of building codes, which are fixed abroad through laws, directives and technical regulations;
- protection of life, health and property of citizens, compliance with international obligations within the framework of sustainable development (Fig. 1).

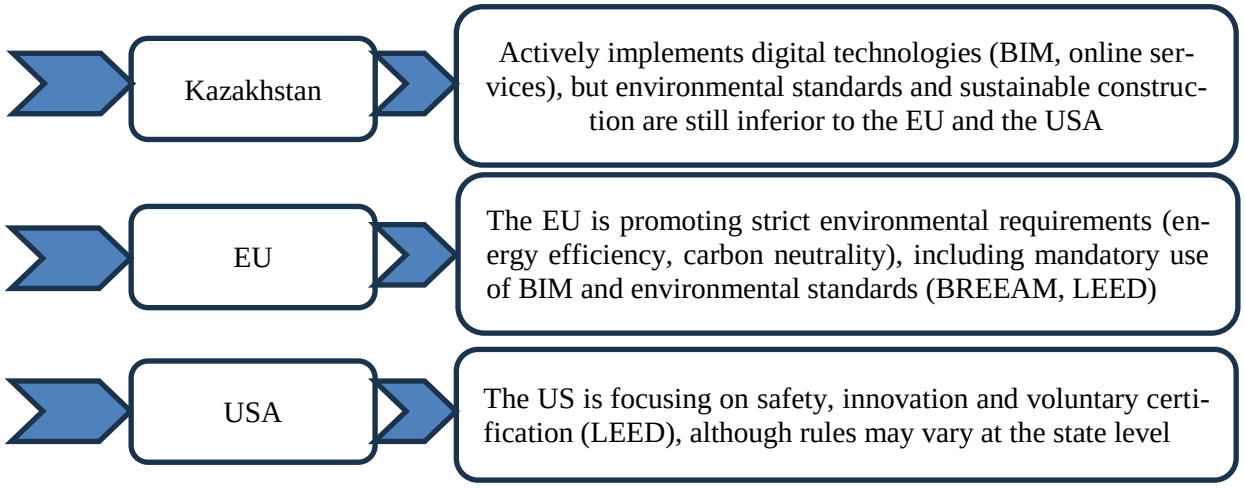

Figure 1. National annexes to legal standards of building codes

Harmonized building standards, regulated through Eurocodes in the EU, are enshrined at the le-gal level, the purpose of which is:

- to provide uniform rules for EU countries;
- to facilitate free trade in building materials and structures within the EU;
- to improve the safety and energy efficiency of buildings.

The regulation of the legal basis for harmonized building standards abroad is based on international and national regulations that establish uniform requirements for the design, construction and operation of buildings. From a legal point of view, such regulation is based on the following aspects (Table 2).

Table 2

Regulation of the legal basis of harmonized building codes abroad from a legal point of view

Country	Directives	Standards	Legal purpose
1	2	3	4
EU countries	The EU Construction Products Directive (CPR, No. 305/2011) — requires that construction products comply with the Eurocodes (EN 1990–1999) and ensure the safety and security of buildings.	Eurocodes are enshrined as harmonized standards in accordance with EU Regulation No. 1025/2012 — this is the legal basis on which construction products undergo mandatory conformity testing (CE marking).	protection of life and health of people, the environment and property, as well as the creation of a single market for construction goods and services.
USA	International Building Code (IBC) — legally approved at the state and local level, which adopt the IBC as a mandatory code. The IBC references federal laws such as the Americans with Disabilities Act (ADA), which regulates the accessibility of buildings for people with disabilities.	ASCE, ACI, ANSI standards are codified in the National Technology Transfer and Advancement Act (NTTAA), which requires federal agencies to use technical standards developed by private organizations.	ensure uniform standards for all states, minimize risks (fire, earthquake, etc.), and protect the rights of citizens to a safe and accessible environment.
United Kingdom	The Building Act 1984 sets out rules governing the construction, renovation and demolition of buildings. It forms the basis for the development of the Building Regulations 2010 — a mandatory set of requirements covering safety, energy efficiency, accessibility, etc.	British Standards (BS EN) — The UK Government through the British Standards Institution (BSI) adapted the Eurocodes as BS EN 1990–1999.	guarantee of safety, seismic resistance and energy efficiency of buildings, as well as creation of conditions for international cooperation.

Continuation of the table 2

1	2	3	4
Japan	Building Standard Law (BSL) takes into account ISO 2394 standards for ensuring the sustainability and reliability of buildings.	Seismic Building Codes legally required for all new and renovated buildings. 2016 amendments tightened seismic requirements.	ensuring safety, preventing destruction in conditions of seismic activity.

Kazakhstan is gradually moving towards international construction standards, in particular Euro-codes, to improve the quality of construction and create a favorable environment for investors, but this process requires a comprehensive approach to improving legislation, training personnel and modernizing the technological base (Fig. 2).

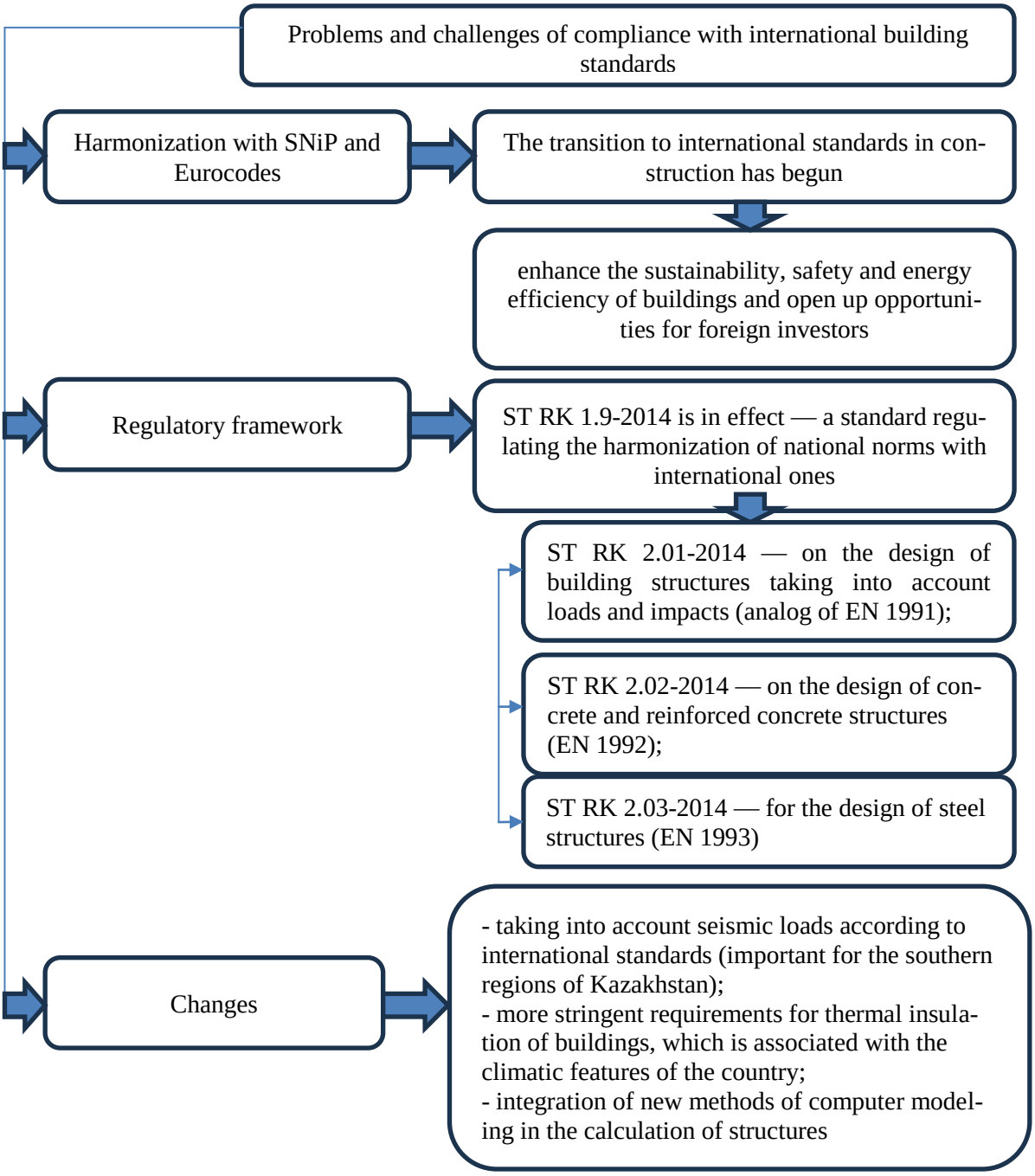

Figure 2. Problems and challenges of compliance with international building standards

The Law of the Republic of Kazakhstan "On architectural and urban development activities in the Republic of Kazakhstan" provides for the possibility of applying international standards if national standards are outdated or contradict modern requirements [24].

The Code of the Republic of Kazakhstan on Administrative Offenses (Article 314 of the Code of Administrative Offenses of the Republic of Kazakhstan) directly indicates liability for violation of building codes, including those harmonized with Eurocodes [25]. For example, in the southern regions of Kazakhstan, the largest number of serious violations of building codes and measures taken by government agencies to ensure compliance with standards and protect the rights of citizens were identified (Table 3) [29, 31].

Table 3

Violations of building codes in Kazakhstan and judicial precedents

Region	Number of violations	Judicial precedents and examples of objects with violations	Articles of Laws	The number of fines is million tenge	Results and penalties
Almaty region	664 administrative cases	Residential complex "Horda Town", Residential complex "Nuria-3", sports and shopping complexes	Art. 314 of the Code of Administrative Offenses of the Republic of Kazakhstan (violation of construction standards)	85	204 cases in court, 167 entities fined, 10 claims for demolition
Almaty city		Claim of KSU against QazaqStroy LLP and Yrysty 46/2 LLP	Art. 76 of the Law of the Republic of Kazakhstan On architectural, urban planning and construction activities	120	oblige to eliminate violations: water drainage, stair railings, reequipment of technical floors
Aktobe city	70 fines	16 illegal objects at gas stations	Art. 463 of the Code of Administrative Offenses of the Republic of Kazakhstan (carrying out activities without a license)	23	7 companies were deprived of licenses, 104 were denied licenses, 16 facilities were demolished
Shymkent city		368 Disadvantages of Apartment Buildings	Art. 314 of the Code of Administrative Offenses of the Republic of Kazakhstan (violation of construction standards)	176	More than half of the violations have been eliminated

Such statistics in some regions of Kazakhstan demonstrate the seriousness of violations of building codes and measures taken by government agencies to ensure compliance with standards and protect the rights of citizens.

Conclusions

The study of legal building codes in Kazakhstan and abroad showed that the integration of international standards into the national legal system is an important step to improve the safety and sustainability of construction projects. The analysis of the legislation of the Republic of Kazakhstan, including the Law on Architectural, Urban Planning and Construction Activities, as well as the comparison of the EU and other foreign countries confirmed the presence of positive trends in the harmonization of building codes. However, certain barriers were identified related to incomplete adaptation of Eurocodes, insufficient training of specialists and the lack of clear mechanisms for monitoring their compliance.

A statistical analysis of violations in the construction sector of Kazakhstan demonstrated that with the introduction of international standards, there is a decrease in the number of violations, but the level of judicial precedents on the facts of non-compliance with building codes remains significant, indicating the need to strengthen law enforcement practice. The introduction of Eurocodes and international standards helps to increase the transparency of construction processes, strengthen trust in developers and ensure compliance with sustainable development requirements. All this requires an integrated approach from the state, including regulatory support, advanced training of personnel and effective state control. The integrated use of research methods allowed us to comprehensively study the legal and practical aspects of the application of interna-

tional construction standards in Kazakhstan, as well as identify possible areas for their improvement. The results of the study can be used to further improvement of legislation, develop methodological recommendations and strategies for integrating international standards into Kazakhstan's construction industry, contributing to the creation of a safe and modern construction environment in the context of global digital transformation.

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А.Т. Омарова, Б.О. Муканов, Л.М. Даулетбаева

Қазақстанда және шетелде құқықтық құрылыс нормаларын талдау

Мақалада нормативтік әдебиеттердің үлкен көлемі қарастырылған, қарастырылған ұғымдар мен терминология құрылыс нормалары мен оларды қолдану ережелеріне қатысты үш халықаралық жағдайда қолданылған. Зерттеудің мақсаты — Қазақстанның құрылыс саласында еурокодтар мен халықаралық құрылыс стандарттарын қолданудың құқықтық аспектілерін кешенді талдау, ұлттық заңнаманың халықаралық стандарттармен үйлестіру дәрежесін анықтау, сондай-ақ сот тәжірибесі мен құқық қолдануды ескере отырып, құрылыс объектілерінің қауіпсіздігін, сапасы мен тұрақтылығын қамтамасыз етуге олардың әсерін бағалау. Қазақстанның құрылыс индустриясында ұсынымдарды жетілдіру және халықаралық құрылыс стандарттарын енгізу құрылыс объектілерінің қауіпсіздігі мен сапасын арттыруға, олардың еурокодтар мен басқа да халықаралық стандарттар талаптарына сәйкестігін қамтамасыз етуге, апаттар мен құрылыс ережелерін бұзу ықтималдығын азайтуға, жобалық құжаттаманы сақтамаумен байланысты құқықтық тәуекелдерді барынша азайтуға мүмкіндік береді. Сондай-ақ құрылыс секторына деген сенімді арттыру, әлемдік экономикалық кеңістікке интеграциялық үдерістерді жеделдету және әлемдік трендтер мен озық тәжірибеге сәйкес құрылыс саласының тұрақты дамуы үшін жағдай жасау арқылы шетелдік инвестицияларды тартуға ықпал етеді. Жоғарыда аталған аспектілер осы зерттеудің өзектілігін анықтайды. Жұмыстың әдістемелік негізін құрылыс саласындағы Қазақстан Республикасының нормативтік құқықтық актілері мен халықаралық стандарттарды талдау, қазақстандық құрылыс нормалары мен еурокодтар арасындағы ерекшеліктер мен айырмашылықтарды анықтаудың салыстырмалы-құқықтық әдісі, құрылыс нормаларын бұзу және олардың салдары туралы мәліметтерді статистикалық талдау, сондай-ақ құрылыс жұмыстарының халықаралық стандарттары мен құрылыс жұмыстарының сапасы арасындағы байланысты анықтауға арналған талдау құрайды. Зерттеуде Қазақстанның аймақтары бойынша деректерді жинау мен өңдеуді, мәселелерді анықтауды және практикалық ұсыныстарды әзірлеуді қоса алғанда, құқықтық және техникалық аспектілерді кешенді зерттеу үшін жүйелік тәсіл пайдаланылған. Жүргізілген зерттеулердің нәтижесі: Қазақстанның құрылыс секторының тұрақтылығы мен бәсекеге қабілеттілігін арттыруға ықпал ететін еурокодтардың кезең-кезеңімен сапасына қосымша құқықтық нұсқауларды жетілдіру, халықаралық стандарттарға сәйкестігін

мемлекеттік бақылау және құрылыс саласы мамандарына арналған бағдарламаларды дайындау бойынша мәселелерді және нақты ұсыныстарды анықтау.

Кілт сөздер: халықаралық құрылыс стандарттары, құқықтық реттеу, құрылыс индустриясы, техникалық регламенттер, сот прецеденттері, құқық қолдану тәжірибесі, мемлекеттік бақылау, үйлестіру, еурокодтар, қала құрылысы.

А.Т. Омарова, Б.О. Муканов, Л.М. Даулетбаева

Анализ правовых строительных норм в Казахстане и за рубежом

В статье рассматривается большой объем нормативной литературы, а рассмотренные концепции и терминология были применены к трем международным случаям, касающимся строительных норм и правил их применения. Целью настоящего исследования является проведение всестороннего анализа правовых аспектов применения еврокодов и международных строительных стандартов строительной отрасли Казахстана, выявление степени гармонизации национального законодательства с международными нормами, а также оценка их влияния на обеспечение безопасности, качества и устойчивости строительных объектов с учетом судебной практики и правоприменения. Совершенствование рекомендаций и внедрение международных строительных стандартов в строительной отрасли Казахстана позволит повысить безопасность и качество строительных объектов, обеспечить их соответствие требованиям еврокодов и других международных норм, снизить вероятность аварий и нарушений строительных регламентов, минимизировать правовые риски, связанные с несоответствием проектной документации. Это, в свою очередь, будет способствовать привлечению иностранных инвестиций за счет повышения доверия к строительному сектору, ускоряя процессы интеграции в мировое экономическое пространство и создавая условия для устойчивого развития строительства в соответствии с глобальными тенденциями и передовыми практиками. Названные аспекты определяют актуальность настоящего исследования. Методологическая основа работы включает в себя анализ нормативно-правовых актов РК и международных стандартов в строительной сфере, сравнительно-правовой метод для определения отличий и различий между казахстанскими строительными нормами и еврокодами, статистический анализ данных о нарушениях стандартов и их последствий, а также анализ для определения взаимосвязи между качеством строительных работ и международными строительными стандартами. В рамках исследования использован системный подход для комплексного рассмотрения правовых и технических аспектов, включая сбор и обработку данных по регионам Казахстана, выявляющие существующие проблемы и вырабатывающие практические рекомендации. Результатом проведенного исследования является выявление проблем и конкретных предложений по совершенствованию дополнительных правовых ориентиров для поэтапного качества еврокодов, госконтроль за соблюдением международных стандартов и проведением подготовки программ для специалистов строительной отрасли, способствуя обеспечению устойчивости и конкурентоспособности строительного сектора Казахстана.

Ключевые слова: международные строительные стандарты, правовое регулирование, строительная отрасль, технические регламенты, судебные прецеденты, правоприменительная практика, государственный контроль, гармонизация, еврокоды, градостроительство.

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Information about the authors

Omarova Ainura Toyakovna — PhD, Associate professor, Professor of Management department, Karaganda Buketov University, Karaganda, Kazakhstan; e-mail: ainuraphd@mail.ru

Mukanov Beibut Otanovich — Candidate of Technical Sciences, Associate Professor of Marketing Department, Karaganda Buketov University, Karaganda, Kazakhstan; e-mail: mukanovbo@mail.ru

Dauletbayeva Lyazzat Muratovna — Master of Economic Sciences, Chief Account Specialist of Science Department, Karaganda Buketov University, Karaganda, Kazakhstan; e-mail: Dauletbaeval@mail.ru