

SUSTAINABLE DEVELOPMENT AND WORKER WELL-BEING: ASSESSING AND ENHANCING OCCUPATIONAL SAFETY AND HEALTH AND LEGAL IMPLICATION IN KAZAKHSTAN

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ABSTRACT

Objective: This paper focuses on the Sustainable Development Goals (SDGs), particularly SDG 8 ("Decent Work and Economic Growth") and SDG 3 ("Good Health and Well-being"), emphasizing the importance of enhancing OSH within the context of sustainable development.

Theoretical Framework: By addressing workplace safety and labor protection, the research contributes to promoting decent work environments, improving worker well-being, and fostering sustainable economic growth in Kazakhstan.

Method: The study's practical significance lies in improving mechanisms for preventing workplace injuries and optimizing the investigation processes for labor protection violations, ultimately enhancing the quality of life and work for Kazakhstan's labor force.

Results and Discussion: This study aims to provide a comprehensive assessment of the current state of occupational safety and health (OSH) in Kazakhstan, focusing on the period from 2013 to 2022.

Research Implications: It examines workplace accidents, injuries, and deaths, along with the structure and dynamics of criminal offenses related to OSH violations.

Originality/Value: The research highlights a significant disparity between the number of registered offenses under Article 156 of the Criminal Code of the Republic of Kazakhstan and the number of actual convictions.

Keywords: health, labor protection, occupational safety, safety, workplace, Sustainable Development Goals (SDG).

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1 INTRODUCTION

Workplace accidents resulting in injuries and fatalities pose significant challenges globally, threatening the well-being of workers and undermining sustainable economic development. According to the International Labour Organization (ILO), more than 2.3 million people die each year from work-related accidents or diseases, with over 270 million industrial accidents occurring annually. The associated economic losses from lost productivity, medical costs, and compensation payments are estimated to account for 4% of global GDP. In Kazakhstan, occupational accidents are a pressing issue, particularly in the mining, metallurgical, manufacturing, and construction sectors. According to the Bureau of National Statistics of the Republic of Kazakhstan, thousands of workers are injured or die on the job every year, contributing to a broader decline in public health and well-being. The absence of regular work conditions results in around 500 reported cases of primary occupational diseases each year, contributing to the low life expectancy of the population (Abukhashabah *et al.*, 2020).

Paragraph 2, Article 24 of the Constitution of Kazakhstan guarantees every citizen the right to working conditions that meet safety and health. In response, the State has made significant efforts over the past decade to ensure industrial safety and protect workers' lives and health from hazardous conditions (Adhikari, 2015). To this end, Kazakhstan has adopted several key initiatives, including the Labour Code, the GOST 12.0.230-2007 System of Labour Safety Standards, and the Occupational Safety Management Systems. Additionally, a roadmap for reducing workplace injuries and harmful working conditions (2019-2023) was implemented, and Kazakhstan ratified the Convention on Occupational Safety and Health (Convention 187). The criminal and administrative laws related to labor protection have also undergone substantial updates (Alvesalo & Whyte, 2007). On June 17, 2019, Kazakhstan further strengthened its commitment by signing a Memorandum of Understanding and Cooperation with the International Social Security Association (ISSA), promoting the 'Zero Injury - Vision Zero' concept. As a result,

enterprises across the country are actively implementing safety and labor protection standards, under the oversight of the Institute of National Control."

These and other measures, according to legislators, aim to effectively safeguard citizens' constitutional rights to safe working conditions and protect their lives and health. The Ministry of Labour and Social Protection of the Population of the Republic of Kazakhstan reports that, over the past five years (2018-2022), workplace fatalities have decreased by 6.5% (from 1,568 to 1,465 people), and the number of deaths specifically dropped by 8.4% (from 220 to 203 people). Additionally, the occupational injury frequency rate fell to 0.44 per 1,000 workers. Despite these improvements in individual statistics, the overall situation with occupational injuries, especially in industrial regions, remains largely unchanged (Estrada *et al.*, 2014). This is evident from tragedies such as the methane explosion at the Lenin mine in Shakhtinsk on November 3, 2022, and the disaster at the Kostenko mine in Karaganda on October 28, 2023, which claimed the lives of over 50 miners.

Recognizing the severity of these incidents, President Kassym-Jomart Tokayev has called occupational accidents an urgent issue and directed the government to implement the 'Safe Work in Kazakhstan' concept by 2030. This initiative aims to prevent and mitigate occupational risks, thereby protecting the labor force critical to the nation's economy (as highlighted in the President's address on September 1, 2023). While Kazakhstan has seen socio-economic and political progress, these advances have also brought about significant challenges, including high rates of occupational injuries, diseases, and widespread violations of workers' rights (Bakishhev & Nurgaliev, 2021). These factors underscore the relevance and importance of ensuring occupational safety and call for a comprehensive study of the current national legislation and its application."

In line with the Sustainable Development Goals (SDGs), particularly SDG 8 on "Decent Work and Economic Growth," this paper seeks to assess the current state of occupational safety in Kazakhstan. It evaluates the key issues surrounding workplace safety, analyzes the trends and dynamics of labor protection violations, and proposes policy recommendations for reducing occupational risks (Kim & Park, 2020). Through this analysis, the study

contributes to ongoing efforts to enhance labor conditions, protect workers' rights, and promote a sustainable, safe, and productive work environment in Kazakhstan.

The main objectives of the study are:

Q1: To assess the current state of occupational safety in Kazakhstan and identify critical issues.

Q2: To analyze the structure and trends of criminal offenses related to labor protection.

Q3: To propose measures for improving the national labor protection system.

The theoretical significance of this study lies in enhancing methods and approaches for evaluating the state of occupational safety in Kazakhstan, improving the system for preventing workplace injuries, and increasing the effectiveness of investigations into violations of safety regulations. By applying the research findings to shape state policies on labor protection, including lawmaking and refining investigative and judicial practices, the study also has practical value. These improvements can lead to better enforcement of labor protection laws and more effective prevention of workplace accidents.

2 LITERATURE REVIEW

The works of other scientists are devoted to the problem of occupational safety. We can divide the positions of researchers into three groups. Studies in the first group primarily focus on analyzing external factors of work accidents and developing preventive measures. Thus, some scientists believe that the basis of occupational injuries and occupational diseases is the imperfection of fixed assets and technological processes, as well as an unsatisfactory labour organization and workplace organization (Yerdessov *et al.* 2021). Other authors found that workers injured in accidents received low wages. Note that the increase in the number of registered crimes related to violation of labour protection rules is primarily because of changes in legislative definitions and the reaction of the authorities, rather than an increase in the number of crimes committed. Some researchers propose a concept of occupational risk

management and key risk indicators that exclude accidents at an early stage (Walters & Wadsworth, 2019). highlight the role of labour inspection in modern labour protection regulatory regimes, in strengthening economic, political and regulatory scenarios.

Another group comprises researchers who view human error and misconduct as sources of workplace injury. Suggests that the cause of the injury is cognitive overload, the presence of the illusion of invulnerability among workers. Therefore, to minimise accidents, the work of psychologists and the training of workers in safety techniques are required. According to accidents are caused by the erroneous behaviour of employees. Consequently, in the process of organizing work protection, it is important to focus on the person as the subject of many activities. Hafeez *et al.* (2021) concluded that the occupational health and safety management system is not effective without observing the safety culture (rules) at the workplace.

The third group comprises scientists who believe that accidents are based on a mixture of external and internal factors. Thus identified six key factors that generate crimes committed in labour protection: the employee's vulnerability to victimization, the nature of production management, inter-organizational factors, market factors, shortcomings of laws and regulations, and uneven distribution of power. other authors among the major problems with the safety of migrant workers, indicate increased use of subcontractors; dilution of safety standards down the supply chain; pressure to breach safety regulations on site; differing safety-related attitudes and behaviours because of national cultural differences, language barriers and issues relating to training (Mughal *et al.*, 2024).

Without detracting from the theoretical and practical significance of the works of these researchers, we believe that the correct use of statistical data, the analysis of absolute and relative statistical values in their unity, is one of the most important conditions for obtaining an idea of the real state of labour protection in the country formation of the information base and making informed management decisions. Besides, the introduction of effective ways and methods of injury prevention requires prompt and comprehensive solutions to improve the reliability and quality of statistical data on occupational

injuries, improving the regulatory framework and methods of organizing monitoring of priority risks of employees, as well (Kim *et al.*, 2016).

Other scientists have found that the decrease in the level of occupational injuries is largely due to the concealment of work accidents, and accidents involving workers without official employment (illegal workers) are typically not investigated and registered (Hämäläinen *et al.*, 2006). This is largely because of labour law, which does not contribute to the objective and comprehensive registration of industrial accidents. In addition, the system of accounting and registration of injuries at work needs to be improved (Karnachev *et al.*, 2020). As you know, legislation is an important element in preventing violations of labour protection rules. Some foreign scientists point out that safety crimes, despite being included in the penal code, receive relatively less attention on the political agenda compared to financial crimes. Additionally, researchers claim that occupational safety crimes rarely match the stereotypical image of crime and criminals. From the above review, we can draw the following conclusions.

- the issue of ensuring industrial safety, life and health of citizens in the process of work in modern conditions of economic development, intensive development of the industrial sector, and the emergence of new types of labour activity remains relevant;
- solving the problem of ensuring safe working conditions requires an integrated approach, including organizational, legal, technical, moral, and educational measures;
- the development of effective preventive measures requires a reliable picture of the state of labour protection, including countering criminal offences in labour protection.

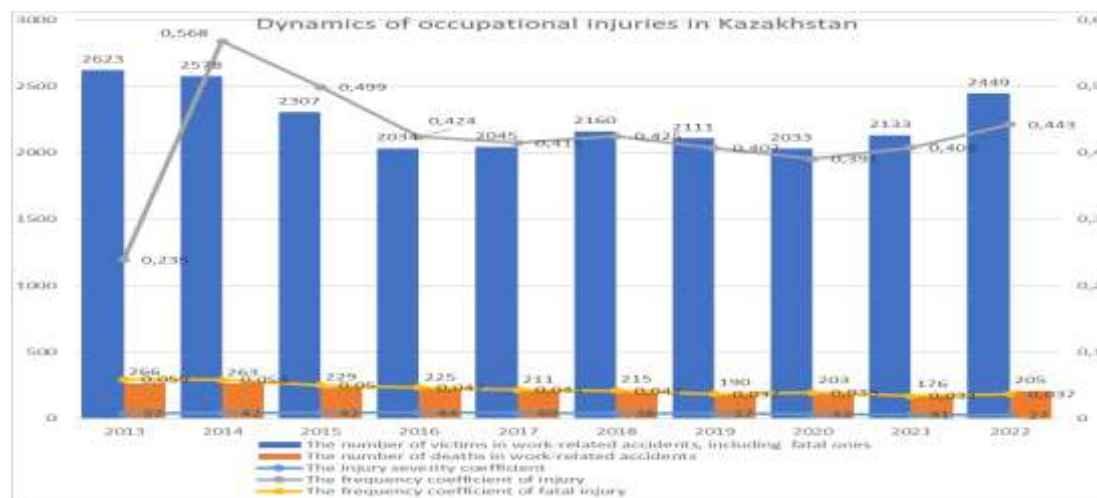
2.1 DYNAMICS OF INJURIES AND DEATHS AT WORK

Labour protection is a system for ensuring the safety of life and health of employees in the course of their work (Bhatia *et al.*, 2013), including legal, socio-economic, organizational and technical, sanitary and epidemiological, therapeutic and preventive, rehabilitation and other measures and means

(Paragraph 32, Art. 1 Labour Code of Kazakhstan). An assessment of its current state based on statistical data from previous years allows us: 1) to determine the achieved economic and social effects of measures taken to improve working conditions and employee safety; 2) to identify the prospects for its further development; 3) to determine the state policy and strategy in occupational accident prevention. The analysis of occupational injuries is especially important for our country, given the structure of production, in which the proportion of injury-prone industries is high: mining, construction, manufacturing, etc. For example, in 2021, the frequency of fatal industrial injuries at mining enterprises was 4.2 times higher than the average in Kazakhstan, 3 times higher in construction, 1.7 times higher in manufacturing, etc. Figure 1 allows us to trace the dynamics of occupational injuries in Kazakhstan, 2013 - 2022.

Figure 1

Dynamics of occupational injuries in Kazakhstan in 2013-2022.



During the analyzed period, the level of occupational injuries decreased slightly, only by 6.63 % (2623 vs. 2449). The rise and decrease in registered occupational accidents cause abrupt changes in absolute indicators, making them unstable (Park & Kim, 2023). For example, from 2013 to 2016, the level of injuries decreased by 77.54 %. However, in 2017, it once again reached a high level. In 2019, the injury rate rose by almost 4 %, and in 2020, this figure returned to the level of 2016 (2034). In 2021, the number of injured at work

increased by 4.69 %, surpassing the previous year's figures, and in 2022, the level of occupational injuries has already increased by 12.9 %, exceeding the injury rate in 2015 (2307).

The level of fatal occupational injuries decreased by 28.57 % by 2019 (190 deaths compared to 266 deaths in 2013), but then began to increase. In 2020, 203 people died, an increase of 6.4 %, and 205 people died in 2022 against 176 people in 2021, an increase of 14.15 %, which is closer to the fatal injury rates of 2018 (215).

The frequency coefficient of occupational injury increased significantly, showing 0.443 in 2022 vs. 0.239 in 2013, an increase of 46.05 %, the frequency coefficient of fatal injuries decreased by 37.29 % and amounted to 0.037 vs. 0.059. This means that in Kazakhstan, workers are more likely to receive non-fatal injuries and fatal work accidents are less common. Every year, the number of work-related injuries averages 2,247, while the number of fatalities reaches 218. The level of fatal occupational injuries amounted to 8.37 % of the total number of injured at work (Dapari *et al.*, 2023). Thus, officially registered indicators of occupational injuries, despite unsafe working conditions, during the analyzed period show a slight decrease, but there are objective prerequisites for their future growth.

Traditionally, the industrial regions of the country, such as the Karaganda region (18,78 %), the Ulytau region (12,54 %), the East Kazakhstan region (9,51 %), and Almaty city (7,19 %) have a high level of occupational injuries. The sectors of the economy, including industrial and civil construction (11.6 %) and mining and metallurgical industries (20.2 %), have the highest number of recorded deaths. It is characteristic that similar results were obtained by other researchers of the state of labour protection in the previous decade (2003-2012). Also noting the decrease in occupational injury rates, they established the negative dynamics of its level against the background of consistently identified facts of the death of employees, which amounted to 11 % of the total number of injured. Herewith, they registered a high level of occupational injuries and occupational pathology in the same industrial regions of the country, and this, as the authors emphasized, despite preventive measures aimed at reducing accidents (Husak, 2011). This indicates the absence

of a stable positive effect of the measures taken by the state to reduce occupational injuries, ensure safe working conditions and protect the life and health of employees over the past 20 years.

The main causes of accidents at work were the lack of safe working conditions, failure to train workers in occupational safety (20.6 %), failure to provide personal and collective protection equipment, special clothing and special shoes (6.1 %), the absence of a security service or a responsible person for labour protection at the enterprise (1.5 %). Several scientists also cite national cultural differences and language barriers of migrant workers as the causes of industrial accidents and lack of work experience (Khadartcev *et al.*2019). The largest number of victims of occupational accidents are skilled workers aged 30 to 45 years who worked the first shift.

Regulations and targeted state programs adopted in the last decade, for example, the Law of the Republic of Kazakhstan “On Civil Protection” dated April 11, 2014, as well as “a sharp decrease in the number of employees covered by statistical observations because of the active growth in the number of small enterprises, played a key role in reducing absolute injury rates, individual entrepreneurs, as well as peasant (farmer) and private households of the population”. So, if Kazakhstan had 416,085 registered individual entrepreneurs in 2010, then in 2022 the number had already increased to 855,920. There were 170,309 peasant or farm households in 2010, and 213457 by 2020. The number of employees on the payroll decreased from 4219.9 million to 2832.8 million, i.e. almost 2 times (The main indicators of small businesses from 2010 to 2019). Therefore, it can be argued that, first, absolute indicators related to the number of accidents have a positive trend, at the same time they directly correlate with the dynamics of changes in the number of labour resources.

The reason for the positive dynamics of the occupational injuries level may be the concealment of injuries, mainly mild severity. The analysis of the ratio of fatal occupational injuries to the total number of victims at work, and the frequency coefficient of fatal injuries per 1,000 workers with similar indicators in other countries confirms our assumption (Dyreborg *et al.*, 2022). As can be seen from Table 1, in the EU countries, it ranges on average from 1:600 to 1:1990. For example, in Sweden, it is 1:710, in France-1:1215, in

Germany-1:1931, and in Denmark-1:1827 (Statistics on safety and health at the work place). The researchers emphasize that this ratio is quite stable for European countries because of the high degree of production safety and strict accounting of every incident in the workplace. In Kazakhstan, this ratio in 2019 was equal to 1:11, and the level of fatal injuries (0.039) was 4 times higher than the corresponding indicators of most European countries and the United States (González-Lorente *et al.*, 2023).

Table 1

Industrial deaths and injuries in some foreign countries.

Country	Non-fatal occupational injuries per 1000 workers	Fatal occupational injuries per 1000 workers	The ratio of fatalities to the total number of injured
<i>Uzbekistan</i>	0,36	0,10	1:4
<i>Kyrgyzstan</i>	0,22	0,041	1:5
<i>Mongolia</i>	0,25	0,045	1:6
<i>Kazakhstan</i>	0,41	0,039	1:11
<i>Belarus</i>	0,51	0,029	1:18
<i>Russia</i>	1,30	0,06	1:22
<i>USA</i>	9,0	0,053	1:170
<i>Italy</i>	13,13	0,024	1:547
<i>Sweden</i>	7,10	0,01	1:710
<i>Great Britain</i>	7,604	0,008	1:760
<i>France</i>	31,60	0,026	1:1215
<i>Denmark</i>	18,27	0,01	1:1827
<i>Spain</i>	33,53	0,018	1:1863
<i>Germany</i>	19,306	0,01	1:1931

Source: Prepared by the author (2024)

By the end of 2022, these indicators were 1:11 and 0.037, respectively, so the situation with occupational injuries in Kazakhstan has not changed significantly. Economic activities such as construction (1:5.1) and agriculture (1:4) have the highest rates of hidden injuries in the country because of the different levels of the labour protection system and the organization of risk management at manufacturing enterprises. Research shows that in traditionally traumatic industries, this system works much more effectively, ensuring the reliability of the data provided about victims in the workplace. For example, the indicator of hidden injuries in the mining sector of the economy is 1:15.2, which indicates a higher level of organization of the occupational safety management system (Gembalska-Kwiecień, 2020).

Another important objective indicator of the actual state of occupational safety and health is the coefficient of injury severity. Figure 1 shows that the injury severity coefficient rate in 2022 was 27 days compared to 37 days in 2013. With an increase in the injury frequency coefficient for 2013-2022, its severity decreased, while by the end of 2022, the material consequences of accidents, including the payment of lump-sum benefits, and payments on disability certificates, reached 4.1 billion tenge (9 018 512 USD) against 2.6 billion tenge (5,719,056 USD) in 2021, an increase of 55.8%. Per victim, the total amount of payments reached 1.7 million tenge (3,739.38 USD) (On work-related injuries and occupational diseases in the Republic of Kazakhstan (2022)). In the USA and Germany, the values of the injury severity coefficient are at the level of 6 and 5 days of disability (Shaimbetov *et al.*, 2020). Consequently, the country mainly reports severe, group, and fatal injuries that cannot be hidden from accounting. It is statistically significant to consider the number of such injuries. The significant proportion of workers employed in harmful and unfavourable working conditions also indirectly confirms this conclusion. For example, in 2022, 366.9 thousand people or 22.3% of the total number of employees worked in conditions that did not meet sanitary and hygienic requirements, including 169.8 thousand people working under the influence of increased noise and vibration, 119.7 thousand people working under the influence of increased gas pollution and dust in the working area exceeding the maximum permissible concentration (MPC), 62.2 thousand people under unfavourable temperature conditions, and 15.2 thousand people under other adverse factors (Dynamics of occupational injuries). The trend mentioned above towards a sharp increase in the volume of temporary disability benefits for compulsory social insurance against industrial accidents and occupational diseases indicates, in addition, the low effectiveness of financial support for measures to improve working conditions and reduce occupational injuries and occupational diseases of employees. Thus, the observed decrease in officially registered occupational injuries, including fatal ones, with a simultaneous increase in the proportion of people working in harmful and dangerous working conditions, in heavy work, and an increase in the average duration of ill leave due to an occupational injury contradicts logic, giving reason to believe that a

significant part of accidents at work production is hidden from registration and accounting (Asiedu *et al.*, 2024). In this regard, the decrease in some indicators of the level of occupational injuries announced by the Ministry of Labour and Social Relations of the Republic of Kazakhstan should not create the illusion of developing well-being in the labour protection field.

Why are occupational injuries hidden from accounting. explains that the employer understands that under the Law of Kazakhstan dated February 7, 2005, No.30 “On compulsory insurance of an employee against accidents in the performance of his labour (official) duties” (Art. 18), harm caused to the life and health of the employee, includes material compensation from the State Social Insurance Fund for harm associated with his death or with the establishment of the degree of loss of professional ability to work, except harm associated with the temporary disability of the employee (Mohammadfam *et al.*, 2016). That is, the employer is obliged to pay compensation for harm in all cases, except for the death of the injured person or the employee who receives disability because of injury. Consequently, it is not profitable for the employer to conduct a formal investigation into the accident. Many employers attempt to conceal their injuries because of the potential for administrative or criminal liability. Therefore, they agree with the injured employee that upon admission to the hospital medical facility, he will inform that the injury occurred at home. Thus, the fact of the incident at the enterprise is not recorded anywhere, no investigation is being conducted. Often, the workers themselves do not report an accident to preserve their jobs, especially if they are illegally working foreign people. As a result, the concealment of accidents legitimizes the strategy of blaming victims, that is, assigning responsibility for industrial injuries to individuals, and not to the nature of the workplace, work processes, management, and culture of the industry or sector, etc (Lukyanchikova *et al.*, 2018). Hence the problem of misconceptions about the true scale of workplace injuries. Up to 2015, concealment of work-related injuries was widespread. According to the Prosecutor General’s Office of Kazakhstan, in 2014 alone, employers attempted to hide from the registration of over 2.5 thousand cases (On registered criminal offences (Report form 1-M)). In this regard, the national legislator in the same 2014 was forced to introduce administrative liability for

failure to report the fact of an accident related to work (Art. 96 Code on Administrative Offences). As a result, these offences have become much less common, but they are still being detected. According to our calculations, employers and authorized state bodies registered 386 cases of failure to report an accident at work in the country from 2015 to 2020. Consequently, the identification of hidden injuries and their real scale in modern conditions is becoming relevant for the national occupational safety system. As noted by scientists, the strategic importance of reliable statistics of occupational injuries lies precisely because it contributes to the acquisition of knowledge not only about the level of injuries in industries, technologies and production processes but also allows us to identify the features and patterns of their occurrence in individual workplaces and operations, enterprises and the country (Rahmani *et al.*, 2013).

This situation is aggravated by another problem-the shortcomings of the state system of accounting and registration of accidents at work. These differences in analytical ratings of absolute and relative indicators of occupational injuries manifest the shortcomings of the state system of accounting and registration of accidents at work. For example, the indicators and methods of collecting statistical information from the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the occupational injuries and improve the system of the Republic of Kazakhstan, the State Social Insurance Fund and insurance organizations differ based on different goals (The concept of Safe Work in the Republic of Kazakhstan until 2030). Thus, there is a need to improve the reliability and quality of statistical data on occupational injuries and improve the system of analysis and assessment of occupational risks, accounting and registration of industrial accidents at the regional and national levels.

2.2 STATE, STRUCTURE AND DYNAMICS OF LABOUR-RELATED CRIMINAL OFFENCES

According to Art. 186 and Art. 189 of the Labour Code of the Republic of Kazakhstan, cases of damage to employees' health related to their work and

resulting in disability or death are subject to investigation. The employer must report any work-related accident to the labour inspectorate immediately, within 24 hours. In cases subject to special investigation, he is obliged to inform law enforcement agencies and authorized bodies of industrial and departmental control and supervision. A specially created commission establishes the circumstances and causes of an accident related to work, identifies persons who have committed violations of occupational safety and health requirements, and measures to eliminate the causes and prevent accidents related to work. The legal system holds criminals who cause moderate or serious harm to the health of the victim or result in their death criminally responsible for occupational accidents. The concept of the Legal Policy of the Republic of Kazakhstan emphasizes that the Criminal Code is a fairly effective tool for combating crime and criminal law protecting human rights and freedoms, and the interests of the state and society (Mitskaya, 2023). Therefore, criminal law measures occupy an important place in the system of occupational injury prevention. The state, structure and dynamics of criminal offences committed in labour protection in the period from 2013 to 2022 are of theoretical and practical interest. The identification and explanation of statistical patterns of this type of crime make it possible to achieve a significant reduction or minimization of its degree of public danger.

Table 2

The number of registered labour-related criminal offences in 2013-2022.

Type of criminal offences	The number of registered criminal offences									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Violation of labour protection rules (Art. 156 Criminal Code)	498	346	844	682	535	509	422	436	531	375
Violation of safety rules at nuclear energy facilities (Art. 276 Criminal Code)	0	0	0	0	0	0	1	0	0	0
Violation of safety rules for mining or construction works (Art. 277 Criminal Code)	61	50	50	33	26	26	24	29	81	96
Substandard construction (Art. 278 Criminal Code)	5	3	7	7	3	5	8	2	4	3
Violation of rules or regulatory requirements in the sphere of architecture, urban planning and construction activities (Art. 279 Criminal Code)	0	0	3	4	2	2	7	1	7	2
Violation of safety rules at explosive facilities (Art. 281 Criminal Code)	2	5	2	0	0	1	0	0	0	0
Violation of fire safety requirements (Art. 292 Criminal Code)	35	41	184	179	130	98	64	82	71	54

Source: Prepared by the author (2024)

As can be seen from the table, violations of labour protection rules (Art. 156, Criminal Code) prevail among the registered criminal offences. In the general structure of the offences under consideration, their share is 88.77 %. This is understandable since this article of the Criminal Code is general to special offences in labour protection. Violations of the safety rules for mining or construction work (Art. 277, Criminal Code) occupy the second place in absolute terms, the proportion of which is 8.16 %. In the third place, violations of fire safety requirements (Art. 292, Criminal Code), their share is 1.59 %. The criminological significance of the remaining types of criminal offences, at first

glance, seems insignificant, but together they account for 1.48 % of all offences committed in labour protection, therefore they should also be taken into account when developing preventive measures. As and other criminologists correctly indicate, occupational safety crimes lead to serious consequences, but at the same time they are insufficiently studied, so it is important to focus on this type of crime Jupp *et al.* (2000). Thus, in the structure of criminal offences related to violations of labour protection rules, the act provided for in Art. 156 Criminal Code prevails, which ranks second in the structure of careless technical crime after violations of traffic rules or operation of vehicles (Art. 345 Criminal Code). The analyzed period shows the following characteristics regarding the dynamics of this type of criminal offence.

Table 3

Dynamics of violations of labour protection rules (Art. 156 Criminal Code), 2010-2022.

Years	Violation of labour protection rules (Art.156 of the Criminal Code)		
	The absolute number	in % by 2010	Per 10,000 people
2010	183	100	0,11
2011	152	83,06	0,09
2012	227	124,04	0,14
2013	498	272,13	0,30
2014	346	189,07	0,21
2015	844	461,20	0,49
2016	682	372,67	0,38
2017	535	292,34	0,30
2018	509	278,14	0,28
2019	422	230,60	0,22
2020	436	238,25	0,23
2021	531	290,16	0,27
2022	375	204,92	0,26

Source: Prepared by the author (2024)

As can be seen from the table, in the analysed period there is a spasmodic growth of this type of criminal offence in all major parameters. It reached its historical peak (461.20 %) in 2015. By 2020, the absolute number of registered violations of labour protection rules increased by 238.25 % compared to 2010, and up to 0.23 % per 10,000 population. This is because of the inclusion of Part 4 on liability for causing death of two or more persons in Art. 156 of the Criminal Code and the adoption of new Rules for accepting and registering applications, reports or reports on criminal offences, as well as maintaining a

Unified register of pre-trial investigations. By 2022, the level of this type of offence has decreased by 29.37 % compared to the previous year, per 10,000 population - to 0.26 %. The above figures do not agree with the number of criminal cases concluded with a court verdict and the number of convicts under Art. 156 of the Criminal Code: they are significantly less than the number of registered violations of labour protection rules, which can be seen from the data in Table 4.

Table 4

The number of criminal cases considered with sentencing; the number of those convicted of a criminal offence under Art. 156 Criminal Code and its ratio to total number of convicts in Kazakhstan.

Years	No of criminal cases considered with sentencing	The number of people convicted for violation of labour protection rules (Art. 156 Criminal Code)	Total convicted in Kazakhstan (in thousands)
2013	11	10	24677
2014	19	25	23622
2015	27	38	28852
2016	28	39	30726
2017	30	41	31950
2018	42	56	31309
2019	24	19	27460
2020	28	39	29882
2021	32	33	28746
2022	11	13	27061

Source: Prepared by the author (2024)

Such a clear disparity of the above indicators is explained by the large number of criminal cases terminated at the stage of pre-trial investigation or by the court on non-rehabilitative grounds. In several cases, criminal cases ended with the verdict of acquittal, which confirms the conclusion that not all accidents are a crime. Thus, in 2019 alone, the pre-trial investigation authorities completed 147 criminal cases, but they transferred 24 criminal cases to the court, and 123 criminal cases were terminated (mainly for non-rehabilitative grounds or in connection with reconciliation with the victim). The courts sent back 8 cases to the pre-trial investigation authorities because of non-compliance with the norms of the Criminal Procedure Code and acquitted 2 people. For example, in the Karaganda region in 2018 and 2019, authorities registered 405 cases of occupational injuries, resulting in the death of 58

people, of which only seven cases (2 %) were sent to court (Barling *et al.*, 2003). In total, during the analyzed period, the authorities terminated 1,719 criminal cases in Kazakhstan, with 5 people being acquitted, and criminal prosecution against 16 people being terminated at the stage of pre-trial investigation or trial (Report on the work of the courts of the first instance on consideration of criminal cases). Such law enforcement practice seriously reduces the role of criminal law in the fight against offences committed in labour protection and negatively affects the state system of occupational injury prevention (Bonauto *et al.*, 2006). The analysis showed that violations of articles of substantive and procedural law in investigative and judicial practice are mainly caused by an unsuccessful description of signs of a criminal violation in Art. 156 of the Criminal Code, the complex nature of causal relationships, and the lack of clear criteria in the criminal law for distinguishing types of careless guilt. An accurate legal assessment of the criminal offence provided for in Art. 277 of the Criminal Code is complicated by numerous regulations governing the rules of safe mining or construction work. President Kassym-Jomart Tokayev also draws attention to this circumstance, in his Message to the People of Kazakhstan on September 1, 2023, indicating that today in Kazakhstan, architectural and construction activities are regulated by over 2.5 thousand different documents. This has led to the formation of an intricate, bureaucratic system that breeds corruption. The use of outdated building standards and norms continues. Therefore, he instructed the Government to adopt a conceptually new document - the Urban Planning Code (President Kassym-Jomart Tokayev's Message to the People of Kazakhstan on September 1, 2023).

It is also appropriate to note the sanctions inconsistency of homogeneous articles providing for liability for offences in labour protection that do not fully achieve the goals of punishment. For example, for violation of labour protection rules that resulted in the death of a person, the sanction of Part 3 of Art. 156 of the Criminal Code provides for restriction of liberty for up to five years or imprisonment for the same period, with or without deprivation of the right to hold certain positions or engage in certain activities for up to three years. The sanction of Part 2 of Art. 277 of the Criminal Code for a similar consequence of violating the safety rules for mining or construction work is punishable by

imprisonment for up to six years with or without deprivation of the right to hold certain positions or engage in certain activities for up to three years. For causing death of two or more persons, the sanction of Part 3 of Art. 156 of the Criminal Code contains punishment as restriction of liberty for up to seven years or imprisonment for the same period, and the sanction of Part 3 of Art. 277 of the Criminal Code-imprisonment for a period of three to eight years. Similarly, other articles of the Criminal Code are designed to impose sanctions on crimes related to violations of labour protection rules (Arts. 278, 279, 281, 282).

Furthermore, the specified articles of the Criminal Code indicate that the maximum threshold of sanctions for causing less serious harm exceeds the minimum threshold of sanctions for causing more serious harm, or there may be no such threshold. As a result, the courts can impose more severe punishments on the culprit for causing, for example, the death of a person compared to causing the death of two or more persons, which is confirmed by the sentencing courts' practice for motor vehicle crimes (Muromtsev, 2020). It has to be stated that crimes of the same nature and degree of public danger have received an inadequate assessment in the sanctions, which negatively affects the quality of the delivery of justice.

The shortcomings of Art. 156 of the Criminal Code, along with questions about the grounds and limits of liability of a carelessly acting person for harm caused, have become the subject of discussion in the legal literature and the judicial practice (Nykänen *et al.*, 2019; Radionov, 2018). Thus, the Supreme Court of the Republic of Kazakhstan, noting the mistakes of lower courts in cases of violations of labour protection rules, demanded strict compliance with the criminal law, to determine a clear qualification of the act under the disposition of the article of the Criminal Code and the specific circumstances of the case (Generalization of judicial practice in criminal cases related to crimes of violations of labour protection rules). During the analyzed period, the number of court sentences (by 54.5 %) and convicts (by 78.5 %) for violations of labour protection rules also increased. Thus, the ratio of the latter indicator to the total number of convicts in 2013 was 2,468:1, in 2014 – 945:1, in 2015 – 759:1, in 2016 – 788:1, in 2017 – 779:1, in 2018 – 559:1, in 2019. – 1445:1, in

2020 – 766:1, in 2021 – 871:1, in 2022 – 2081:1, which indicates an increase in cases of violations of labour protection rules.

Statistical data on violations of the occupational safety rules, entailing administrative responsibility, are of interest. Art. 93 of the Administrative Code of the Republic of Kazakhstan recognizes as a violation the absence of a safety and labour protection service (specialist) in industrial organizations by the requirements of the labour legislation of the Republic of Kazakhstan (Part 1), a violation by the employer of the requirements for mandatory and periodic medical examinations and pre-shift medical examination of employees by the requirements of the labour legislation of the Republic of Kazakhstan (Part 2), failure to provide employees with therapeutic and preventive nutrition, personal and collective protective equipment by the requirements of the labour legislation of the Republic of Kazakhstan (Part 3), failure by the employer to comply with the requirements of the labour legislation of the Republic of Kazakhstan for training, knowledge checks on safety and labour protection of employees, managers and persons responsible for ensuring safety and occupational safety and health (Part 4). These acts, committed systematically, create conditions for the transition to the commission of crimes (Bronnikova *et al.*, 2019). “The increase in delinquency in society leads to significant negative shifts in the legal consciousness of the population bringing closer and encouraging criminal behaviour not only of those who have already crossed one or another norm of the law but also of all others since the bar of legal behaviour in the mass consciousness of realities is decreasing for almost the majority of citizens, which, for example, it is observed today in Russia and another post-Soviet states,” notes, in particular, the criminologist (Luneev, 1997).

The analysis showed that the number of registered offences under Art. 93 of the Administrative Code of the Republic of Kazakhstan decreased from 2,334 to 152, i.e. by 93.48 %, in the period from 2010 to 2022. These figures should be seen as a reflection of the low detection of such violations and a substantial weakening of the prevention of occupational injuries, given the unfavourable situation in occupational safety. One reason for this is that occupational safety crimes rarely correspond to the stereotypical representation of crimes and criminals (Tombs & Whyte, 2013). The blurred line between accidents and

crimes creates a problem for preventive work aimed at combating labour protection offences. These incidents are rarely perceived as crimes, the injured party is not described as a victim of the crime, and the perpetrator rarely fits the prevailing stereotypes of offenders. For this reason, they, like many careless "technical" crimes, against the background of a steady increase in intentional crimes, escape registration, attracting the attention of law enforcement agencies most often only upon the occurrence of socially dangerous consequences directly provided for in the criminal law. Therefore, this feature of careless offences, including those committed in labour protection, should be given the most serious attention when developing preventive measures, since its neglect is fraught with the most negative consequences.

3 METHODOLOGY

Industrial accidents resulting in injuries and deaths violate the constitutional right of citizens to safe working conditions and cause significant damage to the country's economy. An objective criminological assessment of the state of labor protection helps identify key problems and develop strategies to solve them. The practical significance of this research lies in its application for developing public policy, lawmaking, and improving investigative and judicial practices. The theoretical significance of the study lies in enhancing methods and approaches to assessing labor protection and preventing industrial injuries.

The study used various methods to achieve its objectives. Data on industrial accidents, including mortality and injuries from 2013 to 2022, were analyzed to compare absolute and relative indicators and draw objective conclusions. This included assessing registered criminal offenses related to labor protection violations and analyzing the number of people convicted of these crimes.

The formal legal method involved studying the legal norms regulating labor protection in Kazakhstan, analyzing the application of Article 156 of the Criminal Code regarding labor protection violations, and assessing the legal

consequences of industrial accidents. Additionally, the comparative legal method was employed to compare Kazakhstan's labor protection legislation with international standards and practices, and to analyze successful approaches to labor protection in other countries for possible application in Kazakhstan.

An analytical method was used to critically assess official statistics on industrial injuries, analyze the structure and dynamics of criminal offenses related to labor protection, and identify key problems in the labor protection system, proposing solutions for their elimination. The logical method allowed for the formulation of conclusions based on the data obtained and the development of proposals for improving the national labor protection system.

Furthermore, the extrapolation method was used to forecast future trends in labor protection based on previous years' data and to develop strategies to reduce occupational injuries and improve working conditions.

For the tasks of the research to be accomplished, the authors used theoretical and empirical scientific methods. To analyze the dynamics of mortality and injuries at work, we used methods such as analyzing absolute and relative statistical indicators, comparing data, the study of an object in time (retrospective) and extrapolations. Using the following formulas, we determined the frequency coefficient of occupational injury, the frequency coefficient of fatal injury, and the injury severity rate.

- a) The frequency coefficient of injury = $1000 \times I / E$, where I is the number of occupational injuries, including deaths; E is the average number of employees;
- b) The frequency coefficient of fatal injury = $1000 \times F / E$, where F is the number of fatalities; E is the average number of employees;
- c) The injury severity rate = D / A , where D is the number of temporary disability days caused by accidents at work; A is the number of accidents (injuries).

Using coefficients is explained because one particular indicator-the frequency coefficient of injury (FCI) cannot describe a measure of magnitude (a measure of the process), and assess the state and dynamics of developing the entire system without studying its individual properties, indicating the

numerical values of the quantities. Only by studying the indices of all qualitative indicators of injury safety can you judge the level of evolution of the entire system, and assess the impact of changes in the structure of a phenomenon on the magnitude of the dynamics of this phenomenon (Simons, 2011). When determining the number of victims with disability and death, victims of work accidents that occurred on the territory of the enterprise while performing work duties for the victims, as well as when travelling to or from work on transport provided by the enterprise, were taken into account.

Theoretical methods have been used to study the state, structure and dynamics of criminal offences committed in labour protection: analysis and synthesis, comparison, generalisation, explanation, induction and deduction, analogy, as well as empirical methods: the study of an object in time (retrospective, forecasting), observation, measurement, the study of normative acts, the results of the activities of state bodies, expert assessments. We incorporated statistical data from the Bureau of National Statistics, the Committee of Legal Statistics and Special Records under the General Prosecutor's Office of the Republic of Kazakhstan, the International Labour Organization (ILO), and the Ministry of Labour and Social Protection of the Republic of Kazakhstan into our research.

The two stages compose the methodology of the study: 1) analysis of the national legislation in labour protection and statistical data; 2) analysis of investigative and judicial practice in labour protection.

The study participants are: a) all employees who were recognized as victims of an accident at the workplace, including a fatal one, in a certain period, regardless of the type of production and branch of the economy; b) convicted of violating labour protection rules in the period from 2010 to 2022. All participants were taken into account regardless of gender, age, social status, and other characteristics. The results obtained have a confidence interval of 95%, no distorting factors have been identified.

4 RESULTS AND DISCUSSION

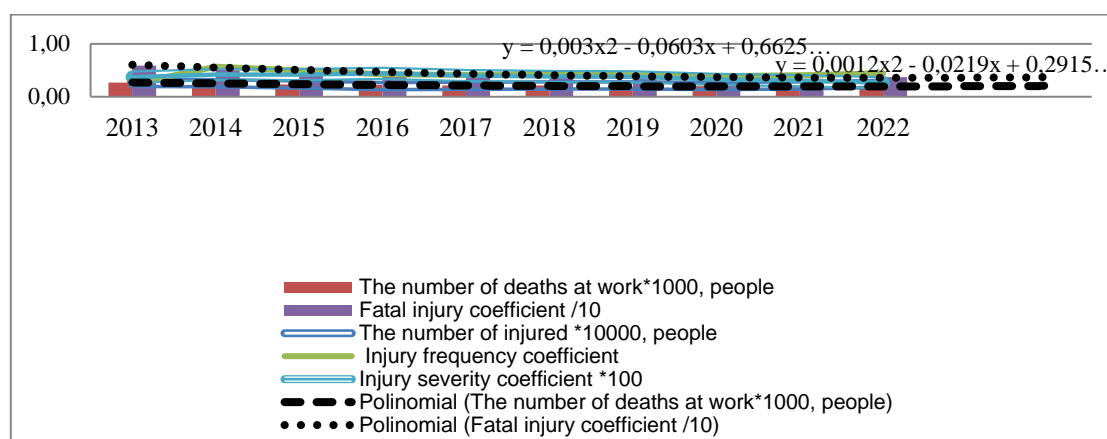
4.1 THE STUDY ALLOWED US TO OBTAIN THE FOLLOWING RESULTS:

- every year in Kazakhstan, at least 2,465 people die and get injured in the course of their work. According to the Ministry of Labour and Social Protection of the Republic of Kazakhstan, the current state of labour protection is characterized by a downward trend. The basis for this statement was the data from two statistical indicators: the absolute number of injuries and the relative accident rate per 1,000 employees. During the analyzed period (2013-2022), the level of occupational injuries decreased by only 6.63 %;
- against this background, there is a clear trend towards an increase in the number of victims at work. Thus, in 2022, it increased by 14.82 % (2,449) compared to 2021 (2,133), exceeding the level of injuries in 2015 (2,307) and coming very close to the injury rate in 2014 (2,578). The level of fatal occupational injuries in 2022 increased by 14.15 % (205) compared to 2021 (176) and approached the same indicator in 2014 (215);
- the frequency coefficient of occupational injury increased by a significant 46.05 % and amounted to 0.443 per 1,000 employees, the frequency coefficient of fatal injuries decreased by 37.29 % and amounted to 0.037 per 1,000 employees. Thus, the apparent positive dynamics concerns, first of all, the absolute indicators related to the number of injured, whereas the negative one is directly related to the relative indicators characterizing the severity of the accidents that occurred;
- researchers in the previous decade (2003-2012) also noted the increase in fatal injuries against the background of a general decrease in the total number of injuries at work. These results indicate shortcomings in the organization of ensuring the constitutional right of citizens to safe working conditions by the state and the employers, and the lack of a positive effect in reducing occupational injuries.

- it is alarming how work-related injuries in Kazakhstan are in an unfavorable situation. The high correlation between individual indicators of occupational injuries also evidenced this (Figure 2).

Figure 2

Correlation coefficient among occupational injury rates



As can be seen from the Figure, the correlation between the number of deaths at work and the frequency coefficient of fatal injury is 0.98. There are also correlations between the number of deaths and the total number of injured at work (0.73), the number of injured and the frequency coefficient of fatal injury (0.68), the injury severity coefficient and the number of deaths at work (0.68), the injury severity coefficient and the number of deaths at work (0.51), as well as the frequency coefficient of fatal injury (0.61). It is obvious that despite the downward trend in the number of deaths and the fatal injuries rate, in the short term (until 2025) a quantitative increase in accidents resulting in injury and death of employees is possible. Against this background, the taskset in the Concept of Safe Work in the Republic of Kazakhstan until 2030 looks optimistic-to reduce the frequency of fatal accidents to 0.035 per 1000 employees by 2025, to 0.023 by 2030 (the concept of Safe Work in the Republic of Kazakhstan until 2030).

- officially recorded figures do not always present a complete and objective picture of the state of labour protection yet due to two obvious reasons: the concealment of accidents, as well as shortcomings in the state system of accounting and registration of such accidents. This is evidenced by the ratio of fatal occupational injuries to the total number of victims at work (1:11), and the frequency coefficient of fatal injuries

per 1,000 workers (0.037), which is 4 times higher than the corresponding indicator in most developed European countries and the United States, as well as a significant increase in the payment of lump-sum benefits per victim with a decrease in the severity of occupational injuries. Employers often cover up the injuries sustained (mainly of mild severity) for various reasons, such as unwillingness to compensate for the damage caused to the victim, fear of legal liability or the victims themselves hiding the injury to preserve their workplace. Mass concealment of accidents, registration of predominantly severe, group and fatal injuries at work and the need to improve the accident registration and analysis system are also noted by many foreign researchers (Rusak, 2019; Sawano *et al.*, 2020). The concealment of work accidents impedes an objective assessment of the state of labour protection, and the adoption of sound management decisions on developing adequate preventive measures. Meanwhile, the high reliability and quality of statistical data on occupational injuries, as well as the improvement of the regulatory framework and methods for monitoring priority risks of workers in the EU countries provide the opportunity to introduce effective ways and methods of injury prevention;

- violation of labour occupation rules provided for in Art. 156 of the Criminal Code, dominated by the structure of criminal offences committed in labour protection, is being investigated poorly because of the complex nature of the causal relationships between the violation of labour protection rules and the consequences that have occurred, the lack of clear criteria in the criminal law for distinguishing the types of careless guilt, and the unsuccessful penalization of the act. As a result, investigative bodies and courts often make mistakes in the legal assessment of an offence, allowing the perpetrators to avoid criminal liability and punishment. The impunity of the act affects the growth of occupational injuries;
- another serious factor of occupational injuries is the lack of proper and timely response of law enforcement agencies to administrative offences committed in labour protection. An example of this is the low

detectability of an offence under Art. 93 of the Administrative Code of the Republic of Kazakhstan. The criminality of these factors lies because they create a sense of impunity among employers and officials, contribute to their violation of national legislation, and seriously reduce the preventive value of the relevant legal norms.

Meanwhile, research shows that labour-related violations have stable patterns predetermined by the level of social, economic, organizational, technical and moral development of society. Like other violations in the process of interacting with technology (for example, motor vehicle offences), they have specific features: they are committed by negligence. Therefore, they have a different psychological mechanism of commission, different from an intentional offence, the specifics of the interaction of the individual and the criminogenic situation, and the accidental and undesirable nature of the harmful consequences for the subject (Shepherd *et al.*, 2021). Thus, measures taken to prevent intentional crimes are far from always effective for acts committed by negligence. In other words, the specifics of violations of labour protection rules require a purposeful orientation of the general provisions on the causes of crime, developed by the criminological doctrine, to comprehensively take into account this specificity.

However, the prevention of careless criminality to a much greater extent than intentional criminality is a complex but manageable social process because of the close and direct connection between negative social factors and the commission of crimes. This circumstance generates a “responsiveness” of careless offences committed in labour protection to the counteraction measures taken against them. For example, trade union representatives in Australia, Canada, Sweden, and France have achieved positive results by issuing temporary work stoppage orders where the safety of workers is seriously endangered in South Korea, Finland, and Pakistan, injuries have decreased because of an increased culture of safe behaviour of workers in the workplace (Shimizu *et al.*, 2021). In Brazil, because of the introduction of a provision in national legislation to change the tax burden of companies depending on the number of accidents at work and the poor health of employees.

5 CONCLUSION

In December 2023, the Republic of Kazakhstan adopted the concept of Safe Work until 2030. It provides 4 main directions for reducing the level of occupational risk, reducing occupational injuries, and occupational morbidity. These are the modernization of the national labour protection system based on a risk-oriented approach, economic incentives for risk reduction measures in the workplace, the development of professional competencies and scientific potential, as well as improvement in the effectiveness of control and monitoring in labour protection. It is critically important to implement a set of the following preventive measures: Seriously increase the financing of measures aimed at minimizing accidents at work and occupational diseases, especially in large and medium-sized enterprises owned by private and foreign companies. The experience of numerous countries shows that significant investments in equipment modernization, the introduction of automated processes, and staff training in safe work skills lead to a decrease in the frequency of fatal and severe injuries, and the reduction of accidents classified as light occurs at a slower pace. The need for increased funding is also indicated by the significant increase in the payment of one-time benefits per victim noted above; When developing measures to reduce occupational injuries, and prevent occupational risks and accidents, the main attention should be paid to the industrial regions of the country and injury-prone sectors of the economy; The concept of Safe Work in the Republic of Kazakhstan sets a task to improve the indicator of the level of concealment of occupational injuries and occupational diseases to 1:18 by 2030. In this direction, it is necessary to improve the state system of registration, investigation and accounting of accidents at work, to ensure the reliability of statistical data on occupational injuries, modernize the mechanisms for providing information on accidents at work, and formalize materials for investigating accidents related to work. The Labour Code of the Republic of Kazakhstan regulates the organization of safety, labour protection, and control over compliance with labour legislation (Chapters 17-22). Subclause 6 of clause 1 of Art. 187 “Obligations of the employer in the investigation of work-related accidents” obliges the employer to report the accident within 24

hours to the law enforcement agency at the place where the accident occurred, and to the authorized bodies of industrial and departmental control and supervision in cases subject to special investigation. Within the meaning of this provision, the nature of the accident to be investigated is determined by the employer himself, who, because of his interest, may not inform the state authorities about the work injury. Therefore, the legislator should delete the words “in cases subject to the special investigation”. In addition, Part 3 of Art. 298 of the Administrative Code should provide for liability for concealing the fact of an accident, an incident not only at a dangerous but also at any production facility; To improve the reliability and quality of statistical data on occupational injuries, improve the system of analysis and assessment of occupational risks, accounting and registration of accidents at work, unify indicators of occupational injuries, indicators and methods of their calculations used by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the Ministry of Labour and Social Protection of the Population of the Republic of Kazakhstan and others; To create a national monitoring system in occupational safety and health for conducting observations and analyzing occupational risks. Following the example of the European Union (EU) countries, to monitor the state of occupational safety at various levels – from companies to national surveys. This will allow timely identification of injury-prone sectors of the economy, as well as technical, behavioural, environmental, economic and cultural factors of occupational injuries in enterprises; To improve the quality of the investigation of criminal offences committed in labour protection (Arts. 156, 276, 277, 278, 279, 281 of the Criminal Code). In order to do this, a special regulatory resolution of the Supreme Court of the Republic of Kazakhstan needs to be adopted, which will explain the basis and procedure for the application of criminal legislation on liability for such criminal offences. It is necessary to coordinate the sanctions of these articles of the Criminal Code among themselves, adequately reflecting in them the nature and degree of public danger of criminal offences.

5.1 LIMITATION AND SIGNIFICANCE OF STUDY

These and other measures conducted at the state and regional levels will strengthen the culture of prevention in labour protection; protect the labour rights of employees; develop scientific infrastructure that meets modern requirements, significantly reduce the level of occupational injuries and preserve the lives and health of citizens.

The research examined important aspects of labor protection, including mortality and injuries at work, as well as the state, structure, and dynamics of criminal offenses related to violations of labor protection rules. The study's main conclusions highlight several key areas. The analysis of the current state of labor protection identified major problems and shortcomings in Kazakhstan's labor protection system. These include a low level of compliance with safety standards and deficiencies in the system for registering and recording industrial accidents. The structure and dynamics of offenses revealed trends in criminal offenses related to labor protection. A sharp discrepancy was noted between reported registered crimes and the involvement of individuals convicted of these offenses. To improve the labor protection system, recommendations were developed. These include enhancing methods for registering and recording accidents, improving the quality of investigations, and strengthening legal regulations.

The study contributes to the development of theoretical knowledge in occupational safety and health and provides practical solutions to improve workplace safety. The findings can inform government policies aimed at improving working conditions and reducing occupational injuries.

The results and conclusions obtained represent a valuable resource for government agencies, enterprises and organizations that ensure increased levels of occupational safety and create favorable conditions for enterprises. Ultimately, the implementation of the proposed measures could lead to a significant reduction in the number of accidents at work, maintaining working conditions and increasing the overall level of well-being in Kazakhstan.

5.2 LIMITATION OF RESEARCH

As mentioned earlier in the work, official statistics on occupational injuries provided by the Bureau of National Statistics of the Republic of Kazakhstan, the Ministry of Labor and Social Protection of the Population of the Republic of Kazakhstan, and the State Social Insurance Fund differ based on different goals. This fact is also noted in the Concept of safe work in the Republic of Kazakhstan for 2024-2030. This circumstance allowed us to conclude their incorrectness, which is confirmed by the revealed facts about the concealment of injuries sustained in the workplace. This allowed the authors to formulate a proposal on the need to improve the system of accounting and registration of industrial accidents at the regional and national levels;

An equally important indicator in this regard is also the analysis of the structure of industrial and domestic injuries of the adult population, but the limited scope of the study did not allow it to be covered. This makes it necessary to further study the problem of labour protection. As the foreign experience shows, to fully understand the state of labour protection, it is also necessary to take into account other indicators - the frequency of fatal injuries and the severity of injuries, which most objectively assess the degree of safety of production.

The theoretical and practical significance of the research are the following. The theoretical significance of the study lies in the fact that the proposed measures if implemented, make it possible to improve methods and approaches to assessing the state of labour protection in Kazakhstan, the doctrine of criminology, criminal and administrative law, to bring the institutional environment in the sphere of labour protection as close as possible to the standards typical for developed countries of the world. The practical significance of the study lies in the fact that its results will allow to improve the state policy in the field of labour protection, including legislative activity, modernize the national labour protection system, and improve the quality of investigative and judicial practice.

AUTHOR'S CONTRIBUTION

All authors Contributed significantly in education conception and project, data group, examination and clarification of results, draft document groundwork. All authors studied the results and accepted the final form of the document.

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