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The impact of climate change on internal migration in Kazakhstan: socio-legal challenges and solutions

Climate change has become one of the major factors driving internal migration in Kazakhstan, exerting a considerable influence on people's living conditions. This article examines the social and legal challenges associated with climate-induced migration and explores potential solutions. Particular attention is given to the impact of environmental factors, such as prolonged droughts, frequent floods, land degradation, and declining agricultural productivity, on population movements. The findings are based on the results of a sociological survey conducted in five regions of Kazakhstan, which identified the primary reasons behind migration decisions. Among the key motives were worsening health conditions, economic instability, and limited access to clean water and sufficient food resources. At the same time, the analysis shows that, despite facing significant consequences of climate change, many residents do not necessarily perceive migration as the only or the best way to address these challenges. The article suggests a range of measures to enhance legislation aimed at safeguarding the rights of climate migrants, strengthening regional adaptation strategies, and creating government programs to provide social and economic assistance to affected communities. The study highlights the importance of adopting an integrated approach that combines legal, economic, and social mechanisms in order to manage internal migration effectively in the context of ongoing climate change.

Keywords: climate migration, environment, climate change, internal migration, legal regulation, environmental issues, drought, floods, population adaptation, state policy.

Introduction

Climate change and environmental degradation are becoming increasingly significant factors influencing migration processes both in Kazakhstan and globally. The intensification of global warming has led to an increase in the frequency and severity of natural disasters and extreme weather events. As a result, a growing number of individuals and entire communities are being forced to leave their places of residence in search of safety, stability, and better living conditions. This phenomenon, commonly referred to as climate-induced migration, is particularly relevant in regions where environmental vulnerability is exacerbated by political instability, economic crises, armed conflicts, and ineffective governance. These factors collectively create serious challenges for government institutions as well as society at large [1].

Under these changing conditions, rural areas—particularly those located in agricultural and arid regions—are disproportionately affected. Residents of these territories are often compelled to relocate to more favorable areas, primarily large urban centers, where socioeconomic conditions and employment opportunities are more stable. In Kazakhstan, climate-induced migration is especially prevalent in regions vulnerable

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to droughts, such as Mangystau, Kyzylorda, and Atyrau, as well as in territories where the shortage of water resources is becoming increasingly critical [2; 40].

Additional drivers of internal population displacement include environmental disasters, among which the following are particularly significant:

– Desiccation of the Aral Sea, which has resulted in the loss of water sources and widespread land degradation;

– Radiation contamination in the territory of the former Semipalatinsk nuclear test site;

– Industrial emissions and air pollution in regions of intensive mining and processing industries [3; 395].

From a demographic perspective, the highest vulnerability is observed in small geographic zones with high population density, especially in suburban areas surrounding major cities. In these regions, adverse climatic phenomena can trigger severe socioeconomic consequences, including rising poverty levels, reduced access to water and food, and deterioration of public health. These factors call for urgent measures aimed at enhancing the resilience of territories, improving adaptation systems, and ensuring a more rational distribution of natural resources.

At the same time, in certain rural areas experiencing significant depopulation, the influence of climate change on migration processes remains considerably weaker [4; 5].

Climate change is becoming one of the drivers of internal migration in Kazakhstan, making the issue relevant from both legal and social perspectives. Desertification, water shortages, and natural disasters are forcing people to leave rural areas and move to cities. This places a strain on infrastructure and highlights the need for legal regulation of the status of climate migrants.

There is a need to establish legislative frameworks and carry out sociological studies to evaluate the scope of the issue and to propose effective strategies for migrant social adaptation, rights protection, and the sustainable development of affected regions.

The aim of the study is to examine the impact of climate change on internal migration in Kazakhstan, identify key socio-legal challenges, and develop recommendations for improving legal regulation and social adaptation of climate migrants.

The purpose of the research is to examine public opinion on climate-induced migration through a population survey conducted in five regions of Kazakhstan, analyzing individuals' willingness to relocate and their expectations from the government; to identify major environmental disasters and assess their impact on population displacement within the country; to conduct a comparative analysis of Kazakhstan's legislation in the fields of migration, environmental protection, and social security of migrants, identify gaps, and propose ways to address them; to develop legal and social measures aimed at minimizing the negative consequences of climate migration, enhancing regional resilience, and supporting migrant adaptation to new living conditions.

Methods and materials

The study employed comprehensive analytical methods that enabled an in-depth examination of the impact of climate change on internal migration in Kazakhstan, as well as the identification of key socio-legal challenges and potential solutions.

An analysis of Kazakhstan's regulatory and legal framework in the fields of migration, environmental protection, and the rights of displaced persons. was conducted. A comparison with international standards helped to identify gaps and possible directions for improving the legal regulation of climate migration.

A sociological survey was carried out among the population of five regions of Kazakhstan: Abai, East Kazakhstan, Kyzylorda, North Kazakhstan, and Akmola regions. The study included 1,000 respondents representing various socio-demographic groups. The survey provided insight into public perception of climate change, its influence on migration processes, and identified the most vulnerable groups in need of legal and social support.

Statistical analysis was used to process data on migration flows, climate change, living standards, and the socio-economic situation across Kazakhstan's regions. The use of statistical methods made it possible to determine trends in internal migration driven by environmental factors.

This methodological approach ensured a comprehensive study of the issue and made it possible to propose effective solutions for helping the population adapt to changing climatic conditions and minimizing the negative consequences of internal migration.

In this article, the topic of climate migration is considered from multiple scientific perspectives—sociological, economic, environmental, and legal. For the comprehensive analysis, the works of researchers such as S.V. Ryazantsev, E.M. Moiseeva, V. Clement, G. Baykushikova, G.Sh. Zhaksybaeva, Z.S. Gelmanova, M.K. Ibatov, A.A. Smailova, D.M. Rakhmatulina, L.T. Isova, A.D. Samay, A.S. Lukyanets, V.Yu. Ledeneva, R.J. Nawrotzki, and D. Bektleeva were used. Their scholarly approaches provided a deeper understanding of the causes and consequences of climate migration and emphasized the need to develop effective legal and institutional mechanisms to respond to the challenges associated with population displacement due to climate change.

Results

The Impact of Climate Change on Migration Processes in Kazakhstan: Results of a Sociological Study

As part of the conducted study, a sociological survey was carried out among residents of five regions of Kazakhstan: Abai, East Kazakhstan, Kyzylorda, North Kazakhstan, and Akmola regions. A total of 1,000 respondents representing various age categories and social groups participated in the survey. The questionnaire focused on several key aspects, including public perception of climate change over the past 5–10 years, the impact of climate-related factors on health and living conditions, and respondents' intentions to migrate to other regions due to climate change. The analysis of the results revealed that a significant proportion of respondents reported an increase in extreme weather events, such as droughts, floods, and sharp temperature fluctuations. These findings indicate growing public awareness and concern regarding climate change and its potential socio-economic implications. The obtained results make it possible to visualize the dynamics of changes in the perception of climate factors through diagrams illustrating how the population assesses the impact of climate change on their lives and makes decisions regarding potential migration. These findings confirm the existing trend of increasing climate-induced migration in Kazakhstan, which is consistent with the results of international studies [5; 36].

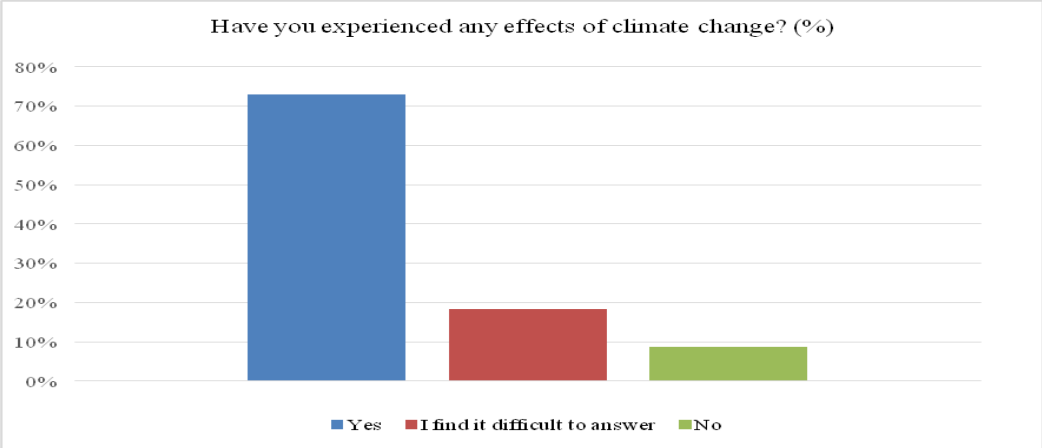

Figure 1. To What Extent People Notice Climate Change

The survey findings indicate that 72.94 % of respondents reported noticing climate changes over the past 5–10 years, highlighting a relatively high level of public awareness and suggesting that climate-related factors have a considerable influence on daily life. Meanwhile, 18.41 % of participants found it difficult to provide an answer, which may point to limited access to information or the fact that climate changes are less evident in their specific regions. This group may either not have experienced significant environmental shifts or may not directly associate observed anomalies with broader climate change processes. The remaining 8.66 % of respondents stated that they had not noticed any climate changes, which could be explained by living in areas less affected by climatic variations or by personal perceptions that prevent linking local environmental fluctuations to global climate change (Figure 1).

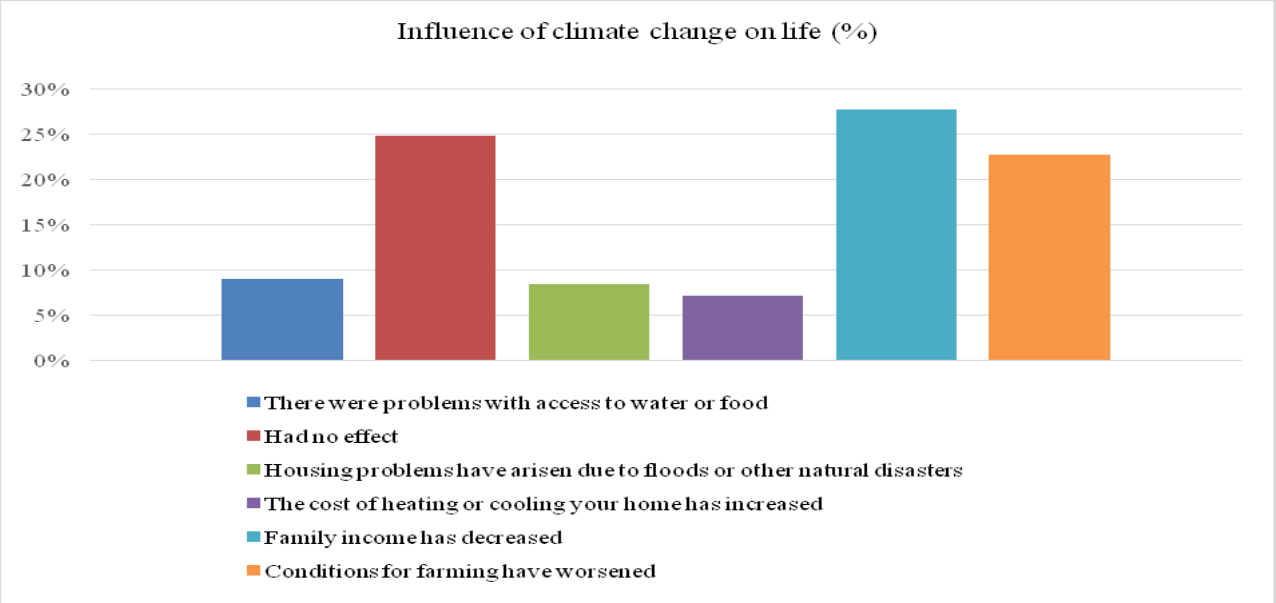

Figure 2.The impact of climate change on people's lives

The findings of the sociological survey reveal the substantial influence of climate change on the living conditions of the population in Kazakhstan. One of the most frequently reported consequences is the decline in household income (27.77 %), largely associated with economic instability, reduced agricultural productivity, and rising food prices. A considerable proportion of respondents (24.88 %) reported no noticeable negative effects to date, which may reflect either local environmental stability or insufficient awareness of the long-term impacts of climate change. At the same time, agriculture has been significantly affected (22.78 %), posing potential risks to the country's food security.

Challenges related to access to water (8.99 %) and housing (8.39 %) indicate increasing environmental vulnerabilities, while the rise in heating costs (7.19 %) reflects growing exposure to extreme weather conditions and seasonal temperature fluctuations (Figure 2).

The data suggest that the most pronounced consequences of climate change for Kazakhstan's population are linked to economic hardships, falling incomes, land degradation, and reduced agricultural capacity. Many respondents also reported limited access to clean water and food, coupled with exposure to natural disasters, such as droughts and floods. In addition, rising costs for heating and cooling homes further demonstrate the escalating risks posed by environmental instability. However, almost one-quarter of participants have not yet experienced significant impacts, which could be explained by regional climatic differences or limited awareness of indirect effects [6].

This research further aims to assess the health-related implications of climate change for Kazakhstan's population, based on a survey conducted across five regions of the country. The study highlights a growing prevalence of respiratory and cardiovascular diseases, increased allergic reactions, and rising cancer incidence rates—all potentially linked to prolonged exposure to extreme climatic conditions, air pollution, and environmental degradation.

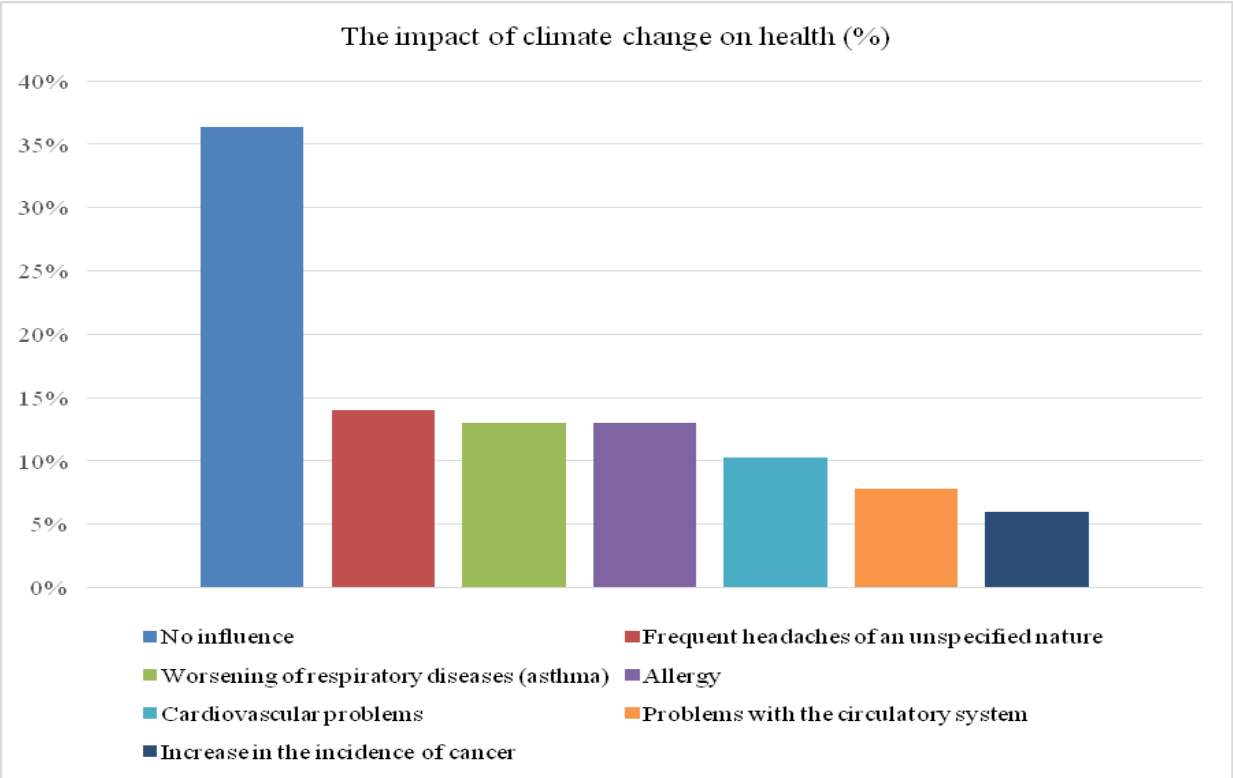

Figure 3. The impact of climate change on human health

Data analysis reveals that the effect of climate change on public health in Kazakhstan is becoming increasingly pronounced. While 36.34 % of respondents did not yet perceive any health-related changes, a substantial share reported various ailments potentially linked to environmental shifts:

– Headaches (13.96 %), possibly associated with temperature fluctuations and barometric pressure changes.

– Increased asthma incidents (13.01 %), which may reflect deteriorating air quality due to industrial emissions and altered humidity levels.

– Allergic reactions (13.01 %), likely driven by elevated ambient concentrations of airborne allergens.

– Cardiovascular disorders (10.23 %) and other circulatory problems (7.81 %), potentially stemming from abrupt temperature swings, heat stress, and pollution.

– Particularly alarming is the rise in oncological conditions (5.64 %), which may be linked to toxic emissions and radiation exposure (Figure 3).

These results suggest that climate change is already adversely affecting public health, signaling an urgent need for adaptive and protective measures. Key systems affected include the respiratory and cardiovascular systems, alongside impacts on immune response and increased disease vulnerability [7].

An additional research inquiry focused on the public's willingness to migrate in response to environmental degradation. A sociological survey conducted across Kazakhstan evaluated respondents' perspectives on relocating to other regions due to climate-related concerns [7]. The findings highlight a range of attitudes, reflecting diverse adaptation capacities and levels of concern, as well as the key factors influencing migration decisions.

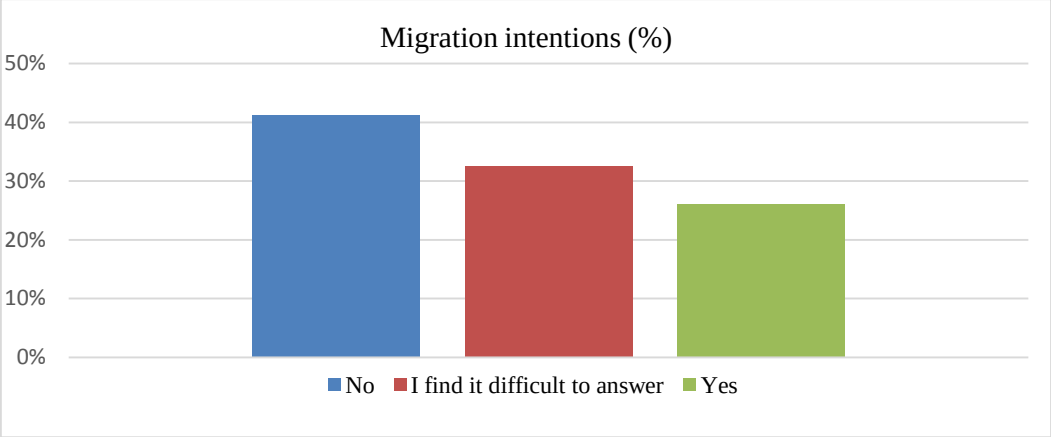

Figure 4. Public Opinion on the Possibility of Relocation Due to Climate Change

The survey findings indicate that 41.29 % of respondents do not intend to relocate, which may reflect either a high level of adaptation to existing environmental and socio-economic conditions or limited financial and logistical resources for migration. At the same time, 32.64 % of participants remain undecided, suggesting uncertainty regarding future plans and potential vulnerability to changing circumstances. Meanwhile, 26.07 % of respondents are considering relocation, likely driven by deteriorating climatic conditions, economic hardships, or social instability (Figure 4).

Overall, despite the noticeable effects of climate change, the majority of the population prefers to remain in their current locations, possibly expecting an improvement in local conditions or gradually adapting to environmental changes. However, the relatively high proportion of individuals considering migration highlights the urgent need for comprehensive strategies aimed at reducing climate-related risks and improving the quality of life in regions most affected by environmental degradation [8].

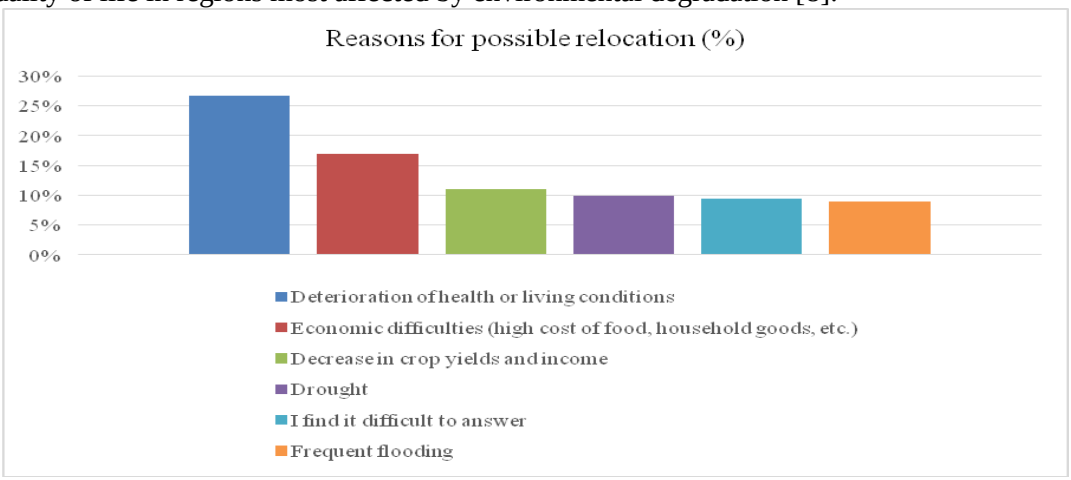

Figure 5. Main reasons people consider relocation

The survey results indicate that the most significant factor influencing migration intentions among respondents is the deterioration of health and living conditions (26.67 %). This finding highlights that climate change, including air pollution, rising temperatures, and the spread of diseases, has a direct impact on quality of life. Economic challenges represent another key driver (17.01 %), as increasing prices for food and essential goods force many individuals to consider relocation in search of better living conditions. Additionally, declining crop yields (11.07 %) and recurring droughts (9.91 %) undermine agricultural sustainability, especially in rural areas where livelihoods heavily depend on farming. Floods (8.92 %) further exacerbate migration pressures by damaging housing, infrastructure, and local economies (Figure 5).

Overall, the primary drivers pushing people to consider relocation include worsening environmental and health conditions, financial hardships, and extreme climatic events. Droughts and floods, in particular, intensify the vulnerabilities of affected communities, leading many to seek safer regions with more stable economic opportunities [8].

Based on the findings of the sociological survey, the following policy recommendations are proposed:

1. Development of National Adaptation Strategies — Implement comprehensive programs aimed at minimizing the consequences of climate change, with a particular focus on rural and environmentally vulnerable regions.

2. Enhancing Public Awareness — Conduct educational campaigns, community outreach, and provide accessible and reliable information to improve public understanding of climate-related risks.

3. Support for Climate Migrants — Establish legal, political, and social mechanisms to regulate internal migration driven by climate change, ensuring the protection of migrants' rights.

4. Economic Support for Affected Regions — Create new employment opportunities, promote sustainable agricultural technologies, and modernize infrastructure to reduce climate-related economic losses.

5. Strengthening International Cooperation — Enhance Kazakhstan's participation in global initiatives and partnerships focused on climate change mitigation and adaptation strategies.

This integrated approach would improve climate resilience, support vulnerable populations, and ensure sustainable socio-economic development while minimizing migration pressures caused by environmental change.

Discussion

Major natural disasters and their impact on population movements in Kazakhstan

Global climate change affects the environment by altering living conditions and the ways in which humans carry out economic activities. This, in turn, influences migration processes [9; 18].

Climate change has a negative impact on socio-economic and demographic processes worldwide, threatening food, water, and economic security [10; 36].

Rising sea levels, soil degradation, coastal erosion, extreme temperatures, and other climate changes can render certain areas uninhabitable, forcing populations to migrate to safer regions. The loss of income sources can provoke social instability, weaken government institutions, and, in some cases, lead to political crises and conflicts [11; 49].

The harsh natural and climatic conditions of Kazakhstan, much of which consists of steppes, deserts, and semi-deserts, combined with inefficient economic activities that contribute to environmental degradation, are factors that provoke ecological migration.

The increase in harmful emissions into the atmosphere is due to outdated and imperfect filtration and purification technologies. The main sources of pollution are enterprises in the petrochemical and chemical industries, as well as in non-ferrous and ferrous metallurgy. As a result of industrial activity, Kazakhstan has accumulated 230 tons of radioactive metals and 20 billion tons of waste, a significant portion of which is stored in inappropriate locations. Environmental issues increase the risks of cancer among the country's population [12; 97].

In Kazakhstan, over the past five years, from 2018 to 2022, a consistently high level of air pollution has been observed in cities, such as Astana, Karaganda, Zhezkazgan, and Temirtau [13].

Around 26 % of the population of Kazakhstan lives in areas prone to simultaneous flooding, landslides, and mudflows. During intense rainfall, which can trigger mudflows, the predicted changes in precipitation levels typically show a steady increase in the range of 5 %–20 % across all time horizons. The frequency of mudflows may increase by 10 times, posing a threat to 156 cities and settlements in Kazakhstan, including Almaty.

In 2024, Kazakhstan faced its largest flood in 80 years, affecting more than 120,000 people. The government responded quickly by organizing evacuation points and providing one-time compensation of 100 MCI to more than 34,000 families, totaling 12.6 billion tenge. Despite these measures, large-scale damage to infrastructure and the loss of homes forced many people to leave the flooded areas and relocate to safer regions [14].

This case underscores the increasing influence of climate change on internal migration in Kazakhstan. The rising frequency and severity of natural disasters, such as floods, may result in a growing number of ecological migrants, posing a significant challenge for the government to develop long-term adaptation strategies and provide adequate support to affected communities.

The drying up of the Aral Sea led to the destruction of the region's ecosystem, worsening living conditions and economic decline, which forced many residents to leave their homes in search of better conditions. Environmental changes have not only accelerated population outflow but also impacted the country's social

and economic stability, making ecological migration a critical area of study that demands strategic and well-coordinated solutions [15].

The drying up of the Aral Sea, desertification, and water scarcity have triggered active migration processes among the population, emphasizing the importance of studying «ecological migration» in Kazakhstan.

Mountain regions of Kazakhstan, particularly Almaty region, are also prone to mudflows. The increased frequency of heavy rainfall raises the likelihood of landslides, posing a threat to the population.

Southeastern Kazakhstan, including Almaty, lies in a seismic zone. Despite the strengthening of buildings and improvements in early warning systems, earthquakes remain a hazard.

Environmental changes, caused both by industrial activities and climatic factors, have become a significant driver of internal migration in Kazakhstan. The increase in environmental pollution, along with a rise in natural disasters such as floods and desertification, deteriorates living conditions, forcing people to move to safer areas. The drying up of the Aral Sea and technogenic pollution have already triggered massive migration processes, and the growing impact of climate change may exacerbate this trend. This underscores the need for the development of comprehensive measures for population adaptation, improved environmental policies, and ensuring sustainable development in regions exposed to ecological risks [11; 48].

Legal Regulation of Climate Migration in the Republic of Kazakhstan

Determining the boundary between migration caused by environmental or climate change and socio-economic factors is difficult. Their close interconnection requires detailed analysis and research to collect reliable, evidence-based data necessary for the development of future policies and initiatives.

The issue of the impact of climate factors on migration has many contextual nuances, which is why it is important to first define the terminology being used.

We share A.S. Lukyanets' view that the terms "climate migration" and "environmental migration" should not be treated as synonymous. The former emphasizes migration driven by natural and climatic conditions, while the latter refers to relocation caused by environmental disasters and pollution [16; 23].

V.Yu. Ledeneva believes that climate migration is a subgroup of environmental migration, in which people are forced to leave their permanent places of residence and relocate to other regions due to natural disasters [17].

Climate migration represents the relocation of the population from one country to another as a result of abrupt or gradual natural changes. Such factors include abnormal heat, extreme cold, sea level rise, drought, shortage of drinking water, and loss of land, which force people to move [18].

Based on the analysis of the above definitions, the following definition can be proposed: climate migration is the forced or voluntary movement of people caused by long-term climate changes or extreme natural events that make a territory unsuitable for habitation and economic activity.

Population migration is classified as internal and external, taking into account differences between urban and rural areas, which makes it possible to distinguish the following types of migration flows: external migration with urban/rural directionality; internal migration with a division into urban and rural movements [19].

Climate migration caused by climate change and natural disasters is becoming an increasingly pressing issue for Kazakhstan. The forced relocation of citizens due to floods, droughts, desertification, and other climate-related factors requires the development of effective legal mechanisms for regulation.

According to Article 21, Paragraph 1 of the Constitution of the Republic of Kazakhstan, everyone who is lawfully present in the country has the right to freely move and choose their place of residence, except in cases provided by law [20].

The Law of the Republic of Kazakhstan "On Population Migration" dated July 22, 2011, No. 477-IV, enshrines the principle of protecting national interests and ensuring national security [21]. Based on this principle, it can be argued that environmental security is part of national security. Mass migration of the population as a result of ecological threats can harm the country's economy and safety.

One of the key principles set out in Article 3 of the Environmental Code is the provision of a favorable environment for human life and health [22]. Therefore, the prevention of ecological migration is directly related to the state's obligation to create suitable living conditions for the population.

An analysis of current legislation shows that there is no specific legal regulation of climate migration in Kazakhstan. However, certain norms regarding environmental safety and the protection of the population during natural emergencies exist within Kazakhstani legislation. For example, the former Law "On Natural and Technogenic Emergency Situations" [23] regulated issues related to the movement of people during eco-

logical disasters. However, it did not consider long-term climate change as a potential driver of migration, and this law has since been repealed.

It has been replaced by the Law of the Republic of Kazakhstan "On Civil Protection" dated April 11, 2014, which incorporates the principle of minimizing risks and damage threatening citizens and society in the event of emergencies [24].

Kazakhstan's updated Nationally Determined Contribution (NDC) to the global response to climate change, adopted by Government Resolution No. 313 on April 19, 2023, includes a goal of reducing greenhouse gas emissions by 25 % by the end of 2030 compared to 1990 levels. This implies the need for significant additional international investment, grant support, access to international technology transfer mechanisms, and participation in scientific projects aimed at developing low-carbon technologies [25].

Nevertheless, current legal acts in Kazakhstan make no mention of climate migration. There are no specific provisions or regulations addressing migration processes caused by climate change. As this is a relatively new type of migration, developing a legal framework for its effective regulation has become a pressing task. The absence of climate migration in the legal system complicates the management of its consequences and reduces the state's preparedness for potential threats.

It is also important to highlight the role of Kazakhstan's international commitments within the framework of climate policy. Kazakhstan is a party to the Paris Climate Agreement, which calls for reducing greenhouse gas emissions and adapting to climate change. However, at the level of national strategies and programs—such as the National Climate Change Strategy and the Climate Change Adaptation Action Plan—the issue of climate migration remains insufficiently addressed.

Migration management in Kazakhstan is carried out by several government bodies; however, there is a lack of clear coordination among them regarding climate migration. This limits the state's ability to respond effectively to climate-related challenges.

Kazakhstan's participation in global climate initiatives, such as the Paris Agreement, lays the groundwork for developing more sustainable policies that include consideration of climate migration. However, these commitments have not yet been fully integrated into national legislation and policy.

From an institutional point of view, different aspects of migration are regulated by various government agencies, including the Ministry of Labor and Social Protection, the Ministry of Internal Affairs, and the Ministry of Ecology and Natural Resources. However, interdepartmental coordination on climate migration issues is not clearly defined, which limits the ability to respond effectively to environmental challenges.

Conclusion

The analysis of the legislation revealed that existing regulations only partially address migration related to natural disasters, but fail to take into account the long-term consequences of climate change. Moreover, the issue of migration caused by environmental disasters has not been adequately regulated by law.

To develop the institutional and legal framework for climate migration in Kazakhstan, it is necessary to integrate this issue into existing laws and strategies, as well as strengthen interdepartmental cooperation and adopt measures for climate change adaptation. In particular, it is proposed to include the concept of climate migration in the Republic of Kazakhstan's Law «On Population Migration», as well as to amend the Environmental Code by adding a specific article regulating climate migration. This article should provide legal regulation of both internal and international migration processes caused by climate-related disasters, as well as measures to support affected populations and adaptation mechanisms.

Furthermore, existing national strategies and programs, such as the National Strategy on Climate Change, do not pay enough attention to the potential migration consequences. Therefore, it is crucial to consider climate migration as a priority area in adaptation policy.

The survey revealed that climate change significantly impacts the living standards and migration sentiments of the population in Kazakhstan. The majority of respondents are aware of climate change, although not all feel its direct effects. The main reasons for potential relocation include deteriorating health, economic difficulties, and reduced crop yields.

Despite this, a significant portion of respondents does not plan to change their place of residence, which may indicate either adaptation to the changing conditions or a lack of resources for migration. At the same time, about a quarter of respondents are considering relocation, highlighting the relevance of the climate migration issue.

The data obtained confirms the need to strengthen the legal regulation of climate migration, develop comprehensive adaptation measures, and provide state support for affected regions.

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Қазақстандағы климаттық өзгерістердің ішкі миграцияға әсері: әлеуметтік-құқықтық мәселелер және оны шешу жолдары

Климаттың өзгеруі Қазақстандағы ішкі көші-қонға және халықтың өмір сүру жағдайларына айтарлықтай әсер ететін негізгі факторлардың біріне айналды. Мақалада климаттық көші-қонға байланысты әлеуметтік және құқықтық мәселелер қарастырылған, сонымен қатар оларды шешудің мүмкін жолдары талданған. Құрғақшылықтың жиі болуы, су тасқыны, жердің тозуы және ауылшаруашылық өнімділігінің төмендеуі сияқты табиғи факторлардың халықтың қоныс аудару процестеріндегі әсеріне ерекше назар аударылған. Зерттеу нәтижелері Қазақстанның бес өңірінде жүргізілген әлеуметтік сауалнама деректеріне негізделген. Алынған мәліметтерге сәйкес, көші-қонның негізгі себептері денсаулықтың нашарлауы, экономикалық тұрақсыздық, таза су мен азық-түлікке қол жетімділіктің шектеулі болуы. Сонымен қатар, талдау нәтижелері көрсеткендей, климаттық өзгерістердің айтарлықтай салдарына тап болған халықтың елеулі бөлігі көші-қонды әрдайым жалғыз немесе ең тиімді шешім ретінде қарастырмайды. Бүгінгі таңда Қазақстандағы климаттық көші-қонды құқықтық реттеу қалыптасудың бастапқы сатысында тұр. Мақалада климаттық көші-қонға ұшыраған азаматтардың құқықтарын қорғауды күшейтуге, жаңа климаттық жағдайларға аймақтардың бейімделуін жақсартуға, сондай-ақ зардап шеккен халықты қолдауға бағытталған мемлекеттік бағдарламаларды әзірлеуге арналған бірқатар шаралар ұсынылады. Зерттеу қорытындысы бойынша, климаттық өзгерістер салдарынан туындайтын ішкі көші-қонды тиімді басқару үшін құқықтық, экономикалық және әлеуметтік тетіктерді біріктіретін кешенді көзқарас қажет екендігі атап өтіледі.

Кілт сөздер: климаттық миграция, қоршаған орта, климаттық өзгерістер, ішкі миграция, құқықтық реттеу, экологиялық мәселелер, құрғақшылық, су тасқындары, халықтың бейімделуі, мемлекеттік саясат.

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Влияние изменения климата на внутреннюю миграцию в Казахстане: социально-правовые вызовы и пути решения

Изменение климата стало одним из ключевых факторов, влияющих на внутреннюю миграцию в Казахстане и оказывающих значительное воздействие на условия жизни населения. В статье рассматриваются социальные и правовые проблемы, связанные с климатической миграцией, а также анализируются возможные пути их решения. Особое внимание уделяется влиянию таких природных факторов, как продолжительные засухи, учащающиеся наводнения, деградация земель и снижение сельскохозяйственной продуктивности, на процессы переселения населения. Результаты исследования основаны на данных социологического опроса, проведенного в пяти регионах Казахстана. Согласно полученным данным, основными причинами миграции являются ухудшение состояния здоровья, экономическая нестабильность, ограниченный доступ к чистой воде и продовольствию. В то же время анализ показал, что значительная часть населения, испытывающая последствия изменения климата, не всегда рассматривает миграцию как единственный или наиболее эффективный способ решения возникающих проблем. На сегодняшний день правовое регулирование климатической миграции в Казахстане находится на начальной стадии формирования. В статье предлагается ряд мер по совершенствованию законодательства, направленных на защиту прав климатических мигрантов, повышение способности регионов адаптироваться к новым климатическим условиям, а также на разработку государственных

программ поддержки пострадавших категорий населения. В исследовании подчеркивается необходимость комплексного подхода, объединяющего правовые, экономические и социальные инструменты, для эффективного управления внутренней миграцией в условиях изменения климата.

Ключевые слова: климатическая миграция, окружающая среда, изменение климата, внутренняя миграция, правовое регулирование, экологические проблемы, засуха, наводнения, адаптация населения, государственная политика.

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