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SILENCE OF SEMEY NUCLEAR TEST SITE: PAST AND PRESENT

Abstract

This article delves into the complex history and impact of the Semipalatinsk nuclear test site, focusing on its role, influence, and aftermath from a socio-ecological perspective. Utilizing a mix of archival documents, oral history narratives, and a robust methodological framework that includes historical, comparative, and content analysis approaches, the research systematically organizes findings from international scientists alongside data related to the nuclear tests conducted at Semipalatinsk. A significant portion of the study addresses the inaccuracies in statistical data propagated during the Soviet era, highlighting a substantial gap between the officially reported effects and the actual consequences experienced by the environment and local populations. The investigation underscores the critical need for further exploration into the propaganda mechanisms and political dynamics influencing the dissemination of information about the test site. By emphasizing the necessity for a more accurate assessment of the interplay between human activities and environmental sustainability, the article calls for a reassessment of historical narratives to ensure a balanced coexistence between humanity and the natural world.

Keywords*:* nuclear physics, test site, ecology, ideology, colonization.

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СЕМЕЙ ЯДРОЛЫҚ ПОЛИГОНЫНЫҢ ҮНСІЗДІГІ: ӨТКЕНІ МЕН БҮГІНІ

Аңдатпа

Бұл мақалада Семей ядролық сынақ полигонының әлеуметтік-экологиялық аспектідегі рөлі, әсері мен салдары қарастырылған. Зерттеу барысында мұрағат материалдары, ауызша тарих саналатын нарративті деректер жинақталып, тарихи-салыстырмалы және мазмұнды салыстырмалы зерттеу тәсілдері негізінде сараптама жұмыстары жүргізілді. Отандық ғылымдар ғана емес, сондай ақ әлемдік ғалымдардың зерттеулері, тұжырымдары мен Семейдегі ядролық сынақ полигонына қатысты ақпараттық фактілерге сандық-сапалық контент анализ жасалып, солардың негізінде кең көлемді талдау жұмыстары жүргізілді. Мақаланың зерттеу нәтижесінде Кеңес Одағы кезінде таратылған статистикалық және ақпараттық мәліметтерде қателік бары және ресми ақпарат пен шынайы ақпараттың сәйкессіздігін көрсетеді. Жергілікті халықтың шын мәнінде басынан кешкен жағдайға қарағанда, мемлекеттік органдар мен цензуралық ақапарат құралдарының тарататын мәліметтерінде едәуір алшақтық бар екені атап өтіледі. Мақала сол замандағы ақпараттың таралуына әсер ететін пропаганда механизмдерін, цензураны және саяси динамиканы шынай тарихқа қол жеткізу үшін одан әрі көлемде қайта саралаудың маңыздылығын ескертеді. Қорытынды: адам мен табиғат арасындағы тепе-теңдікті

дұрыс сақтау мақсатында Семей ядролық сынақ полигонына қатысты ақпарат қосымша зерттеуді қажет етеді.

Кілт сөздер: ядролық физика, полигон, экология, идеология, колонизация.

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МОЛЧАНИЕ СЕМИПАЛАТИНСКОГО ЯДЕРНОГО ПОЛИГОНА: ПРОШЛОЕ И НАСТОЯЩЕЕ

Аннотация

В данной статье подробно рассматривается сложная история и влияние на общество Семипалатинского ядерного испытательного полигона, акцентируя внимание на его роли, воздействии и последствиях с социо-экологической точки зрения. Используя комбинацию архивных документов, устных исторических рассказов и надежную и не оспоримую методологическую базу, включающую исторические, сравнительные методы и анализ содержания, исследование систематически структурирует находки международных ученых вместе с данными, связанными с проведенными на Семипалатинском ядерном испытательном полигоне. Значительная часть исследования посвящена неточностям в статистических данных, распространенных во времена Советского Союза, подчеркивая значительный разрыв между официально заявленными эффектами и реальными последствиями для окружающей среды и местных населенных пунктов. Исследование подчеркивает критическую необходимость дальнейшего изучения механизмов пропаганды, цензуры и политической динамики, влияющих на распространение информации касательно Семипалатинского ядерного испытательного полигона. Заключение: акцентируя внимание на необходимости более точной оценки взаимодействия между человеческой деятельностью и устойчивостью окружающей среды, статья призывает к переосмыслению исторических нарративов, политической воли и информационных влиянии для обеспечения сбалансированного сосуществования человечества и природы.

Ключевые слова: ядерная физика, полигон, экология, идеология, колонизация.

Introduction. In the final decades of the 20th century, humanity encountered environmental challenges that required immediate resolution. The danger of a global ecological catastrophe forced us to find the main causes of it. Historically, the conflict between man and nature beginning with the rapid development of producing industries can be seen in the works of Karl Marx and Frederick Engels, who studied in detail the development of capitalism. The Marxists and Frederick Engels put an ecological perspective at the heart of the central issue of social transformation. Their work highlights its deep, fundamental relationship with modern ecological economics and systemic ecology. They wrote that in order to develop goods manufacturing and increase capital, mankind could damage the land system in a catastrophic way, so people can save their lives on earth only if they embark on the path of human egalitarian development and fulfill all the requirements for nature conservation [1].

However, the strive of humanity for modernization, as well as migration and modern economic patterns, have not diminished but aggravated existing environmental problems. Humanity occupies the Earth, this unsustainable practice of modern society, which ignores the influence of nature, has led to an era of deprivation of common living space and a reduction in habitable lands [2]. Admittedly, it can be caused by actions taken to improve people's lives or enjoy life. So, nature was exploited to satisfy humans' needs. However, for the national security of mankind, the role of issues against man and nature is different, from the issue of nuclear weapons. Nuclear war was a deliberate decision of the world powers [3]. The movers and shakers of the world have forgotten the subtleties of man and nature in the race to express their power and imperial ambitions. During the arms race of the last century, "black spots" appeared in several parts of the world. Today, this "fibrosis" in the earth's crust causes great damage to nature. Nuclear testing has also changed the biosphere itself, turning the earth into a huge laboratory of nuclear effects that support an unpredictable claim to a deep future [4]. Everyone knows that the largest number of nuclear tests on Earth were carried out at the Semipalatinsk test site. Consequently, biodiversity in the Semipalatinsk region experienced swift alterations, leading to the deterioration

of ecosystems. Each species of flora and fauna was adversely affected by the impacts of radiation, contributing to a significant ecological decline [5]. Experts contend that the magnitude of environmental degradation now represents a threat to national security. The deteriorating environmental conditions adversely impact human health, underscoring the urgency of addressing these ecological challenges to safeguard public well-being [6]. Despite the fact that some parts of the landfill were cleared, a high level of radiation was still observed on the surface of the earth (up to 50 microsv / h.). Some of the explosion sites in the craters were heavily contaminated with former radiation sources up to 1800 cpm at the surface, indicating a probable plutonium level of 1 MBq / m2[7].

The history of the Semipalatinsk nuclear test site, a notorious example of natural contamination by humanity dates back to 1949. During the arms race, STS was an important military and scientific institution within the Soviet nuclear weapon production chain organized in support of the national security of the USSR. Between 1949 and 1990, 456 nuclear and thermo-nuclear bombs were detonated at STS with the goal of determining their destructive effects and possibilities for their improvement. From the Soviet state's perspective, STS fulfilled its purpose. However, it produced massive radioactive fallout that caused disability and human suffering in Kazakhstan. In 1991, STS was shut down by the government of the newly independent Kazakhstan.

Reserch methods. In the course of the research, expert work was carried out on the basis of historical-comparative and cultural-comparative research videos of data from archives. Narrative data and archival materials reviewed orally were compared, comparative studies were conducted, and the accuracy of the information was clarified. Also, the findings of world scientists were classified, and as a result, mutual contradictions of the findings were determined. On the basis of quantitative and qualitative content analysis, it was proved based on archive materials that the information circulated during the Soviet Union was processed due to the political situation.

Discussion. The people of Kazakhstan have been fighting the legacy of nuclear testing for many years. However, until the mid-1980s, residents of the Semipalatinsk region were completely unaware of the nuclear tests taking place in their region. People were "poisoned" by the ideology of the authorities, were proud of the scientific achievements of the USSR, and spent their whole lives in pursuit of their health and the fulfillment of the five-year plan. Residents of the Semipalatinsk region could have expressed their opinions voluntarily if they had the experience to oppose the power in their daily actions or practices.

Only with M. Gorbachev's coming to power did the period of "ideological fairy tales" come to an end, and democratic changes in the country revealed the real state of crimes against humans. In the time of the Soviets, environmental policy was not given much importance, and even in the days of independent Kazakhstan, ecology existed in the form of legislative acts but was not thoroughly implemented in practice. Information about the Semipalatinsk test site was deliberately kept secretly during the Soviet time, and such a state of things is still observed. In this regard, scientists meet some difficulties in studying the history and current state of the Semipalatinsk test site.

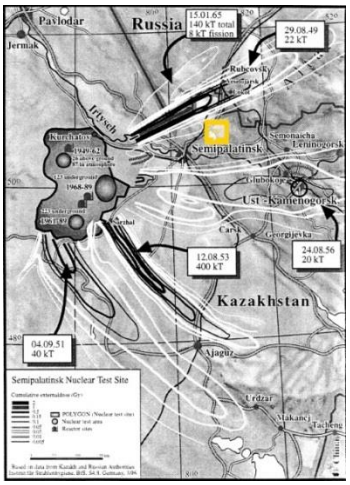


Figure-1. Semipalatinsk Nuclear Test Site. Was taken From Radiat Environ Biophys (1997) 36:201-204

Regarding the Soviet era, the environment was not treated as a separate domain within government management until significant reforms were enacted following the enactment of the Law on Nature Protection on October 27, 1960. It was from this point onwards that genuine efforts to safeguard the environment were observed. In 1961, the establishment of the Commission for Nature Protection under the USSR State Planning

Committee marked a pivotal moment, and in 1964, the USSR Ministry of Agriculture initiated the Central Laboratory for Nature Conservation. [8].

The above-mentioned laws and established organizations in the USSR were beginning to form a scientific basis for the rational use of nature and aimed at preventing or regulating the activities of special industries and individuals in the use of nature. Environmental governance and conservation operated under a system of departmental segregation, with the legislation primarily targeting individuals. While this approach managed to curb instances of unauthorized logging and hunting, it proved inadequate in addressing the environmental challenges posed by large-scale industrial activities. A holistic strategy was essential for effective environmental problem-solving, yet during this period, even discussing environmental issues was off-limits, let alone addressing them. Despite these challenges, pollution and detonations persisted at the Semipalatinsk testing ground.

However, the advent of globalization and international collaboration marked the beginning of a new phase in environmental policy development in the early 1970s, characterized by a comprehensive approach to tackling the existing environmental issues. [9]. This era saw the creation and implementation of foundational environmental laws concerning land, water, minerals, forests, air quality, wildlife, and health. Additionally, it featured the refinement of sustainable natural resource use theories, the development of economic mechanisms amid industrial growth and escalating ecological crises, and an enhanced role for the state in regulating environmental management processes.

The Stockholm Conference of 1972, focused on environmental protection issues, played a pivotal role in shaping global environmental policy. The United Nations General Assembly took the initiative by deciding in 1968 to organize an international environmental conference in 1972, leading to the Declaration on the Human Environment. The declaration says that “Humans cannot survive on earth if they cause irreversible damage to the environment. If a person decides to harm his fellow humans, then in the process he can destroy the whole ecological system. In total nuclear war, both humanity and other forms of life on earth can completely vanish, and the planet can become as dead as the moon”. The declaration included 26 principles on nuclear issues. Despite the USSR's political decision to abstain from participating in the conference, its key tenets and suggestions were echoed in the resolutions and directives of the Communist Party and State, as well as in various documents addressing environmental protection issues during the 1970s and 1980s. [10].

In spite of the issue of nuclear testing becoming of global reach, the USSR authorities did not make a clear decision in favor of their people in connection with nuclear tests. However, anonymous radioecological studies were conducted to assess public health and environmental pollution, but the authorities were skeptical about their results.

In response to a report from the Ministry of Health of the USSR highlighting significant radioactive contamination following the nuclear test on August 24, 1956, the Soviet government authorized the first detailed investigation of the local population. This led to medical expeditions being dispatched to the Semipalatinsk nuclear test site in 1956 and 1957 to assess the health impacts on the surrounding communities [11]. In the settlement Sarzhal covered by a radioactive cloud since 1953, the radioactivity of the butter, produced in the area for example, exceeded the norm by 58 times, and the radioactivity of the grain in one of the Semipalatinsk warehouses exceeded the norm by twelve times [12].

In 1957, within the city, a permanent research institute was established to conduct investigations into the effects of operations at the Semipalatinsk Nuclear Test (SNT) site on public health. This institution was discreetly named Dispensary No. 4, a designation chosen to avoid drawing attention to its actual function and research activities [12].

A comprehensive research conducted by the National Academy of Sciences of the Kazakh SSR between 1957 and 1960 determined the detrimental effects of nuclear testing at the Semipalatinsk nuclear test site on the health of humans and animals [13]. Although the study's findings were not fully disclosed due to the authorities' denial of the situation's severity, the revelation of the research outcomes to the leadership of Kazakhstan and the former Soviet Union prompted concern from the Military Industrial Complex regarding the health impacts of nuclear testing. This concern led to the declaration of a moratorium on nuclear testing. Starting from 1961, dangerous surface tests were halted, and by 1963, only underground testing was permitted. [5]. The assertion that most of the health problems of the local population were caused by poor hygiene and nutrition of local residents would later be promoted by the Soviet military-industrial complex to divert attention from the aggravating effects of radiation on existing problems in the region [11].

B.A. Atbacharov in his manuscript entitled “Errors, lies and truth on the question of assessment of the impact on the health of people of testing atomic weapons at the Semipalatinsk nuclear site” stated that the materials of the conducted scientific research were presented in 12 volumes of scientific reports under the heading “top secret” [14]. The author recounted his experiences, highlighting that during the conference proceedings, it became evident that the military-industrial complex had meticulously orchestrated a plan for the conference. This strategy aimed to pressure scientists from the Regional Pathology Institute into relinquishing

their stances and adopting the military-industrial complex's viewpoint as the definitive truth. In cases where consensus could not be achieved, there was a contingency plan to circulate disparaging critiques from compliant proponents of the military-industrial complex.

The authority of the military-industrial complex regarded the Institute of Regional Pathology of the Academy of Sciences of the Kazakh SSR as a staunch adversary. Recognizing the vulnerability of its stance and the inability to counter the researchers' arguments and perspectives through genuine scientific debate, the military-industrial complex resolved to convene a contingent of its advocates prior to the conference. Their mission was to discredit and undermine the findings presented by the Kazakhstani scientists. [5]. It proved that the USSR authorities did not want to admit the harm from nuclear tests and tried to refute the research of local scientists and kept a close eye on the dissemination of this information.

The influence of the Stockholm Conference is evident through the subsequent actions of the USSR authorities, who undertook a comprehensive review and amendment of environmental legislation and policies. Notable examples of this legislative shift include the incorporation of nature management and environmental protection themes within key documents such as the 1977 Constitution of the USSR, the 1972 Resolution by the Central Committee of the CPSU and the Council of Ministers of the USSR "On strengthening environmental protection and improving the use of natural resources," and the 1978 Resolution "On additional measures to strengthen nature protection and improve the use of natural resources," among others. These documents encapsulated the ethos of ecological restructuring, detailing state-level policy reforms, regulatory mechanisms for environmental management and protection, the roles of environmental bodies, and the responsibilities and rights of natural resource users. However, these documents conspicuously omitted any specific references to the people, flora, and fauna of the nation's "secret sites." Moreover, they generalized data and failed to disseminate precise information about ecological dangers.

It was known that the USSR representatives did not attend the Stockholm conference in 1972 [15]. Moreover, until the late 1980s, Western countries had little ties with Soviet bloc organizations, where tight bureaucratic control over information flows and freedom of movement held back public debate. However, after the Stockholm Conference, the USSR authorities revised the laws on environmental resource management and took new steps in environmental policy. For instance, matters concerning nature management and environmental protection were addressed in legislative and regulatory frameworks such as the 1972 Resolution of the Central Committee of the CPSU and the Council of Ministers of the USSR "On strengthening nature protection and improving the use of natural resources," alongside the 1978 Resolution "On additional measures for strengthening nature protection and improving the use of natural resources," among various others.

Power encapsulates the development and execution of transformative policy changes at the governmental level, the regulatory mechanisms for managing and protecting the environment, and specifies the entitlements and duties of individuals and entities that interact with nature.. But, again, the people, flora, and fauna of the so-called “secret places” of the country were not mentioned in them. The law principles were presented in a rather generalized form, the issue of providing the local residents with reliable ecological information was out of the question. Information on the health of the population and the state of nature in the areas where nuclear tests were being conducted had remained completely secret.

Since the middle of the 20th century, scientific research institutes and laboratories have been set up in the USSR to develop theoretical and practical aspects of environmental protection. Over time, the field of nature conservation emerged as a distinct scientific discipline, dedicated to examining this multifaceted social phenomenon comprehensively. Today, it is referred to as nature management. Throughout its developmental phase, spanning from the late 1950s to the early 1970s, this area of study was initially known as natursociology or sozology.

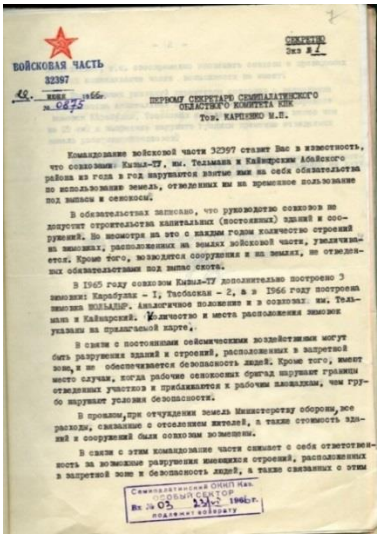
In 1985, M. Gorbachev as the head of the Soviet government declared a moratorium on nuclear explosions, and since 1986, Soviet society has gradually turned to democratic changes. [16]. To the Soviet leadership, environmental issues appeared politically neutral, perceived as less contentious compared to matters such as human rights and freedoms. [17]. Consequently, the conservation of nature became a focal point in political debates, with the environmental movement rapidly growing into a widespread and powerful social force. This movement was capable of rallying extensive support, mobilizing numerous advocates for protest actions. [18].

Thus, the issue of the Semipalatinsk test site succeeded in being discussed in Kazakhstan as well. There was every reason to believe that environmental protests in Moscow had sparked protests among the people of Semipalatinsk. The local writers and poets were the first to protest [19]. February 25, 1989, was the date when the anti-nuclear movement started in Kazakhstan [20].

From this time a new history of the Semipalatinsk test site began. The local population was provided freedom to express their views and they had partial access to information. Now the public evaluated the Semipalatinsk test site differently and attitudes toward its activity changed. At any stage, the formation of discourse in society was in the direct focus of the authorities. The government monitored the formation of certain notions to avoid the matter of those notions becoming an anti-government issue. Authorities imposed bans to

achieve their goals. Thus, so-called "black dots" that are banned topics appeared. In particular, such topics are numerous in politics.

In general, military secrecy has increased since the end of World War II. The Cold War is commonly believed to be set with Churchill's speech at Fulton in March 1946 [21]. That speech induced activities in the field of protecting military secrets in the USSR. The concept of military secrets covers information about military activities, whether officially designated as state secrets or otherwise, which is restricted from being disclosed. Therefore, through the application of censorship and legal frameworks, the Soviet government's bureaucratic system effectively made the subject of military affairs and the realm of nuclear production topics that were not openly discussed.



ВОЙСКОВАЯ ЧАСТЬ
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ПЕРВОМУ СЕКРЕТАРЮ СЕМИПАЛАТИНСКОГО ОБЛАСТНОГО КОМИТЕТА КПК
Тов. КАРПЕНКО М.П.

Figure – 2. A secret document about the residents of the Abai district. Declassified document from the Semipalatinsk archive. Photo by Maksat Zhanibek.

Post-war, the role of the censorship body was significantly enhanced, with its oversight shifted to fall under the Council of Ministers of the USSR. Meanwhile, the regional counterparts of Glavlit (the Main Directorate for Literature and Publishing Houses, previously under the People's Commissariat of Education of the RSFSR) came under the authority of the respective local Councils of Ministers in various republics. [22]. Immediately with the cessation of hostilities, steps were initiated to adapt Glavlit's functions to a peacetime setting, due to the obsolescence of the wartime regulatory documents. [22].

The guidelines on what could not be disclosed or published regarding military matters, and the type of information deemed a military secret at that time, were outlined in the consolidated military censorship instructions of the USSR Armed Forces, issued on May 20, 1946, under document number 8. These instructions specified the categories of information that were prohibited from being revealed::

1. Details on the construction or renovation of camps and barracks, unless the location was not specified.
2. Information about the age, social background, ethnicity, political party membership, and Komsomol membership within the ranks, formations, units, ships, and subunits of the USSR Armed Forces.
3. Figures regarding the count of individuals wishing to extend their service beyond the standard term.
4. The unique numbering and special codes for units as decreed by the Supreme Commander-in-Chief.
5. Details concerning the movements of officers and generals within the USSR Armed Forces.
6. Specifics on the positions, military ranks, and identities of commanders that could potentially reveal the size and structure of military units and formations. 7. Field post numbers. etc.

A key role of Glavlit involved overseeing the safeguarding of military and state secrets within publishing entities, including granting publication approvals and supervising military literature that was published. In this capacity, Glavlit worked closely with the Office of Military Censorship under the General Staff of the USSR Armed Forces, ensuring a collaborative effort in the monitoring and control of sensitive information. (22).

The Glavlit Office enforced a ban on the publication of any content related to the exploration and mining of uranium and thorium as part of the initiative to secure information concerning the atomic project in the USSR. It's worth mentioning that the very existence of an atomic weapons program and any related topics within the USSR were classified at the highest level of secrecy, necessitating stringent organizational measures and confidentiality protocols..

Given the global and domestic context of the Cold War, the imperative to safeguard military secrets remained paramount, demanding vigilant oversight. These military secrets, integral to the broader category of

state secrets, were safeguarded by national protocols due to their susceptibility to espionage by foreign intelligence agencies in the military domain. To prevent any potential information breaches, the state, through the Commissioner of the Council of Ministers of the USSR and Glavlit, implemented strategies to inhibit the dissemination of sensitive data via literary works and materials that could reveal the military and economic capabilities, political and ideological stance, moral ethos, strategic capacities, and political aspirations of the USSR. Over the years of its independence, Kazakhstan has passed through several stages in the development of its environmental policy. In the early 1990s, the economic framework for environmental protection, established in the early 1930s during the Soviet era, was still operational. By 1995, the Republic of Kazakhstan had enacted a new "Law on Environmental Protection." This legislation outlined key economic mechanisms for safeguarding the environment, introducing payments and subsidies designed to promote the rational and effective utilization of natural resources.

A cornerstone in the environmental policy framework was the Constitution of the Republic of Kazakhstan, adopted on August 30, 1995, which laid down the foundations of the national environmental strategy. Articles 6, 31, and 38 of the Constitution were imbued with ecological and legal significance, marking the inaugural endorsement and implementation of a novel ecological and conservation-oriented concept. This concept underscores the state's commitment to preserving an environment conducive to human health and well-being.

However, this law did not reduce the number of productions in the area of the Semipalatinsk test site and did not fully assist in improving the potential of the ecologically-challenged zone, as it worked only in name.

To date, censorship has not been established in Kazakhstan, as in the Soviet era, people are not imprisoned for spreading information, but information about the environmental situation is strictly limited by law.

Government entities constitute components of the state apparatus, with those established for environmental protection characterized by their supra-departmental control authority. This signifies that they oversee compliance with environmental laws across all state bodies, enterprises, and organizations, irrespective of their ownership structure or departmental association. [23].

The state, with its vast capabilities and influence, bears the responsibility for implementing measures to protect the environment, ensure the sustainable use of natural resources, provide social support for rural communities, and secure employment opportunities for its citizens. Regardless of the governing system in place, subjective factors play a role, meaning political decisions can sometimes be swayed by the interests of specific individual groups, which may not always align with the broader societal welfare. [24].

Access to state information resources concerning environmental protection is facilitated by establishing and maintaining public registers and environmental cadastres. Legislation in the Republic of Kazakhstan regulates the provision of access to documents and resources that contain information and data classified as restricted access. Through internet publishing and the utilization of other accessible information and communication tools, state agencies are mandated, within their areas of authority, to disseminate various categories of environmental information:

1) reports on the state of the environment;

2) draft versions and finalized texts of regulatory legal acts and international agreements pertaining to environmental protection;

3) preliminary drafts and official texts of documents concerning state policy, programs, and strategic plans in the realm of environmental protection;

4) reports on the results of the control and inspection and law enforcement activities in the field of environmental protection;

5) information related to the list of basic e-government services in the field of environmental protection.

To disseminate environmental information state bodies may involve individuals and legal entities in the manner prescribed by the legislation of the Republic of Kazakhstan on public procurement and state social order.

The State Environmental Fund is tasked with the centralized collection, cataloging, and preservation of environmental data. The administration of the State Environmental Information Fund is managed by an entity that operates under the supervision of the designated authority responsible for environmental protection (The Republic of Kazakhstan. Environmental Code of the Republic of Kazakhstan, 2007).

So, part 1 of Article 136 of the Ecological Code of the RK established that individuals and legal entities must have access to information on the work of state bodies exercising state control in the field of environmental protection, reproduction, and use of natural resources and its results. At the same time, Part 2 states that state bodies exercising state control in the field of environmental protection, reproduction, and use of natural resources ensure the publication of the results of not all, but only individual inspections and annual reports [24].

According to Article 118 of the Environmental Code of the Republic of Kazakhstan, officials tasked with conducting state environmental monitoring are required to keep the details of their inspections confidential. They

are mandated to report only to law enforcement agencies about any breaches of environmental laws that exhibit characteristics of a criminal act.

Article 127 of the Environmental Code of the Republic of Kazakhstan is similarly dedicated to safeguarding the confidentiality of information gathered throughout the process of an environmental inspection.

The above-mentioned articles are not worded accurately as there is no clear instruction to citizens, managers, and employees on what information to provide or what information to hide. In any case, instead of disseminating information, officials tended to hide the information to avoid law-breaking. Therefore, environmental information is not widely disseminated in Kazakhstan. Much of the data from the Environmental Information Dissemination Center, which I reviewed, is supplemented with meteorological data as it is prescribed by the legislation.

The approach to managing environmental information lacks scientific justification, coherence, and completeness. Additionally, specific regulations in the Republic of Kazakhstan, such as the Water Code, Forest Code, and Land Code, do not establish a clear procedure for the provision of environmental information.These discrepancies within the legal framework create circumstances that allow government bodies to withhold environmental information, despite the Aarhus Convention stipulating the application of public interest criteria (Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters, dated 25 June 1998).A similar situation is evident in the Law of the Republic of Kazakhstan "On State Statistics," which assures confidentiality for the primary statistical data of individuals and legal entities. This confidentiality could limit public access to statistical information regarding emissions, discharges, and waste disposal activities of specific enterprises[24].

Consequently, only a limited portion of environmental information, which holds interest for the general public, is made accessible through publication in the media and by being posted on the official websites of government agencies. Most of the environmental information is available only by requesting it. However not all media bodies are interested in environmental issues, and they are reluctant to publish a special request and materials on environmental issues. Most of the mass media outlets prefer to provide readers with easily accessible and entertaining information, that is, they are limited to news about entertainment, crime, and everyday political events. There are hardly any reputable environmental journalists or special programs in the country.

Accessing information about major chemical pollutants poses a challenge for the public, especially in understanding the operations of mining companies in the Semipalatinsk test site area. The lack of monitoring over these companies' activities means that information about potential pollution or re-pollution is not provided by government bodies. Furthermore, materials necessary for evaluating environmental impacts and the government's ecological assessments are not publicly accessible, despite being components of the State Fund for Environmental Protection within the Environmental Protection Information Plan. The production sites conduct an environmental review of the selected company by special order, but as far as the expert company is financially vulnerable, the objectivity of results is questionable.

In 1997 the laws On the protection of the environment" and "On specially protected natural areas were adopted. Those laws did not provide any provision for specially protected ecological zones. In 1998 and 2002 corresponding laws on radiation security and on protection of atmospheric air were also introduced. However, the population of the villages near the landfill is not legally literate and we cannot say that they know the above laws and apply them to improve their lives.

The early 1990s marked a period where environmental issues, particularly those concerning the Semipalatinsk test site, were openly discussed in the democratic press. Following its independence, Kazakh authorities started to inform the public about the hazards associated with the Semipalatinsk site. This period saw an increase in the number of articles and memoirs written by members of the intelligentsia and local officials about the site. The disclosure was supported by the release of previously confidential sources, including statistical and demographic data, along with government environmental reports, enabling a more document-based dissemination of information.A number of books on the history of the Semipalatisk nuclear test site by Kazakhstani authors such as Keshirim Boztaev, Medeu Sarseke, Daulet Seisenuly, Aidar Akchabarov, Saim Balmukhanov were presented with essays devoted to separate stages of the history of the SIP and individual spheres of life in the region (medicine, education, culture, history, etc.). The authors and compilers of these works draw upon a rich blend of archival data and personal memoirs, referencing numerous facts and names throughout their narratives. Although these books may occasionally veer into the populist genre and exhibit certain inaccuracies, they nonetheless provide a wealth of intriguing insights into the enterprises that shaped the city's development, as well as the cultural and social dynamics that unfolded within the Semipalatinsk region.

To uncover the veiled realities and untold stories of the Semipalatinsk test site, we delve into the archives of local governmental and regional administrative bodies of the Semipalatinsk area. These archives encompass

a variety of documents, including meeting minutes, official memos, reports from political departments, records from citywide party assemblies, party gatherings, and conferences held by key enterprises and institutions within closed cities. They also consist of records from plenary sessions, meetings of the CPSU's Civil Code Bureau, and findings from party committees tasked with plenum and bureau meeting preparations. Additionally, minutes from city Councils of People's Deputies meetings are examined. Notably, the criminal case files against certain individuals from the Abay region, alongside KGB reports detailing breaches of the secrecy protocol and the public sentiment, are of particular significance. These documents provide a window into the daily life within a closed city, revealing residents' perspectives on the secrecy mandate, instances of non-compliance and consequent penalties, prevailing social norms, attitudes, necessities, consumer behavior, and demands, as well as the political demeanor and psychological atmosphere prevalent in the Semipalatinsk region.

A unique aspect of the case documents that facilitated the uncovering of historical truths were the letters sent by residents of the Aibaysk and Abralinsky districts to central, regional, and city party authorities in the early 1990s. These correspondences from individuals living near the nuclear test site served as a crucial resource, offering insights into the social dynamics, the individuals involved, their interactions, behaviors, motivations, socio-psychological traits, and perceptions of the events unfolding around them. Like personal documents, these letters could potentially distort reality, especially considering they were penned during Kazakhstan's severe economic crisis, which might have influenced the writers' perspectives and descriptions. The letters expressed a very strained emotional state of the authors, who were claiming that the Semipalatinsk test site was the cause of death of their relatives without any medical grounds and asked for help from the state.

It is impossible to determine the exact cause of death of residents of villages near the Semipalatinsk test site, as medical care was not well provided in rural areas. The shortage of medical professionals was recorded in the archive documents. But other information, such as the movement of the population of the Semipalatinsk region can be followed through the census. Examining urban registries enriches our understanding of the socio-demographic profile of the Semipalatinsk region's inhabitants. This analysis reveals the average age at which people marry, and tracks the trends in marriages and divorces, as well as births and deaths, thereby providing a comprehensive view of the changing social landscape in the area.

Regarding our subject matter, sources of a personal nature hold particular significance. Autobiographies, letters, and memoirs of veterans, preserved within their households, stand out as especially crucial resources. Additionally, manuscripts authored by veterans of the facility and the city, which have been published in local newspapers, are invaluable for gaining insights into personal experiences and historical contexts. These documents provide a lot of information about the life of the local population. However, it takes some effort to find people who worked on specific test sites during the explosion. Due to a targeted personnel strategy and stringent criteria for worker selection in nuclear cities, a distinct social group emerged. This group resided and labored within the artificially established confines of a segregated system, shaping a unique community dynamic and lifestyle. There was special access control and work related to the preservation of state secrets [25]. The influence of the Soviet Union was the same in all industrial cities. The documents of the residents were sent directly to Moscow. During the Soviet era, the data of the inhabitants of closed cities and secret objects were kept very secret. Therefore, there are some difficulties in presenting a picture of the relationship between the military and the local population.

The archival documents are not without their deficiencies: they lack materials that depict the environmental community's efforts during the 1980s and 1990s; there is a scarcity of information on the conservation actions taken by natural resource users in the 1990s; it proves challenging to follow the trends in environmental condition indicators; and there is virtually no data available on the funding allocated to environmental protection measures in various regions and at different enterprises. This situation indicates that the actual state of environmental policy during that time was far from satisfactory.Information on the ecological situation in Kazakhstan is disseminated by the State Fund for Environmental Information, where various reports on the state of the environment, the state of natural resources, and the management of resources of the Republic of Kazakhstan have been kept since 1991.

The surprising feature of those reports is the scarcity of data in them. The reports do not contain any information about the Semipalatinsk test site. Data on the Karazhyra coal company, Karazhal fluorite company, Shorskoye copper-molybdenum, and several gold mining enterprises located on the territory of the Semipalatinsk test site were hardly recorded. That is, ordinary people do not have access to information about the Semipalatinsk test site. The Institute of Radiation Safety and Ecology in Kurchatov, which directly studies the Semipalatinsk test site, provides different information. At the present time, the level of radiation is stated to be safe, and neither the mining area nor the coal itself represents a danger to human health, even if the radiation clearing was not carried out [26]. I interviewed Zhanat Baigazinov, Ph.D., who previously headed the laboratory

of this institute, and he informed me that now the lands of the Semipalatinsk test site are harmless and can be transferred to agriculture and production.

Figure – 3. Truck from Karazhyra Coal Company in the Semipalatinsk test site. Photo by Arafat Mamyrbekov.

At the beginning of the twentieth century, there was a spark of public interest in environmental issues, but many of them in the best case found a symbolic solution. In other words, the residents of the Semipalatinsk test site were compensated, and financial assistance was provided for the development of the region's economy [27].

Economic and political interests continued to dominate the conservation of nature, reinforcing in the minds of humankind the idea that environmental problems could be successfully ignored. This is evidenced by the situation at the Ecoforum in Almaty in 2012 where the views of the Ecoforum organizers and the Institute of Radiation Safety and Ecology did not coincide. The management of the institute tried to recognize the pollution in the area of the landfill to be safe for the population. The Institute tried to privatize economic activity, which has already taken place in unmarked and polluted areas of the Landfill, to "close the topic" of residual radioactivity and environmental consequences. It is difficult for scientists and the public to reach the truth because it is impossible to read or get acquainted with early secret documents [26,74]. These documents are classified, only information that does not pose a threat to state policy is available, so it is difficult to conduct a comparative analysis. For example, in the independent states formed after the collapse of the Soviet Union in 1991, researchers still find it difficult to access places where contaminated landscapes are considered a "hot spot". There is still more work to be done as current studies are incomplete [26,74]. To represent the historical appearance of the Semipalatinsk test site seems to be possible to analyze only indirectly by studying the documents of regional economic and health departments. However, even as Kazakhstan's political leadership has consistently exacerbated a growing and severe environmental and public health crisis, the negative health effects of radiation exposure are contained or redirected in the Soviet era in terms of guilt [26,74]. The institute authority plays a key role in producing scientific information about the testing site, but it also controls the discourse space regulating what information, and how and where it should be presented. Issues related to residual radioactivity are physically and discursively regulated, and the controversy of concern extends beyond the scope of public participation and public health [26]. The above-mentioned institution is fully funded by the state and the views of the institute authority fully coincide with the views of the state in the question relating to landfill area usage for economic purposes.

Conclusion. The Semipalatinsk nuclear test site remains one of the most enigmatic subjects, shrouded in secrecy from its inception and becoming a focal point for extensive research. Secrecy is defined by a specific legal framework that governs the accessibility of particular information. This framework emerges at a certain point in a state's evolution, serving to protect the security of various legal entities, including individuals, corporations (such as churches or political parties), the state itself, society, and international organizations [28]. We cannot say that the secrecy of the USSR is fully revealed today. The situation with environmental knowledge in the socialist camp shows that the government institutions were interested in the development of environmental policy since it helped to solve internal problems and could become one of the tools in the foreign policy arena. This trend continues in today's Kazakhstan.

Most villagers believed the government did not adequately protect them, and many people considered they were used as guinea pigs during the period of nuclear tests. The authorities do not share much about the

consequences of the Semipalatinsk test site, and in recent years there has been talk of giving these lands to agriculture. If it is transferred to agriculture, the lands also can be mined and such a situation worries the local population. The Kazakh people are skeptical about the history and future of the Semipalatinsk test site. Such controversial views exist in the extremely politicized realm, where the victims are fighting for greater compensation for their suffering, and the nuclear scientists try to represent their version of the past to the academic environment to succeed in obtaining finance in swop for their collaboration. Despite the fact that the Semipalatinsk test site is now free from the shackles of politics, there are fears that people and nature will again be ignored in the rush of economic prosperity.

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