Exploring access to education for children affected by the nuclear tests in Kazakhstan

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Abstract

The Semipalatinsk nuclear test site, active for 40 years from 1949, had a profound impact on over one million people. The subsequent high proportion of mortality and disability among the next generation poses a significant challenge for Kazakhstan as a legacy of the Soviet Union. This paper explores the access to education for children affected by the nuclear tests after the closure of the test site. The main data collection tool was semi-structured interviews with professionals from the health, education and social protection sectors, as well as civil activists in the nuclear-affected regions. The findings of this paper are based on a thematic analysis. The study found limited access to education for this particular group of children, which can be attributed to the adverse implications of the political and economic crisis during the first two decades of the newly independent state and the underdevelopment of inclusive education in Kazakhstan.

Key Words

inclusive education, nuclear testing victims, children with disability, Kazakhstan

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Introduction

During the Cold War, the USSR chose the remote, flat Kazakh steppe in Kazakhstan to conduct nuclear tests, due to its ideal geography (Kassenova, 2022, pp. 12-13). The Semipalatinsk nuclear test site, covering 18,000 km2, is situated in the former Semipalatinsk region in northeast Kazakhstan, which has since been renamed the Abay region. Approximately 450 nuclear and thermonuclear explosions, including 30 'surface' explosions, were conducted at the site during the 40 years starting from 1949 (Werner and Purvis-Roberts, 2006; Stawkowski, 2016). After the Soviet Union collapsed, Kazakhstan declared itself a non-atomic state and approved the law of the Republic of Kazakhstan: Law on Social Protection of the Citisens and Victims of the Semipalatinsk Nuclear Test Site (1992), which gave the number of radiation victims as 1.6 million. Residents who lived during the nuclear tests in the regions listed in the 1992 Law received a special ID recognising them as victims of the tests. However, this law has been amended more than ten times and the benefits and social support for the nuclear testing victims have been reduced. In 1998, the figure of those affected was reduced to 1.2 million due to birth, death and migration (Werner and Purvis-Roberts, 2006). Additional data is not available. My requests made to the Ministry of Health Care of Kazakhstan for additional information and participation in the research yielded no results.

Inclusion is a philosophy of involvement of all in society and education while decreasing exclusion and unjust practices (Booth *et al*., 2006; Polat, 2011). The roots of inclusion are enshrined in international human rights treaties such as the Universal Declaration of Human Rights, 1948, the United Nations Convention on the Rights of the Child, 1989, and the United Nations Convention on the Rights of Persons with Disabilities,

2006. Regarding inclusion in education, the key international document is the Salamanca Statement (UNESCO, 1994). It calls on the international community to support inclusive schooling and education in all education programmes. So far, the practice of implementation of inclusion in education differs across cultures and education systems (Dyson, 2013, p.36). Kazakhstan has ratified all of the preceding international treaties, but the practice of inclusive education remains under-developed. In contemporary Kazakhstan, educational practices are a hybrid of special education, integration in education, and some emerging practices of inclusive education (Makoelle, 2020; Rollan and Somerton, 2021. The notion of inclusive education in Kazakhstan was only legalised in 2011, while the definition of special educational needs appeared only in 2018 (Mussabalinova and Polat, 2023). This definition evolved in 2018, moving from a medical approach to a social approach. As a result, the criteria for identifying individuals (children) with special educational needs no longer included health conditions (Mussabalinova, 2024). Moreover, in the context of inclusive education, the medical approach primarily views disability through the lens of an individual impairment, viewing it as a condition that needs to be 'corrected' or 'cured.' Special education within this model often focuses on addressing specific deficits or limitations in an individual, with support primarily aimed at compensating for these deficits (Passeka and Somerton, 2024). In contrast, the social approach shifts the focus from the individual to the social and environmental barriers that impede participation (Makoelle, 2020). Recent research (e.g., Makoelle, 2020; Passeka and Somerton, 2024) has highlighted Kazakhstan's shift to a social approach, which emphasises environmental adaptation rather than medical intervention, and highlights ongoing challenges in fully integrating this model into education systems.

According to Tomini *et al*. (2014) and the OECD (2017a), in Kazakhstan, children with disability are getting more access to study together with children without special needs in mainstream educational organisations. However, this access is limited due to several reasons, including the lack of teacher preparation to work with children with SEN, crowded classes (more than 35 children per class), and social norms that are still not inclusive toward children with a disability (Makoelle, 2020; OECD, 2017a). It is uncertain whether adequate socialisation is obtained when a child who is enrolled in school is homeschooled with teacher visits. This paper explores access to education for children affected by the Semipalatinsk nuclear tests following Kazakhstan's independence.

This research aims to explore access to education for children affected by nuclear tests based on the perspectives of the local population. The political and economic context of this region played a significant role for children of victims of radiation so that they are double victims: victims of the nuclear past of the Cold War and victims of the political and economic crisis that followed the collapse of the Soviet Union.

Methods

The findings of this research are based on qualitative data obtained via 30 semi-structured interviews. All interviews except two were conducted in person over two months, from September to October 2022. Sampling included professionals from the education, medical, and social sectors, as well as civil activists of the Abay region, including Semey City (formerly Semipalatinsk), and two villages close by. In addition, civil activists and ex-residents of the region were interviewed in the ex-capital of Kazakhstan – Almaty, and in the current capital – Astana. Strategies to recruit participants included official invitation letters, messages via social media and emails to civil activists, and contacting people from my network. I am originally from the Abay region. I was born during nuclear testing in 1982 and have an ID that proves that I lived in the region during nuclear testing. Sharing life experiences with the participants, and being able to speak their languages: Kazakh and Russian, helped me in recruiting participants as well as building trusting relationships.

Given the sensitivity of the topic and the widespread experience of losing family members to cancer or other illnesses which many attribute to abnormal radiation exposure, prior discussion about research and all ethical matters was important. Data collection started after ethical approval was obtained from the University of Ulster. The framework of this paper draws on the theory of social justice (Rawls, 1971) and the concept of inclusive education, which emphasises equality of opportunity and the child's rights to development and education. Rawls's theory of social justice was applied to the study of inclusive

education because his principles can be valuable in creating a just and equitable education system. According to Rawls, justice as fairness requires two key principles: an equal distribution of basic rights and opportunities, and a difference principle that allows inequality only if it benefits the least advantaged members of society. This aligns well with the goals of inclusive education, which seeks to ensure that all students, regardless of disability or socioeconomic status, have equal access to quality education. Kazakhstan ratified the UN Convention on the Rights of the Child in 1994 and committed to implement it.

The findings are based on thematic analysis (Braun and Clarke, 2006). It allows us to explore the research problem in the complex context of the political and economic crisis. A research assistant and I both analysed the data collected in Russian and Kazakh in-depth in order to complete the coding process and incorporate themes. I translated the quotes provided below.

Findings and discussion

The understanding of social issues is greatly enhanced when they are considered within their specific context. In the case of this research, the unique context involves the simultaneous closure of the test site and the collapse of the Soviet Union. While the focus of the study is on access to education for children affected by the nuclear past, it is important to recognise that the broader political and economic factors form the context within which this issue arises. The data collection process reveals that the context takes precedence over the specific content being investigated. After the coding of data, four themes surfaced (see Table 1), where three themes explain the context and only one of them reflects content. This paper presents the analysis of two of them: 1) political and economic aspects, and 2) underdevelopment of inclusive education in the region. This choice is explained by the overarching aim of the PEER Network project, and the scope of this journal. The full project report is available online on the project website.[7]

Table 1. Themes generated

Themes	1. Historical and cultural features of the region	2. Political and economic aspects	3. Complexity of the problem	4.Underdevelopment of inclusive education in the region
Sub-themes	1. Political regime 2. Corruption 3. Siloed approach 4. Human rights violation 5. Political and economic crisis 6. Superficial approach in regard to education and children's rights 7. System decision-making and limitations 8. Desperation (normality) 9. Illiteracy of the population	10. Forced amnesia (hiding the problem) 11. Personal responsibility (Choice/no choice) 12. Civil activism	13. Injustice 14. Anti-colonial sentiment	15. Superficial approach regarding education and children's rights 16. Poor quality education 17. International standards 18. Improvements in the social service system

7 See: https://peernetworkgcrf.org/about-us/project-overview

1) Political and economic aspects

The first notable finding of this research was that it was difficult for participants to link the nuclear past with education. For example, for the following two questions: 1) According to your knowledge and experience, what was the situation regarding the access and the right to education for the children with disability in the 1990s, and is it different now?; 2) Do you know if the right of children with disability to education was considered within the state policy on the closure of the Semipalatinsk Nuclear Test Site?, the participants rather talked about the general political-economic situation in the region regarding the history of nuclear testing, the closure of the test site, and life afterwards. Participants appeared perplexed and challenged when I tried to frame the discussion within the education realm. Thus, the data collected mostly explained the context of the problem rather than the problem itself. This was consistent with the history of independent Kazakhstan. Kazakhstan is a relatively new country with only three decades of history. Despite this it has already gone through several political and economic crises. The first was the political and economic crisis during the transition to independence at the beginning of the 1990s. The nuclear test site was officially shut down in 1991. Kazakhstan declared itself a non-nuclear state. However, reaching this decision was not straightforward given the geopolitical complexities and uncertainties facing the newly emerged state (Kassenova, 2022). After 1997 when the Semipalatinsk region was added to the East-Kazakhstan region, according to research participants, the politicians forgot about Semipalatinsk's nuclear past and the resulting needs of local society. Semipalatinsk City was renamed in Kazakh – Semey City.

> 'At that time, the first president proposed to shorten the name [name of the city], because investors are afraid of radiation. But we do not see any investors' (Rosa, civil activist).

Despite this justification for renaming the city and erasing the memory of its nuclear past, no investors have come to the region in the last 25 years. Moreover, due to economic decline and unemployment, the region lost its qualified professionals, including doctors and teachers, who moved to other regions.

> 'Medicine is lagging behind. There is no early diagnosis... All our qualified specialists moved to Astana. This is because the wages are low, there is no future [promotion], there are no facilities, and there is no equipment' (Aizhan, social worker).

Therefore, I agree with Werner and Purvis-Roberts, who argue that the political and economic crisis affected local people as well as the ecological issues of the region:

> Rather than developing special programs to aid radiation victims, Kazakhstan has modified existing Soviet bureaucratic structures, the very structures that are being targeted by structural adjustment programs. Thus, programs to provide early pensions, disability pensions, and ecological supplements for the victims of nuclear testing have all been limited by a lack of government funds and a lack of NGOs' capacity to fill the void (2006, p.478).

Adverse economic consequences of political decisions surface and are admitted by the current president. In particular, in 2021, when he announced the restoration of Semipalatinsk region under a new name, the President said:

> This step will enable us to solve socio-economic problems quickly and to improve the well-being of the residents.... This decision marked, in fact, the triumph of historical justice. As a sign of special respect for the great Abay, the newly created region is named after him (Tokayev K.K. in Akorda.kz, 2022, translated by author).

Social activists of the region are happy to collaborate in economic development and want to be heard and not considered as victims.

> 'The attitude of the state itself towards the victims is that we are a biomaterial for the future, but we would not like to be considered as victims and give handouts. Little crumbs will not make up for anything. We believe that it is necessary to adopt a new law, taking into account the new time. And to ensure a quality of life for everyone related to the nuclear test site through the sustainable development of the region' (Rosa, civil activist).

2) Underdevelopment of inclusive education in the region

Despite the participants' struggles with linking the nuclear past and education, there are at least seven relevant findings discussed below. Participants were asked what political, economic, or social barriers to accessing education are faced by the children affected by the nuclear past in Abay region (Semey district), their views and experiences on the current provision of inclusive education in Abay region, and the type of support provided to the families who have a child (children) with disability, including a disability linked to the nuclear past, regarding access to education.

The first finding regarding education for children affected by the nuclear past is that there are such children.

> 'In our school four years ago about 10 children were identified with disabilities in connection with nuclear tests.' (Umit, teacher).

The second finding is that the education sphere is not adjusted to the needs of children with disability and special educational needs, especially in the context of the nuclear past. For example, according to the Soviet legacy, special educational needs should be confirmed by a psychological, medical, and pedagogical consultation centre (hereinafter – PMPC). As stated in Kazakhstani law 'On social and medical and pedagogical correctional support for children with disabilities' (2002), there should be at least one PMPC for 50,000 of the child population. There is only one PMPC in Semey City that works part-time and serves the 200,000 child population of Semey City and the other three districts of Abay region. Late consultations and long queues in this PMPC automatically reduce access of children with SEN to education. During the presentation of this particular finding in Semey City, the local educational authority admitted the problem and promised to open one more PMPC.

The third finding is limited places for children with SEN in special schools. Children who cannot attend school due to lack of spaces are home-schooled. These children lack socialisation skills, and the quality of their education is not monitored.

> 'If there were four boarding schools [for children with SEN] in our region, we would fill them all. There is only one, and it is crowded. If you ask how many certificates they issued they don't have places... Now they [state officials] have opened a special correction consultancy office. There's a waiting list; they [children with SEN] can't get in for two years. Four hundred people in the queue. We ask for support...But if we continue to talk about education, the quality of education suffers. The teacher doesn't know how to approach children with SEN. There are 60 children at school and 200 at home. Our doctors don't know who to write to study at home.' (Perizat, education professional).

The fourth finding relates to the shortage of specialists who can work with children with SEN. Especially, this is a serious issue for rural schools and preschool organisations. Teacher preparation lacks training on work in inclusive classes, therefore, children with SEN are limited to special schools where the number of spaces is limited.

> 'There are no specialists there [in mainstream schools]. In the first years, there were not enough specialists there at all... Ordinary teachers are not used to it yet... They contacted us.' (Umit, teacher).

The fifth finding is a problem with early intervention and rehabilitation services that are available only at the city level. Not all parents of children with SEN have the resources and time to carry their children to the city for these services. Overall, this finding also points to the lack of services to ensure access to education, which is a structural violation of children's rights and interests.

The sixth finding is specific to the region of the nuclear tests. It is a nutrition issue. A teacher from a rural school close to the test site shared her observation of children feeling tired because of the mix of radiation, anaemia inherent to the region and a lack of vitamins. Atchabarov (2002) called it 'Kainar syndrome'. These children do not receive any state support.

The last finding reflects recent changes regarding inclusive education. Most of the participants noticed that the situation in the social sphere has improved somewhat since Kazakhstan first became independent. There are improvements in inclusive education; at least teachers in rural schools have heard of the expression. Where PMPC and the

special medical commission suggest that a child is not capable of receiving education according to state education standards, these children are visited by social workers who teach them basic life skills, including self-care. According to one social worker's opinion, if the child's needs are recognised at an early age and early intervention services provided on time, a child has a chance to access and attend school or preschool organisations with other children. In addition, it was noticed that due to state programs on inclusive education and support of people with disability, social stigma is reduced and parents are not afraid to take their children for a walk and other activities outside the home. These changes are not specific to this region and are recent state activities in the social sphere and inclusive education across the state.

Discussion and conclusion

Data analysis on the above two themes demonstrates how context explains content. The educational needs of children affected by nuclear tests have been ignored by the state in its transition and recovery from the political and economic crisis. The political and economic crisis in the region after the Soviet Union collapsed negatively impacted people who already were affected by radiation. Poor nutrition, poverty, and unemployment contributed to the more profound marginalisation of children affected (institutionalisation of children, low quality, or lack of education). As a consequence, not all children affected by nuclear tests have access to education or quality education. Moreover, based on the findings, it can be argued that there are children born in the 1990s who remained at home and have never been socialised and educated. The restoration of the region as separate from East Kazakhstan a few years ago gives hope for better treatment of today's children with SEN and access to quality education for them. This will contribute to social justice, and a sustainable and long-term approach toward all children and future generations of the region, including those who are suffering from 'Kainar syndrome'.

Kazakhstan, along with many other countries across the world, signed up to the United Nation's Sustainable Development Goals, including number 4 (Quality Education) and number 10 (Reduced Inequalities). The word 'sustainable' for Kazakhstan seems unclear when it comes to social issues such as education and inequalities, since this research shows the expressed intentions of the state in this regard remain purely theoretical without noticeable structural changes. The process of change tends to be very slow and only the result of constant pressure and assistance from UNICEF or OECD (OECD, 2017b; United Nations Committee on the rights of the Child, 2015). Kazakhstan ratified the United Nations Convention on the Rights of the Child in 1994. Therefore, the state's policies related to the child must ensure the implementation of this convention, including Article 29: that the education of the child shall enable the full development of the child's personality, talents, and mental and physical abilities so that the child is fully prepared to live an individual life in society. However, as this research demonstrates, the implementation of children's rights in Kazakhstan, specifically right to education, is rather limited, and not all children enjoy this right. Thus, Kazakhstan has historically underestimated the role of education in promoting sustainable peace and social progress. Despite prioritising security, markets, and democratic reforms since the 1990s, the country has overlooked the special needs of children, even as it claims to have acceded to the UN Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities. The post-conflict experience of the Semipalatinsk region offers valuable lessons not only for Kazakhstan, but also for the global community. As one of the research participants suggests, the region offers important insights that deserve attention:

'We have experience and can tell. The educational part is important for young people ... Now they (outsiders) began to threaten with nuclear weapons. It is now that we need to talk about it.' (Adilet , social activist).

The Semipalatinsk test site is not the only ecological catastrophe and issue that remains after the Cold War and the collapse of the Soviet Union. The drying up of the Aral Sea and pollution from the Baikonur space station are two others. This research shows that inclusive education programs should address the specific issues of such regions and provide the required services according to regional needs. Kazakhstan made great reforms and increased the attractiveness of the state for foreign investors while ignoring its future generation's needs. Human capital should be one of the key priorities, and inclusive

education may enable a decrease in the budget burden via decreasing benefit dependency and increasing tax payments through an active and well-educated population.

This research was limited in its scope and time, while with the restoration of the region, there is a better chance for other comprehensive research which would explore the exact number of children affected and their educational needs. This research is the first that has explored access to education for victims of the Semipalatinsk nuclear test site and may inform future scholars for their study. Future research could explore additional frameworks such as transitional justice, reparations, environmental damage, environmental justice, or development, which may offer valuable insights for deeper analysis in the political economy section.

Author bio

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