

# POLICY BRIEF

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## Community Resilience in Kyrgyzstan's Former Uranium Monotowns: Local Voices and Visions

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### EXECUTIVE SUMMARY

Throughout the Soviet era, Central Asia was the site of extensive mining projects. As a result, numerous high-risk tailing dumps and other types of rare-earth metals and uranium legacy sites dot the region today<sup>1</sup>. This poses serious risks for local livelihoods, public health, and the environment, particularly within so-called 'monogoroda' or 'monotowns', urban areas whose socio-economic life are, or were, completely dependent on single production chains. The monotowns of Kyrgyzstan in particular face social, economic and ecological challenges that have been aggravated by the political and economic fragility of this post-Soviet country. Unfortunately, monotown communities, still having little knowledge of the legacies of uranium mining, including radiological waste, to this day do not effectively engage in uranium risk management. This policy brief focuses on how such communities perceive international projects that are being conducted in their midst toward the goal of developing their economies, and whether such perceptions may contain insights for international donors seeking to improve monotowns' community resiliency. The recommendations made here are based on a combination of desk research and fieldwork, including one-on-one semi-structured interviews, focus groups discussions and group interviews mainly conducted in three monotowns in northern Kyrgyzstan: Kadji-Sai, Orlovka, and Ak-Tuz.

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<sup>1</sup> Today, there are 92 hazardous waste sites in Kyrgyzstan, containing a total of 475 million tons of waste, including toxic substances. Q.v., United Nations Development Programme (UNDP), 'Stakeholder Engagement for Uranium Legacy Remediation in Kyrgyzstan – Phase II,' Regional Project Document (2019): <https://info.undp.org/docs/pdc/Documents/SVK/Project%20Document%20-%20Uranium%20II.pdf> (accessed 15 September 2022).

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## Overview

Kadji-Sai, Orlovka and Ak-Tuz all began as parts of the Soviet Union's massive mining endeavors,<sup>2</sup> which began in earnest in modern-day Kyrgyzstan's predecessor state, the Kyrgyz Soviet Socialist Republic (KSSR), in 1943, with emphasis on uranium exploration and extraction.<sup>3</sup> As such, they were designed, both physically and metaphorically, around a single industry, according to the plans of central planners and often without consideration to local conditions. Situated in off-the-beaten-path locations, they economically relied not only on mining, but also on direct subsidies from Moscow. Demographically, they also derived much of their populations from forced labour and relocated populations.<sup>4</sup> Unsurprisingly, the dissolution of the Soviet Union in late 1991, and the long transition into a decentralised economy that followed, bringing with it the end of government subsidies and the start of deindustrialisation and outmigration, have thus posed an existential threat to these monotowns.<sup>5</sup> Mining-related pollution has been a distinct dimension of this threat, as well.

## Past and Present of the Kyrgyz Monotowns

Let us take a few moments to zoom in on each of these three monotowns, starting with Kadji-Sai. Founded in 1947 on the southern coast of Issyk-Kul Lake at 1979 metres above the sea level, Kadji-Sai was initially focused on mining uranium oxide from ashes of brown coal

containing uranium, primarily taken from the Sogutin deposit, which operated from 1949 to 1966/1968.<sup>6</sup> The monotown then turned to coal extraction. In 1957, an experimental electrotechnical plant dedicated to producing semiconductor diodes was established. Both coal extraction and diode production met their demise following the end of communism.

Orlovka and Ak-Tuz were key constituents of the Kyrgyz Chemical and Metallurgical Plant, one of the grand enterprises of the Soviet era. Orlovka and Ak-Tuz were founded in 1910 and 1938 at 1300 and 2100 metres above sea level, respectively. Orlovka was the site of an ore mining and processing venture established in 1954 that was connected to a mine in the Bordy deposit in the Chuy Valley, while Ak-Tuz was the site of a strategically important polymetallic smelter complex, consisting of a mine, a factory, a diesel power station and a farm with its own transportation system, started operations in 1942. Ak-Tuz regularly supplied lead to Shymkent in what was then the Kazakh Soviet Socialist Republic (modern-day Kazakhstan). The Kutesai deposit, near to Ak-Tuz, was explored in the 1960s and soon became a cornerstone of mining in Kyrgyzstan,<sup>7</sup> yielding rare earths from the yttrium group (gadolinium, terbium, dysprosium, thulium, erbium, ytterbium, and others) that proved vital for numerous Soviet industries.

Today, Kadji-Sai's population stands at approximately 4515 residents according to 2022 statistics.<sup>8</sup> What little local economic

<sup>2</sup> Bogdetsky, V. and Novikov V., *Mining, Development and Environment in Central Asia: Toolkit Companion with Case Studies*, Zoë Environment Network, University of Eastern Finland, Gaia Group Oy, Joensuu, Finland (2012): 36.

<sup>3</sup> Note that uranium-focused mining in modern-day Kyrgyzstan was of particular focus in the closed 'nuclear towns' of Mailuu-Suu, Min-Kush, and Shekaftar

<sup>4</sup> Bogdetsky and Novikov 2012: 10. See also: Nasritdinov, E., 'Deurbanization: The Ruins of the Soviet Modernism in Mining Towns of Kyrgyzstan,' CABAR.asia (2015): [https://auca.kg/uploads/CASI/Working\\_Papers/WP%20Nasritdinov.pdf](https://auca.kg/uploads/CASI/Working_Papers/WP%20Nasritdinov.pdf) (accessed 1 August 2018).

<sup>5</sup> Q.v., Round, J. and Williams, C., 'Coping with the Social Costs of "Transition": Everyday life in post-Soviet Russia and Ukrainian,' *European Urban and Regional Studies*, v. 17, is. 2 (2010): 183-196.

<sup>6</sup> Lespukh E., Stegnar P., Usubaliyeva A., Solomatina A., Tolongutov B., Beishenkulova R., 'Assessment of the radiological impact of gamma and radon dose rates at former U mining sites in Kyrgyzstan,' *Journal of Environmental Radioactivity*, is. 123 (2003): 30.

<sup>7</sup> Q.v., 'Т. Усубалиев: Создание горно-металлургического производства — новая отрасль промышленности Кыргызстана [Т. Usubaliyev: Sozdaniye gorno-metallurgicheskogo novogo — upravleniya promyshlennosti Kyrgyzstana],' Turdukam Usubaliyev Public Foundation, 27 December 2017: <https://usubaliyev.org/2017/12/27/т-усубалиев-создание-горно-металлург/> (accessed 22 February 2022).

<sup>8</sup> According to the official statistics of the National Statistical Committee of the Kyrgyz Republic (Kyrgyzstan): <http://www.stat.kg/en/statistics/naselenie/> (accessed 8 August 2022).

activity remains is focused on selling cherries and peaches to neighbouring Kazakhstan and tending to local and international tourists during the summer. Crucially, a uranium tailing possessing a volume of 0,4 million cubic metres is located a mere 2,5 kilometres from the village's downtown.

As of 2022, Orlovka consists of approximately 6175 residents. In 2012, it officially received the status of a town of rayon (district) significance in the Kemin region. With respect to its post-Soviet economic development, it has fared better than the other two monotowns that are the focus of this policy brief. It has an important ski resort, and since 2015, a Chinese gold-mining enterprise known as Alтынken LLC has been operating a gold mine 12 kilometres away from the town along the Taldy-Bulak river.<sup>9</sup> Note that gold extraction actually started in the Soviet era; today, Orlovka's deposit is the third largest in the country.<sup>10</sup> Alтынken employs residents from nearby villages and has contributed to local infrastructure projects.<sup>11</sup> Despite these positive developments, Orlovka's residents are contending with several uranium tailings, the largest of which, at 3.2-3.7 million cubic metres of radioactive waste and occupying an area of 130,00 cubic metres, is approximately 3,8 kilometres from the town. The site is vulnerable to earthquakes, mudslides and heavy rainfall.<sup>12</sup>

At approximately 800 residents, including labour migrants who are not physically present on a consistent basis,<sup>13</sup> Ak-Tuz is perhaps in the most desperate situation of the three monotowns under consideration here, as it has no active industry while being surrounded by 2,3 million cubic metres of radioactive waste

in four tailings left behind from the period 1942-1978. This is to say nothing of large accumulations in the environment of industrial and toxic wastes containing radioactive thorium and salts of heavy metals (cadmium, molybdenum, lead, zinc, beryllium, hafnium and zirconium oxides). Note that Orlovka, being only 60 kilometres away from Ak-Tuz, also suffers from this pollution.

All three monotowns have been sites of several international projects and regional initiatives financed and/or conducted by donors and organisations such as the Community Development and Investment Agency (ARIS), the European Commission (EC), the European Bank for Reconstruction and Development (EBRD), the Organisation for Security and Cooperation in Europe (OSCE), RosAtom (the atomic energy agency of the Russian Federation), and the United Nations Development Programme (UNDP). Several of these endeavors have been aimed at improving the quality of life of local communities and have stressed the importance of building '[community] resilience to shocks and crises through enhanced prevention and risk-informed development'.<sup>14</sup>

## Local Voices and Visions

Community resilience is the core concept of this policy brief. It can be defined as the capacity to 'respond to and influence change, to sustain and renew the community and to develop new trajectories for the communities' future'.<sup>15</sup> Elena Korosteleva and Trine Flockhart (2020) argue that community resilience can

<sup>9</sup> Alтынken LLC was established in 2006, including a Kazakh investor and the state-owned gold mining company Kyrgyzstan OJSC. In 2011, the Chinese investing firm Superb Pacific Limited Company successfully negotiated a new licensing agreement in which Kyrgyzstan OJSC holds a 40% stake. The Chinese presence has been contentious among locals. Q.v., Ocakli, B., Krueger, T., Marco J., Kasymov, U., 'Taking the Discourse Seriously: Rational Self-Interest and Resistance to Mining in Kyrgyzstan,' *Ecological Economics*, is. 189 (2021): 1-12, DOI:10.1016/j.ecolecon.2021.107177; Moldaliev, J. and J. Heathershaw, 'Playing the "game" of transparency and accountability: non-elite politics in Kyrgyzstan's natural resource governance,' *Post-Soviet Affairs*, v. 36, is. 2 (2020): 171-187, DOI:10.1080/1060586X.2020.1721213.

<sup>10</sup> Ocakli et al. 2021: 3

<sup>11</sup> FGDs with local activists and women in Orlovka, November 2021.

<sup>12</sup> Tynybekov, A. K. and Emil-kyzy, A., 'Problem of Risk Modeling: Influence of Uranium Storage on Environment,' in *Radiation Safety Problems in the Caspian Region*, eds. M.K. Zaidi and I. Mustafaev, *Nato Science Series IV: Earth and Environmental Sciences*, v. 41 (Dordrecht: Springer, 2004): 79-84, DOI:10.1007/1-4020-2378-2\_12.

<sup>13</sup> Interview with a local mayor, January 2022.

<sup>14</sup> UNDP 2019: 1

<sup>15</sup> Magis, K., 'Community Resilience: An Indicator of Social Sustainability,' *Society & Natural Resources*, v. 23 is. 5 (2010): 402, DOI:10.1080/08941920903305674.

be enhanced only when the concrete members of local communities are enabled 'to actualize [sic] their potential in ways they [themselves] specify.'<sup>16</sup> With this in mind, we conducted 12 questionnaire-based focus group discussions (FGDs) in Kadji-Sai and Orlovka, involving a total of 87 participants divided into six groups of residents across all age ranges, as well as local activists and project managers of international and national projects. Our FGD questions focused on participants' perceptions of the economic, social, and environmental challenges faced in their everyday lives.<sup>17</sup> In Ak-Tuz, we conducted three group interviews and six semi-structured individual interviews. In addition, semi-structured interviews were conducted with project managers based in Bishkek and Osh in Kyrgyzstan, as well as Brussels in Belgium. These interlocutors were selected on the basis of their having engaged in internationally-funded initiatives in the field of uranium remediation and mineral resource management in Kyrgyzstan.

We explored both economic and social issues, but this policy brief is primarily focused on the former. With respect to economic issues, our interlocutors consistently indicated chronic unemployment and poverty, including sheer lack of money, as obstacles to meeting their basic needs. They specifically asserted that both the local authorities and international donors cannot solve their economic issues without the active participation of the central government of Kyrgyzstan. However, one resident advised that before Bishkek could become involved, 'the problem with corruption should be first solved'.<sup>18</sup> In a similar vein, residents of Kadji-Sai and Ak-Tuz expressed a distinct lack of trust in local authorities, particularly with respect to the latter's cooperation with international donors. When asked about their experience of international initiatives under-

taken in their communities, residents consistently expressed criticism and disillusionment. For example, FDG participants in Kadji-Sai discussed how ideas and projects submitted to a business incubator established via one such initiative remain unrealised.<sup>19</sup>

The need for capacity-building was also highlighted by our interlocutors, e.g., 'we lack knowledge of how to calculate the budget, how to draw up a project,'<sup>20</sup> '[such] information is not available, therefore, we do not know how to do it [i.e., to write a grant proposal],'<sup>21</sup> and, 'we would like to contribute, but we do not know whom we should contact.'<sup>22</sup> Our research indicates that some capacity-building training has been undertaken by international donors, and that some relevant resources have been made available, but both of these have appear to have primarily reached a restricted number of activists and members of local government. Of those who have participated in such trainings, a certain skepticism, if not pessimism, regarding their utility and real purpose prevails, e.g., 'I participated in one focus group. Two boys from some organisation came, pushing their own agenda. They listened to our ideas and took them away; they will probably implement these ideas elsewhere.'<sup>23</sup>

At this juncture, we should note that we have not been able to independently verify the assessments and allegations made by our interlocutors. We should also note that a project manager interviewed as part of our fieldwork revealed that tendentious complaints concerning the transparency of grant application procedures were made in the past by a group of people who were disappointed because they personally did not manage to win funding.<sup>24</sup> Put more technically, motivated reasoning and other biases may affect the perceptions of residents about the efforts

<sup>16</sup> Korosteleva, E. and T. Flockhart, 'Resilience in EU and international institutions: Redefining local ownership in a new global governance agenda', *Contemporary Security Policy*, v. 41, is. 2 (2020): 159.

<sup>17</sup> Q.v., Pierobon, C. and Adambussinova, Z., 'Community resilience and social capital in post-Soviet mono-industrial areas affected by the uranium legacy and radiation: evidence from Kyrgyzstan,' in *Resilient Communities of Central Eurasia: responding to change, complexity and visions of the 'good life'*, eds. Korosteleva, E. and Petrova, E. (London: Taylor & Frances, forthcoming, 2022): ch. 7.

<sup>18</sup> Interview with a female resident in Ak-Tuz, January 2022.

<sup>19</sup> FGD with men and women in Kadji-Sai, November 2021.

<sup>20</sup> FGD with women in Kadji-Sai, November 2021.

<sup>21</sup> FGD with women in Kadji-Sai, November 2021.

<sup>22</sup> FGD with male schoolchildren in Orlovka, December 2021.

<sup>23</sup> FGD with elderly men in Kadji-Sai, November 2021.

<sup>24</sup> Interview with international project manager, 29. November 2021. They did not specify which organisation.

being undertaken in their communities. That being said, the lack of trust is real, as does seem to be also a lack of direct and effective communication channels between international donors and their would-be beneficiaries on the ground.

These are not the only issues identified by our interlocutors. Crucially, there appears to be a conceptual gap between the financial expectations of funding systems and the realities of monotowns. For example, our interlocutors reported that the UNDP requires that individual start-ups must already possess capital to be eligible for co-funding.<sup>25</sup> Another interview partner expressed a sense of absurdity at being required to already have in hand 30 percent of the total value of a grant application, especially when 'there are no other opportunities' for financing.<sup>26</sup> Another FDG specifically cited the need for sponsors or low-interest loans to meet this requirement.<sup>27</sup>

Residents consistently expressed the belief that tourism represents the best untapped economic opportunity for their communities, e.g., 'Tourism infrastructure, such as a hotel and cafes or restaurants, should be developed in [our] town for guests of the ski resort';<sup>28</sup> 'We should build WCs and a café';<sup>29</sup> 'In the summer, hiking would be great here [and] in winter rides on snowmobiles would be perfect';<sup>30</sup> and so on. Women interlocutors also frequently noted that female unemployment is another area in pointed need of improvement, e.g., 'There is unemployment here, [especially young] women have nowhere to work,'<sup>31</sup> and, 'If there was a big sewing factor, women would work.'<sup>32</sup>

Turning now to social issues, our interlocutors, especially those who are elderly, pointed to

the pressing need for medical personnel, such as a cardiologist, a neurologist, and an ophthalmologist. Residents argue that medical personnel, especially specialists, do not want to work in monotowns due to their communities' extremely poor working and living conditions. Nevertheless, our interlocutors have demonstrated forms of resilience, elaborating various strategies by which they take care of themselves in lieu of such personnel, as well as how, in dire cases, they go to neighboring larger villages or towns, such as Bokonbayevo for Kadji-Sai, Kemin or Tokmok for Orlovka, and Buruldai for Ak-Tuz, or even all the way to the capital.

The monotowns are not without basic communal services and urban infrastructure, but our interlocutors consistently pointed out that these are largely from the Soviet era and hence are either in desperate need for renovation or completely overhauls and updates. Of particular concern for older residents is the water supply, while for younger residents, it is the lack of recreational areas and public spaces. As one FDG with school children put it, 'We have only one city park where there are no benches or street lightning';<sup>33</sup> and 'We spend our free time mostly at home';<sup>34</sup> 'There are some playgrounds, but all of them are damaged.'<sup>35</sup> An adult resident concurred, noting that 'children spend their free time at home by playing with smartphones.'<sup>36</sup> We were also informed that children sometimes play in abandoned industrial and residential buildings.<sup>37</sup>

<sup>25</sup> A group interview with residents and activists in Ak-Tuz, January 2022. At the time of this writing, we could not independently verify this UNDP requirement.

<sup>26</sup> Ibid.

<sup>27</sup> FGD with men in Kadji.Sai, November 2021.

<sup>28</sup> FGD with women in Orlovka, December 2021.

<sup>29</sup> A group interview with residents and activists in Ak-Tuz, January 2022. 'WC' here refers to 'water closet', i.e., toilet. Our interlocutors did not specify whether they meant flush toilets, portable toilets and so on.

<sup>30</sup> Ibid.

<sup>31</sup> A group interview with women in Ak-Tuz, January 2022.

<sup>32</sup> FGD with women in Orlovka, December 2021.

<sup>33</sup> FGD with male schoolchildren in Orlovka, December 2021.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> Interview with a female resident in Ak-Tuz, January 2022.

<sup>37</sup> We can confirm this from direct observation.

## Recommendations

Simply put, if the monotowns of Kadji-Sai, Orlovka and Ak-Tuz are going to survive as functioning communities, they need to be completely revamped economically and socially. Orlovka is faring somewhat well in this respect, but in Kadi-Sai, and especially in Ak-Tuz, these communities must effectively start from scratch. What is striking is that monotown residents perceive international donors as struggling to grapple with Soviet-era legacies, as well as to make effective communication links between themselves and their intended beneficiaries. We thus propose the following recommendations for international donors:

- Greater flexibility is needed in designing and implementing projects. We would go so far as to urge international donors to take an ad hoc place-based approach, informed by real-time field assessments involving regular participant observations and regular interviewing and FGDs with target communities and beneficiaries.
- Related to the foregoing, the kinds of projects chosen need to be more flexible, with special focus on small-scale for-profit entrepreneurship, particularly in the tourism sector, and in a way that supports female employment. At the same time, the projects implemented need to be community-oriented: i.e., promoting socio-

economic development at the meso-level, and not only at the micro-level, benefitting the entire community and not only single individuals.

- New mechanisms for direct communication, collaboration and engagement between international donors and monotown residents are needed. Topics of communication should range from disseminating information about available grants and community-oriented programmes, to the application process itself, to project implementation. Relatedly, in order to strengthen the monotown residents' own technical capacities with respect to grant writing, project management and entrepreneurship, more trainings and seminars, in Kyrgyz and Russian, should be offered on the ground directly to the residents themselves, and not only to intermediaries such as activists and local authorities.

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