Tested by wildfires, floods and pandemic: Are there limits to adaptability in the Arctic?

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The COVID-19 pandemic has had a profound impact on people's livelihoods in the Arctic. Essential aspects of human well-being, such as access to basic health services, education, food and goods, transportation, and economic development, have all been severely tested during the pandemic, particularly in remote and hard-to-reach areas. Adding to the challenges posed by the coronavirus, unprecedented wildfires and floods in various regions of Sakha (Yakutia) have further intensified the pressure on indigenous and local communities. It is crucial that the assessment and analysis of the COVID-19 pandemic not only consider, but also integrate these factors. Doing so will enhance our understanding of the comprehensive impacts of the pandemic in the Arctic.

Background and data

This short case study[1] explores the impact of COVID-19, coupled with the consequences of floods and wildfires, on the Indigenous Even people residing in Sebyan-Kyuyol, located in the Kobyaisky district of the Sakha Republic (Yakutia). Sebyan-Kyuyol serves as the administrative center of the Lamynkhinsky national settlement (nasleg) within the Kobyaisky district, situated in Central Sakha (Yakutia). According to the 2010 population census, approximately 85% of the residents identify as Indigenous Even. The community predominantly engages in reindeer herding. The territorial

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expanse of Sebyan-Kyuyol covers an area of 5,128,350 hectares and is characterized by taiga forests and mountains.

In 2020, due to COVID-19 restrictions, conducting fieldwork within the community was not possible. However, we were granted the opportunity to learn about the concerns of residents in the study area. The data was collected and shared by the community leader and former head of the municipal administration, Taisiya Keymetinova, who assisted us in gathering preliminary data. Our approach to data collection was inspired by the conversation method (Kovach, 2010). In addition to face-to-face conversations, online sources and local media were utilized to collect data. A total of thirty-six residents representing four stakeholder groups participated in conversations throughout 2021. These groups included reindeer herders, municipal deputies, volunteer firefighters, and local hospital workers. All sessions were audio-recorded with the participants' consent and lasted for approximately half an hour.

During each session, the objectives of the preliminary research were explained, and participants were invited to provide insights on how wildfires were impacting Sebyan-Kyuyol residents and how environmental changes might be affecting both people and animals. These conversations yielded valuable stakeholder perceptions and generated preliminary findings that will contribute to future research in the area.

Wildfires

The total area of wildfires in Sakha (Yakutia) has doubled in just two years, increasing from 4 million hectares in 2019 to 8 million hectares in 2021. This significant expansion has had a direct impact on the study area, specifically the Kobyaisky district. The wildfires in the districts of Sakha (Yakutia) have caused extensive damage to homes, infrastructure, and the environment, leaving both people and animals without shelter or food. Furthermore, the wildfires pose challenges to the sustainable use of land and water resources, which is particularly critical due to the traditional practices and way of life of indigenous peoples engaged in hunting, fishing, and gathering.

The consequences of the wildfires extend to the health and well-being of both human and non-human inhabitants. The smoke generated by the wildfires pollutes the air, waters, and soils, negatively affecting the health of reindeer: 'wildfire smoke can have negative effects on reindeer health, worsening their lungs and increasing the risk of serious diseases' (female teacher, 61); while 'the ashes from smoke enter lakes and may lead to a decrease in fish population and its growth' (male engineer, 35). Additionally, the wildfires result in increased encounters between humans and wild animals, posing threats to both parties: 'when we were children and during the years when I worked as a specialist, bears were very rare to see here. Now I often see their tracks, almost every day' (male reindeer herder, 49).

The destruction caused by the wildfires also impacts the availability of food for both humans and other-than-human residents. Trees, moss, herbs, and berries are destroyed, leading to food insecurity. Furthermore, the wildfires leave residents' property, reindeer camps, and sacred sites vulnerable and unprotected. Unfortunately, there is a shortage of skilled firefighters, and volunteers, who lack essential firefighting equipment, often fill the gap with only shovels and buckets at their disposal.

Floods

In the summer of 2022, heavy rainfall caused a flood in Sebyan-Kyuyol, resulting in the destruction of twenty-seven households and leaving fifty-eight people homeless, including nineteen children. The local community was quick to offer assistance, providing shelter and food to the affected individuals. Nearby, the Verkhoyansky district also experienced a catastrophic flood due to a dam breach. According to officials, the disaster damaged 580 household plots (YSIA, 2022), 347 individual houses, 85 apartment buildings, and 22 social facilities (Vecherniye Vedomosti, 2022). Over five thousand residents in the Verkhoyansky district filed claims for property compensation. Some attribute the increased frequency of flooding in recent decades to the accelerated permafrost thaw following massive wildfires (Aartyk, 2022). The Association of Evens and volunteers played a significant role in raising funds and providing humanitarian assistance to those affected by the floods in the Kobyaisky and Verkhoyansky districts.

Pandemic

The pandemic has underscored the imperative of finding effective solutions to address the challenges indigenous communities face today, such as health disparities, inadequate access to healthcare services, digital inequality, disruption of traditional practices, and economic hardships. Due to its remote location and limited digital infrastructure, Sebyan-Kyuyol did not report its COVID-19 statistics online during the pandemic. However, the situation remained tense as the healthcare facility in Sebyan-Kyuyol encountered difficulties in providing appropriate medical treatment. There was a shortage of essential tools and instruments necessary for diagnosing and monitoring patients. Eventually, the reindeer herders themselves procured the medications required for treating COVID-19 and shared them with the local hospital (Bez Formata, 2020). The coronavirus pandemic has complicated various processes, including education, logistics, and socio-economic activities. It is worth noting that traditional practices, which are integral to people's livelihoods, have been disrupted by the pandemic. Limited access to information and the internet has resulted in a lack of COVID-19 awareness among the residents. Another concern for the locals during the pandemic was the proximity of a silver mining company that brought in shift workers from outside the region.

Concluding remarks

This is a short, preliminary study in which we attempted to examine the combined impact of various disasters on both human and other-than-human communities in the Arctic. The analyses indicate a significant level of mutual support among residents, given the scarcity of human and material resources. It highlights how the combined effects of COVID-19, wildfires, and floods exert even greater pressure on community, infrastructure, and the natural environment. It is crucial to study the Arctic pandemic in conjunction with wildfires, floods, and other technogenic disasters exacerbated by climate change. This approach allows for a better understanding of the consequences of the pandemic in remote and marginalized communities of the North. When assessing the adaptive capacities of humans and other-than-humans, it is important to recognize that adaptation is not always a matter of choice. In many Indigenous contexts worldwide, adaptation is compelled and unavoidable. The resilience demonstrated in the face of the overwhelming combined pressure of the pandemic, wildfires, floods, and extractive industries is a product of systemic inequality and should not be idealized. There are undoubtedly limitations to

adaptability in the Arctic. The primary question that remains is: how soon will these limits be surpassed?

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