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Issue Brief

The Imperative of Reviving Cooperation in the Arctic

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Summary

The significant level of mutual trust that was built in the Arctic in the post-Cold War period has withered away due to NATO expansion and Russia's special military operation against Ukraine. Calls for revival of cooperation in the region on scientific matters cannot be ignored.

Introduction

Russia's launch of its 'special military operation' against Ukraine and expansion of NATO with Finland and Sweden's entry into the alliance has brought new geopolitical complexities to the Arctic. Emerging military threat perceptions on both the sides has withered away the significant level of mutual trust which was built in the Arctic in the post-Cold War period. At this critical juncture when dialogue and diplomacy between Russia and the West is at its lowest in the region, there are five key critical aspects that require revival of regional and global cooperation in the Arctic.

Climate Change Research

Climate change research has been the first and the foremost victim of the suspended cooperation in the Arctic. The Arctic Council, which through its various working groups dealt in addressing multiple aspects of climate change in the region, presently remains limited in its operational orientation under Norwegian chairship. Most of scientific cooperation with Russia that existed in the Council prior to Russia–Ukraine conflict presently remains suspended with no hope of revival in the near future.

Russia, which accounts for more than 50 per cent of the Arctic landmass, remains extremely important when it comes to studying the region from environmental and climate change perspectives. Current lack of Russian data and suspension of every kind of scientific engagements with the Russian scientists has created significant voids in climate change research over the last two years.[1] A recent study published by *Nature Climate Change* argues that much of the scientific understanding and assessments regarding the climate change in the Arctic has been based on the in-situ data measured from multiple ground research stations located in the different parts of the Arctic.

As a result of termination of cooperation with the Russian ground-based stations in the Arctic, Western researchers undertaking scientific observations from the region are presently relying on satellite data for their research.[2] Scientists argue that hindrance in access to onsite crucial data from Russian field sites would limit the scientific understanding regarding the future trajectory of environmental and climatic transitions in the region.[3] This could lead to significant biases in scientific experimentation and research. To highlight the seriousness of the situation, the scientists in the past have openly emphasised that despite geopolitical challenges,

[1] Timinilya Via, **"Russia's War Has Left a Huge Gap in Arctic Research"**, Yale Environment 360, Yale School of the Environment, 23 January 2024.

[2] Elizaveta Vereykina, **"'Not Being Able to Have Scientific Collaboration with Russia is a Huge Problem'"**, The Barents Observer, 11 November 2024

[3] Efrén López-Blanco et al., **"Towards an Increasingly Biased View on Arctic Change"**, *Nature Climate Change*, Vol. 14, 2024, pp. 152–155.

there is a need for a resumption of academic relations and scientific collaborations with Russian scholars and institutions.[4] This necessity for revival of such mechanisms arises manifold as the conflict in Ukraine gets prolonged with no credible visible end point over the horizon.

Nuclear and Radioactive Waste

The Arctic region (especially the Russian Arctic) in the past has been a graveyard for dumping nuclear waste. Since the Soviet times, multiple sites in the region have witnessed dumping of spent nuclear fuels (both solid and liquid fuels) either from reactors, or as a result of sunken nuclear ships, submarines and reactors (some by accidents and while others were deliberately buried under thick ice) as a result of its extreme environmental conditions and remoteness. In recent years, melting of Arctic ice due to global warming is causing fears regarding this hazardous nuclear waste, which could pose grave threats to Arctic environment and mankind.

Scientific experts are of the view that as global warming accelerates in the Arctic, challenges from the harmful impacts of radio isotopes that continue to emit from these buried/sunken nuclear sites remain extremely high. The April 2024 flooding in the Tomsk region of Russia caused immense panic among the local residents and the civil administration because of the amount of the radioactive waste that remains present in the region. The city of Seversk which is just 15 kilometers north of the city of Tomsk was home to one of the three production facilities for weapons-grade plutonium for the Soviet Union's nuclear weapons programme.[5] The Siberian Chemical Combine in Seversk also had five plutonium production reactors, a uranium enrichment plant and a processing plant for plutonium warheads in the past. As a result, a significant amount of nuclear waste to date remains accumulated on the surface and subsurface in the region.[6]

Similarly, Russia's Andreyeva Bay which was a former submarine maintenance yard northwest of Murmansk near the Norwegian border, accounts for 22,000 spent nuclear fuel assemblies from more than 100 nuclear submarines that continue to pose serious concerns in the region. In addition to these, the two Russian sunken nuclear submarines K-27 and K-159 in Kara and Barents Seas respectively, continue to pose serious threats of radioactivity in the Arctic. A detailed report published by Bellona, highlights that as per official records, there are presently six objects lying on Arctic Sea bed with Spent Nuclear Fuel (SNF). These includes SNF in the reactor

[4] Gareth Rees, Ulf Büntgen and Nils C. Stenseth, **"Arctic Science: Resume Collaborations with Russian Scholars"**, *Nature*, Vol. 613, No. 7943, 2023.

[5] Thomas Nilsen, **"Nuclear Expert Fears Flooded Radioactive Dump Sites in Siberia Can Threaten Arctic Ocean"**, The Barents Observer, 15 April 2024.

[6] Ibid.

sections of the nuclear submarines K-19, K-11 and K-140 and in the sunken submarines K-27 and K(B)-159, along with one reactor sunken together with the screen assembly of the icebreaker 'Lenin'[7] (see Figure 1).

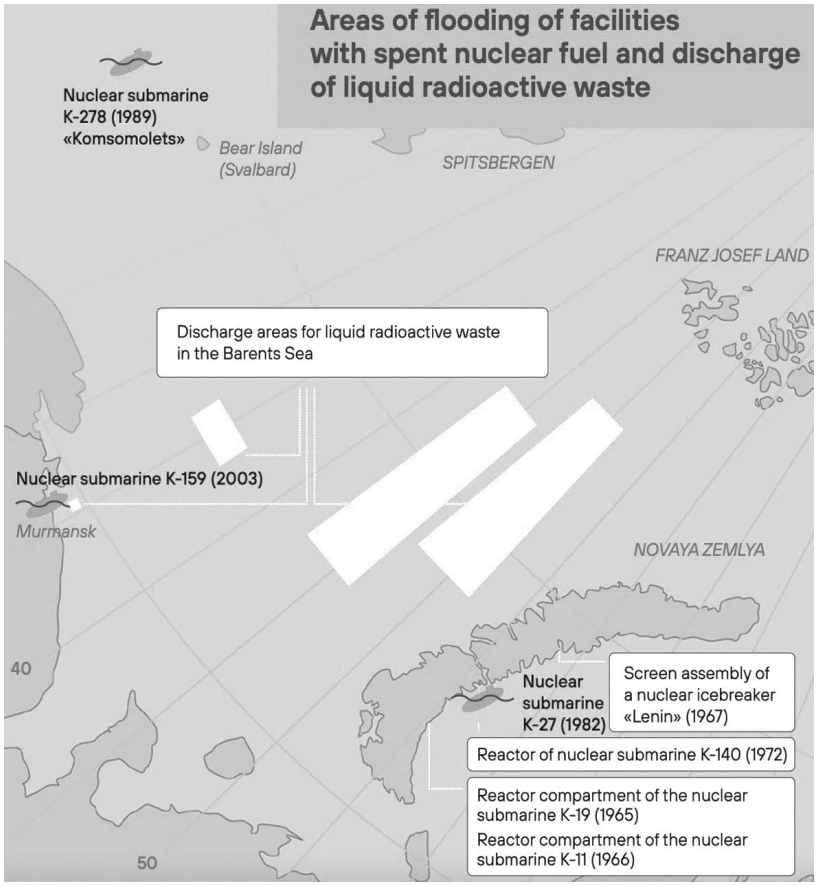

Figure 1. Areas of flooding of facilities with spent nuclear fuel and discharge of liquid radioactive waste

Source: Alexander Nikitin, **"The Nuclear Legacy of the Russian Arctic (status as of late 2023 and prospects for its elimination"**, Working Paper 2024, Bellona Foundation, Vilnius, 2024.

Undertaking nuclear waste clean-up projects in the Arctic are highly expensive and require advanced technologies. In the past, some level of cooperation through Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR) existed at operational levels between Russia and the Western countries that aimed at eliminating the nuclear waste from multiple Arctic sites. These projects also included support from political as well as financial institutions of European Union such as European Commission and European Bank for Reconstruction and Development and the European Atomic Energy Community.[8]

[7] Alexander Nikitin, **"The Nuclear Legacy of the Russian Arctic"**, Bellona Foundation, Vilnius, 2024.

[8] **"Framework Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR)"**, Nuclear Energy Agency, Stockholm, 21 May 2003.

Post Ukraine–Russia conflict, all such projects have been suspended with Russia and presently no working level cooperation between Western states and Russia exists on addressing this critical issue. Russian plans to raise and scrap nuclear submarines K-27 and B-159 from Arctic seabed have also taken backseat due to Russia's focus on Ukraine and due to lack of technological capabilities and amount of funding required for undertaking such missions. Russia's plans to formally exit from the MNEPR further raises serious concerns as this would further derail already limited existing mechanism in place for cooperation that offered some hopes to address such critical issues in the Arctic.[9]

Pathogens and Arctic Viruses

As the melting of the ice accelerates in the Arctic and the temperatures in the region continue to rise, the possibility and probabilities of exposure of mankind and animal species to the ancient viruses and bacteria that lie beneath the Arctic ice remain extremely high.[10] Siberian Arctic, that as per scientific beliefs is expected to account for vast traces of such deadly pathogens, could open new pandora box of challenges in the future. Scientific research in the past highlights that the Arctic remains home to zombie viruses and bacteria of past thousands of years, that remain buried under its ice and are still infectious. If these come in contact with human or animal species, it could even result in regional and global pandemics.[11]

Studying the region from such perspectives remains extremely important and presently there exists serious research gaps in these domains. Undertaking scientific research on such issues requires global scientific cooperation, unhindered access to remote sites in the Arctic for collection of specimen, university and laboratory collaborations and sharing mechanisms with unrestricted access of data among scientists undertaking research in these domains. It is only through enabling of such working mechanisms in place that the mankind could be prepared well in advance from potential regional and global pandemics.

Human Security in the Arctic

Arctic communities and local population are the frontline victims to some of the above discussed emerging transitions in the region. For them, the suspension of

[9] Interfax, **"The Cabinet of Ministers Supported the Denunciation of the Framework Agreement on the Multilateral Nuclear and Environmental Program"**, Moscow, 11 November 2024.

[10] Jean-Marie Alempic et al., **"An Update on Eukaryotic Viruses Revived from Ancient Permafrost"**, *Viruses*, Vol. 15, No. 2, 2023, p. 564.

[11] Anne M. Hofmeister, James M. Seckler and Genevieve M. Criss, **"Possible Roles of Permafrost Melting, Atmospheric Transport, and Solar Irradiance in the Development of Major Coronavirus and Influenza Pandemics"**, *International Journal of Environmental Research and Public Health*, Vol. 18, No. 6, 2021, p. 3055.

existing mechanisms of cooperation matters the most. Arctic region combinedly as a whole accounts for four million people. Of this, nearly 500,000 (around 11 per cent) are Arctic indigenous communities spread across three continents and 30 million km^2 of Arctic landmass. Russia alone accounts of nearly half of this total Arctic population while the other half remains scattered among other seven Arctic states.[12]

Post Ukraine crisis, the real issues of these Arctic communities that primarily revolve around the 'human security dimensions' (addressing key issues related to their health, food security, employment, social security, gender issues, securing indigenous way of livelihood and so on), have been overpowered by state-centric traditional discourses/notions of security.[13] These traditional notions of security that primarily revolves around securing 'state sovereignty' from possible threats of invasion by 'external aggressor' (in this case Russia) mainly dominate security discourses in the Arctic.

Therefore, other Arctic states' natural response to secure themselves from such perceived threats of possible adversaries in the Arctic has been via strengthening and upgrading of their military infrastructure capabilities in the region. Similar state-centric approaches undertaken by all Arctic states to address their own security concerns from their perceived adversary/ies has resulted in rapid military build-ups in the region.

Such discourses have completely sidelined the 'human dimensions' to security in the Arctic. Mads Qvist Frederiksen, Executive Director, Arctic Economic Council during the Arctic Security Conference in Oslo pointed that on the one hand, local business communities remain deprived from global business opportunities due to lack of adequate road infrastructure in the Arctic while at the same time, F-35 fighter jets are practicing to land on highways in Finland.[14]

There is no denial to the fact the post Ukraine–Russia conflict, such approaches to security are natural response of state as a result of the ongoing global geopolitical turmoil. But the human dimensions to security in the Arctic still remain of utmost importance that could/should not be ignored by states in the region. The thresholds of these aspects of human security could vary from state to state in the Arctic, but there persist multiple common challenges of existential nature among all Arctic communities that need common solutions and cooperative regional approaches.

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[12] **"The Indigenous World 2024: Arctic Council"**, International Work Group for Indigenous Affairs, 25 March 2024.

[13] Gunhild Hoogensen Gjørv, **"Security as an Analytical Tool"**, in *Routledge Handbook of Arctic Security*, Routledge, 2020, pp. 69–79.

[14] Mads Qvist Frederiksen, **"Arctic Security Conference 2024"**, Fridtjof Nansens Institutt, 12 September 2024, Watch at 53:57.

Emerging Division/Rifts in the Arctic Governance

Till 2022, the Arctic Council remained an important mechanism to address non-military related aspects in the Arctic. Geopolitical divides and the present state of affairs within the working groups of the council has hampered the scientific progress and cooperation by regional states in the Arctic. Many non-Arctic states have also become vulnerable to the impact of this suspended cooperation. As a result of current state of the Arctic Council, presently, there exists no formal mechanism in place for non-Arctic states to raise their concerns related to Arctic science and climate change or either make proposal for undertaking scientific research activity in the region.

Secondly, though independent scientific cooperation at bilateral and multilateral levels between the non-Arctic states and the A7 countries does persist, any attempts to forge cooperation with Russia on similar lines is seen through critical geopolitical lens and traditional narratives of 'us' vs 'them'. Non-Arctic states, especially those that maintain independent foreign policy approach towards both Russia and West, remain exposed to the emerging scientific gaps in the Arctic. Arctic Council presently remains highjacked by regional geopolitical agendas and currently all permanent member Arctic states other than Russia in the council are NATO members. Russia, which has formally exited from most of the other mechanism of cooperation in the Arctic, still remains party to the council which gives some hope for the revival of the council.

Despite this optimism, there are debates in global media whether Russia could possibly form its own parallel structure of Arctic governance similar to Arctic Council with like-minded Asian states from BRICS nations. It is, however, important to argue that if Arctic Council continues to fail its mandates in new upcoming chairmanships, possibilities of such new formats cannot be ruled out.

A Way Forward

Though the ongoing geopolitical realities with regard to Russia–Ukraine conflict cannot be ignored, termination of engagements at academic and scientific levels make no sense for a region as a whole that is on a cusp of bigger common threats of existential nature to mankind. Calls for revival of cooperation in the region on scientific matters cannot be ignored.[15] If the current situation persists longer in the Arctic, 50 per cent of the Russian Arctic that is emerging as a critical blind spot in terms of observations and scientific assessments would deprive future policymakers of efficient decision-making.

[15] Rachel Nuwer, **"Polar Researchers Strive for Progress Despite Adverse World Events"**, *Nature*, 11 October 2023.

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