The paradoxical policies: Russia's rampant resource quest and the devastating toll on the planet

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Abstract.
The Arctic's geopolitical significance and environmental vulnerabilities have sparked global attention. This paper critically analyzes Russia's evolving Arctic policy, which redefines the region as an extension of its domestic territory, emphasizing national interests. This policy shift prioritizes control over the Northern Sea Route, accentuates military fortification, and intertwines environmental rhetoric with resource exploitation. Russia's pursuit of Arctic development juxtaposes its commitment to environmental sustainability, fueling global concerns. Diplomatic rifts within the Arctic Council amplify tensions as Russia navigates a self-serving policy. Examining the Northern Sea Route's economic potential versus environmental impacts highlights the dilemma of increased shipping in ecologically sensitive zones. The militarization of the Arctic, showcased by Russia's bolstered defense measures, challenges regional security dynamics and amplifies diplomatic strains. Russia's policy inadvertently accelerates the collapse of the Arctic cryosphere, posing catastrophic threats from permafrost melting and potential viral pandemics. Furthermore, the paper delves into the environmental and public health repercussions of the conflict in Ukraine, detailing widespread pollution, infrastructural damage, and health crises. The collateral environmental damage from dam destruction exacerbates existing humanitarian concerns. This analysis underscores the intricate interplay between national interests, environmental sustainability, and global ramifications in shaping the Arctic's future.

Keywords:
paradoxical policies
Russia's Rampant Resource Quest
geopolitics
Materials and Methods
Relevant literature across Google Scholar and PubMed was gathered, analyzed, and studied to gather factoids and support the research. Reputed sources and relevant time stamps were included in the manuscript.

Introduction
The Arctic region, a vast expanse of ice and pristine landscapes, has emerged as a focal point of global interest due to its strategic significance, resource potential, and environmental vulnerabilities.

In this paper, we delve into the evolving Arctic policy of Russia, shedding light on its implications for the region and beyond. Russia's stance on the Arctic has undergone a dramatic transformation, redefining its perception of the Arctic as an extension of its domestic territory, firmly placing "national interest" at the forefront. This revised Arctic policy, as articulated by Russia, has prompted concerns and debates on several fronts. First and foremost, it underscores Russia's historical linkages with the Northern Sea Route, treating it as an internal waterway, and asserts its control over this vital maritime passage. Furthermore, the policy prioritizes military strengthening in the Arctic, raising questions about its commitment to the stated goal of "preservation of peace and stability" in the region. As we delve deeper into Russia's Arctic policy, the paper highlights its contradictory nature.

While unscrupulously acknowledging the importance of environmental sustainability, Russia continues to aggressively pursue resource development and exploration in the Arctic, contributing to unchecked carbon emissions and further exacerbating climate change. The stark contrast between Russia's national interests and its environmental responsibilities raises fundamental questions about the consequences of this contradiction. Notably, Russia's approach has led to diplomatic tensions, with Arctic Council members boycotting the council under Russian leadership. This paper explores the implications of this strained cooperation and the absence of a security-focused discussion platform within the Arctic Council, particularly given the presence of NATO allies among its permanent members.
Additionally, the paper explores the potential acceleration of the collapse of the Arctic cryosphere due to Russia’s Arctic policy.

The release of biochemical and radioactive materials from melting permafrost poses a grave threat to global ecosystems, infectious disease spread, and climate change acceleration. In sum, Russia's evolving Arctic policy is a complex interplay of national interests, environmental responsibilities, and global implications. This paper aims to dissect these multifaceted dimensions, shedding light on the critical issues at stake in the Arctic region and their far-reaching consequences.

Additionally, the paper examines the collateral damage caused by Russia's actions in Ukraine, both in terms of environmental degradation and public health.

The conflict in Ukraine has resulted in widespread pollution, destruction of natural habitats, and displacement of people, with far-reaching environmental and humanitarian consequences. The environmental impacts extend beyond Ukraine's borders, as the destruction of critical infrastructure, including dams and reservoirs, disrupts water resources and infrastructure in the region, posing additional challenges to both the environment and public health.

**Arctic policy**

The revised Arctic policy of Russia has excluded the external dimensions of the region and now treats the Arctic like an extension of Russian domestic territory. The part dealing with the Northern Sea route asserts Russia’s historical linkages and treats it as a part of the internal waters of the Russian Federation. The term “national interest” has taken the front seat in the revised document. With Arctic Council members boycotting the council under Russian leadership, Russia has removed the mention of the 'Arctic Five', the Barents Euro-Arctic Council, and the Arctic Council from the new policy. The policy is as contradictory as it is self-serving. While the main goal of the policy still stands as 'preservation of peace and stability', the strengthening of the Northern fleet and further militarisation of the Arctic suggests otherwise. Environmental sustainability also found a spot on the document, but the relentless drive to develop
and explore the Arctic region for resources and inhabiting the north-eastern part of the nation coupled with unchecked carbon emissions suggest that Russia not only doesn’t want the climate change to stop but is also playing a role in aggravating it.

The latest UNEP report shows that Russia is the only G20 nation whose emissions are continually rising, even after reaching the peak and this rise is expected to continue till 2030. There are no clear carbon reduction targets of Russia and it lacks any concrete plans to achieve its perfunctory target of being carbon neutral by 2060 [1]. The benefits that come with the melting of permafrost in the Arctic region have proven to be in the “national interest” of Russia and now the question is, who will bear the cost of this inherent contradiction between the Russian national interests and Environmental sustainability?

Although the Arctic is important to Russia for myriad reasons, Security and the Northern Sea Route remain the predominant ones.

Northern Sea Route
The historically intensive industrial activities over the past 80 years have contributed to the current environmental situation in the Russian Arctic. Various assessments [2,3] indicate that around 5-10% of the total areas of the Russian Arctic have undergone anthropogenic transformation of ecosystems. Interestingly, despite the very low population density of 1-2 persons per km² in Russia, which is nearly 10 times lower than the average, anthropogenic stress in the Russian Arctic remains considerably higher compared to the non-Russian Arctic[4].

Since the middle of the 1930s, Russia has had the official management and administration of the Northern Sea Route (NSR). It extends from the Barents Sea, which is close to Norway's border with Russia, to the Bering Strait, which separates Siberia from Alaska. The part dealing with the Northern Sea Route in the revised Arctic policy asserts Russia’s historical linkages and treats it as a part of the internal waters of the Russian Federation. The Arctic ice cover is decreasing due to global warming, which could make the NSR a more appealing alternative shipping route between Europe and Asia.
It might cut down as much as 40 percent on the time needed to navigate between Europe and Northeast Asia [5].

While NSR has its economic benefits, the environmental impact of increased shipping in an ecologically sensitive zone cannot be ignored. The increased usage of NSR will inevitably lead to more ice breaking and further rise in sea levels. The Arctic ice which is thinning at an increased rate [6] will thaw far quicker than present rates. The pollution accruing to transportation along with accidents, including, but not limited to, oil spills, will not be devastating only to the climate but also to the marine environment and indigenous populations. The noise from ships would disturb the Arctic's marine mammals, such as whales and seals. This noise can disrupt their feeding, breeding, and communication.

Increased shipping in the region would also exacerbate the negative impacts of emissions from marine diesel engines on the Arctic environment. Fine Particulate Matter (FPM) in engine exhaust, particularly from liquid fuel combustion, is linked to health risks and increased diseases [7].

The emissions of light-absorbing particulate matter, like brC resin, contribute to darkening snow in the Arctic [8]. Cargo ships and container ships with high engine power are found to be major sources of air pollution. Monitoring of port industrial facilities reveals that ship emissions and secondary aerosols impact wind sectors in specific directions. Emissions affect air pollutants like SOx, NOx, and PM10, with emissions varying by ship type and size. [9]

The fragility of the Arctic ecosystem is already under threat due to climate change, and increased usage of NSR must be accompanied by mitigating the environmental externalities of economic development.

**Militarisation of the Arctic**

The revised Arctic policy of Russia says that it aims to ensure the country’s military security and guard and defend the state border. The Northern Fleet is the main Russian military force in the Arctic. The fleet's bases are concentrated on the Kola Peninsula due to ice-free conditions in the southern Barents Sea, enabling access to the Atlantic year-round. The fleet's components include naval formations, an air and air-defense forces army, and an army corps.
Military force beyond the Kola Peninsula is limited by distance and climate. The Arctic Shamrock military base on Franz Josef Land, along with radar units and missile systems, showcases militarization in the western Arctic. Russia has deployed additional SAM and radar units across the Arctic archipelagos to strengthen its air defense capabilities. Hydro-acoustic and sea-surface surveillance systems, along with unmanned aerial vehicles (UAVs) are also used. The measures aim to enhance the defense of the Kola Peninsula, ensure the SSBN strategy, and secure the North Atlantic access point of the Northern Sea Route (NSR).

Analysts suggest that Russia's increasing offensive capabilities are a way to challenge the United States.[10] This is particularly relevant given the current state of Russia-US relations and the fact that several Arctic Council permanent members are NATO allies, including Canada, Denmark, Iceland, Norway, and the US. Sweden and Finland also maintain close partnerships with the US and other Western states.

The absence of a security-focused discussion format within the Arctic Council means that security concerns arising from these military developments are not being addressed. Russia's military exercises have been steadily increasing, indicating heightened preparedness. While Russia leads in icebreaker fleet development with nuclear-powered vessels, the US only possesses two icebreakers, presenting limitations for defense, Arctic activities, and research [11].

However, military analysts emphasize that the main challenge stems from Russia's missile, air, and surveillance capacities rather than solely the number of icebreakers. [12] Russia's actions, like enhanced naval and air patrols, combined with technological advancements, can be viewed as "provocative" and potentially offensive. Mutual distrust might worsen due to such actions. There are many concerns including Russia's Radio-Electronic Shield deployment which could jam satellite communications and GPS signals and Russia's testing of hypersonic missiles, which can evade existing defenses, extends its capabilities closer to the US borders.

While Russia maintains a "status-quo power" posture and focuses on soft security issues, the risk of conflict remains
low but requires diplomatic efforts to maintain. Communication avenues for hard security issues have been limited since the suspension of meetings among Arctic states' armed forces. This creates uncertainties that may necessitate a solution allowing military contacts and cooperation.

**Acceleration of the collapse of the North Pole owing to the Russian Arctic Policy**

The potential collapse of the Arctic cryosphere is expected to be commensurate with incredibly overwhelming challenges. We still face a potential loss of approximately 22.8 million square kilometers of permafrost. Grounds that remain frozen for at least years are termed permafrosts. The world’s permafrost reserves are massive carbon reservoirs, with estimates of 1,400 gigatons of carbon being withheld in those layers, reminiscent of the older species of plants and animals that once inhabited the earth. This number is roughly twice the amount of carbon currently found in the atmosphere. Melting of the Arctic could hence result in a massive toxic discharge that would disrupt most ecosystems, immensely.

Another recent study indicates that the permafrost in the Arctic is releasing biochemical and radioactive materials that have possible manifestations in the acceleration of Climate change, contamination of water supplies, and the spread of infectious diseases including anthrax and botulism, leading to a disruption of the ecosystem which could be catastrophic for life on earth [13].

DNA and RNA sequencing of the samples from the Lake Hazen, a lake in the North of the Arctic. Several animal, fungal, and plant viruses. A similar study in the Tibetan Plateau was conducted by a team of Chinese scientists. The study concluded with the discovery of 28 novel viruses. This was compared with the COVID-19 pandemic, owing to 2020 being the second warmest recorded year. Influenza A virus, enteroviruses, and caliciviruses are found to be abundant in glacial ice, and a potential collapse of the permafrost could unfurl massive outbreaks of present dormant viral infections [14, 15].

Furthermore, another study discussed the contamination of the glacial landscapes with supraglacial sediments called cryoconites. These cryoconites contain Copper, Nickel, Zinc,
Cadmium, and Lead, as detected by atomic absorption spectroscopy.

The accumulation of these trace elements on the surface of glaciers can snowball into a devastating pollution of the aquatic and consequently, associated terrestrial ecosystems. [16]

The accelerated global warming in conjunction with an Arctic policy that promotes its collapse could catalyze a horrendous outcome through viral pandemics and contaminated water supplies.

**Ukraine**

The war in Ukraine has had a devastating impact on the environment. The conflict has caused widespread pollution, destruction of natural habitats, and displacement of people.

One of the most immediate environmental impacts of the war has been the release of pollutants into the air, water, and soil. The use of heavy weapons, such as artillery and airstrikes, has released harmful substances into the environment, including heavy metals, toxic chemicals, and radioactive materials[17]. They are damaging ecosystems and making food unsafe to eat.

A study by the United Nations Environment Programme (UNEP) [18] found that the war has released at least 100,000 tonnes of pollutants into the environment, including lead, mercury, and polychlorinated biphenyls (PCBs). These pollutants can have a long-term impact on human health and the environment.

The war has also damaged water infrastructure, including dams, water treatment plants, and pipelines. This has led to water contamination and shortages. In some areas, people have been forced to drink contaminated water, which has caused health problems.

The war has also destroyed forests, fields, and other natural habitats. This has led to the loss of biodiversity and the disruption of natural processes, such as pollination and water purification.

A study by the Ukrainian Ministry of Environment found that the war has destroyed an estimated 100,000 hectares of forests and other natural habitats. This has had a significant impact on the country's biodiversity, as many species of plants and animals have lost their homes.
The displacement of people due to the war has also had an environmental impact. People have been forced to leave their homes and belongings, and many have moved to crowded refugee camps. This has put a strain on the environment, as these camps often lack proper sanitation and waste disposal facilities.

A study by the World Bank [19] found that the war has displaced an estimated 10 million people in Ukraine. This has led to an increase in waste generation and a decrease in access to sanitation facilities. This has created a risk of waterborne diseases and other health problems.

**Dam destruction and flooding**

The armed conflict between Ukraine and Russia is unique in its environmental impact, particularly on water resources and infrastructure. Unlike previous conflicts in less industrialized regions, this conflict takes place in a heavily industrialized area of Ukraine [20]. Ukraine's water infrastructure includes large reservoirs, hydropower dams, nuclear plant cooling systems, reservoirs for industry and mining, and extensive distribution networks for irrigation and household use. Most of this infrastructure is in the eastern and southern parts of the country, where agriculture and major industries like metallurgy, coal mining, and chemical production are prominent.

The conflict had significant impacts on freshwater resources and water infrastructure of Donetsk and Luhansk regions, where the conflict was most intense. These regions saw 17 and 13 realized impacts [21], respectively, with a peak in incidents within the Seversky Donets River basin. The river and demolished reservoirs in this area became barriers to troop movement.

There were also incidents affecting freshwater resources and infrastructure in western Ukraine, far from active military operations. For example, an attack on an oil depot in Lviv led to the pollution of the Western Bug River, a tributary of the Narva River. In the Ternopil region, shelling damaged six reservoirs storing mineral fertilizers, resulting in pollution of the Ikva River, a tributary of the Styr River in the Dnieper River basin, leading to a significant fish die-off. In the Odesa region in southern Ukraine, nautical
mines in the Danube River delta hindered fishing and navigation [21].

The most recent and probably most damaging was the breach of the Kakhovka dam and power station in southern Ukraine. Ukrainian President described it as "an environmental bomb of mass destruction" and The UN humanitarian agency said it was concerned about "the severe humanitarian impact on hundreds of thousands of people on both sides of the front line".

Public Health Impact owing to the War on Ukraine

Combined with the pandemic, the war in Ukraine has aggravated an already fragile healthcare system, worsened by soaring inflation and environmental instability. The major escalation by the Russian Federation, which began on the 24th of February 2023 established firmly that the effects of infectious diseases such as COVID-19 get negatively impacted, significantly, by other healthcare challenges, that include trauma, mental health disorders, and non-communicable diseases [22].

Over 62 lakh refugees have been recorded from Ukraine, globally with over 58 lakh refugees in Europe. Considering, that a significant portion of the Ukraine diaspora was dealing with several communicable diseases. Furthermore, a recent study also conveyed the factor that almost 36% of the population of the country was vaccinated for COVID-19. Thus, making refugees carry infectious diseases that include HIV, and Hepatitis C, coupled with an extrapolation of the epidemiology owing to poor vaccination rates against COVID-19, polio, and measles [23, 24].

The catastrophic destruction of the Kakhovka dam, located on the Dnipro River in the Kherson Region. It is a critical piece of infrastructure for the region. The airstrike caused the dam to partially collapse, releasing a large amount of water into the river. This caused flooding in several towns and villages downstream, and it displaced thousands of people. According to the Ministry of Internal Affairs of Ukraine, about 50 people were reported dead (or missing) on the left bank of the river, initially with the numbers, still being inconclusive. Thousands of people have been evacuated safely. [25, 26]

It must be noted that the environmental consequences have
been objectively mapped out and present incredibly distressful statistics which include claims by Ukrainian officials that suggest that hundreds of thousands will lose their access to drinking water and deprive 500,00 hectares of agricultural land of irrigation since the reservoir serves as a water source for the largest irrigation system in Ukraine and Europe [28]. Furthermore, the Ukrainian President, Volodymyr Zelensky, claimed that the river was contaminated with about 150 tonnes of industrial lubricants with about 300 tonnes at a risk of leaking. There was also a reported threat of landmines being dislodged owing to the deluge, which could be a threat to the civilian population. [26, 27]

The Zaporizhzhia Nuclear Power Plant depends upon the reservoir for its reactor’s active cooling system, an absence of that could snowball into an incident that mimics the devastation of the Fukushima Daiichi NPP in 2011 [29]. Regardless, during the Second World War, intentional damage to the 800-meter dam over the Dnipro River affected 20,000 - 1,00,000 people and can be considered an appropriate standard for assessing total damage to the sociological landscape.

As a result of the armed conflict post-Russian aggression, many Ukrainian communities are rendered with impaired or non-functional wastewater management. Remote-sensing images show that polluted wastewater was released into the Kakhovka reservoir following the cessation of the wastewater treatment facility near Zaporizhzhia. Adding to this is the strategic usage of water barriers for troop movements. This has led to the underwater decomposition of military ammunitions that have released heavy metals and toxic explosive components worsening the quality of water. [29]

A recent study claimed the proliferation of cases of bacterial dysentery, H1N1 (influenza A), tuberculosis, leptospirosis, and Japanese encephalitis among many others exponentially increased in cases of floods, alongside other ailments such as infective diarrhea [30, 31]. Extrapolation along these lines, despite the lack of conclusive data, presents overwhelming public health statistics for the people of Ukraine. The disruption of sanitation as well as the massive movement of people within and from Ukraine potentially further aggravates the already grave incidence. Hence, it's
of the utmost importance to both invest in surveillance and curb the spread. [32]

The general topography of Ukraine outside of the impacts due to the flooding has been severely damaged which is projected to cause “long-term damage” to the agrarian lands of one of the world’s largest producers of cereals and oilseeds with immense skepticism in the potency of re-cultivation ability of crops on the desecrated lands. [33, 34]

Conclusion and Discussions

Russia’s revised Arctic policy represents a delicate balancing act between asserting national interests, navigating environmental responsibilities, and managing global repercussions. The contradictions within this policy, alongside diplomatic tensions and the environmental and public health consequences of the Ukraine conflict, underscore the complexity and urgency of Arctic governance.

As the Arctic continues to undergo rapid transformation, international cooperation and sustainable practices must prevail to safeguard this unique region and mitigate its far-reaching impacts on our interconnected world.

References:

[1] Li M, Li Z, Xing X. The dilemma of Sustainable development of Russian Arctic Development based on ANP-SWOT Model Theory Perspective. Systems [Internet]. 2023 Jul 1;11(7):334. Available from: https://doi.org/10.3390/systems11070334


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[Internet]. 2023 Jan 31;30(4). Available from: https://doi.org/10.1093/jtm/taad015


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[33] Potential environmental impacts caused by russian aggression in Ukraine [Interactive map] [Internet]. Ecoaction. 2022. Available from: https://en.ecoaction.org.ua/warmap.html