



The Geo-Strategic Significance Of The Arctic Region: Indian Perspective

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1.1 Introduction :

The Arctic region is going through extraordinary changes in its physical, social, geo-economic and geopolitical realities. These rapid changes have had a considerable impact on Arctic security. The Arctic has witnessed mostly peace and stability in the region. These broader security issues have been the centre of attention in regional organisations such as the Arctic Council and the Barents Euro Arctic Council (BEAC).

However, the face of growing geopolitical tensions between Russia and its Arctic neighbours, as well as the U.S.-EU-NATO alliance has been growing from the last decade. The scientific explorations exposed huge energy, hydrocarbons etc natural resources in the Arctic which gradually turned the area into power competition. The questions therefore arise whether Arctic States will be able to govern the region under the Arctic Council or whether the region could save the environment or whether the power conflict in the region would impact international security. India's Arctic policy is regarded as the first step towards developing a whole-of-government approach on India's engagement with the region. The policy seems to be inclusive and participative wherein India offers its readiness to "play its part and contribute to the global good". 1

India released Arctic Policy in March 2022. Such a policy was felt necessary so that India could play an active role in the Arctic, which is warming three times faster than the rest of the world. Due to climate change and high temperature the ice in the Arctic is melting. Consequently new shipping routes are emerging. Thus, possible new global shipping routes and an increased availability of mineral and hydrocarbon resources in the Arctic are likely to have a great impact on the geopolitics of this region. It will also affect the global supply chain and the status of energy resources at the international level. India can not be isolated from such transformation.

Thus, India's Arctic policy will be helpful in enhancing India's engagement in all the relevant aspects of the Arctic, viz., scientific research, climate change and environment; economic and human resources; and geopolitical and strategic. The document says, "the Policy is deftly dovetailed with the broader policy framework of the Government of India. Above all, it is inclusive and participative and in keeping with India's civilisational ethos." 2

The Arctic and Antarctic are home to the North and the South poles respectively. Both the poles are the largest source of fresh water in the world. The Arctic and Antarctica are ice islands but they are quite different. The Arctic is an ocean surrounded by land while Antarctica is an entire continent surrounded by the Southern Ocean. Antarctica governance is institutionalised by the Antarctic Treaty, there is no such legal framework for the Arctic. The Arctic is mostly under sovereign control with defined maritime boundaries of individual States. It is populated, not isolated geographically like Antarctica, has an ice-free coastal zone in the summers, and is home to rich animal and plant diversity. A sizable indigenous population lives there.

1.2 Geographical and Climatic importance :

The Arctic has been defined and understood in multiple ways. 3 It is commonly defined as the region above the Arctic Circle, north of latitude 66° 34' N. Above this latitude, the sun does not set on the summer solstice (22 June), and does not rise on the winter solstice (22 December). Much of the Arctic Ocean falls within the jurisdiction of five Arctic coastal States – Canada, Denmark (Greenland under Danish monarchy), Norway, Russia and the US (Alaska) referred to as the Arctic Five. In addition, three other countries, Finland, Sweden and Iceland, have their territories within the Arctic Circle.

The area within the Arctic Circle is over 20 million square kilometres, about 4 percent of the world's surface. It is characterised by the Tundra (treeless barrens) ecosystem and is almost entirely covered by Permafrost (up to 1000 m). Mean monthly temperatures range from -32°C to 10°C. About 4 million people, or about 0.05 percent of the world's population, live in the Arctic, of which roughly half (roughly 2 million) live in the Russian part of the Arctic. Other than Iceland, all Arctic nations house approximately 400,000 Indigenous Peoples. They have also developed highly specialised cultures and economies based on the physical and biological conditions of the region.

From 1971 to 2019, the annual average Arctic air temperature increased by 3.1°C, three times faster than the global average. 4 In the same period, the extent of the Arctic's snow cover has declined by 21 percent, the extent of Arctic sea ice has declined by 43 percent and all regions of the Arctic experienced net loss of land ice.5 In March 2022, temperatures in the Arctic were 30 degrees Celsius above normal levels for the time of year.6 Scientists have predicted the Arctic to be ice-free in late summers within the next fifteen to twenty years.

The Arctic plays an important role in the earth's ecosystem. The ocean and sea-ice in the Arctic are a crucial part of the global climate cycle, influencing atmospheric and oceanographic events, and biogeochemical cycles well beyond the region. Climate change-induced melting in the Arctic produces an influx of freshwater, thereby lowering salinity levels in seawater and influencing ocean currents. This disruption, leading to an increase in

the temperature differential between the landmass and oceans in tropical regions. It naturally could affect monsoonal circulation. Rising temperatures are also likely to cause drying of sub-tropical areas and increase in precipitation at higher latitudes.

Not all of climate change-induced warming in the Arctic is bad. Ninety percent of global commerce by volume is undertaken through the oceans. The Arctic's ice meltdown and its geographical location ensuring the shortest sea distance between the US, Europe and Northeast Asia, is likely to transform global maritime commerce. At present, it is conducted through the traditional East–West route through the Malacca Strait and the Suez Canal. The melt also opens up possibilities of extraction of potential oil and gas resources, and expanded fishing and tourism.

Sailing in Arctic waters poses a number of risks. Climate change can produce unpredictable and extreme weather conditions, and the longer shipping routes from infrastructure and emergency response services. In the event of an accident, such as grounding or fire, the cost of salvage and environmental impact is said to be considerably higher than in non-Arctic waters. In addition, there is currently a lack of good data on Arctic shipping, in particular detailed navigational charts and hydrography.⁷

1.3 Emerging scene of Arctic Shipping and Environment :

The increased shipping through the Arctic is accelerating ice melt in this sensitive region due to “black carbon” (BC), an air pollutant formed by the incomplete combustion of fossil fuels. ⁸ According to an estimate, the particles, which form part of the short-lived climate pollutants (SLCP) and exacerbate respiratory and cardiovascular illnesses, represent emissions equivalent to more than 20 per cent of carbon dioxide from ships.⁹ When black carbon, or soot, lands on snow and ice, it dramatically speeds up melting.¹⁰ It also accelerates the loss of reflectivity – the albedo effect – that creates a feedback loop that further exacerbates local and global heating.¹¹

It is described that heavy Fuel Oil (HFO), leftover from the oil refining process is often the shipping industry's preferred fuel because it is less expensive than cleaner alternatives, such as marine gas oil (MGO). Its low quality and viscosity permit its usage only on ships than any other mode of transport. HFO was the most commonly carried and used fuel in the Arctic between 2015 and 2019, ¹² its carriage and usage increasing by 19 percent and 75 percent respectively. During this time, BC emissions from HFO-fuelled ships grew by 72 percent, and BC emissions from the entire Arctic fleet increased by 85 per cent. ¹³

India has been closely following developments in the Arctic region. The Indian policy makers made it clear that they understand the new opportunities and challenges created by global warming-induced melting of the Arctic's ice cap. These are in the fields of scientific research, climatology, energy security, sourcing of strategic minerals, navigation, and engagement with indigenous Arctic communities amongst others.

1.4 India's Perception & Concerns :

India sees itself a stakeholder in the region because of its long association with Polar Regions through scientific research, as a participant in governance structures, and because of its growing salience in international affairs. Today India's interests in the Arctic region are scientific, environmental, commercial as well as strategic.¹⁴ The relevance of the Arctic for India can be broadly explained under three categories: Scientific Research, Climate Change and Environment; Economic and Human Resources; and Geopolitical and Strategic.

2.0 Scientific Research, Climate Change and Environment

2.1 Rising Sea Level:

Greenland is the largest regional source of land-ice loss, accounting for 51 percent of the Arctic's total. This land ice loss in the Arctic is a major contributor to rising sea levels globally.¹⁵ It can have a significant impact on India's 1,300 island territories and maritime features and the welfare of 1.3 billion Indians.¹⁶

2.2 Mineral Resources and Hydrocarbons:

The Arctic region has rich deposits of coal, gypsum and diamonds and substantial reserves of zinc, lead, placer gold and quartz.¹⁷ Greenland alone possesses about a quarter of world's rare-earth reserves.¹⁸ The Arctic also contains a wealth of hydrocarbon resources. A US Geological Survey (USGS) appraisal of the Arctic estimated that the region "may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth"¹⁹ amounting to 30 per cent of the world's undiscovered natural gas and 13 per cent of the world's undiscovered oil. ²⁰ With the increasing ice-melt, these resources are becoming more accessible and feasible for extraction.

India is the third-largest energy-consuming country in the world, the third-largest oil importer (83 per cent) and the fourth-largest importer of gas that caters to almost half of the total gas consumption.²¹ India's gas mix in the energy basket amounts to only 6 per cent, which is among the lowest in the world, compared to the world average of 24 percent.²² This is targeted to be scaled up to 15 per cent by 2030.²³ The Arctic can therefore potentially address India's energy security needs and cater to the deficiency of strategic and rare-earth minerals.

2.3 Emerging threat to Arctic security :

The multiple changes taking place in the Arctic. It has put huge pressure on the region and the capacity of Arctic states, communities and peoples. These include existing security challenges, from the environmental to the cultural, and to food- and health-related and economic challenges, among others. The various security challenges in the Arctic are often examined in silos, assessing one problem at a time. The complexity of the risks in the Arctic can best be understood when these challenges are looked at in connection with each other. These challenges are interconnected between various aspects of security in the Arctic.

2.4 Climate change as a catalyst for changing security in the Arctic

Climate change is one of the factors most severely affecting the physical environment and the livelihoods of people living in the region, as well as Arctic geopolitics. Many of the negative consequences of climate change have already had significant effects on the environment, economic activity and communities there. Climate change often amplifies already complex security challenges and intertwines with social, political and economic processes in the region.

Global temperatures are rising and the Arctic is warming faster than any other region in the world.²⁴ For instance, the spring and summer months of 2019 all ranked within the three warmest in the Arctic since 1979, and average temperatures from June to August were 3–4 degrees Celsius above average.²⁵ Rising temperatures transform the Arctic by affecting sea ice, permafrost, glaciers and snow cover.²⁶ Between 1979 and 2019, ‘the linear rate of sea ice decline is 82 400 square kilometers ... per year, or 12.9 percent per decade relative to the 1981 to 2010 average.’ ²⁷

Scientists do not exclude the possibility of an ice-free Arctic in the summer in the future.²⁸ Atmospheric warming results in declining terrestrial spring snow cover and a reduction in autumn snow cover extent and duration. Permafrost temperatures have been increasing steadily across the Arctic region and the summer melting of the Greenland Ice Sheet has increased since the 1990s.²⁹ These changes have caused significant alterations in the biodiversity of marine terrestrial ecosystems, which in turn significantly affect communities living in the Arctic. Below are just a few of the many examples of climate change-related effects on the various security challenges in the region.³⁰

The remoteness of, and difficulty accessing, the communities of the circumpolar regions, and the high market price of food and transport have considerable impacts on food security in the Arctic region.³¹ Climate and environmental changes have exacerbated these problems by, among other things, limiting access to traditional and local food sources.³²

Climate change has also influenced the issue of water security in the Arctic. Access to clean water has not been an issue for Arctic communities for centuries. The rising temperatures and changes in precipitation patterns, as well as melting permafrost, have affected the balance, movement and pattern of surface water and groundwater in the Arctic. It has affected the population’s access to fresh or clean water.³³

Climate change has also had an impact on health security in the region. The risks of food-related and water-borne diseases have increased due, among other things, to rising temperatures, warming sea temperatures and loss of ice.³⁴ Health security in the North is also often compromised as a result of levels of food and water security, which are now being affected by climate change.³⁵

Climate change also makes the Arctic more vulnerable to forest fires.³⁶ The forest fires in the north of Sweden in the summer of 2018 are just one example of how climate change leads to extreme weather conditions and subsequent challenges related to disaster management and response.³⁷ Arctic search and rescue preparations

have always previously assumed conditions of extreme cold, but the 2018 summer fires have provided a different view, including consideration of disaster management in areas affected by heatwaves and high temperatures over a long period.**38**

The opening up of what used to be ice-covered territories, shipping lanes and resources has sparked debates over questions of sovereignty and international law. It has also activated the process of submitting territorial claims on the extent of the continental shelf, under the United Nations Commission on the Limits of the Continental Shelf (UNCLOS), with regard to the delimitation of maritime borders in the Arctic and the settlement of disputes related to these issues.**39** Some disputes, such as the maritime border dispute between Russia and Norway in the Barents Sea, have been successfully settled.**40** Many others remain unresolved.**41**

2.5 Borders, connectivity and human security :

Although the protection of a state border is often seen as a guarantee of safety for those people living in its territory, the Arctic region demonstrates that some aspects of security can be affected negatively by the enforcement of borders.

Indigenous lands are divided by borders that cut through societies, pasture and traditional hunting grounds. This causes land fragmentation, which is closely linked to food insecurity, health insecurity, and search and rescue needs. Borders and land fragmentation have an impact on the possibility of securing traditional food sources and sources of clean water as well as accessing the nearest health centres in case of emergencies.**42**

Although some borders are more affected and restricted than others, notably the Russian border, the issue is important in all indigenous lands and territories across the Arctic.**43** While indigenous people's organisations such as the Sami Council work to limit the impact of borders. It is possible to identify the opposite tendency among states, from reinforcing border control to building new border guard stations.**44**

The indigenous populations have historically been excluded from border-making processes such as the drawing of maps and the naming of places, among other things. **45** Besides their importance in terms of recognition and allowing indigenous populations to influence politics, the resulting discrepancies in the spelling of place names of indigenous lands can become an important communication issue. These discrepancies in spelling, and the renaming and rewriting of indigenous place names on maps make it very difficult for communities to communicate their location, especially in emergency situations.

Issues around connectivity are also among the major challenges to human and community security in the region. Levels of connectivity and the provision of infrastructure differ markedly between various parts of the Arctic. Only some parts of the Arctic have cell phone coverage, for example, while many areas only have satellite phone coverage. In addition, broadband coverage is poor and unstable in most of the communities of the High North. Enhanced connectivity in the Arctic is key to improved security, education and health care, and is also extremely important in cases of emergency and disaster response.**46**

2.6 Economic and environmental security

The melting of the Arctic ice has prompted discussions on the opening up of new economic opportunities, primarily related to the extraction of natural resources and to shipping. This in turn has raised a number of security challenges, for instance, regarding marine environmental safety measures, the lack of adequate infrastructure along the shipping lanes and the absence of widespread search and rescue capabilities in the Arctic region.⁴⁷ Oil and gas development on the Arctic shelf increases the risk of pollution from oil spills, with potential for effects on ecosystems, wildlife and the livelihoods of local communities.⁴⁸ Mining and large infrastructure projects are also often seen as a risk to the traditional livelihoods of the Arctic communities.⁴⁹ At the same time, however, extractive industries are also seen as the basis for providing economic and job security in the Arctic.⁵⁰ It is argued that economic activities related to extracting resources as well as shipping in the region provide greater economic opportunities for businesses and local populations.⁵¹

Many states in the Arctic region are currently dependent on fossil fuels but have committed to move away from them in order to mitigate climate change. If the Arctic States aim to remain in line with the commitments they made in the 2016 Paris Agreement, they will need to move away from fossil fuels, and this will affect economic security in the region—at least for some and from a short-term perspective. ⁵²

2.7 Military presence in the Arctic and broader security issues

Human and non-traditional aspects of security are affected by the increasing military presence in the region. Historically, some of the indigenous lands have been used as testing ranges and for other military purposes.⁵³ The growing number and scale of military exercises continues to have an adverse impact on indigenous lands. Although many believe that the large-scale military exercises and military drills take place in remote areas or a wilderness, indigenous peoples take a different view as most of the exercises take place on their historic lands and affect their livelihoods.⁵⁴

The increased military presence poses threats to environmental security as well. The west alleges that the Russian military has been polluting the Russian Arctic islands for many decades, and the large-scale ‘spring cleaning’ announced in 2010 only partially reduced the effects of long-term negligent policies.⁵⁵ They further extend the the increasing military presence in the Arctic, and the Russian Arctic in particular, could lead to further environmental risk and pollution, including large-scale incidents. The incident on the Nyongksa test range in Arkangelsk oblast in the summer of 2019 is quoted as example of the potential risks.⁵⁶

2.8 Unresolved Boundary Disputes:

Apart from the strategic contestation, there are unresolved boundaries issues between the Arctic States.⁵⁷ For instance, the US has a Continental Shelf overlap with Canada and Russia, while Russia and Canada themselves have differing Continental Shelf claims.⁵⁸ The US and Canada have not yet delimited their maritime boundaries and they also have differences over the North West Passage, part of which Canada considers (like Russia for NSR) as its internal waters.⁵⁹ In addition, Canada and Denmark have a dispute over Hans Island⁶⁰ which they have now decided to settle after almost 50 years.⁶¹

3.0 The Arctic region is gradually boiling :

The strategic significance of the Arctic is increasing in the face of the changing climate and environment. The melting of the sea ice as earlier said, has opened up new economic opportunities in the region related to new transportation routes and the extractive industries, including oil and gas extraction. Although the economic potential is still being debated, interest in the region has been steadily growing for the past two decades. Along with the discussions on the economic potential of the Arctic, there are concerns regarding the possibility of conflict in the region. The military confrontation can not be denied due to the competing interests and territorial claims of the Arctic coastal States. Despite alarmist predictions of a ‘scramble for the Arctic’, however, the region has remained a zone of ‘low tension’, due mostly to commitments made by the Arctic states to keep the Arctic a zone of peace and lasting engagement based on mutual interests and agreements.⁶²

4.0 Conclusion :

India’s association with Arctic is over 100 years old, having been one of the original High Contracting Parties to the Svalbard (formerly Spitsbergen) Treaty in February 1920.¹¹⁶ Even today, the Treaty provides the right of visa- free access and conduct of economic and commercial activities to the citizens of India in Svalbard.¹¹⁷ The Indian research station Himadri at Ny-Ålesund was dedicated to the nation in 2008, making India the only developing country apart from China to have an Arctic research base.

India’s Arctic Policy is timely and is likely to provide a direction to India’s policy- makers on the contours of India’s engagement with the region. It is the first step towards developing a whole-of-government approach on India’s engagement with the region. The Policy is likely to have a multiplier effect towards more synergised and focused scientific research, including an enhanced understanding of linkages between monsoons and climate change in the Arctic, and between polar studies and the Himalayas. The economic agenda of the Policy is likely to help Indian industries establish a toe-hold in the region, as also gain access to clean and environmentally sustainable technologies. India’s expertise in the e-commerce and space sectors can bridge the great physical distances and bring the far-fledged communities in the Arctic closer. The development of indigenous capacities on the Arctic will lead to a greater and multi-faceted cooperation with the Arctic region. The Policy is also likely

to raise awareness about the Arctic within India and vice-versa through conduct of programmes, seminars and events in India and in the Arctic. It will also create capacities for research in the country on Arctic governance and geopolitics and also serve the role of signalling India’s interest in the Arctic to the world.

NOTES:

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