MARITIME AFFAIRS: JOURNAL OF THE NATIONAL
MARITIME FOUNDATION OF INDIA
2021, VOL. 17, NO. 1, 10–25
https://doi.org/10.1080/09733159.2021.1934969



# India's Evolving engagements in the Arctic

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**ABSTRACT**

The Arctic has attracted world attention in recent years as global warming began melting the sea ice at a much faster rate than recorded after 1979, the year when record-keeping began for the region. This new-found attention is also linked with greater accessibility of the Arctic Ocean, which is creating a geopolitical competition for resources and control. So far, the world media has focused primarily on the efforts of China in the Arctic due to its economic might, resulting in numerous academic literature. In comparison, the efforts of India in the Arctic have been relatively lesser researched and discussed. Those available have provided conflicting and sometimes debating opinions. It is with this understanding that the article discusses India's past and present engagement in the Arctic, with possible future trends and recommendations for India's evolving engagements in this region.

**KEYWORDS**

Arctic Council; Arctic policy; climate change; global warming; India

## Introduction

With temperatures of the Earth rising due to climate change, in turn leading to the melting of the Arctic sea ice, the world has begun to look at the Arctic region as an area of immense opportunity for profit, particularly in terms of resources and routes. As a result, the region has become a hub for various studies, including "environmental" studies, to better understand the impact of pollution and climate change, and "scientific" studies in the fields of Arctic microbiology, atmospheric sciences, geology, polar biology, glaciology, and earth and atmospheric sciences.[1] "Commercial" activities, such as shipping, tourism, infrastructure development and exploitation of fishes and minerals[2] are some other reasons of this growing interest. Additionally, "strategic" interests, such as who owns, controls and manages the Arctic waters to patrol the shipping routes, respond to emergencies, handle search-and-rescue and oil spill activities and act against non-state actors involved in drug smuggling, gun running, illegal immigrants and terrorists are other areas of opportunity for the various states who are active in this region.[3]

While the eight Arctic states closely control the activities in this region, the 13 non-Arctic observer states of the Arctic Council, as on 2019 (see Table 1), are trying to establish a foothold in the region. They aim to achieve this by establishing research stations; undertaking studies for assessing and exploiting the resources of the region and in politics, law and diplomacy of the Arctic states; acquiring ice-capable ships to work in this

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**Table 1.** Members of the Arctic Council as on 2019.

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| Arctic states (8) | Canada, Denmark (representing Greenland and Faroe Islands), Finland, Iceland, Norway, Russia, Sweden, the United States (US). |
| Observer states (13) | Germany, the Netherlands, Poland, United Kingdom (UK) (1998)<br>France (2000)<br>Spain (2006)<br>China, India, Italy, Japan, South Korea, Singapore (2013)<br>Switzerland (2017) |

region; planning ways and means to use the Northern Sea Route (NSR) for trading; and creating various politico-economic-strategic connects with the Arctic states.[4]

With "commercial and strategic" opportunities at the core, supported by a fear of being excluded from being a decisive power in the management of the untapped resources of the Arctic, non-Arctic nations like India have continued their association with the Arctic. India's interest in the Arctic has its roots in the fact that India considers Arctic affairs, especially the melting of the Arctic sea ice, not merely as a regional issue due to Atlantification[5] but an international one as it impacts the monsoons and sea-level rise in the Indian Ocean, which, in turn, severely impact the Indian subcontinent. While the changing patterns of the monsoon would increasingly create severe food insecurity in the country, rising sea levels would cause inundation of large coastal tracts of the subcontinent, thereby creating numerous climate change refugees. However, this belief of India's interest is challenged due to the conflicting and debating opinions expressed by Indian scholars.[6] These need to be addressed and ambiguities put to rest so as to provide a correct and a holistic view of the emerging engagements of India's interest in the Arctic. Accordingly, the Government of India is working on finalising a policy[7] with inputs from academicians and stakeholders since December 2020. The policy seeks to define India's engagement in the Arctic region with respect to five pillars: science and research; economic and human development cooperation; transportation and connectivity; governance and international cooperation; and national capacity building. As the policy is yet to be finalised, it can best be described as a work in progress.[8]

It is with this understanding that the article discusses India's engagements in the Arctic, past, present and possible future trends while making recommendations for its evolving involvement in the region. In doing so, the article first discusses India's historical connect with the Arctic region, and then delves into the various efforts made by it to further these links. This is followed by the challenges that the region experiences from global forces and those faced by India to make its presence felt in the Arctic. To complete the discussion, possible future global trends expected in this region and recommendations for India to be a part of the growth and exploitation of the Arctic are given. The conclusion ties all these strands together to provide a picture of India's evolving engagements in the Arctic.

## Background

India's tryst with the Arctic began when, as part of the British Empire, India signed the Svalbard Treaty in 1920. The treaty was subsequently ratified in 1923 and came into force in 1925.[9] The Svalbard Treaty is unique as it allows all signatories to enjoy the same rights to all natural resources; however, taxations are limited to the governance of Svalbard

alone and the region cannot be militarised.[10] Despite this, like most other member nations of the treaty, India too remained aloof from the North Pole and focused primarily on the South Pole by sending its team of researchers to Antarctica for polar scientific studies in 1981[11] in order to study the physical and environmental changes of the Earth. These efforts resulted in the establishing of the research stations Dakshin Gangotri (1983), Maitri (1989) and Bharati (2012) as part of India's Antarctic Programme.

The intent of the expeditions to the Antarctica was a mixture of scientific, strategic, political and economic prospects.[12] The expeditions were motivated by an interest to: counter territorial claims on Antarctica by some countries; possible mineral exploration and commercialisation of the region; undertake scientific research to study climate change; and establish the impact of the Antarctic on India's monsoons.[13] On the political front, the expeditions provided India with much-needed access to international forums as a growing country and allowed India to prove that it was a dominant player in faraway expeditions.

While Antarctica was being studied and frequented by scientists from various countries, the Arctic did not receive that kind of an attention till nearly 2007, when the Fourth International Polar Year (IPY) was launched.[14] This IPY (2007–08) focused on studying shrinking snow and ice cap in the Polar Regions, global linkage between the poles and the rest of the Earth, resilience of local communities to the environmental and social change as well as studies of new and unknown frontiers of the poles.[15] With a knowledge base of scientific achievements in the Antarctica, Indian scientists joined the IPY in 2007 to camp at the international research village – Ny-Ålesund – on Spitsbergen Island. Subsequently, a research station named "Himadri" was established at Ny-Ålesund in 2008 to undertake round-the-year scientific research in the fields of glaciological, biological, atmospheric and marine studies. The focus of study then was primarily climate change and to understand the relation between the Arctic climate and the Indian monsoon by analysing sediment and ice core records from the Arctic glaciers and the Arctic Ocean.[16] Today, as it stands, the interest is scientific, environmental, commercial as well as strategic.[17]

The research station not only helped India to become a full member of the Ny-Ålesund Science Managers Committee (NySMAC) but also encouraged it to deploy a multi-sensor underwater moored observatory (IndARC) in the Kongsfjorden Fjord[18] in July 2014, and then the Gruvebadet Atmospheric Laboratory at Ny-Ålesund in 2016.[19] Of these, Himadri provides the necessary field and laboratory support, the IndARC hosts a number of arrays to measure various physical and chemical parameters at close temporal scale at various levels in the fjord even during Arctic winters, while the atmospheric laboratory monitors aerosols, black carbon, clouds, precipitation and humidity profiles.[20]

While the "Antarctic Treaty" of 1959 helped recognise the Antarctic as a region of science and cooperation that should be used exclusively for peaceful purposes and not become the scene or object of international discord,[21] the scenario in the Arctic is entirely different. With most of the regions surrounding the Arctic Sea under the sovereign control of the member states and with the possibility of opening of new and shorter sea routes through the Arctic, the Arctic Sea is slowly becoming a region of international discord.[22] It is also becoming a region of conflict due to the presence of natural resources, such as oil, gas and minerals, further leading to militarisation of the region.[23]

## India's efforts

India's first connect with the Arctic region was when it was a part of the British Empire. After independence, there was limited involvement with this region till the Arctic sea ice began to melt. By then, since India had gained confidence in faraway expeditions, especially those in Antarctica, its involvement in the Arctic increased. Broadly, Indian efforts can be categorised as baby steps driven by the changing geopolitics of the world and the approach of other nations in the Arctic.

### *Initial efforts*

After its participation in the IPY of 2007–08 and establishment of the Arctic research base at Ny-Ålesund, India was elected to the Council of the International Arctic Science Committee (IASC)[24] in 2012. As recognition of its scientific efforts in the Arctic, India was granted observer status in the Arctic Council in 2013, and then re-elected in 2019.[25] In the initial years, with limited involvement of other nations in various activities of the Arctic, India preferred this status to support its research and scientific efforts in order to address climate change, including the potentially disastrous effect of melting of the Arctic sea ice on the annual monsoons, and to demonstrate to the world its capability in scientific agenda setting to address research gaps.[26] It also made India eligible to participate in the meetings of the Arctic Council's working groups and to engage with the other littorals to further its own interests.

### *The changing times*

For many years, the Indian government made little effort to expand its focus beyond scientific research in the Arctic. However, with time, it realised the true potential of the Arctic and the growing interest and actions of other nations in this region. This forced India to get involved in commercial and strategic activities in the region, along with pursuing environmental and scientific activities.

To align with the changing requirements of faraway expeditions, especially in the Poles, the National Centre for Antarctic and Ocean Research (NCAOR) was formed in 2000, to cater for studies in the Antarctic and the Southern Ocean. Subsequently, with the Arctic generating interest, the NCAOR was rechristened as the National Centre for Polar and Ocean Research (NCPOR) in a strategic move in July 2018, in order to provide a global purview and indicate the shifting interest of India to studies of both the Poles, and not limited to Antarctica alone. In addition, by getting involved in the Arctic, India could work closely with Russia, thereby ensuring that it could strategically balance both the United States (US) and Russia in international cooperation and engagements – the US in the Indo-Pacific construct and Russia in the Indo-Arctic construct.[27]

Similarly, to create bilateral scientific research cooperation with the Arctic nations, India established the Norwegian Programme for Research Cooperation with India (INDNOR) in 2010, so as to encourage study in certain thematic areas, such as international political issues, environment and climate, clean energy and social development, which would later be expanded to other areas of common interest.[28] Subsequently, a memorandum of understanding (MoU) was signed between India and Sweden in

December 2019 for cooperation on polar science.[29] Further, to widen the area of Arctic research and tap into the respective strengths of Indian and Canadian scientists in studying the Arctic, the NCPOR signed an MoU with Polar Knowledge Canada (POLAR) in February 2020,[30] to commence a journey of scientific collaboration between the two countries.

Simultaneously, to create business opportunities in the region, Indian companies began to invest in Arctic energy and terrestrial mineral resources. This led to the beginning of shipping of liquified natural gas (LNG) from Russia in 2018 and allowed Oil and Natural Gas Corporation (ONGC) Videsh Limited to buy 26 per cent stake in Russia's Vankorneft and a 20 per cent stake in the Sakhalin-I project. Also, recently, Coal India and Vostok Coal, Russia, finalised a joint venture that would allow India to mine in the Arctic for coal.[31] Additionally, India and Russia have agreed to collaborate in creating a maritime route from Chennai to Vladivostok,[32] partnering with Rosneft and Vostok for energy,[33] along with Russia agreeing to host an Indian Arctic research station.[34]

On the military side, India, for many years, had looked at the Indian Navy as a diplomatic tool for its foreign policy to shape the maritime environment in furtherance of its national interests.[35] This ethos greatly orchestrated the Indian Navy's foreign deployments. Indeed, till the 1980s, these offshore deployments were mainly for the acquisition of new platforms from Russia and then, subsequently, for refits and retrofitment of their submarines, with *INS Sindhurakshak* being the first Indian submarine to sail in the Arctic Sea in 2013.[36] Similarly, to build a greater connect with Russia in the Arctic Vladivostok, three Indian naval ships of the Eastern Fleet, namely, *Sahyadri*, *Shakti* and *Kirch*, visited Vladivostok in 2016.[37] However, it was only in 2019 that *INS Tarkash* visited ports in a number of Arctic states, namely, St. Petersburg (Russia), Bergen (Norway), Karlskrona (Sweden) and Helsinki (Finland).[38] This visit may be considered unique and an effort to engage with the Arctic states as it included four Arctic ports out of a total of five ports that *INS Tarkash* visited.

## Challenges

The increased opportunity for profit in the Arctic has created vested interests of nations to come to the fore, creating some challenges in general for the region. As a nation, India too faces some challenges with regard to its involvement in this region.

### *For the Arctic region*

It is prudent to understand that the Antarctic Treaty prohibits nations to commercialise the Antarctic to preserve it as a global common for peace and science, thereby creating a sense of peace and no "rush" for exploitation. However, there is no treaty of a similar nature for the Arctic region as it is under the jurisdiction of sovereign nations of the Arctic. This is thus the first and the biggest challenge for this region as the Arctic nations of the likes of Russia, Canada, Denmark and Norway have preferred their claim under the United Nations Convention on the Law of the Sea (UNCLOS) to extend their exclusive rights to the extended continental shelf. In effect, it means that the resources of the Arctic would be governed by the respective countries, thereby

creating a competition for resources in the region, which in turn is likely to create conflict, and hence unrest, here. One such effort was made by Russia in 2007 wherein, during the "Arktika" expedition, they planted a titanium flag on the seabed.

The second challenge comes from the fact that while the Antarctic has prohibited activities related to mineral resources, other than scientific research (Madrid Protocol, 1991), the Arctic has been exploited for minerals since the early eighteenth century[39] and there is no way of stopping the ongoing commercial interests in this region. The third and an evolving challenge is the increased movement of commercial vessels in this region due to the reduction of ice caps by nearly 40 per cent since 1979 as a consequence of global warming. In fact, the number of vessels transiting the region increased from five in 2009 to 71 in 2013,[40] of which 31 did not cross the entire route. Similarly, the NSR saw 62 transits in 2020 as against 37 in 2019.[41] With increased number of vessels transiting these waters, there is an increased chance of marine pollution and maritime terrorism,[42] thereby necessitating the need for establishing security mechanisms in the region.

The fourth critical challenge is the overlapping claims of the five Arctic littorals that have forced nations to strengthen their military in anticipation of a future conflict. It is important to mention that while environmental issues are discussed in the Arctic Council, there is no provision to discuss military security and territorial claims.[43] Accordingly, Arctic states have inked MoUs[44] on mutual basis to address a variety of issues[45] and resolve their territorial issues; however, this has not led to the disarmament of the region.[46]

The fifth and the biggest challenge for this region is the growing interest of nations who have no physical connect with the Arctic. While these nations have been granted Observer status in the Arctic Council, their increasing involvement in the region for resource exploitation and maritime trade can upset the delicate balance of this region. This is because Observer states do not have a focused approach to most of the issues of the Arctic when compared to the member states. It is prudent to mention that even though the Observers are weak actors in the Arctic Council, they continue their status of Observers to seek to contribute to the governance of environmental issues of global importance and to gain from the economic potential of the Arctic. Meanwhile, the member states accept Observers for economic gains from their participation.[47]

## *For India*

Even though the Arctic and the Antarctic are metaphorically different, they have many similarities. Hence, the challenges experienced in these two regions are nearly similar.[48] It is now up to India to forge favourable alliances and relations, both at track 1 and track 2 level, with the littorals of this region and strengthen its international presence. However, a number of challenges, in no specific order of importance, exist for India to address.

The first challenge for India is a lack of world posturing. India has been an Observer in the Arctic Council since 2013, but even after seven years, there is no official policy of the Government of India on the Arctic that can clarify the interest and role of India in the Arctic. This said, it is prudent to mention that one such policy is on the anvil and currently being debated between the academicians, stakeholders and the policymakers.[49] It is

essential to mention that such a delayed action by India reflects on the seriousness and commitment of the nation on issues of the Arctic.

The second challenge that India faces is a lack of technical expertise to explore and exploit the mineral resources in the Arctic. Though India has developed significant expertise in conducting expeditions in polar conditions, has a fully developed agency to undertake offshore oil exploration and deep-sea mineral exploration and has made major advancements in developing deep-sea technologies, such as remotely operated vehicles (ROVs) and submersibles, it still lacks the required technical expertise and equipment to undertake these offshore explorations in the frigid regions of the Arctic.

The third challenge for India is in providing financial assistance for creating favourable alliances and relations with the Arctic littorals since its pockets are not deep and cannot match countries like China who have invested close to US$ 1.4 trillion in various economies of the Arctic nations from 2015 to 2017.[50] One needs to understand that foreign investment allows the home nation access to both the resources and markets of the host nation, thereby creating a favourable alliance and relations between the two nations.

## Future trends and recommendations

The future trend for India's approach towards the Arctic is guided by two schools of thought: declaring the Arctic as a region of global commons;[51] and a diametrically opposite approach that opposes this thought and recommends that India should push forward to achieve its interest by engaging with the Arctic nations.[52] It may not be correct to emphatically say which school should be followed. Even though the Ministry of External Affairs (MEA) indicates scientific, environmental, economic and strategic as the interest of India in the Arctic,[53] for the present, India seems to be following a middle path to forge relationships with the Arctic nations in science and environment and to some extent, to meet its growing demand for resources. However, this middle path is a researcher's perception and not based on an official statement.

One needs to realise that the future trend of India's involvement in the Arctic would necessarily depend on the official policy it releases towards the Arctic and the amplifying efforts it displays towards its involvement in the Arctic. In this regard, some short-, medium- and long-term efforts are recommended for active consideration.

### *Short-term recommendations*

(1) *Lack of an official document on the Arctic*: Even though India has a connect with the Arctic since the 1920s, set up its research station in 2008 and became an Observer of the Arctic Council in 2013, there is no official document that clarifies India's political or scientific approach of the present or the future in the Arctic, other than a reference of India's interest in the Arctic on the MEA website[54] and a draft Arctic policy that has been circulated in December 2020 and is currently being finalised with inputs from stakeholders, academicians and think tanks.[55] The lack of such a document neither helps the players in the country nor those in the Arctic. It tends to create an atmosphere of ambiguity and mistrust, which should be avoided. It also does not allow the public/private organisations to synchronise their actions. As

mentioned earlier, the Arctic policy of India is a work in progress and it will be some time before it is made public. It is, however, opined that the policy must be made public at an early date to address the ambiguity of the narrative that India wishes to follow.

(2) *Establish a desk in MEA to focus on the Arctic affairs*: The Arctic Council has eight member nations, while another 13 nations are observers. Currently, these nations are dealt with by separate desks in the MEA for ease of functioning. Since the interest of India in the Arctic is increasing, a dedicated desk for the region is essential at the MEA to address cooperation and collaborative efforts with the stakeholder nations. Furthermore, since the envisaged priorities of India in the Arctic range from scientific, environmental, commercial to strategic, which have overlaps, a single nodal agency to spearhead activities in the Arctic is essential to avoid duplication of efforts, optimisation of human and financial resources and speedy implementation. It is prudent to mention that a single-point approach would also reflect a required seriousness of the country towards the Arctic, creating a greater sense of faith between the participating nations. It is worth noting that the activities in the Antarctica are dealt with by the Ministry of Earth Sciences (MoES), since the primary and sole efforts therein are science and no nations are involved. However, a similar approach in the Arctic wherein multiple priorities and nations are involved, leaving it to the MoES alone may not be effective.

(3) *Inclusion of the Arctic in the maritime security strategy of India*: The maritime security strategy of India is documented in the *Indian Maritime Security Strategy* (IMSS).[56] Currently, this document does not include the Arctic as the secondary area of maritime interest of India. If India wishes to involve its men and material resources in the Arctic, the region would automatically form a secondary area of maritime interest of India. Hence, the Arctic needs to be included in the IMSS once the Arctic policy of India is promulgated.

(4) *Provide monetary and technical support for infrastructure development*: Even though India does not have deep pockets, it has the requisite technical expertise and manpower to undertake infrastructure projects in faraway regions. For financial support, though India may not be able to provide the necessary funds directly, it can influence the newly established New Development Bank under Brazil, Russia, India, China and South Africa (BRICS) for the necessary financial assistance.[57] Such an effort will help create an environment of trust between India and the recipient nation.

### Medium-term recommendations

(1) *Encourage education about the polar region at various levels*: Education needs to be encouraged at various stages for the people of India for a better understanding of the Arctic. This may be done as follows:
   (a) Encourage education in academic institutions of the country, including schools and colleges, to provide basic knowledge and appreciation about the flora, fauna, habitat, permafrost, geography, resources and the importance of the Poles for humanity and the Earth at large.

(b) Encourage university-level research both within and outside the country by creating MoUs with universities of the Nordic and Baltic states to allow Indian students to undertake research in areas that would enhance the understanding of the Arctic, as also areas that directly affect India, primarily sea ice melt, trade routes and resource exploration and exploitation.
(c) Educate the bureaucrats, policymakers and thinkers of the country on topics associated with the Arctic. This would ensure that the correct perspective about the issues associated with India's involvement in the Arctic can be debated, analysed and decided upon with a greater understanding, the stakes understood and the factual and analytical research data associated with the region incorporated.
(d) Encourage international conventions and conferences on the importance of the Arctic to interact with foreign experts to provide an insight into India's interest and existing expertise in the areas of research linked to the Arctic.

(2) *Encourage collaborative studies with the indigenous communities of the region*: It is an accepted fact that the third pole of the Earth is the Himalayas, which is situated in India. It hence stands to logic that there is a psychic linkage between India and the Arctic. Thus, most of the problems of the indigenous communities of the Poles associated with global warming would be identical and can be shared. Such an information sharing would be beneficial to both the communities, in the Arctic and the Himalayas, not only bringing them closer but also helping create greater trust and understanding between the two regions, as seen during one such recent interaction.[58] It would also help evolve ways and means to counter the effect of climate change through collaborative research undertaken in institutions such as the Himalayan University Consortium (HUC).
(3) *Establishing research station in the Arctic*: Currently, India has one research station, one laboratory and one observatory in the Arctic. Playing to its strength, India should work out the modalities for establishing satellite data-receiving Earth stations from remote-sensing satellites on the same lines as it has done in the Antarctica,[59] to support monitoring the environment and investigation of resources on land and in the ocean and atmosphere of the Northern Hemisphere.
(4) *Collaborate with other Arctic nations*: As on date, India's research in the Arctic is primarily focused in Norway. In order to create better collaboration and greater connect with the nations of the Arctic, India needs to collaborate with other countries, such as Canada and Denmark (due to their proximity to the North Pole) and Finland (due to a common interest in scientific research). Additionally, Sweden, which is not a part of North Atlantic Treaty Organization (NATO), would benefit immensely by economic and military partnerships with India, which would help reduce its own regional tensions.[60]
(5) *Conduct naval exercises with the navies of the Arctic nations*: India should consider proposing naval exercises with the Arctic states to strengthen relations. In addition, increasing friendly visits of Indian naval ships to the ports of Arctic nations, as was done in 2019, would help create an atmosphere of faith and trust.
(6) *Establish fellowships in Arctic affairs to assist Indian entities in meeting the challenges associated with India's observer status in the Arctic Council*: The proposed fellowship could be established under the aegis of NITI Aayog, a university of

higher learning or a think tank to assist the government or an Indian entity to evaluate the prospects and challenges for India/entity in increasing its involvement in the Arctic. Such a fellowship could be akin to the Prime Minister's Research Fellows (PMRF) scheme.

### Long-term recommendations

(1) *Extend the International North–South Transport Corridor (INSTC) beyond St. Petersburg in Russia to the Nordic and Baltic nations*: Developing a sea route through the Arctic does not accrue benefits of distance reduction for India as available to countries like China, Japan or South Korea due to its geographical location. Hence, encouraging and developing Arctic trade through the sea route is not a profitable proposal. However, India needs to encourage trade with the Arctic nations. For this, a land route should be developed. In this regard, the INSTC could be extended beyond Russia to the Nordic and Baltic states. To ensure that the trade is cost effective, India needs to establish trade links with the littorals of this region. Such an effort would allow India to remain relevant in this region.

(2) *Involvement in the Arctic Council*: India, as a nation, desires to continue as an observer of the Arctic Council. It is with this understanding that India accepted to extend its term by giving its willingness in 2018.[61] However, now is the time that India needs to exhibit greater involvement in the activities of the Arctic Council, both in the working groups and in diplomatic engagements outside the Arctic.[62] In this regard, India should learn from South Korea to encourage researchers to participate in these arrangements. Such an effort would help India achieve a compelling position in global governance.

(3) *Rethink defence strategies*: The current defence strategy of India is based on controlling sea lines of communication (SLOCs) and supply lines of the adversary. With regard to China, India can exercise this strategy by controlling the Malacca Strait. However, with the NSR opening up and China working on ways and means of utilising it, India will need to rethink its defence strategy with respect to China.

(4) *Extend the "Act East" to the Arctic*: India's Act East Policy currently focuses on the Association of Southeast Asian Nations (ASEAN) states.[63] However, it is time that India extends this policy to East Asia, and beyond to the Arctic, to accrue maximum benefits from the opening of the NSR.

(5) *Create trading relations with the Arctic, the Nordic and Baltic nations*: Trade and cultural exchange are considered two means of bringing any two nations closer. Accordingly, it would be in India's interest to encourage and develop trade and cultural exchange with the Arctic,[64] the Nordic[65] and the Baltic[66] nations. Interested nations must be encouraged to partner with India in various fields, such as the blue economy and the sustainable use of marine resources. Such a trading relation would require some efforts to develop acceptable bilateral and multilateral trade agreements, but is considered feasible as India is a lucrative market for most of these nations due to its size and commitments to the Sustainable Development Goals, as discussed in the Norway–India 2030 strategy.[67]

## Conclusion

The article has discussed the evolving engagements of India in the Arctic over the years. One may notice that India's involvement in the Arctic has been limited so far for reasons unknown, even though it stands to gain from its active participation in the region. Although the association of India with the Arctic goes back a 100 years, its involvement in the Arctic through scientific efforts began only in 2007 and caught academic traction only in 2013 when India was granted an observer status in the Arctic Council.

Since then, a number of narratives being followed by India have been provided by various scholars. These include a "global commons" route in the Arctic to preserve the ecology;[68] a route of exploitation as dictated by the Arctic Council since India is an Observer;[69] developing a politico-strategic understanding to exploit the Arctic resources;[70] and as an advocate of disarmament[71] and demilitarisation[72] of the Arctic, akin to its stance in the Antarctica. There is, however, little clarity of the official narrative that India follows or plans to follow due to its non-existent official policy on the Arctic, which is currently in the draft stage and is best considered a work in progress.

As it is perceived that India should play a more active role in the activities of the Arctic as an observer to address certain relevant issues, such as climate change and its energy needs, create a strategic connection and increase trade with the nations of the Arctic as a basic minimum, some recommendations have been made. However, one needs to understand that the recommendations discussed are possible only if India leverages the Arctic Council to articulate multilateral cooperation and ensure environmental protection and issues of climate change through sustainability. What India needs to do is to take a positive lead in advocating a nuclear weapon-free Arctic,[73] while encouraging an environmental protection regime based on its existing scientific studies and supporting the Arctic Council states with its knowledge in deep seabed mining to map the Arctic Ocean for seabed mineral resources.

In the Arctic, India needs to focus on scientific studies that cover topics related to connection between Arctic sea ice melting and the Indian monsoons, sea-level rise due to sea ice melting, additional research stations, including those that can address satellite data receiving and analysis, and the impact of trade route change on the geopolitics and geo-economics of the Indian Ocean Region. While India may make all-out efforts in achieving one or all of these goals, the success of these goals is solely dependent on creating an atmosphere of mutual faith between India and the stakeholders of this region.

## Notes

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