THE NEED FOR INDIA TO BRING AN 'ASIAN PERSPECTIVE' INTO THE ARCTIC

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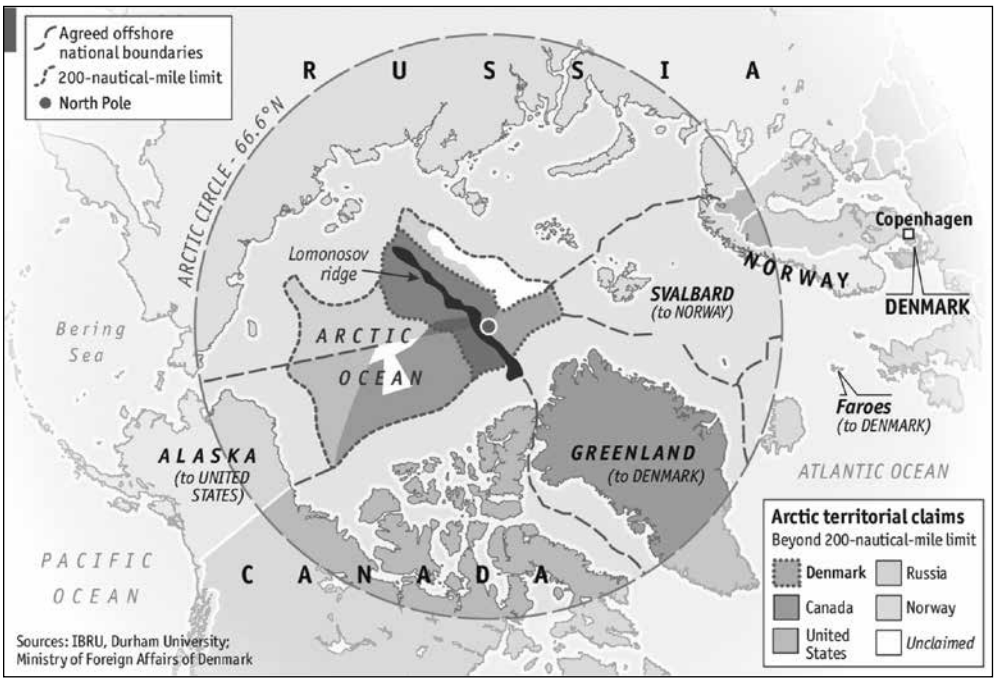

This paper overviews the existing policies of the Arctic nations and explicates the need for India to develop its Arctic policy as an observer state of the Arctic Council. The Arctic becomes a crucial geostrategic location owing to the global

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The Arctic becomes a crucial geostrategic location owing to the global warming and climate change that is affecting the landscape of this permafrost region. The melting ice presents opportunities as well as challenges to countries to evolve their policies and strategies.

warming and climate change that is affecting the landscape of this permafrost region. The melting ice presents opportunities as well as challenges to countries to evolve their policies and strategies in accordance with the same. In addition to member states, an observer state such as China has also produced its Arctic Policy in 2018. In the light of current developments, India, too, needs to constantly engage with several Artic Council Working Groups as an active partner and stakeholder in the Arctic interests. The paper argues that even though India has participated in some of the Arctic projects, there is scope for more focussed and long-term policies by bringing in an 'Asian perspective to the Arctic issues'.

INTRODUCTION

The Arctic is the polar region lying north of the Arctic Circle, including the icy North Pole and the Arctic Ocean, making it the northernmost region of the world. It covers an area of 14.5 million sq km and is surrounded by eight countries: Canada, Finland, Greenland, Iceland (Kingdom of Denmark), Norway, Sweden, and the USA. These eight countries have formed a high level inter-governmental organisation, the Arctic Council, for cooperation and coordination in Arctic-related issues. Apart from these permanent members, the Arctic Council was extended to non-Arctic members to engage and participate in, and contribute to, the Arctic Working Groups. Currently, there are 13 non-Arctic nations[1] that have been approved as observers to the Arctic Council; India became an observer in 2013.

The main driving force behind the emergence of the importance of the Arctic, over the past few years, has been the impact of climate change. The changing climate is leading to the melting of the sea ice in the Arctic Ocean

1. France, Germany , Italian Republic, Japan, the Netherlands, People's Republic of China, Poland, Republic of India, Republic of Korea, Republic of Singapore, Spain, Switzerland, and United Kingdom.

and the glaciers on land, and a thawing of the permafrost. The emergence of the 'New Arctic' is fast becoming geographically very important and cannot be ignored by the international community. Several opportunities have also emerged from the melting of the Arctic ice in the form of shipping routes, possible exploration of mineral wealth, and expansion of the fishing industry. One of the downsides of climate change is the changing topography of the world, with the possibility of invoking territorial and maritime sovereignty claims that eventually have geostrategic implications. A number of overlapping territorial claims in the Arctic might place strain on the existing international regimes leading to considerable power politics between the members of the Arctic Council. It has to be kept in mind that most members of the Arctic Council, apart from Russia, are allies of the United States, with some being members of the North Atlantic Treaty Organisation (NATO) as well.

One of the downsides of climate change is the changing topography of the world, with the possibility of invoking territorial and maritime sovereignty claims that eventually have geostrategic implications. A number of overlapping territorial claims in the Arctic might place strain on the existing international regimes.

The debate on the Arctic has been to balance the opportunities that the region provides as a result of the melting of the ice due to climate change, with targeted efforts to mitigate the harmful effects on the Arctic, and prevent it from melting further. A number of Asian nations are also looking towards the Arctic for the economic opportunities it may provide as well as the possibility of exploring new shipping routes to trade with Europe. Many have proposed that the Arctic be declared a 'global commons' or an asset of the 'common heritage of mankind', akin to the Antarctica continent.

THE ARCTIC COUNCIL NATIONS AND THEIR INTERESTS IN THE REGION

The Arctic Council is the leading inter-governmental forum promoting cooperation, coordination and interaction among the Arctic states, Arctic

indigenous communities and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic. The Arctic Council is celebrating its 22 years of existence. The council was set up to work towards making the Arctic a zone of peace and stability. It was established on September 19, 1996, with the signing of the Ottawa Declaration.[2] In addition to eight permanent Arctic Council members, six organisations representing the Arctic indigenous peoples have status as permanent participants. The category of permanent participants was created to provide for active participation and full consultation with the Arctic indigenous peoples within the council. They include: the Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Council, Russian Association of Indigenous Peoples of the North and Saami Council.

The Arctic Council has also helped to maintain the Arctic as a zone of peace and stability. In the 2013 "Vision for the Arctic", ministers of the Arctic states wrote: "We are confident that there is no problem that we cannot solve together through our cooperative relationships on the basis of existing international law and goodwill." This commitment is also affirmed by the Ministerial Declarations from Nuuk (2011), Kiruna (2013) and Iqaluit (2015), in each of which, ministers of the Arctic states recognised "the importance of maintaining peace, stability, and constructive cooperation in the Arctic."

The following is a brief look at the Arctic policy of the members of the council.

CANADA

"Canada's vision for the Arctic is a stable, rules-based region with clearly defined boundaries, dynamic economic growth and trade, vibrant northern communities, and healthy and productive ecosystems. The Arctic is fundamental to Canada's national identity. It is home to many Canadians, including indigenous peoples across the Yukon, the Northwest Territories and Nunavut, and the northern parts of many Canadian provinces. The

2. The text of the 'Declaration' can be found at: https://oaarchive.arctic-council.org/bitstream/handle/11374/85/00_ottawa_decl_1996_signed%20%284%29.pdf?sequence=1&isAllowed=y

Arctic is embedded in Canadian history and culture, and in the Canadian soul. The Arctic also represents tremendous potential for Canada's future. Exercising sovereignty over Canada's north, as over the rest of Canada, is its number one Arctic foreign policy priority. Its vision for the Arctic is a stable, rules-based region with clearly defined boundaries, dynamic economic growth and trade, vibrant northern communities, and healthy and productive ecosystems.[3]

Canada's 'First Defence Strategy' as a comprehensive policy for the Canadian Forces, also focusses on the need to provide an increased presence in the Arctic. Through this strategy, Canada is investing in new patrol ships that will be capable of sustained operation in first-year ice to closely monitor the Arctic waters as they gradually open up and maritime activity increases. In order to support these and other Government of Canada vessels operating in the north, Canada is investing in a berthing and refuelling facility in Nanisivik. Canada is also expanding the size and capabilities of the Canadian Rangers, drawn primarily from indigenous communities, who provide a military presence and Canada's "eyes and ears" in remote parts of Canada. A new Canadian Forces Arctic Training Centre is also being established in Resolute Bay.

Canada is also investing significantly in mapping the energy and mineral potential of the north.[4] It is taking a comprehensive approach to the protection of environmentally sensitive lands and waters in the north, ensuring that conservation keeps pace with development and that development decisions are based on sound scientific study and careful assessment. As part of this effort, the government has enhanced pollution prevention legislation in the Arctic waters and is taking steps to clean up abandoned mining sites across the north. Canada is already at the forefront of several international efforts to study the impacts on both the Arctic and Antarctic of a changing climate, and is investing to help the northerners adapt to these impacts.

3. Government of Canada, "Canada's Arctic Foreign Policy," http://international.gc.ca/world-monde/international_relations-relations_internationales/arctic-arctique/arctic_policy-canada-politique_arctique.aspx?lang=eng, Accessed on August 1, 2018.
4. Ibid., pp. 11–15.

GREENLAND (KINGDOM OF DENMARK)

The kingdom's Arctic policy states, "The Arctic has to be managed internationally on the basis of international principles of law to ensure a peaceful, secure and collaborative Arctic."[5] Though the area under Denmark is covered by the NATO treaty, the long-term political agreement on defence (Danish Defence Agreement 2010–14) involves a stronger focus on the tasks of the Danish armed forces in the Arctic. As part of its presence, the armed forces are building a habitual picture of activities in the waters around Greenland and the Faroe Islands.

In addition, the armed forces play an important role in the provision of a range of more civilian-related duties. The 2010-14 Danish Defence Agreement includes four overriding initiatives that must be viewed in the light of climate change and increased activity that would foreseeably result in an increase of tasks for the armed forces. Firstly, the armed forces' North Atlantic Command structure will be streamlined by the amalgamation of the Greenland Command and Faroe Command into a joint Service Arctic Command. Secondly, the ability of the armed forces to conduct operations in the Arctic environment will be strengthened. The forces will be anticipated to strengthen their enforcement of sovereignty and surveillance, for instance through military exercises. The force could also be deployed in other situations such as in assistance to the Greenlandic society. Thirdly, in conducting a risk analysis of the maritime environment. Fourthly, in 2014, a comprehensive analysis about the future tasks of the armed forces in the Arctic was carried out, including opportunities and potential for closer cooperation with partner countries in the Arctic. Tourism, second only to fisheries, is the most important export industry in the area, and has the potential for growth in the future. The vision is to exploit the mineral resources in the Arctic under the best international practices, and in continued close cooperation with the relevant authorities of the Danish realm and international partners.[6] In cooperation with the international research and scientific community, Denmark has stated that it will strengthen the effort to

5. Kingdom of Denmark, Greenland and the Faroe Islands:, "Kingdom of Denmark Strategy for the Arctic 2011–2020," file:///C:/Users/Lenovo/Downloads/Arctic%20strategy%20(2).pdf. Accessed on August 1, 2018, p. 1.
6. Ibid., pp. 23–25.

quantify the global and regional impacts of climate change in the Arctic, including knowledge about how Arctic ecosystems, sea ice and ice sheets respond to climate change. Such efforts include monitoring and research activities with the involvement of Greenland, Faroese and Danish research centres. Research and monitoring must reinforce the knowledge base on climate change impacts and their significance for the populations and communities within and outside the Arctic, as well as incorporating local and traditional knowledge. It will also assist in reinforcing the rights of the indigenous peoples in negotiations towards a new international climate agreement by promoting the visibility of indigenous peoples' situation and also ensuring that the principles of the UN Declaration on the Rights of Indigenous Peoples from 2007 are observed.[7]

FINLAND

Finland had identified four priority areas for the Arctic Council under its presidency for 2017-19. These are: environmental protection, connectivity, meteorological cooperation and education. They are an extension of its Arctic Policy formulated in 2013, updated in 2016 with a strategy document released in 2017. Finland sees the European Union (EU) as a key factor in the Arctic region and supports efforts to consolidate the EU's Arctic policy. Finnish expertise can be exploited in fields such as energy-efficient Arctic construction (including timber construction), sustainable energy solutions and functional community development. Finland can be profiled as a model country for a bio-based and circular economy.[8] All this is significant from Finland's perspective as it seeks to lead the way in the sustainable development of the region. Actors planning to launch operations in the area must have the capacity to evaluate and manage the risks and potential outcomes of their activities. Finland's role in the transition that the Arctic region is currently undergoing is to promote sustainable development

7. Ibid., pp. 43-44.
8. Prime Minister's Office, Finland, "The Government's Strategy Session on March 27, 2017: Action Plan for the Update of the Arctic Strategy," https://vnk.fi/documents/10616/3474615/EN_Arktisen+strategian+toimenpidesuunnitelma/0a755d6e-4b36-4533-a93b-9a430d08a29e/EN_Arktisen+strategian+toimenpidesuunnitelma.pdf. Accessed on August 1, 2018, p. 3.
A circular economy aims at maximising recycling and minimising waste products.

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and stability, both nationally and internationally.[9]

Standing in stark contrast to some other members, Finland has no belligerent military policy towards the Arctic. In Finland, preparedness is based on a comprehensive concept of security for the Arctic. The Finnish defence forces have excellent capabilities for the Arctic environment due to their cold climate expertise and the material suited for northern conditions. Additionally, Finland has extensive Arctic training and exercise areas in Rovajärvi, Sodankylä and Kajaani as well as in sea areas on the Quark, the Gulf of Bothnia and the Gulf of Finland. The Finnish Air Force has experience in operating in Arctic cold-climate conditions. Finland has offered its Arctic exercise and training to its international partners, which also contributes to its own forces' interoperability.[10] The opportunities for the commercialisation of Finnish Arctic expertise are mainly based on the large theme areas and drivers of the Arctic region: climate change mitigation and energy solutions, maritime safety, construction and functional infrastructure, and digital services and functional data transfer.

ICELAND

The Parliamentary Resolution on Iceland's Arctic Policy (2011) states twelve principles such as "promoting and strengthening the Arctic Council as the most important consultative forum on Arctic issues and working towards having international decisions on Arctic issues." The policy also secures Iceland's position as a coastal state within the Arctic region as regards influencing its development as well as international decisions on

9. Prime Minister's Office Publication, Prime Minister's Office, Finland, "Finland's Strategy for the Arctic Region 2013. Government Resolution on August 1, 2018," http://vnk.fi/documents/10616/334509/Arktinen+strategia+2013+en.pdf/6b6fb723-40ec-4c17-b286-5b5910fbecf4. Accessed on August 26, 2016, p. 8.
10. Ibid., pp. 39-41.

regional issues on the basis of legal, economic, ecological and geographical arguments.[11] It also importantly states, "Supporting the rights of indigenous peoples in the Arctic in close cooperation with indigenous organisations and supporting their direct involvement in decisions on regional issues. And to use all available means to prevent human-induced climate change and its effects in order to improve the well-being of Arctic residents and their communities."[12] Since the northern part of the Icelandic Exclusive Economic Zone (EEZ) falls within the Arctic and extends to the Greenland Sea adjoining the Arctic Ocean, Iceland has both territory in, and rights to, sea areas north of the Arctic Circle. Iceland is developing further trade relations between states in the Arctic region, and thereby laying the groundwork for Icelanders to compete for the opportunities created as a result of increased economic activity in the Arctic region. It supports the need to resolve differences related to the Arctic on the basis of the United Nations Convention on the Law of the Sea. The convention establishes a legal framework for ocean affairs and contains, *inter alia*, provisions on navigation, fisheries, exploitation of oil, gas and other natural resources on the continental shelf, maritime delimitation, ocean pollution prevention, marine scientific research and dispute settlement applicable to all sea areas, including the Arctic region. Nonetheless, it wants to conduct all of these activities in a manner that will contribute to sustainable utilisation of resources and through responsible handling of the fragile ecosystem.

Iceland is developing further trade relations between states in the Arctic region, and thereby laying the groundwork for Icelanders to compete for the opportunities created as a result of increased economic activity in the Arctic region.

According to the government, it is essential that the Icelandic people are able to make full use of employment opportunities created by changes in

11. Government of Iceland, "A Parliamentary Resolution on Iceland's Arctic Policy," https://www.government.is/media/utanrikisraduneyti-media/media/nordurlandaskrifstofa/A-Parliamentary-Resolution-on-ICE-Arctic-Policy-approved-by-Althingi.pdf. Accessed on August 1, 2018, p.2.
12. Ibid.

the Arctic region. The Icelandic economy and institutions have knowledge, technology and experience that fit well with the social and environmental conditions in the region.[13] Iceland has stated that it will concentrate its efforts fully on ensuring that increased economic activity in the Arctic region will contribute to sustainable utilisation of resources and observe responsible handling of the fragile ecosystem and the conservation of biota. Furthermore, contribute to the preservation of the unique culture and way of life of indigenous peoples that has developed in the Arctic region.[14]

NORWAY

The Norway government's vision is for the Arctic to be a peaceful, innovative and sustainable region. The government will give even higher priority to ensuring an integrated approach to the Arctic policy. Norway wants to achieve the three dimensions of sustainable development – social, economic and environmental – in the Arctic.[15] The oil and gas industry is the largest contributor to the Norwegian economy, and provides major opportunities for increased employment and growth in northern Norway. The government wants to establish an ambitious oil and gas policy, which facilitates future development projects in the High North, including by offering attractive exploration areas. The government will also continue mineral mapping in northern Norway under the management of the Geological Survey of Norway. The other two industries that have generated interest are fishing and tourism.[16] More than 80 per cent of all maritime traffic in the Arctic passes through Norwegian waters. Climate change and melting of ice have increased the importance of the Arctic, both to

13. Ministry of Foreign Affairs of Iceland, "A Parliamentary Resolution on Iceland's Arctic Policy (Approved by Althingi at the 139th legislative session March 28 2011)," https://www.mfa.is/media/nordurlandaskrifstofa/A-Parliamentary-Resolution-on-ICE-Arctic-Policy-approved-by-Althingi.pdf. Accessed on August 1, 2018.
14. Ibid.
15. Norwegian Ministries, "Norway's Arctic Strategy: Between Geopolitics and Social Development," https://www.regjeringen.no/contentassets/fad46f0404e14b2a9b551ca7359c1000/arctic-strategy.pdf. Accessed on August 1, 2018, pp.9-10..
16. Norwegian Ministry of Foreign Affairs, Government of Norway, "Norway's Arctic Policy," https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/nord/nordkloden_en.pdf. Accessed on August 1, 2018, pp. 20–22.

sea transport and to oil and gas activities. The government policy wants to ensure preparedness for acute pollution and for preventive maritime safety in the Arctic.

Norway is an active driving force in establishing global safety and environmental rules for ships operating in the polar waters. Norway has led the working group in the UN Maritime Organisation (IMO) which is working to establish the so-called Polar Code. Norway is working to strengthen cooperation on comprehensive, ecosystem-based maritime management. These are a few of the steps that Norway has stated in its Arctic strategy to protect the environment and eco-system of the Arctic.[17] Norway has a number of larger naval bases in its northern regions at Haakonsvern, Ramsund and Sortland.[18]

THE RUSSIAN FEDERATION

Russia, as the country with the longest coastline in the Arctic Ocean, has a central role in determining how the emerging new Arctic will develop. The country has a long tradition of operating in the Arctic, and has strong economic and security interests in the region.[19] Russia, with its northern fleet, naval infantry, air force, coast guard and patrol vessels that support it, is by far the most forceful naval power in the Arctic. Besides its headquarters at Severomorsk, the fleet has four other large naval bases in the high north, each of which consists of multiple bays, facilities, ports and installations: Gadzhievo, Zapadnaya Litsa, Vidyayevo and Gremikha. It has several airfields and airbases north of the 60th parallel, some of which have reopened in the past five years. These are: Alykel, Besovets, Khatanga, Kogalym, Kotelny Island, Mirny, Severomorsk (Murmansk), Olenya (Olenegorsk), Raduzhny, Salekhard, Surgut, Syktyvkar, Tiksi, Dresba airbase at Pevek, Petrozavodsk, Ugolny and Yakutsk. However, it is questionable how many of these are fully operational from a military point of view.[20]

17. Ibid., pp.26–39.
18. Marcus M. Keupp, "Five Nations Jockey for Military Influence in Arctic,", *National Defence Magazine*, March 2016, http://www.nationaldefensemagazine.org/archive/2016/March/Pages/FiveNationsJockeyforMilitaryInfluenceinArctic.aspx. Accessed on 01 August 2018.
19. Märta Carlsson and Niklas Granholm, "Russia and the Arctic", www.foi.se/ReportFiles/foir_3596.pdf, Accessed on August 1, 2018, p.12.
20. Keupp, n.18.

In terms of military security, the changing Arctic presents new challenges. The post-Cold War set-up, with a low priority given to the military-strategic role of the Arctic, is now changing. The melting of the ice provides scope for more military activity, and security forces will be needed to monitor and regulate the increasing human activity there. Parts of the strategic submarine forces, which operate continuously to provide a nuclear second-strike capability, are based in the Arctic and will be affected by this. The ice sheet, in the Arctic Ocean provides a cover for operations with these submarines, making them difficult or even impossible to detect. But with the melting and thinning of the ice sheet, this may change fairly soon. The implications are hard to predict and may impact on the future direction of these systems. The stress on the development of Ballistic Missile Defences (BMDs) could also lead to the development of such systems in these areas.[21] In the case of the Arctic Ocean, a number of overlapping claims have been made, and Russia's claims to an extended EEZ overlap with those of Denmark, Canada and the United States.

According to the *Foundation of the State Politics of the Russian Federation on the Arctic for 2020 and in the Longer Perspective (2008)*[22] , the Russian national interests are:

- use of the Arctic zone of the Russian Federation as a strategic resource base of the Russian Federation for providing the solution of problems of social and economic development of the country;
- maintenance of the Arctic as a zone of peace and cooperation;
- preservation of the unique ecological systems of the Arctic;
- use of the Northern Sea Route as a national integrated transportation system of the Russian Federation in the Arctic.[23]

The basic measures on the realisation of the state policy in the sphere of maintenance of environmental security in the Arctic zone of the Russian

21. Carlsson and Granholm, n.19, p. 12.
22. The document is available with the Ministry of Economic Development of the Murmansk Region
23. The Arctic Knowledge Hub, "Basics of the State Policy of the Russian Federation in the Arctic for the Period Till 2020 and for a Further Perspective," http://www.arctis-search.com/tiki-index.php?page=Russian%20Federation%20Policy%20for%20the%20Arctic%20to%202020. Accessed on August 1, 2018.

Federation are: introduction of special regimes of wildlife management and protection of the natural environment in the Arctic zone of the Russian Federation, including monitoring of pollution and restoration of natural landscapes, recycling of toxic industrial wastes and maintenance of chemical safety, first of all, in places having density of population. Russia wants to ensure preservation of the biological diversity of the Arctic flora and fauna, including by expansion of a network of especially protected natural territories and water areas, taking into account the national interests of the Russian Federation, the necessity of the preservation of the natural environment, alongwith the expansion of economic activities and global climate changes.[24]

Russia's objectives for the Arctic 2020 further include the following:

- in the sphere of social and economic development: an expansion of the resource base of the Arctic zone of the Russian Federation capable substantially of meeting the requirements of Russia in hydrocarbon resources, water biological resources and other kinds of strategic raw materials;
- in the sphere of military security: defence and protection of the state border of the Russian Federation lying in the Arctic zone of the Russian Federation, maintenance of a favourable operative regime in the Arctic zone of the Russian Federation, including maintenance of the necessary fighting potential of groupings of general purpose armies (forces) of the armed forces of the Russian Federation, other armies, military formations and organs in this region;
- in the sphere of environmental security, preservation and maintenance of the environment of the Arctic by the reduction of the ecological consequences caused by the increasing economic activities as well as global climate change.

SWEDEN

Sweden's policy states that it endeavours to ensure that the Arctic remains an area of low political tension. Sweden's security has for long been influenced

24. The Arctic Knowledge Hub, "Russian Federation's Policy for the Arctic to 2020", http://www.arctis-search.com/Russian+Federation+Policy+for+the+Arctic+to+2020. Accessed on August 1, 2018.

The Arctic has considerable economic potential and fresh transport routes have opened the doors for new types of strategic and security policy opportunities and challenges.

by developments in the Arctic. During the Cold War, Arctic Sweden lay between the two spheres of interest of NATO and the Warsaw Pact. Even now, the overall security policy climate in the Arctic is dependent on the relationship between Russia and the United States.

The Arctic has considerable economic potential and fresh transport routes have opened the doors for new types of strategic and security policy opportunities and challenges. As a result of climate change, security may well become more a question of public crisis management in extreme weather situations; and adaptation to the changed climatic conditions in order to protect human life, health and the economy.[25] In its strategy for the Arctic, Sweden has stated that it will promote—economically, socially and environmentally—sustainable development in the entire Arctic region. Sweden's growth and competitiveness can be promoted by means of greater free trade and proactive efforts to combat technical trade barriers in the Arctic region. It will work to ensure that the future extraction of natural resources (oil, gas and other minerals) and the use of renewable resources (including forest material) take place in a sustainable manner, environmentally, economically and socially. Improvement of the transport infrastructure is crucial. Activities shall be pursued using the safest available methods and technologies. Sweden highlights the importance of respecting international law when extracting the energy resources of the Arctic. It considers it important to continue development of regional cross–border cooperation in the field of sea and air rescue and to tighten the safety requirements for sea transport in several sectors.

The country looks forward to promoting the use of Swedish expertise in the field of environmental technology. The Swedish Trade Council office staff in Denmark, Norway, Finland, Russia, the United States and Canada,

25. Ministry of Foreign Affairs, Government of Sweden, "Sweden's Strategy for the Arctic Region," http://www.openaid.se/wp-content/uploads/2014/04/Swedens-Strategy-for-the-Arctic-Region.pdf. Accessed on August 1, 2018, p. 15.

as well as in northern Sweden, can be given the task of building up their expertise in order to promote Sweden's commercial interests in the Arctic. It aims to develop the tourism sector in a sustainable manner and improve communications between tourist destinations. Sweden wishes to contribute to the international efforts in the IMO aimed at limiting emissions of greenhouse gases from ships. Sweden will work for the adoption and entry into force of the IMO's Polar Code. It supports Arctic research and monitoring of the vulnerable marine environment. Improvement of, and cooperation between, the research resources that exist in the region in order to contribute to the region's sustainable management and development is one of the Arctic objectives for the country.[26] Sweden's climate and environment are a part of the Arctic and, as a result, both affect and are affected by it.

The first challenge for Sweden is to deal with the increase in precipitation caused by global warming, which may lead to greater water flows and changes in soil conditions. This, in turn, may affect its indigenous societies and their infrastructure.

However, the first challenge for Sweden is to deal with the increase in precipitation caused by global warming, which may lead to greater water flows and changes in soil conditions. This, in turn, may affect its indigenous societies and their infrastructure. The Sámi culture and industries traditionally have strong links to the surrounding natural environment and the weather conditions, leaving them particularly vulnerable. The Sámi people form the link between Sweden and the Arctic. The priorities for Sweden are climate and the environment, economic development and the human dimension. Sweden is actively pursuing issues relating to reduced emissions and the spread of oil, chemicals, waste, non-native organisms and other air pollutants. Swedish climate-related research in the Arctic has a long tradition and its findings are constantly helping to increase the understanding of ongoing processes. As a result of the long measurement series, in some cases, up to one hundred years, Sweden has contributed to greater global understanding of climate

26. Ibid., p. 30.

change. It is important to continuously analyse levels of both known and new hazardous substances in the sensitive Arctic area.[27]

THE UNITED STATES

The US' Arctic policy emphasises environmental protection, sustainable development, human health, and the role of indigenous people and other Arctic residents as stakeholders in the Arctic. The US seeks to promote the viability and socio-economic well-being of the Arctic communities. In addition, the US is determined to support scientific research and broaden international cooperation in achieving Arctic objectives. The US has been an Arctic nation with important interests in the region since the purchase of Alaska from Russia in 1867. At that time, national security and economic development were key US interests. While this remains true today, significant changes in the international political arena, scientific and technological developments, and increasing global interdependence have created new challenges and opportunities for the state of Alaska, the United States, and all other Arctic nations."[28]

The Department of Defence, in its Arctic Strategy 2013, stated its desired end-state for the Arctic: a secure and stable region where US national interests are safeguarded, the US homeland is defended, and nations work cooperatively to address challenges.[29] The 2013 National Strategy for the Arctic Region implements the 2009 Arctic policy by guiding, prioritising, and synchronising three priority lines of effort: to protect US national and homeland security interests, promote responsible stewardship, and foster international cooperation.[30] It also articulates two main supporting objectives: to ensure security, support safety, and promote defence cooperation, and prepare to respond to a wide range of challenges and contingencies—operating

27. Ibid.
28. Department of State, "US Arctic Policy," https://2001-2009.state.gov/g/oes/ocns/arc/. Accessed on August 1, 2018.
29. US Department of Defence, "Report to Congress on Strategy to Protect United States National Security Interests in the Arctic Region," https://www.defense.gov/Portals/1/Documents/pubs/2016-Arctic-Strategy-UNCLAS-cleared-for-release.pdf. Accessed on August 1, 2018.
30. The White House, "National Strategy for the Arctic Region 2013," https://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf. Accessed on August 1, 2018, p. 5.

in conjunction with other nations, when possible, and independently if necessary—in order to maintain stability in the region.[31]

With the opportunities emerging with the increasing accessibility and economic and strategic interests in the Arctic, the opening and rapid development of the Arctic region presents very real challenges. The Arctic region's energy resources factor into a core component of the US' national security strategy: energy security. The region holds sizeable proved and potential oil and natural gas resources that could provide valuable supplies to meet the US energy needs. Continuing to responsibly develop the Arctic oil and gas resources aligns with the United States' "all of the above" approach to developing new domestic energy sources, including renewables, expanding oil and gas production, and increasing efficiency and conservation efforts to reduce US reliance on imported oil and for its energy security.[32] Protecting the unique and changing environment of the Arctic is a central goal of the US policy. Supporting actions will promote healthy, sustainable, and resilient ecosystems over the long term, supporting a full range of ecosystem services. The US wants to use an integrated Arctic natural resources management to balance economic development, environmental protection, and the cultural values of the indigenous population, while increasing the understanding of the Arctic through increased scientific research and traditional knowledge.[33]

An analysis of the individual positions of each of the Arctic states presents a wide array of interests, probably arising out of their domestic priorities and objectives. While all the nations agree about the side effects of climate change and its implications for the Arctic overall, a few of them also perceive it as an opportunity to further research and explore resources that remain undiscovered till now. As the permafrost recedes and the waterways open, it provides options for Arctic shipping that can reduce the shipping time that otherwise circumvents the globe. In addition to scientific research and exploration, countries are likely to be interested in the natural resources that the Arctic is considered to have. However, the most serious implication can

31. US Department of Defence, "Arctic Strategy 2013," http://www.defense.gov/Portals/1/Documents/pubs/2013_Arctic_Strategy.pdf. Accessed on August 1, 2018, p. 2
32. n.31, p. 7.
33. Ibid., p. 8.

China positions itself as a "near-Arctic state" even though it doesn't share boundaries with the region. The changing natural conditions and resources exploration of the Arctic have a direct impact on China's climate, environment, agriculture, shipping and trade, as well as social and economic development.

be the unfolding of military postures that can accompany the idea of safeguarding the commercial interests of the countries as well as acquiring the previously unoccupied regions in the Arctic formed due to the receding ice. It is too soon to conclude the same, nonetheless, it provides a serious case for nations to ponder over while evolving and developing their Arctic policies, individually as well as collectively .

Not only the Arctic states, but the observer members are actively developing their Arctic strategies. One country that requires mention in this study is China that became a member in 2013, alongwith India.

CHINA'S ARCTIC POLICY

In 1925, China acceded to the Svalbard Treaty, marking the beginning of its presence in the Arctic. Since 2013, Beijing has become a formal observer at the Arctic Council.

Currently, China has one research station in the Arctic—the Yellow River Station, operational since 2014—and a Polar Research Institute in Shanghai to train scientists in Arctic research. China–Nordic research cooperation has been intensified over the past few years and institutes like the China-Nordic Arctic Research Centre (CNARC) have strengthened their ties with international counterparts. CNARC consists of 10 member institutes – four Chinese and six Nordic from Finland, Norway, Iceland, Denmark and Sweden[34]. Currently, China has Arctic scientific cooperation and governmental dialogue with Norway, and relevant cooperation with Canada and the US.

China positions itself as a "near-Arctic state" even though it doesn't share boundaries with the region. The changing natural conditions and

34. China-Nordic Arctic Research Centre. URL: http://www.cnarc.info/organization. Accessed on August 1, 2018.

resources exploration of the Arctic have a direct impact on the climate, environment, agriculture, shipping and trade, as well as social and economic development of most South East Asian nations, including China. Therefore, it sees itself as a 'major stakeholder' in the Arctic. According to the Arctic Policy of China, 2018, "The natural conditions of the Arctic and their changes have a direct impact on China's climate system and ecological environment, and, in turn, on its economic interests in agriculture, forestry, fishery, marine industry and other sectors. China is also closely involved in the trans-regional and global issues in the Arctic, especially in areas such as climate change, environment, scientific research, utilisation of shipping routes, resource exploration and exploitation, security, and global governance. These issues are vital to the existence and development of all countries and humanity, and directly affect the interests of the non-Arctic states, including China." It further states, "China's policy goals on the Arctic are: to understand, protect, develop and participate in the governance of the Arctic, so as to safeguard the common interests of all countries and the international community in the Arctic, and promote sustainable development of the Arctic." China is actively involved in multi-disciplinary research, including Arctic geology, geography, ice and snow, hydrology, meteorology, sea ice, biology, ecology, geophysics and marine chemistry, and is supportive of the development of environment friendly technical instruments to study the Arctic. "China hopes to work with all parties to build a 'Polar Silk Road' through developing the Arctic shipping routes... China will work with the Arctic states to strengthen clean energy cooperation, increase exchanges in respect of technology, personnel and experience in this field...."[35]

As the ice in the Arctic Ocean thaws with climate change, China has been increasingly aggressive in its efforts to become an influential figure in the region. Beijing is also interested in making use of the expanding sea lanes for its growing needs of maritime shipping.

35. The State Council, People's Republic of China, "China's Arctic Policy," http://english.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm. Accessed on August 1, 2018.

As the ice in the Arctic Ocean thaws with climate change, China has been increasingly aggressive in its efforts to become an influential figure in the region. Beijing is also interested in making use of the expanding sea lanes for its growing needs of maritime shipping. Russia holds a major part of the greater commercial access to the Far North through the Northern Sea Route between East Asia and northern Europe, that interests Beijing too.[36] The most important Arctic shipping route is the Northwest Passage which runs through Canada and links East Asia with the eastern USA during the summer when the ice melts. For China, this route is 40 per cent shorter, cheaper and faster than going through the Panama Canal. Li Zhenfu, director of Dalian Maritime University's research centre for polar maritime studies stated, "Whoever has control over the Arctic route, will control the new passage of world economies and international strategies." As both Russia and China are mutually dependent for investment, infrastructure development and raw materials, the nature of China- Russia relations is likely to determine the pace and magnitude of China's ambitious Arctic policy.

INDIA IN THE ARCTIC REGION

The Arctic is a region of importance for India for scientific, economic and strategic needs. India has been closely following the developments in the Arctic region in the light of the new opportunities and challenges emerging for the international community due to the global warming induced melting of the Arctic's ice cap. Today, India's interests in the Arctic region are scientific, environmental and commercial, as well as strategic. In becoming an observer, India had to agree to the following criteria set by the Arctic Council:

- Recognise the sovereign rights of the Arctic states.
- Recognise that the Law of the Sea and the U.N. Convention on the Law of the Sea, constitute the legal basis and the legal framework within which the Arctic will be managed.

36. "Two of a Kind", *Arctic Journal*, February 10, 2016. Accessed on August 1, 2018. URL: http://arcticjournal.com/opinion/2137/two-kind

- Respect indigenous peoples, local cultures and traditions.
- Be able to contribute to the work of the Arctic Council.[37]

In accepting to abide by these criteria, India has recognised the territorial jurisdiction and sovereign rights of the Arctic littoral states, and, hence, their preeminent and even preemptive role over the Arctic zone. The acceptance of the Law of the Sea as the governing instrument for the Arctic also implies that the extension of jurisdiction over the continental shelf as well as over the maritime passage and the resources of the ocean space will lie with the littoral states.[38]

The Arctic provides India with an opportunity to cooperate and collaborate with the Arctic Council member states at both the multilateral and bilateral levels. The Indian Ministry of External Affairs cites the beginning of its Arctic ties as the signing of the Svalbard Treaty in 1920, which recognised the sovereignty of Norway over the Arctic Archipelago of Svalbard (earlier called Spitsbergen). However, it was only in 2007 that India first initiated its Arctic Research Programme.

The major objectives of Indian research in the Arctic region are as follows:

- To study the hypothesised tele-connections between the Arctic climate and the Indian monsoon by analysing the sediment and ice core records from the Arctic glaciers and the Arctic Ocean.
- To characterise sea ice in the Arctic using satellite data to estimate the effect of global warming in the Northern Polar region.
- To conduct research on the dynamics and mass budget of Arctic glaciers, focussing on the effect of glaciers on sea level change.
- To carry out a comprehensive assessment of the flora and fauna of the Arctic vis-à-vis their response to anthropogenic activities. In addition, it is proposed to undertake a comparative study of the life forms from both the Polar regions.

37. Shyam Saran, *The Hindu*, July 13, 2013, "India's Date with the Arctic," http://www.thehindu.com/opinion/op-ed/indias-date-with-the-arctic/article4915241.ece, Accessed on August 1, 2018.
38. Ibid.

In terms of physical assets, India has a scientific presence in the Arctic in the form of a research station called Himadari, located at Ny Alesund, Spitsbergen Island, Norway, that has served as a hub of Indian scientific investigations since 2008. Research here is conducted on meteorological, biological, glaciological and climate studies. And while India has not denied that there are opportunities present in the Arctic for hydrocarbon exploration, in collaboration with the other members of the Arctic Council, the stress on renewable resources for development is its area of focus. The need for sustainable development is part of the responsibility that India has voluntarily taken upon itself by becoming a part of the Paris Climate Change Agreement. India would not like the push for green fuel to be impeded due to the possibility of obtaining fossil fuel from the Arctic region.

Apart from the impact on the climate, the melting of the Polar ice caps would also have humanitarian consequences for India. India has a large coastline of 7,516.6 km, with an estimated 14.2 percent or about 171 million people calling coastal districts their home.[39] This is apart from the marine life that thrives here. Climate change is likely to affect an estimated 55 million people of the coastal belt in India. They will not only face soil erosion, but also receding coastlines due to the loss of land to the sea, and land being inundated with salt water. This would make the land unsuitable for agricultural use. Coastal areas are also going to face tropical storms that will affect the habitat of fishes that breed near coasts; this will have an effect on small fishing communities, forcing them to travel deeper into the sea to catch fish. Understanding the Arctic and the means to slow down climate change is essential for India to avoid a humanitarian crisis.

The understanding of the Arctic is also important for India from the strategic and economic perspectives. Former Defence Minister AK Antony highlighted at a conference at the National Maritime Foundation in 2012, that China's ability to navigate the Northern Sea Route (NSR) would have implications for the Indian military strategy. The Indian military strategy

39. Centre for Coastal Zone Management and Coastal Shelter Belt, Ministry of Environment, Government of India, "Centre for Coastal Zone Management and Coastal Shelter Belt," http://iomenvis.nic.in/index2.aspx?slid=758&sublinkid=119&langid=1&mid=1. Accessed on August 1, 2018.

has so far been based on the assumption that if China commits aggression across the Himalayas, New Delhi could exert pressure on Beijing in the Indian Ocean by blocking off the Malacca Strait and choking Chinese energy supplies. However, the NSR opens up the possibility of China accessing oil from the north, thereby depriving New Delhi of this strategic leverage that it currently enjoys.[40]

It is a well established fact that the Indian Ocean sea lanes are the commercial life line of the world. The rise in sea levels, as a result of the melting of the Arctic ice caps, would also have a consequence for the strategic sea routes in the region. India is studying the positive as well as negative aspects of alternatives to the existing sea routes and the impact this would have for the strategic space that India occupies in the Indian Ocean Region and the Indo-Pacific. India is also trying to understand the impact of the possible new sea routes on the shift of economic space from the Indo-Pacific to the Trans-Atlantic.

India's emerging role in the Arctic is driven by its strategic imperatives. It is the fourth-largest energy consumer in the world and its entry into the Arctic Council is an opportunity to join hands with the Arctic littorals in exploring the hydrocarbon potential of the Arctic. According to the United States Geological Survey estimate, the Arctic contains 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas, which is approximately 13 percent of the world's undiscovered oil resources and about 30 percent of its undiscovered natural gas resources. But, as has been stated, India does not support the exploitation of fossil fuels at the cost of renewable sources of energy. India continues to support more technological and financial cooperation to develop renewable sources of energy.

Challenges for India's Arctic Research

As a nation that is not close to the Arctic, India faces the challenge of not just financing its Arctic research but also building and maintaining the equipment and personnel for the same. India has been in the process of

40. Husanjot Chahal, "India in the Arctic," https://cqegheiulaval.com/india-in-the-arctic/. Accessed on August 1, 2018.

Getting Asian partners involved in the development of territories of the Arctic coastal states may contribute to responsible cooperation in the Arctic region, broaden the understanding of the region far beyond its borders, and create the conditions for the formation of new inter-governmental and inter-regional cooperative ties.

acquiring a Polar research vehicle, a ship to cut through sheets of ice and glaciers, for some time now. Indian companies now would like to bid for the same under the 'Make In India' scheme. With a lifespan of 30 years, this ship is expected to be central to India's ambitions in the Arctic and Antarctica in the coming years. The ship would reduce the dependency of Indian researchers on other vehicles to chart their research processes. It will also provide India with the ability to choose its areas and time for research. India is also faced with an important task of training qualified personnel for ice class vessels – a key challenge for the national Arctic research programme, according to Indian experts. A solution may be found through long-term planning for the training of participants in national expeditions using the resources of countries that have substantial Arctic experience.

India is focussed on building cooperation with the littorals of the Arctic to take up recommendations on Arctic governance issues with a focus on climate change, as well as a leading role in building an 'Asian perspective' on the Arctic or the importance of the Arctic for Asia. Getting Asian partners involved in the development of territories of the Arctic coastal states may contribute to responsible cooperation in the Arctic region, broaden the understanding of the region far beyond its borders, and create the conditions for the formation of new inter-governmental and inter-regional cooperative ties.

The challenge before India and other member countries of the Arctic Council is to find a balance between commercial activities in the region and preserving its fragile environment. The economic viability of the resource extraction from the Arctic region remains a hurdle. India understands that it would not be possible to limit nations in exploring their options, but India's suggestion is that a balance be found between economic and environmental interests. India will not benefit

directly from the shipping routes and has no claims to the hydrocarbon resources in the Arctic region, but it would like to collaborate with the member states to fulfil its energy aspirations, if exploration is viable and possible.[41]

A major challenge before India in the Arctic is to strengthen its presence within the Arctic Council in both physical form and its policy-making assistance. It needs to do so by attending working group meetings of the council.

India can work with the council to expand cooperation to develop a comprehensive Arctic strategy. There is a great need for Arctic knowledge, training and research in the northern areas. Cooperation and networking between universities and educational establishments in the Arctic region are needed because the gamut of research is broad in terms of contents and standards. The use of resources must be optimised. Research and training must generate expertise, growth and business operations. India's Arctic strategy needs dedicated research and a think-tank for research collaboration into the political and strategic aspects, apart from the scientific ones. Finland and other members of the Arctic Council can help India set up such an institute as a partner to impart knowledge to the future generation of strategists. This could also help in data collection that is needed to not only understand the impact of climate change on the Arctic but also to study how the Arctic and its environment are reacting to the mitigating efforts.

India has technological gaps that it could cover with collaboration. India could look at technological cooperation such as satellite technology for mapping of the Arctic. Active participation in Arctic-related affairs also requires India's permanent research beyond the Arctic circle. Technological emergencies in the region may cause irreparable environmental damage that needs to be arrested. India also wants to work with the Arctic Council to focus on the need to ensure that the Arctic remains a region free of military presence and Weapons of Mass Destruction (WMDs).

41. Ibid.

CONCLUSION

It has to be admitted that India's policy towards the Arctic is still evolving. A major challenge before India in the Arctic is to strengthen its presence within the Arctic Council in both physical form and its policy-making assistance. It needs to do so by attending working group meetings of the council. It has to take an active part in the meetings of the council; it has to build focus on the Arctic in its bilateral and multilateral relations with other nations such as Japan, South Korea and China. It has to broaden its engagement with the nations of the Arctic Council to also include matters of the Arctic. For example, in its relations with the member states of the Arctic Council, India has to feature the Arctic with more prominence than it has been accorded till now.

Nonetheless, India has noted this gap and, through its bilateral cooperation with the Arctic states, is taking part in the deliberations. For instance, over the last three years, top Indian officials have visited nearly all the member states of the Arctic Council. India's Prime Minister Narender Modi visited Russia (December 2015), the US (September 2015), and Canada (April 2015), and India's President Pranab Mukherjee visited Sweden (June 2015), Russia (May 2015) and Finland and Norway (October 2014), where a video conference with researchers of the Indian Himadri Polar Station was held. India is slowly but steadily identifying its interests in the region and taking into account its experiences in Antarctica to contribute to its activities in the Arctic in order to build its future policy for the region. The impact of rapid changes in the Arctic region goes beyond the littoral states and any legitimate and credible mechanism to respond to these challenges calls for the active participation of all the actors who have a stake in the governance of the global commons. The interplay between science and policy has the potential to contribute to the better handling of the complex issues facing the Arctic. India, which has significant expertise in this area from its association with the Antarctic Treaty System, can play a constructive role in securing a stable Arctic. In its new role as a permanent observer in the Arctic Council, India is committed to participate in the deliberations of the council to develop effective cooperative partnerships that can contribute to a safe, stable and secure Arctic.