



## **Issue Brief**

### **China: Breaking into the Arctic Ice**

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The impact of climate change is quite evident in the Arctic region and the summer ice cap has shrunk. According to the US National Snow and Ice Data Center, the Arctic sea ice average for February 2010 was 14.58 million square kilometers which is 1.06 million square kilometers below the February average for the period 1979 to 2000.

[i] Also there are fears that the shrinking permafrost (permanently frozen soil) in the Arctic could release large volumes of greenhouse gases and the resultant phenomenon could aggravate global warming and speed up sea level rise.[ii]

While this is an alarming development with severe adversarial impact on humans, there are several new opportunities as a consequence of melting of the Arctic ice. It is believed that the melting of the Arctic ice could create new frontiers for commercial and economic activity; there are prospects for new sources of oil and gas that are still unexplored, rich fishing grounds, and a new shipping route from the Pacific Ocean through the Arctic region to the Atlantic Ocean that could cut passage time.

However, there are fears that the melting of the Arctic ice is the harbinger of new geopolitics in the region which could trigger great power rivalry in terms of resources, routes, boundaries, and military deployments. The five nations bordering the Arctic Ocean i.e. Canada, Denmark, Norway, Russia and the United States have announced territorial claims in the region, but have so far attempted to play down the disputes and urged the claimants to comply with the U.N. Law of the Sea Convention (1982 UNCLOS III) on territorial claims in the region. The Arctic Council, a high level intergovernmental forum comprising of Canada,

Denmark (Greenland), Finland, Iceland, Norway, Russian, Sweden, and the US with the involvement of the Arctic Indigenous communities and other Arctic inhabitants was set up in 1996 to address common issues of ‘sustainable development and environmental protection in the Arctic’.<sup>[iii]</sup> Besides, there are numerous bilateral/multilateral arrangements to discuss issues of security in the Arctic region.

The claimants have established research stations for scientific studies on climate, weather, geology and atmospheric sciences. Besides, there are eleven institutions from ten countries including Non-Arctic states that have set up research stations at Ny-Alesund (an international research base for a wide range of studies in natural sciences) about 1200 kilometers from the North Pole;<sup>[iv]</sup> three of these are permanently manned.

China established its Arctic research facility in 2004 at Yellow River Station located on the Norwegian island of Spitsbergen.<sup>[v]</sup> Since then, China’s interest in the Arctic has gathered momentum and in 2007 it joined the Arctic Council as an observer. It sees several scientific, commercial and strategic opportunities in the evolving dynamics in the Arctic region. The Chinese government has allocated significant resources for conducting Arctic research, assess untapped energy resources, explore the possibility of transit through the Northern Sea Route (NSR) <sup>[vi]</sup> and formulate policies for its engagement in the evolving political-economic-strategic dynamics in the Arctic Region. The Chinese scholars have urged the government to play a proactive role in Arctic affairs, but the official viewpoint is that “active overtures would cause alarm in other countries due to China’s size and status as a rising global power”<sup>[vii]</sup>

### **China’s Interest in Polar Research**

China’s engagement in polar science research is not new and can be traced back to the 1980s. In the last three decades, it established several polar science research institutions<sup>[viii]</sup>, scientific data information management systems, acquired ‘Ice Classed’ research vessel, and a pool of scientists and researchers. In 1984 China launched its first scientific study expedition to the Southern Ocean and Antarctica, and since then 26 expeditions have been undertaken. During this period, China established three scientific research stations in Antarctica: The Changcheng

(Great Wall) Station (February 1985) located south of King George Island, the Zhongshan Station (February 1989) located south of Prydz Bay on the Mirror Peninsula, and the third station is under construction at Kunlun at Dome Argus at South Pole's highest ice cap at 4,093 meters above the sea level.[\[ix\]](#)

As far as the Arctic region is concerned, so far three Arctic scientific tours have been organized. In 1999 and 2003, China dispatched two scientific study expeditions to Bering Sea and Chukchi Sea. In 2004, China Arctic Yellow River station was established in Ny-Alesund for scientific research.

In 1993, China acquired *Xuelong* (Snow Dragon, 163 meters long with displacement of 21,000 tonnes) a non-nuclear polar expedition vessel from Ukraine. To further augment polar research expeditions, a new high-tech 8000 tonnes polar expedition research ice-breaker is under construction in China which is expected to be operational in 2013. The vessel is being developed with foreign technical assistance and expected to cost about US \$300 million.[\[x\]](#)

## **Resources**

The Arctic region is known to contain large quantities of untapped energy resources. According to one estimate, the region could contain nearly 83 billion barrels of oil which corresponds to about 4 percent of the remaining oil of the world; the natural gas deposits in the region have been estimated to be about 1550 trillion cubic feet.[\[xi\]](#) These can sustain global oil and gas demand for about 3 years and 14 years respectively. Further, most of these lie offshore below 500 meters of water and can be extracted with the existing deep sea exploration technologies. The region is also known to contain vast amounts of metals such as nickel, copper, lead, manganese, chromium and titanium. It is fair to argue that as the Arctic ice melts, the competition to secure resources is sure to become tense.

In 2009, China imported nearly 52 percent of its oil needs (204 million tons) from overseas sources,[\[xii\]](#) while the domestic production was 190 million tons. According to Lin Boqiang, director of the China Center for Energy Economics Research at Xiamen University, "Domestic production is already at its peak....Although domestic companies have accelerated their overseas expansion, the resources they already gain are still limited". [\[xiii\]](#)

It is an acknowledged fact that China is energy deficient to sustain a growth rate of over 9 percent and has engaged in overseas oil and gas projects as also domestic offshore oil

exploration activities. It also remains concerned about the uncertainties of energy supplies that could be due to rising global energy competition, volatility of energy prices, political instability in oil producing countries, and aggressive resources denial strategies by certain commercial and political entities.

It has been argued that the ‘climatic and environmental process in the Arctic’ have a direct bearing on China’s national economy thus it is natural for China to study the Arctic. Further, Chinese believe that “Natural resources in the region belong to all peoples of the world. China has the responsibility, duty and the ability to take part in the peaceful exploration and protection of natural resources there. China's economic and social development already has a demand for the natural resources.”<sup>[xiv]</sup> In is in this context, the Arctic energy resources offer China yet another frontier for sourcing its energy needs.

### **Northern Sea Route (NSR): Overcoming Malacca Dilemma**

In recent times, the shipping industry has attempted to explore the NSR hitherto considered non-navigable due to thick sheet of ice over the Arctic Sea. In August 2009, two ships *MV Beluga Fraternity* and *MV Beluga Foresight* owned by a German shipping company M/S Beluga Shipping GmbH sailed from South Korea to Holland via Vladivostok in East Russia. The vessels sailed along the NSR covering a distance of nearly 7000 nautical miles thus trimming the usual passage of nearly 11,000 nautical miles via the Suez Canal-Indian Ocean-Straits of Malacca and then to Korea. Significantly, the ships were not escorted by an ice breaker and the passage was possible due to the melting of the Arctic ice during August-September as a result of climate change. Although there is a very short window of opportunity of just six to eight weeks in August–September when the temperatures in the region rise to above 20 degree Centigrade and open a corridor in the ice when commercial shipping can transit through the Arctic waters, it has the potential to cut cost of transportation.

China sees an opportunity in the NSR and Li Zhenfu of Dalian Maritime University has observed that “whoever has control over the Arctic route will control the new passage of world economics and international strategies”. There is merit in Li’s observation particularly so because for China the biggest worry for sustaining its impressive growth rate, is the vulnerability of its energy supply chains from Hormuz to Malacca through the Indian Ocean which prompted China to articulate the ‘Malacca Dilemma’.

## Navies in the Arctic

During the Cold War, Soviet and U.S. nuclear submarines equipped with nuclear tipped missiles were deployed in the Arctic waters for missions of tracking/monitoring each others naval operations and also to support nuclear deterrence. In the post Cold War period, Russian strategic submarine patrols have reduced considerably and only five patrols were reported in 2006 and three in 2007,[\[xv\]](#) but Russia conducted missile test-firings near the North Pole on regular basis. The U.S. nuclear submarine presence in the Arctic had also reduced considerably since there was less Russian submarine presence.

In 2007, Russia startled the world by positioning its national flag on the seabed at the North Pole and announced that the region is connected to Russia's continental shelf. It laid claims to 1.2 million square kilometers. The Russian move to declare sovereignty ratcheted up competing territorial claims in the Arctic by other claimants. Nearly 20 percent of Russia's GDP and 22 percent of its exports are produced in the Arctic.[\[xvi\]](#)

Russian military strategy in the Arctic Sea involves constituting military units for Russia's Arctic region to “guarantee military security in different military-political situations”[\[xvii\]](#) and also deploy submarines. This clearly suggests that the Russian Navy may face some opposition from the U.S. Navy. The US maritime strategy particularly in the context of the Arctic region is two fold. At one level, it focuses on enhancement of infrastructure, requisite force structure and capabilities to prepare for the challenges presented by climate change. At another level, it is examining new missions and tasks that the US Navy would be called upon in the context of keeping sea lanes open for navigation and free for all.

Chinese military officers are concerned about the evolving military dimensions of the Arctic region particularly in the context of the decision by five Arctic littoral states to strengthen their military capabilities. Senior Colonel Han Xudong has warned that “the possibility of use of force cannot be ruled out in the Arctic due to complex sovereignty disputes”. [\[xviii\]](#)

Geographically, China is far from the waters/ice in the Arctic but with its increasing interest in resources and routes in the Arctic region, it is plausible that it could soon integrate the politico-economic--strategic developments in the Arctic region in its naval strategy. The US has watched with great interest the growth of the Chinese navy including the new nuclear submarines i.e. Type 094 Jin class SSBN equipped with JL-2 (JL-2) SLBM and the Project 093

SSNs. Further, China is expected to shift a large proportion of its nuclear arsenal to the sea leg of its triad.[\[xix\]](#)

There are several challenges for China to develop technology for Arctic capable submarines and missiles (currently available with US, UK, Russia) and it will be constrained to acquire such platforms from Russia, the biggest supplier of high end naval platforms. Further, there are operational limitations that the Chinese navy will have to contend with. The PLA Navy has no experience of navigation in ice cap northern latitudes, missile firings from below the ice, and a trained crew. Although the current trends do not suggest that the PLA Navy is exploring the possibility of deployment under the Arctic ice cap, but China is known to keep its plans under wraps till it has acquired requisite technological capability. China is engaged in the development of the next-generation Type 096 submarine, supposedly similar to the 094 Jin class models, which may possess capabilities to launch missile from under the ice cap.

### **India: Looking Beyond Antarctica**

India's Antarctic programme commenced in 1981 and the National Centre for Antarctic & Ocean Research was established at Goa. In 1983, a permanent research station called *Dakshin Gangotri* was setup and the second station *Maitri* was built in 1989. So far India has undertaken 22 scientific expeditions to Antarctica to study oceans and polar sciences. India is a member of the Scientific Committee on Antarctic Research (SCAR), Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and in 1997 India ratified the Environment Protocol to the Antarctic Treaty.

After its successes in the Antarctic, India established a scientific research station in the Arctic region called *Himadri* which is controlled by the National Centre for Antarctic and Ocean Research (NCAOR), under the Ministry of Earth Sciences. This facility undertakes scientific research with special emphasis on climate change.

Currently India's interest in the Arctic is limited to scientific studies related to polar ice, climate, and weather but these can be expected to expand in the field of resources. A geo-economic shift to the North is expected in the future pivoting on oil and gas, deep-sea mining, and fishing are of immense value to India.

As a first step, it is useful for India to join the Arctic Council and follow the debate and discussions on the Arctic which would help India strategize investments in deep-sea-cold-

climate oil and metal extracting ventures. Joint ventures by OVL with Russian partners offer an opportunity similar to the exploration/production arrangements in Sakhalin in East Russia. An expedition to Arctic can be explored.

Further, the evolving politico-economic-strategic dynamics of the Arctic are of interest to India. The evolving militarization of the Arctic seas by the littorals, particularly the deployment of nuclear submarines, is of grave concern. The region could witness tension particularly when both US and Russia have devised new strategies to address the growing importance of the Arctic. India has been a strong supporter of global nuclear disarmament and can actively play an important role in promoting the idea of a Nuclear Weapons Free Zone for the Arctic region.

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