



THE MISSION WORTH STRIVING FOR: A REALIST'S APPROACH TO HOIST BANGLADESH'S NATIONAL FLAG IN ANTARCTICA

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Abstract: Reality emphasizes that nation-states are fundamentally driven by national interests to secure political autonomy and territorial integrity. Once these interests are preserved, national interests may take different forms such as acquiring more resources, mitigating existential climate change challenges. Climate experts posit that climate change impacts pose a formidable challenge to Bangladesh's development efforts, human security and the future. Thus, this study analyses whether national interest of acquiring additional resources vis-à-vis comprehensive environmental protection is a better option for sustainable development in Bangladesh. Specifically, it examines whether entering into an agreement with the 'Antarctic Treaty Nations' would be at a premium for Bangladesh's quest for developed status. This analytical research is based on primary and secondary sources. Most of the data are qualitative and descriptive method has been applied. The result suggests that Bangladesh needs to strategize future endeavors balancing between harnessing additional resources while dealing effectively with climate change. On this basis, before Bangladesh's leadership react to the realities of nature against rising waters due to global warming, it is imperative to know about the Antarctic, which remains, for many a 'terra incognita'. It is to provide strategies for Bangladesh's admission into the elite club of the 'Antarctic Treaty Nations'. It is also to initiate creative contemplation among academia and practitioners alike to acknowledge the importance to hoist Bangladesh's national flag in Antarctica as a symbol of national pride, prosperity, and commitment to 'ensure bright future for generations to come'. Moreover, what could be the most befitting date to boost the process and set the declaration to hoist the flag in Antarctica than the 'Mujib Barsha' Centenary celebration?

Keywords: *Antarctic; Climate Change Challenges; Development; Realism; Strategy.*

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**“In sha Allah, we will build the Bangladesh that was the dream of
the Father of the Nation. That is our conviction.”**

Sheikh Hasina, Hon'ble PM

INTRODUCTION

In the twenty-first-century geostrategic scenario, generally speaking, geopolitics through geographical factors like climate and access to natural resources, shape international relations. As Tim Marshall (2015, p.2) opines, "there is no one geographical factor that is more important than any other". As global warming and climate change victim, Bangladesh is one of the most vulnerable countries. Bangladesh cannot be blamed for its topographical location in the Bengal delta with a low elevation from sea-level, where floodplains dominate the country. (Haas, 2020, p. 110). Like any other nation, it has the natural right to have access to nature and benefit from its resources. It may not be wrong to assert that it is incumbent upon each citizen to join, even in harm's way' to save the country's attained development to pave the way to its aspired voyage towards developed status in 2041. Furthermore, in doing so, one needs to be alert, especially about the issues that threaten our human security due to permanent inundation and sea-level rise causing erosion of national assets, investment and the lofty future.

Looking to the future, geopolitics affects every country, whether at war or peace or whether it is for a developing nation or a developed democracy. "Every geopolitical vision or theory claims to be realist and objective"(Gökmen, 2010, p. 68). In order to paraphrase Napoleon, it can be argued that states follow politics to maximise their national interests as dictated by their geography. Thus, there had always been a symbiotic relationship among national interest, diplomatic history and geography. Bangladesh's geography, to put it simply, is its map. It implies that, like many countries, Bangladesh is also a prisoner of its geography irrespective of its size and wealth. After all, "the world history is the story of competing authorities over the power to organise, occupy, and administer space" (Toal et al., 1998). Nevertheless, where does Bangladesh fit into this equation? Where should a Bangladeshi policymaker look at in determining Bangladesh's grand geopolitical strategies vis-à-vis its aspiration?

For most of Bangladesh's history, the Antarctic is ignored. It is very well-known that the Antarctic is a reservoir of resources and a dominant actor responsible for global climate change. Thus, there is a substantial possibility that twenty-first-century realpolitik of the Antarctic will determine who administers and acquires resources and react timely to the harsh realities of nature. For this brief research study, Antarctic and Antarctica are not synonyms; the first is related to the region in the Earth's South polar zone while the latter refers specifically to the continent itself. Figure 1 will clarify the difference.

Furthermore, the first maritime boundary dispute in the Bay of Bengal (BoB) between Bangladesh and Myanmar was resolved in 2012 by the International

Tribunal for the Law of the Sea (ITLOS, 2012). The second dispute between Bangladesh and India was resolved by the Permanent Court of Arbitration (PCA) in 2014 (PCA, 2014). The first satellite, Bangabandhu Satellite - 1, was successfully launched in 2018, where the Government of Bangladesh has planned to set a target for launching a second satellite, Bangabandhu Satellite - 2, to the orbit by 2023 (Bangla News 24, 2020). Thanks to the prolific visionary leadership of Prime Minister Sheikh Hasina, decades-old maritime boundary disputes were amicably resolved in our favour through two international arbitrations. Bangladesh has become a member of the elite club of only 57 states that own at least a satellite and the country is marching forward on the highway to development to become a role model for the developing world.

Therefore, given the firm commitment by the Honourable Prime Minister to fulfil the dream of the Father of the Nation Bangabandhu, a patriotic and a realist citizen can enthusiastically expect that the country will celebrate her 70th Independence and National day as a developed nation in 2041. As 'ideas are bulletproof', the declaration to hoist the flag in Antarctica could be made during the celebration of the 'Mujib Barsha' Centenary. Given the context of successful accomplishments of a series of missions by the current government, this author postulates that the nation must strive for yet another mission, which is of vital strategic national interest" to hoist Bangladesh's national flag in Antarctica well before 2041. It is to be raised as a symbol of Bangladesh's pride, prosperity and commitment to effectively engage, "so that we may prosper in freedom and may make our full contribution towards international peace and cooperation in keeping with the progressive aspirations of mankind" (The Constitution of the People's Republic of Bangladesh, Preamble, 1972).

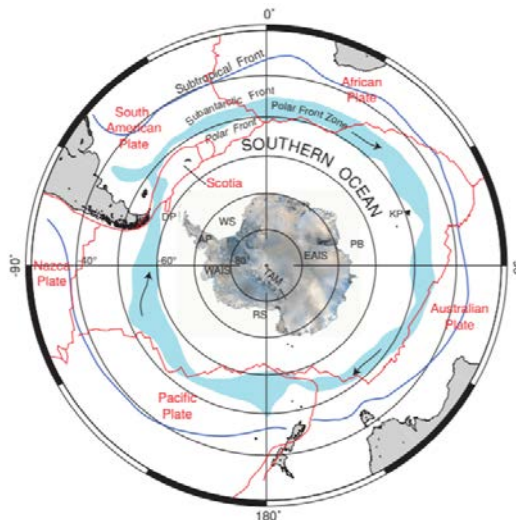


Figure 1: Antarctica, shown in polar stereographic projection to 30° S. Surrounding plate boundaries are outlined in red, and major oceanographic boundaries in blue (Oxford Handbooks Online)

CONCEPTUAL FRAMEWORK

The conceptual framework of this study is expressed using a radial cycle – as it is demonstrated in Figure 2. As of other nations, embracing the fact that we live in a realist's anarchic world, Bangladesh has the natural right to maximise its national interests to rise and strive for excellence. Thus, the central idea of the research is 'A Realist's approach to Hoist Bangladesh's National Flag in Antarctica'. The central idea is reinforced by five outer rings: the first one aligns with the conceptual compass about 'Understanding the Antarctic and Evolution of Its Treaty System'; the second ring deliberates on 'Interpreting Realist's Paradigm: National Interest Demands Comprehensive Environmental Protection' for Bangladesh; the third ring investigates whether 'Will it be a Premium: Entering into the Antarctic Treaty System' for Bangladesh's quest for developed status; the fourth ring emphasises on suggesting 'Strategic Antarctic Research Priorities for Bangladesh' in connection to the central idea. Reflecting on the central idea based on the answer of the research question and the realisation of objectives, the fifth ring concludes by making a couple of relevant recommendations.

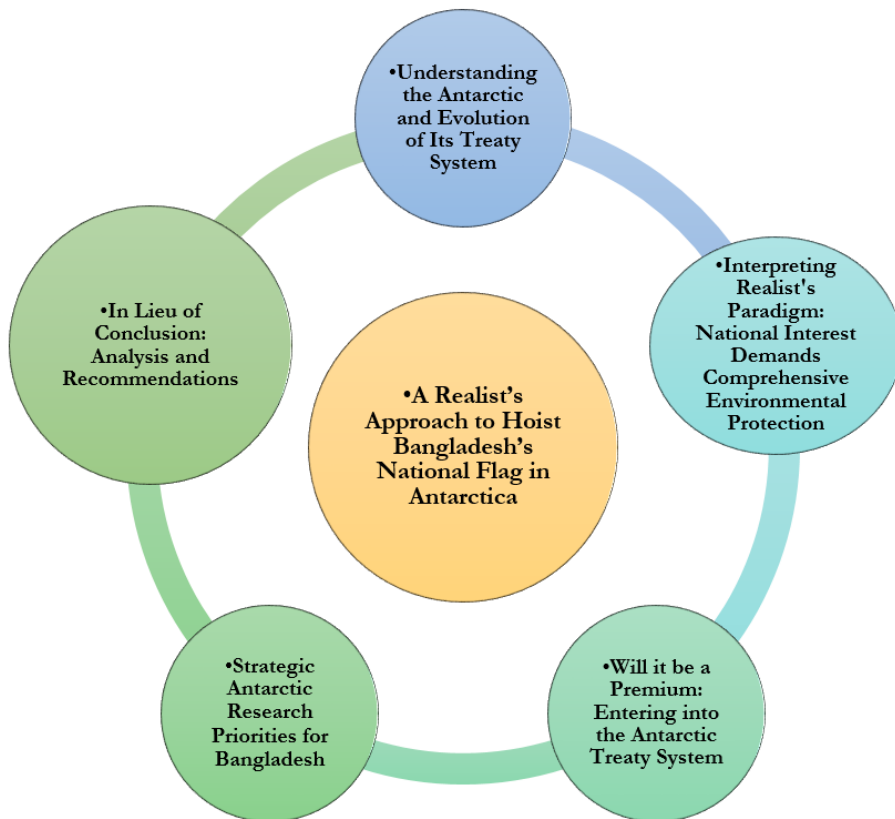


Figure 2: Radial cycle depicting conceptual framework of the study as contemplated by the author

RESEARCH QUESTIONS VIS-À-VIS OBJECTIVES

Research Questions

1. How national interest in acquiring additional resources vis-à-vis comprehensive environmental protection is a better option for sustainable development in Bangladesh?
2. How does entering into an agreement with the ‘Antarctic Treaty Nations’ offer a premium for Bangladesh’s quest for developed status?
3. Why is it imperative for Bangladesh to understand and participate along with the other ‘Antarctic Treaty Nations’ in substantial scientific research, specifically to conserve existing resources, acquire more resources, and to secure comprehensive environmental protection?
4. What strategy could enable Bangladesh’s admission into the elite club of the ‘Antarctic Treaty Nations’?
5. How to initiate creative contemplation among academia and practitioners alike to acknowledge the importance to hoist Bangladesh’s national flag in Antarctica as a symbol of national pride, prosperity and commitment to ‘ensure bright future for generations to come’?

Research Objectives

1. To analyse national interest of acquiring additional resources vis-à-vis comprehensive environmental protection for Bangladesh.
2. To investigate the entry into an agreement with the ‘Antarctic Treaty Nations’ for Bangladesh.
3. To suggest strategic Antarctic research priorities for Bangladesh.
4. To highlight salient points for Bangladesh’s Antarctic policy.
5. To make pertinent recommendations for implementations.

METHODOLOGY

This analytical research article makes an endeavour based primarily on secondary sources related to the study of the topic, and on the author’s interviews of two Brazilian naval officers who, for almost a year, served in the Antarctic. Most of the data collected for this research are qualitative. The descriptive method has been applied, albeit after the review of the literature, firstly to understand the nitty-gritty of the Antarctic. Thereafter, the study includes interpretation of the realist's paradigm to attain sustainable development, national interest demands comprehensive environmental protection for Bangladesh. Before emphasising a few suggestions regarding strategic Antarctic research priorities for Bangladesh, an investigation is made as to whether entering into an agreement with the

'Antarctic Treaty Nations' offers an advantage for Bangladesh's quest for developed status. As a corollary, finally, some pertinent recommendations for implementations are made.

LITERATURE REVIEW

Ross Cullen (1994, pp. 143-155) of the Department of Economics and Marketing from the Lincoln University, Canterbury, New Zealand, opined that the Consultative Parties to the Antarctic Treaty agreed in October 1991, subject to ratification on an Environmental Protocol which will preclude mining in Antarctica for 50 years. The initiative to preclude the exploitation of Antarctic mineral resources due to the concern about possible environmental damages associated with mining. The author considers that the extraction of Antarctic minerals may currently be unprofitable but become economically significant in the future.

Williams and Crosbie (2007) in an article titled 'Antarctic Whales and Antarctic Tourism', mention that 'careful management and dedicated research' are required to ensure that the rising Antarctic marine tourism industry does not unintentionally harm the whale populations. They also discuss that ongoing research by the International Whaling Commission (IWC) aims to monitor whale population recovery, and the International Association of Antarctica Tour Operators (IAATO) has developed operational guidelines to minimise and mitigate potential impacts on the Antarctic environment.

Kuhn et al., (2010, pp. 67-84) believe the ice sheets are likely to be responsible for regional in addition to global variations in sea level rise through direct gravitational attraction of the water mass.

Siegel, V. et al., (2013, pp. 63-74) speak of the distribution and abundance of Antarctic krill along the Antarctic Peninsula. They contend that due to the rapid climate changes across the Peninsula and lower per capita recruitment, production, growth etc., will be critical in understanding how climate change will impact Antarctic krill populations as well as their dependent predators.

The Antarctic continent has a significant influence on global climate and ocean systems argue Fretwell et al., (2013, pp. 375-393). According to them, variations in the volume of the ice sheets affect the rise of sea level by seizing water on land: the current volumes of the East and West Antarctic Ice Sheets correspond to around 53 and 4 meters of global sea-level rise, respectively.

In the Financial Times, Leslie Hook & Benedict Mander (2018) write on the topic 'The fight to own Antarctica', that "competition for natural resources, research and tourism is putting pressure on the cold war-era treaty that guarantees order on the continent".

Referring to Dr Alessandro Antonello, Needham (2019) argues that it is through the geopolitical contest that followed the signing of the Antarctic Treaty. Thus,

Antarctica's concept has changed immensely over the years since the signing of the Treaty. Presently, it demonstrates a 'complex interaction between global politics and the natural world'.

On the 15 May issue of 'The Atlantic', Leah Feiger & Mara Wilson (2020) assert that theoretically the Antarctic Treaty System governs Antarctica in their paper entitled 'The Countries Taking Advantage of Antarctica during the Pandemic'. However, according to Klaus Dodds (*Feiger and Wilson, 2020*), a geopolitics professor at Royal Holloway, University of London, "one of the things that people quickly recognised in Antarctica is that place names and boundary drawing have an extraordinary significance in a place where all the normal indicators of ownership don't apply". Despite geopolitical strains, Feiger & Wilson opine that Antarctica remains a place that sees a "high degree of scientific collaboration". But, according to Dodds (*Feiger and Wilson, 2020*), "it also enables you to be nasty. It enables you to be obstructive, petty, and vindictive".

UNDERSTANDING THE ANTARCTIC AND EVOLUTION OF ITS TREATY SYSTEM

To answer the question as to why it is imperative for Bangladesh to understand and participate along with the other 'Antarctic Treaty Nations' in substantial scientific research, specifically to conserve existing resources, acquire more resources, and to secure comprehensive environmental protection – Bangladesh, as a founding block, at first need to understand the Antarctic.

Scientifically, yet very briefly speaking, it is claimed that Antarctica was framed from the breakup of Gondwana. Two hundred million years ago, the study says, Antarctica was the centre of the Gondwana supercontinent consisting of today's Africa, Antarctica, Australia, India and South America, according to what may be seen in Figure 3. Interestingly, it was not the frozen continent as we know it today. About 180 million years ago, the movement of lithospheric plates, resulted a hot megaplume that caused the formation of Gondwana to begin to break apart. (*Storey & Kyle, 1999*). It is in these tectonic phases, the Antarctic plate gradually moved southwardly toward the polar latitudes. (*Di Venere et al., 1994*). This is believed to have set the scene for the creation of continental glaciation (*De Conto & Pollard, 2010, pp. 245-249*). Very important for us today is the knowledge that the glaciation affected the global climate, sea levels, ocean circulation, and atmospheric composition and dynamics leading to the present cold polar climate.

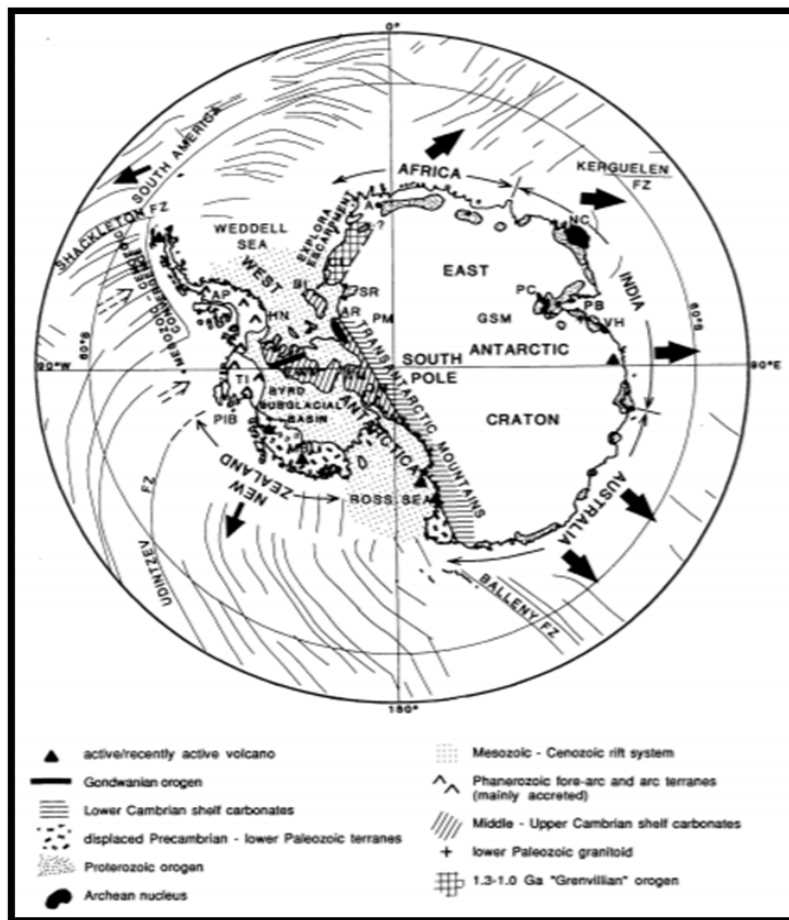


Figure 3: *Simplified tectonic map of the continent Antarctic and surrounding oceans basins (Datzel 1991, Tingey 1991, Royer et al., 1990)*

Antarctica is the opposite of the north. It is also believed that about 2,000 years ago the Greeks thought that to counterbalance the north, something similar must exist in the south. Antarctica is a continent surrounded by water. The average temperature at the South Pole during the coldest month of September is minus 57°C. Since 98% of Antarctica is permanently covered in ice and has a colder climate, there are only two species of flowering plants that grow in Antarctica, as well as 50 mosses and 200 lichens. (*Scenic, 2019*).

The primary difference between the Arctic and Antarctica is geographical. The Arctic is an ocean, covered by a thin layer of perennial sea ice and surrounded by land. Antarctica, on the other hand, is a continent, covered by a very thick ice cap and surrounded by a rim of sea ice and the Southern Ocean. Although the impact of climate change and the Arctic are discussed often in the media, climate change

in the Antarctic is comparatively neglected, or reported misleadingly. (*NASA, 2019*).

In 1950, Thomas R. Henry, an American journalist wrote: "A dead continent lies swathed in a mile-thick shroud of ice at the bottom of the world". His book, "The White Continent: The Story of Antarctica", seems to be a good starting point for understanding Antarctica. The author accompanied a large U.S. Navy fleet commanded by Admirals Richard E. Byrd and Richard H. Cruzen in their Antarctic High Jump Expedition of 1946-47. The Task Force 68 included 4,700 men, 13 ships, and many aircraft. The effort was to establish the Antarctic research base Little America IV. It was one of the five bases, which were called Little America, that Admiral Byrd set up on the Ross Ice Shelf from 1929 to 1956. (*Walker, 2011*).

In 1959, twelve countries accorded the Antarctic Treaty. Neither Admiral Byrd nor journalist Henry could know in 1946 that Antarctica would be under such regulations setting a status quo on territorial claims. Basically, the aim of the Antarctic High Jump Expedition was to extend and consolidate U.S. sovereignty over the useful area of Antarctica, though the objective was denied publicly. There were reactions from other states that had their own stakes. For instance, Chile, in the next southern summer, when weather-wise it was possible to carry out a full operation in Antarctica, established its first permanent Navy base named "Capitán Prat", in Antarctica in 1947, followed by another Army base "General O'Higgins" in 1948, followed by yet another base in 1949. The Chilean government reaction aptly demonstrated that the issue of Antarctica was a geopolitical one; thus, it was about sovereignty. Chile, therefore, till date, claims its historical rights over the Antarctic territory citing its proximity, effective occupation and of course the right of exploration. (*Walker, 2011*).

Although the Greeks conceived a sixth continent, which should have been similar to the Arctic because the world was to be symmetric) only in the 15th century vessels capable of navigating for a prolonged time were built. It was the age of Columbus, Vespucci, Magellan and other great European explorers. Three centuries later, at the end of the 18th century, the Antarctic Circle was crossed. Seal and whale hunting soon became a significant economic activity. The first confirmed discovery of Antarctica was only in 1820. The first time the continent was circumnavigated was between 1830 and 1832. Flourishing scientific expeditions of the continent began by the late 19th century. These expeditions triggered the process of sovereignty claims. In the history of the Antarctic, there has always been a trade-off between science and geopolitics. For example, the first such action was in 1893 of the French annexation of the Kerguelen Islands. Followed by claims over portions of the continent from England, New Zealand, France, Australia, Norway, Chile and Argentina. (*Walker, 2011*).

Following the 2nd WW, overlapping claims made by competing nations such as Chile, Argentina and Great Britain as well as increased geostrategic interests of the Antarctic of the United States and the Soviet Union. More importantly, the need to guarantee free passage between the Atlantic and the Pacific Oceans led

to a tense situation. Though organising the International Geophysical Year (IGY) 1957-1958 was apparently aimed at the Antarctic scientific research, it was in reality, impregnated with geopolitics. However, it managed to scale down the tension and contributed to give birth to the 1959 Antarctic Treaty. The seven states demanding eight territorial claims are Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom. Norway claims two territories: Peter I Island and Queen Maud Land. Other five participants, the original members of the Antarctic Treaty of the IGY were Belgium, United States, Soviet Union today's Russian Federation, Japan and South Africa. However, other countries do not recognise any such claims. The Russian Federation and the USA maintain a "basis of claim". Since 1959, apart from the 7 original claimant and 5 participants in the IGY, 42 other countries have acceded to the Treaty. According to Art. IX.2, they are entitled to participate in the Consultative Meetings during such times as they demonstrate their interest in Antarctica by "conducting substantial research activity there". There are currently 29 Consultative Parties, and other 25 Non-Consultative Parties invited to attend the Consultative Meetings. The Non-Consultative Parties do not participate in the decision-making (*ATS, 2020*). Figure 4 shows the countries currently present in Antarctica.

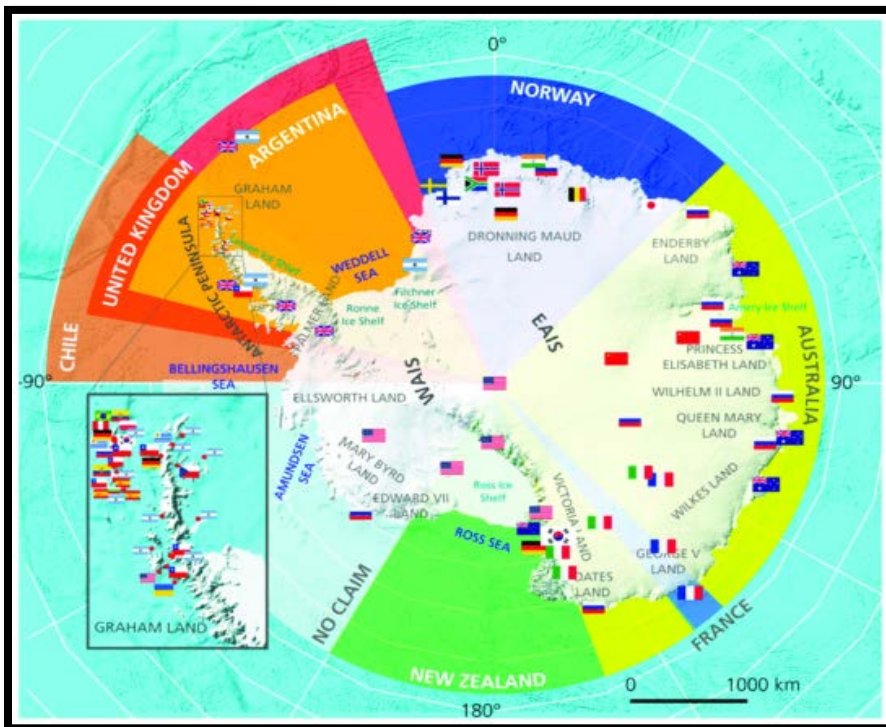


Figure 4: Map of Antarctica visualizing territorial claims and locations of national research facilities (flags) (Research Gate Website)

The Antarctic Treaty launches mechanisms for the protection of the Antarctic territory, and in its Article XIII, it is established that "it shall be open for accession by any State that is a Member to the United Nations" (*Lamus, 2013*). Though Bangladesh was not born in 1959, it is presently a member of the UN and the country has the legal rights to accede the Treaty.

Taking the prescription of the famous OODA loop such as to observe, orient, decide and act decisively, and as part of understanding the Antarctic, one needs to understand firstly; why the Antarctic ice sheets are currently changing. Secondly, it is necessary to find out whether the Antarctic ice sheets will continue to change in the future and thirdly, how fast and by how much the sea level will rise. Finally, we need to know how Bangladesh can mitigate melting of ice glaciers of the Antarctic from flooding the BoB.

The sea ice of the Antarctic matters for Bangladesh, and she needs to care about it because it is responsible for regulating global temperature. The scientists state that sea ice has a bright surface. Earth's sea ice is also very attuned and sensitive to even minor changes in global surface and ocean temperatures. Thus, about 50 to 70 per cent of incoming energy is reflected into space. It is also essential to understand that what happens in the Polar Regions, does not stay in those regions because these changes affect global temperatures, even impact ocean circulation influencing the global climate (*NASA, 2019*). Bangladesh, situated in the low lying deltaic plain, becomes one of the first victims of the melting glaciers, rising temperature and eventually the inundation from increasing sea level.

Antarctic and Southern Ocean Coalition (ASOC) believes that understanding climate change impacts on Antarctica is a matter of critical importance for the world and for the continent itself. New data from space (Figure 5) provides the most precise picture yet of Antarctica's ice, where it is accumulating most quickly and disappearing at the fastest rate, and how the changes could contribute to rising sea levels. (*NY TIMES, 2020*).

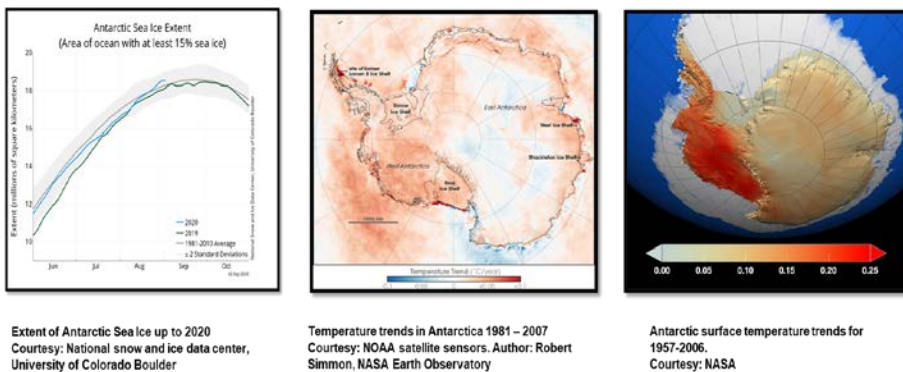


Figure 5: Visual comparison of Antarctic surface temperature trends and ice extent 1957-2020.

ASOC posits that the greatest threat to the world comes particularly from the West Antarctic Ice Sheet (WAIS). According to ASOC, if melted completely, the WAIS contains "sufficient ice to raise worldwide sea level by more than 60 meters". Accordingly, notwithstanding the uncertainty, a modest disproportion between 'input and output of ice' might contribute grossly to the present-day rise in sea level by 1.5–2 mm/year. (*ASOC, 2020*).

INTERPRETING A REALIST'S PARADIGM: NATIONAL INTEREST DEMANDS COMPREHENSIVE ENVIRONMENTAL PROTECTION

How to define, interpret and prioritise national interests remains a matter of substantial dispute. Scholars like Dr Miskel, an American Professor of National Security Affairs at the Naval War College, and Israeli military historian and theorist Martin van Creveld forcefully argued that there could be no agreement about what constitutes the national interest and the utility of national interest (*Liotta & Miskel, 2004 and Creveld, 1991, p. 217*). Dr Liotta, however, in a reconciliatory tone maintained that "national interests reflect the identity of a people - geography, culture, political sympathies, and social consensus, as well as economic prosperity and demographic makeup". Therefore, national interests may be understood as "little more than a broad set of often abstract guidelines", allowing a nation to act the way it is convinced. Dr Liotta also posits that national interests likewise answer the fundamental but essential question "what are we willing to die for?" (*Liotta, 2003*).

The classic realist thinker Hans J. Morgenthau mentions two levels of national interests - the vital and the secondary. Vital interests guarantee a nation of its security, freedom and independence, and enshrinement of its values. Vital interests represent issues about which a nation is willing to go for war. Secondary interests, on the other hand, are more difficult to define, except that they involve compromise and negotiation. Thus, "the national interest, admittedly, is a pretty slippery concept. Yet how one views, focuses on and consistently acts upon such interest will prove the true test of larger 'grand' strategic perspectives. The bottom line, after all, remains unchanged: what a nation wants, and its citizens are willing to go to war over - and to die for - remains unchanged as a fundamental interest." (*Liotta, 2003*).

There is geopolitical lining in the realpolitik cloud, though apparently foremost contemporary concern about Antarctica is the environmental protection. It was, however, not the initial Antarctic Treaty objective. There is no denying that its original nature was highly geopolitical. In fact, the environment itself, let alone the Antarctic one, was not an issue on the global agenda in the 1950s. The international concern about the environment was first expressed in the Stockholm Conference in 1972. Thus, the interest in the Antarctic environment is very contemporary to the global one (*Walker, 2011*).

The Antarctic triggered environmental impacts and its affects to Bangladesh are summarized in Table 1.

Table 1: Views of Bangladesh on Climate Change and its possible Security Implications.
(https://sustainabledevelopment.un.org/contents/dsd/resources/res_pdfs/ga-64/cc-inputs/Bangladesh_CCIS.pdf)

| Environmental Impacts Triggered by the Antarctic | Environmental Affects to Bangladesh |
|---|--|
| Rainfall and Changes in seasons and quality and quantity of water | Waterlogging, landslides, floods, crop damage, drought, salinity intrusion, coastal erosion, riverbank erosion, increasing death, illness etc. |
| Increased frequency and severity of droughts, floods and storms | Agriculture, forestry, livestock, water, energy, food security, health, infrastructure etc. |
| Sea level rise | Climate migrant and loss of livelihood Coastal management Disaster response and recovery plans |
| Glacial melt | Loss of territory and triggering of climate refugee |

Realistically speaking, there could be a consensus that 'comprehensive environmental protection' is of national interest for Bangladesh. However, the question of whether 'comprehensive environmental protection' falls under vital or secondary category of national interest - can be debated. There cannot be logically a 'one size fits all' argument. Besides, there is no water/gas-tight compartmentalisation between the two-category of national interest. In addition, the Figure 6 can be helpful for this article to determine that comprehensive environmental protection for Bangladesh obviously falls under the 'vital' category of national interest, because it poses a grave threat to the country's very existence.

Reflecting as a realist upon the traditions of the Westphalian model, generally post Second World War and specifically post-cold war world order in vogue, I would like to recommend appropriate climate mitigation actions based on Bangladesh's vital national interest to address Antarctic climate change. This would remain a far cry until Bangladesh becomes a party to the Antarctic Treaty system. It would naturally be challenging as a first category climate victim to let Bangladesh's concern be heard and noticed by the powerful others. Imitating Irish statesman Éamon de Valera it may be correct to say, "it is indeed hard for the strong to be just to the weak". (*Williams, 2008*).

WILL IT BE A PREMIUM: ENTERING INTO THE ANTARCTIC TREATY SYSTEM

Honourable Prime Minister (HPM) of Bangladesh Sheikh Hasina has hailed Bangladesh and its people for their resilience in natural and human-made disasters. According to her, Bangladesh is a unique example of climate vulnerability vis-à-vis resilience. She pointed out specifically that "even a 1.5-degree Celsius rise of temperature will have severe consequences for Bangladesh and the region". In addition to Bangladesh's commitment to implement the Paris Agreement, Bangladesh has adopted other measures to limit carbon emissions and environmental degradations. To offset climate change impacts, the country also has undertaken various mitigation and adaptation programmes under the Bangladesh Climate Change Strategy and Action Plan formulated in 2009. On 24 September 2020, during the high-level climate roundtable at the UN, Bangladesh's HPM made two of the most vital points where she called on "polluting countries to take responsibility and spoke up for climate refugees". (*Shetty, 2020*).

The recent establishment of Global Centre on Adaptation (GCA) for South Asia regional office in Bangladesh is yet another enterprise expected to facilitate, support and develop adaptation and climate resilience. In addition, other initiatives per excellence include the establishment of Climate Change Trust Fund in 2009; allocation of 430 million US dollars from own resources to implement the action plan. Since 2010, spending about 1% of Bangladesh's GDP equivalent to US\$2 billion per year for adaptation purposes was achieved. Furthermore, a long-term initiative to tackle the challenges of climate change and natural disasters - the Bangladesh Delta Plan-2100 has also been initiated. However, the harsh reality is also that before affected people recover from one disaster, another strikes, reversing whatever progress is made. Bangladesh thus, still needs to build greater resilience to do something more to mitigate the effects of climate-related disasters.

Bangladesh acknowledges that 'a lot of things' still need to be done to reduce the climate change impact. As the climate change is a global affair, a collective "Nationally Determined Contributions" is essential to share good practices on adaptive measures executing 2015 Paris Agreement to safeguard and build a better future for all of us (*BD News 24, 2020*).

Former UN secretary-general Ban Ki-moon has lauded Bangladesh for its efforts to mitigate the effects of climate change and natural disasters. However, he emphasised sharing the best adaptation practices among the nations when he says "we need to do it quickly, with combined expertise and financial resources" (*BD News 24, 2020*).

The main aspects of Antarctic and its evolution from a geopolitical assessment to the contemporary realist's approach of environmental protection include its environment that has essential value for biodiversity. To identify its geostrategic and geo-economics importance, one needs to understand and identify its huge

reserve of freshwater and potential source of natural resources. Today, scientists are very concerned about Antarctica. Arguably, statesmen and virtuous strategic military commanders should also be worried. The area is 14 million km², and about 98% of it is covered by ice. Appropriately, Antarctic is called by the Treaty parties "... a natural reserve, devoted to peace and science". (BAS, 2020).

Furthermore, the Antarctic region has extensive reserves of strategic mineral resources that have not yet been explored. About 170 types of minerals have already been mapped (gold, silver, iron, natural gas, etc.), capable of serving the world economy for 200 years. The exploration of these resources will be decided from 2048, when the consultative parties to the Antarctic Treaty System will meet to define, again, the future of the continent. (Souza, 2020).

Experts estimate that Antarctica may have a reserve of 200 billion barrels of oil, much larger than that of some countries in the Middle East, such as Kuwait and the United Arab Emirates. The Antarctic oil is extremely difficult to reach and, now, prohibitively expensive to extract. In 1991, the Madrid Protocol banned mineral exploration in the Antarctic continent for 50 years. However, the fear is that when the time comes to renew the agreement, the world may be desperate for energy and Antarctica will end up becoming the new "Eldorado" of oil. (Kristoschek, 2020).

To uphold the constitutional dictate of 'promotion of international peace, security and solidarity', (the Constitution of the People's Republic of Bangladesh, part II, art 25), Bangladesh remains a top troops contributor for UN peacekeeping operations in recent decades. (Anik, 2020). The spirit of the constitutional preamble, as well as the 'Fundamental Principles of State Policy' such as 'nationalism', thus equally prescribe to 'make our full contribution towards international peace and cooperation in keeping with the progressive aspirations of mankind'.

Hence, evoking Morgenthau, it may be said that it is of vital national interest for Bangladesh to firstly understand and then participate along with the other 'Antarctic Treaty Nations' in substantial scientific research; specifically, to acquire, and conserve more resources vis-à-vis securing comprehensive environmental protection of the Antarctic. Remaining an 'outsider' to the 'Antarctic Treaty Nations', Bangladesh will never be able to find correct answers to the questions as to why the Antarctic ice sheets are currently changing, whether the Antarctic ice sheets will continue to change in the future, how fast and by how much the sea level will rise; or most vitally how Bangladesh can mitigate melting of ice glaciers of the Antarctic from flooding the BoB.

SUGGESTED STRATEGIC ANTARCTIC RESEARCH PRIORITIES FOR BANGLADESH

The essay "A roadmap for Antarctic and Southern Ocean Science for the Next Two Decades and Beyond" suggests that the goal is to maximise scientific return

by minimising the human footprint in the Antarctic region. Besides, the essay highlighted international cooperation engaging diverse stakeholders. What is meant by the cooperation is the coordinated effort by wider international partnerships regarding scientific research, infrastructure development and extended knowledge-sharing (*Kennicutt. et al., 2014*).

Scientific Committee on Antarctic Research (SCAR) has thus endeavoured to begin an Antarctic and Southern Ocean Science Horizon Scan "to create a process that could be regularly used to recognise the highest priority scientific questions that the science should aspire to answer". In this first scan, the timeframe was the next two decades and beyond. (*Kennicutt. et al., 2014*). Therefore, in 2014, SCAR assembled 75 scientists and policymakers from 22 nations to agree on the priorities for Antarctic research for 2035 and beyond. In the meeting, they identified research questions that fall broadly into six themes such as

- Define the global reach of the Antarctic atmosphere and the Southern Ocean; Understand how, where and why ice sheets lose mass;
- Reveal Antarctica's history; Learn how Antarctic life evolved and survived;
- Observe space and the Universe;
- Recognise and mitigate human influences. (*Kennicutt et al., 2014*).

ASOC advocates various climate change-related activities to be heard and acted upon by the scientifically advanced wealthy nations from among the 'Antarctic Treaty Nations'. Its recommendations revolve around four key areas: reduction of greenhouse gas emissions, implementation of climate adaptation strategies and promotion of globally important climate science and designation of marine protected areas (*ASOC, 2020*).

The United States Antarctic Program (USAP) that includes scientific research and related logistics is managed by the National Science Foundation (NSF). NSF recommends pursuing the following three strategic research priorities for the near-term:

*How fast and how far will sea level rise? The Changing Antarctic Ice Sheets Initiative;

*How does Antarctic biota evolve and adapt to the changing environment? Decoding the genomic and transcriptomic bases of biological adaptation and response across Antarctic organisms and ecosystems; and

*How did our Universe begin and what are the underlying physical laws that govern its evolution and ultimate fate? And a next-generation cosmic microwave background program (*NSF, 2015*).

Brazilian Antarctic Program (PROANTAR) aims to promote diversified and high-quality scientific research in the Antarctic region, to understand the phenomena that have global repercussions, particularly on the Brazilian territory.

Brazil, thus, as Consultative Member of the Antarctic Treaty, ensures Brazilian participation in the decision-making processes concerning the future of the continent (*Kristoschek, 2020*).

The distance between Antarctica and Bangladesh is about 12059 km. But one needs to understand that the impacts of climate change are not confined around Antarctica. Scientists fear that water stored in ice on land and ice sheets may melt and contribute to sea-level rise. And there is every possibility that sea-level rise could be higher than the estimates. The Antarctic contains 90% of the world's ice. Floating ice shelves also increase sea level. If the expenditure required to protect only London against flooding due to sea-level rise exceed the cost of £20B (*BAS, 2020*), imagine the cost involved to protect Bangladesh from submerging into the BoB?

Thus, the suggested strategic Antarctic research priorities for Bangladesh may include:

- understanding how fast and how far the sea level will rise;
- articulation and implementation of climate adaptation strategies;
- how Bangladesh can mitigate melting of ice glaciers of Antarctica from flooding the BoB; and
- how to benefit from the Antarctic resources vis-à-vis securing comprehensive environmental protection.

CONCLUSION: ANALYSIS AND RECOMMENDATIONS

Why should Bangladesh, like some other countries in the world, want to hoist her flag in Antarctica or, by extension, want a piece of Antarctica? A realist approach of geopolitical, economic, environmental, and scientific factors briefly discussed above explain the interest of Bangladesh in the frozen continent aptly. Besides, for Bangladesh, it is an existential issue – a vital national interest as the number one climate victim, and an essential national need to acquire additional resources vis-à-vis comprehensive environmental protection for sustainable development that currently Bangladesh is traversing.

Having more than two-thirds of the world's freshwater reserves, the Antarctic plays an important role in maintaining the Earth's balance of 'temperature'. Besides, the waters surrounding Antarctica are an essential part of the so-called "Oceanic Conveyor Belt", a belt formed by ocean currents that travels across the planet. Without the help of the oceans around the region, Earth's waters would not circulate in a balanced and efficient manner. Despite the distance, in the case of Bangladesh, what happens in the Antarctic directly influences her climate;

global warming, sea-level rise and the threat to trigger climate refugees are important instances.

A wide variety of scientific research is underway in Antarctica. Therefore, maintaining a base on the frozen continent is important to conduct research in extreme conditions and to better understand the functioning of the planet. According to experts, the frozen continent is a kind of "record" of what the climate of our planet was like in the last one million years. The region also reveals a lot about the impact of human activity on nature. In 1985, for example, scientists at the BAS discovered a hole in the ozone layer over Antarctica. The hole results from damage to the atmosphere caused by human-made chemicals. Experts also see Antarctica as a new frontier for medicine discovery.

One-fifth of the 21st century has already been lost in the pit of time, during which various schools of geopolitical thoughts have intermingled, reappeared, or are proved and disproved. But countries that have made more significant strides in terms of development appeared to be 'forward-looking realists' to strategize 'realpolitik' in their favour. Thus, the Antarctic has already become a 'semi overt' geopolitical hotspot poised for 'realpolitik' contest in future.

Over the millennia, civilisation has progressed almost in all dimensions and invented or discovered enormous beneficial blessings. It may be argued that 'Antarctica' is one such blessing, a vast reservoir of extractable resources, and prime mover of climate, that attracted powerful nations in the last two centuries. The mission to hoist Bangladesh's flag in Antarctica; the disc that represents the sun rising over Bengal, the blood of her heroes, who died for the independence of Bangladesh, and the green field signifying lushness of the land as well as the eternal youth of Bangladeshis, can never be sufficiently emphasised even by a realist.

Recommendations

Currently, almost all developed countries have a space in Antarctica and some emergent countries too. They are not the owners of the land; however, these countries are conducting scientific research and getting ahead in what comes to the Antarctic knowledge. In that sense, and thinking about the outcomes of 2041, it is time to start putting Bangladesh's mark – the 'red and green flag' in the frozen continent. It does not necessarily take building a station in Antarctica immediately, but involves engaging reputed academia in starting scientific research and cooperating with countries already established there.

Bangladesh may participate in the Antarctic issues in three different levels in three different time frames. In the near-term, at the political level, this can be achieved by entering into the treaty system. In the short-term, at the operational level, it can be achieved by conducting scientific research and in the mid-term to long-term, at the tactical level, arranging effective presence on Antarctica will help us to reach our goal. However, the declaration to hoist the flag in Antarctica may thus be made during the Centenary Celebration of the 'Mujib Barsha'.

To do this, within the Antarctic Treaty framework, Bangladesh government may establish an organisation, 'Bangladesh Antarctic Policy Council', at the political level (organisation and detail layout of the broader guidelines may be worked out separately), which would normally direct the Antarctic Office at the Ministry of Foreign Affairs (Maritime Affairs Unit)/Ministry of Defence/Armed Forces Division.

Scientific research may be coordinated by the Bangladesh Antarctic Institute, which may be established in Bangabandhu Sheikh Mujibur Rahman Maritime University/Dhaka University (International Centre for Ocean Governance)/Chittagong University (Department of Oceanography)/National Defence College. The Institute will have to play a key role in national Antarctic research and is to be honed by a number of public and private universities that will have Antarctic research programmes. Besides, the support of the people of Bangladesh is fundamental to drive the policymakers' attention to the subject. Thus, it is recommended to engage both the Bangladesh Institute of International and Strategic Studies (BISS) and the Bangladesh Institute of Maritime Research and Development (BIMRAD) in the efforts to get the attention of the population about the Antarctic by arranging seminars and symposiums about Bangladesh's stake in Antarctica to create awareness among the intelligentsia and the academia.

To arrange effective presence, at the tactical level, in the mid/long-term, Bangladesh Armed Forces need to be integrated into the program. Bangladesh Army needs to have a permanent base in Antarctica with specially equipped and trained staff for rescue, evacuation and environmental emergencies. Bangladesh Navy (BN) will have to play the pioneering role as 'Chief Coordinator' with all other relevant ministries and institutes. Thus, BN needs to establish a separate directorate, namely Directorate of Antarctica (DANT), apart from training and selecting its Port Authority Units to make them in charge of naval security in various parts of the Antarctic Peninsula, control of environmental damage including control of illegal exploration and unregulated fishing. Bangladesh Air Force may act along with other international aviation authorities in the area of the Antarctic Peninsula as dictated by the National Antarctic Policy.

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