

ENVIRONMENTAL SECURITY OF THE ARCTIC: A HUMAN SECURITY PERSPECTIVE

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Abstract

The Arctic region has been the subject of immense interest and speculation for the past four to five decades due to its vast mineral deposits and potential as a new sea-route that would connect the West with the Far East. Evidently, massive globalization and infrastructural development are also taking place in this region, affecting the traditional way of life. However, beneath all those potentials and possibilities, the Arctic environment is degrading, and having further reinforced by the negative impacts of globalization, it adversely impacts the human security dynamics of the region, not to mention the harm being repetitively done to the flora and fauna that dwells there. Under the rubric of human security, we analyze the environmental security issues of the Arctic from the standpoints of pollution, climate change, health concerns and natural hazards, respectively.

Keywords

the Arctic • Human Security • Environmental Security • Environmental Degradation

1. Introduction

1.1 Arctic Reality

During the past few decades, climate change in the Arctic has been the talk of the global community, given that the revolutionary opportunities that could change the economic dynamics of the region are also resurfacing. The fascinating part about these economic opportunities is that hydrocarbon resources in the Arctic have only become more lucrative now that they can be extracted. However, maritime claims by the countries comprising the Arctic Five (Erokin, Tianming, and Zhang 2018), namely, Russia, Canada, the United States (Alaska), Norway, and Denmark (Greenland), have led to some diplomatic posturing. There are probabilities for a new Cold War, or actual armed conflict due to the scramble for resources in the Far North. Despite having all the potential for a full-blown conflict, the Arctic Oil Rush (a pun on California Gold Rush) has proven to be more of a gradual and cooperative gesture between the Arctic states (Shoumatoff 2008). But it is worth mentioning that concerned countries are opting for or is currently surveying the Arctic hydrocarbon treasures with a high level of caution instead of outright sending troops to acquire them. Even though it is as clear that there can be misuses of power according to traditional security perspectives, non-traditional security perspectives of human security have only recently come to the limelight.

These are issues regarding the profound environmental degradation of the Arctic and its political-economic impact on the indigenous Inuit people and wildlife.

1.2 Research Question

The Arctic region is situated right at the top of the Northern Hemisphere and is where the North Pole is located. Despite the harsh weather patterns of the North Pole, the Arctic is still a sticking point for many countries in its adjoining areas simply because of its massive deposit of natural resources. But greed is the root of all evil. Presently, the environmental decline followed by a change in political-economics had all happened in the Arctic due to the off-shore countries' geopolitical ambitions and greed. So, our research question for the article is: What are the human security concerns of the Arctic that have been caused by the environmental degradation over time?

1.3 Methodology and Objectives

This article is a qualitative case study, mostly based on the content analyses of the relevant existing secondary sources of both scholarly and semi-scholarly literatures. For qualitative data collection, we relied heavily on relevant books, news articles, blogs, case studies, and journals regarding the Arctic, human security and security studies. We also took important quantitative statistical references about the degrading health condition, environmental

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decay, and climate change from reliable internet databases, journals and organizations at both state and international level such as the Alaska Department of Health and Social Services (United States), the Census Health and Environment Cohort (CHEC, Canada), Eye of the Arctic (Canada), the *International Journal of Circumpolar Health* (IJCH), the *Journal of Geophysical Research*, and the Intergovernmental Panel on Climate Change (IPCC, UN) within the time frame of the years 2001–2019, respectively. However, owing to the Covid-19 pandemic, we had to work from home and as a result we were unable to gather any first-hand primary sources of data and information regarding the current context of the environmental degradation of the Arctic. This is indeed a serious limitation, but we made up for it by our strong arguments from the above-mentioned qualitative and quantitative data sources.

The environmental security concerns of the Arctic have been already established by scholars. The main objective of this article is to revitalize these concerns once again and document the present conditions. Using 'human security' as an 'umbrella' term, we will attempt to imply the tenets of environmental security in the case of the Arctic. In order to do so, the next section will describe human security from a theoretical framework.

2. Human Security

Traditional security deals with military security concerns and threats of the state/s, while it has very little room for something as mundane as environmental security, which has little to no value in the national agenda. In all, traditional security prioritizes state security above all else and that eventually led to the 'securitization' of environmental issues under the banner of 'non-traditional security', especially since the beginning of the post-Cold-War era in the early 1990s. But in reality, such a situation was already conceived previously during the 1970s due to the potential dangers posed by the depletion of resources. Richard Falk, who was one of the chief exponents of liberal arch-critique of realism, in his book *This Endangered Planet*, mentioned the importance of revamping the entire concept of 'national security' and 'economic growth' if the problems of 'environmental decay' were to be solved in the arena of non-traditional security (Falk 1971). On the same note, another book entitled *Sprouts Toward a Politics of the Planet Earth* stressed the importance of global security instead of national security because of the grave dangers posed by rapid population growth and the exhaustion of mineral resources (Sprout and Sprout 1973). However, the *Human Development Report* of 1994 by United Nations Development Program (UNDP) added a new dimension to the concept of non-traditional security known

as human security. Human security not only broadened the concept of non-traditional security; it also brought into play the human-centric security concerns that involve the security of individuals, people, and the state in general.

2.1 Idea of Human Security

Human security's main objective is that it emphasizes and shifts the focus of security of the state towards its people. According to Anthony Lake, the former executive director of UNICEF, 'In reality, nations are collections of human beings, and it's the security of those human beings that defines whether or not a nation is secure' (Lake 2013).

It may seem obvious, but it stands in contrast to the general tendency of recognizing the state as the primary referent of security. Instead of focusing on the 'legitimate concerns of ordinary people ... in their daily lives,' a different set of concerns are now being emphasized (UNDP 1994, 22). It is now believed that the most severe threats to people's well-being do not come from interstate wars. Instead, more immediate problems, such as starvation, environmental degradation, disease, displacement, and civil conflict have become the mainstay in the current era. In all, this approach thus seeks to realign and reconcile our understanding of security with the genuine threats that most commonly and severely impact people in their daily lives.

Combining the wide range of pressing threats that people might face means that the domain of human security is unavoidably broader. As seen in the 1994 UNDP report, human security is best defined; as 'safety from such chronic threats as hunger, disease and repression' and 'protection from sudden and hurtful disruptions in the patterns of daily life' (UNDP 1994, 23). It also established seven main categories of human security threats:

1. economic security
2. food security
3. health security
4. environmental security
5. personal security
6. community security, and lastly,
7. political security (UNDP 1994, 24–25)

This is a rather all-inclusive list. Understandably, it raised potential concerns that almost anything related to security could fall under the human security rubric. Worst of all, the Commission on Human Security (CHS) 'did not do justice to the very concept of human security when it came up with an even vaguer definition. The Commission defined human security as being about the 'the vital core of all human lives' while abruptly failing to identify exactly what things are 'vital' to human lives (Ogata and Sen 2003).

Even though the wide range of threats identified as falling within the domain of human security could create problems, it doesn't make this approach irrelevant. Instead, despite the limited perspective on what a human security approach can or cannot do, it still does have considerable utility for researchers and policymakers. In this regard, we should not underestimate the potential benefits of placing people at the center of our analysis and policies. According to Gasper, combining the words 'human' and 'security' conveys a visceral and lived feeling that connects people's feelings and fears to an observer's feelings and fears about others' lives (Gasper 2010, 27). The concept of 'human security' thus evokes a sense of real lives and persons. It offers a powerful reminder about what the driving force behind our work should be. Stressing people's everyday concerns may seem somewhat understandable, but this essential starting point is too often forgotten or ignored.

Human security's twin concerns with empowerment and vulnerability offer a valuable perspective for analyzing situations and considering policy options. According to Ryerson, it 'provides an effective framework that tells policymakers both where to look (at people inside of the state) ... and what to look for in broad terms (things that threaten risk or impoverish people)' (Ryerson 2010, 176). This requires identifying the vulnerabilities that exist and are worsened in a particular context while also looking for what kind of agency is possible and how it can be further supported. Meanwhile, the seven types of a human security threat as enumerated in the 1994 UNDP report – economic security, health security, food security, environmental security, community security, personal security and political security – all offer a useful way of categorizing, clarifying, and identifying the most severe forms of insecurity that might exist and potentially interact within a given context.

Apart from operating as a lens that focuses on certain forms of human harm and vulnerability often insufficiently prioritized or overlooked, human security also digs more deeply into how immediate threats are connected to pre-existing or present social structures. Human security is not interested in imaginary individuals, but rather in people whose real identities are shaped by being part of the society they live in. One of the key points of the definition of human security in the 1994 UNDP report was its sensible use of the word 'people,' and its emphasis that human security 'is concerned with how people live and breathe in a society' (UNDP 1994, 23). This solidifies the evidence that security and insecurity are social phenomena, and these conditions are always generated through human interactions. As O'Brien, St. Clair, and Kristoffersen put it, 'it is] inherently an integrative and relational concept that draws attention to the present and emerging vulnerability generated through dynamic political,

social, economic, and cultural, institutional, and technological conditions and historical legacies' (O'Brien, St. Clair, and Kristoffersen 2010, 4–5).

We will now look at how the conceptual framework of human security can help us understand and narrow down the environmental security concerns regarding the Arctic. It is safe to say that most of the environmental security concerns about the Arctic are the result of years of global warming, incessant pollution (even if it is very little in comparison to rest of the world), degradation of health habits, and the ever-changing natural landscape of the Arctic for which human beings are partly or fully to be blamed. Unsurprisingly, all these security concerns clearly fall in the domain of non-traditional security. This is where the human security approach clearly excels at explaining.

3. Environmental Security Concerns about the Arctic

The term 'globalization' has not only gradually been transformed into a buzzword of the twenty-first century; it has already successfully marched into the Arctic region for quite some time. Inevitably, it brought permanent social and environmental changes by transforming the lives of the people and the living specimens dwelling there. As seen with globalization in other parts of the world, investments, industrialization, and modernization of multinational corporations (MNCs) are bringing great opportunities for some. But at the same time, these are systematically destroying the very fabric of the Arctic environment and bringing a wide range of environmental security issues affecting human security concerns in the region.

For the sake of discussion, we will be narrowing down our focus to four of the key environmental security concerns: climate change, pollution, health security concerns of the indigenous population, and lastly, recurring natural hazards that is becoming more and more destructive with every passing year. In all, all these fall into the broad umbrella term 'human security'.

3.1 Drastic Climate Change

Over the past three decades, the Arctic region has come under increased scrutiny due to climate change, which has led from one terrifying environmental security implication after another. The most extreme form of ecological change has been felt in the Arctic out of all the Earth's regions. The Intergovernmental Panel on Climate Change (IPCC) of the United Nations (UN) reported that the Arctic's average temperatures have risen nearly twice the global average rate in the past century. To everyone's horror, the Arctic ice has diminished by 3.3% over the previous decade (Anisimov, et al.).

One of the critical indicators of climate change is the rising sea levels due to the melting of polar ice caps. This carries significant threats to human habitations along the coastal areas with coastal flooding and causes frequent and lengthy droughts and heat waves. Due to excess carbon dioxide (CO₂) being dissolved in water, ocean acidification occurs, severely jeopardizing aquatic life forms. Aside from the dreaded ocean acidification, there have been increased riverine flooding incidents over the past three to four decades. While most of these environmental security impacts are being felt worldwide, they reveal themselves more dramatically in the Northern Arctic region, due to its variable rate of warming. Pollution is being worsened, as the northern wind becomes more powerful, and precipitation rapidly increases. The flow rate in rivers has dangerously increased, making navigation almost impossible. As seen in Siberian Russia, the rivers' flow rates have increased by about 15–20% every twenty years since 1980. It has been invariably affecting the pollution and food supply in the seas and oceans, since melted ice from rivers entering the estuary affects the salinity and patterns of ocean circulation. Since the ice reflects sunlight, changes in the Arctic further contribute to global warming by altering the Earth's albedo effect, as there are fewer ice caps to reflect the sunlight.

3.2 Long-Range Pollution

3.2.1 The Arctic Haze: The environmental issues related to the Arctic region have become more globalized in the past three to four decades, primarily due to several types of long-range pollution. This pollution is, not surprisingly, linked to industrial activities in Northern Europe, North America (the United States and Canada), and northern Asia (Siberian coastline of Russia). A phenomenon known as Arctic haze is a smog that results from the buildup of carbon, nitrogen, and sulphur emissions in the atmosphere during the winter and spring seasons, which later blows towards the far North. This has already begun the decaying of ecological balance and subsequently accelerated the warming process in the Arctic (Law and Stohl 2007).

3.2.2 Persistent Organic Pollutants: Persistent organic pollutants, or simply POPs, are adversely affecting not only the wildlife and ecological balance of the Arctic but are seriously impacting human health. Even though chemicals such as insecticides, pesticides, and industrial chemicals are barely or to some extent never used in the region, the POPs already released into the atmosphere from far-off places are too slow to break up and eventually end up deposited in animals, which are later bioaccumulated as fats in the body (Hough 2015, 216). This bioaccumulation of POPs in the body of fish and other aquatic mammals are later passed on to the bodies of predators higher up the food chain. Ultimately, the Arctic tertiary predators, namely, polar bears and wolves, are

therefore contaminated with POPs due to their consumption of foods filled with toxins, drastically reducing their lifespan in the process.

3.2.3 Accumulation of Heavy Metals: Over the past decades, the Arctic has become prone to accumulation of heavy metals like mercury (Hg) and lead (Pb) residues in food sources. Even though the emissions of mercury from Europe and North America have diminished over the years since the 1980s, the increase in Chinese coal-fed power plants has led to further contamination by long-range airspace transport, which in particular, have affected fish stock in the Arctic, again by bioaccumulation (Hough 2015, 216). Mercury, being liquid at room temperature, quickly reaches a gaseous state by heating and can thus be transported long distances in the air and then fall as snow. When these snows melt during the springtime, the mercury mixes with water bodies, which are ingested by marine mammals (humpback whales, killer whales) and sea birds.

3.3 Health Concerns for the Indigenous People

Health security issues among the Far North peoples have been affected by the social changes brought about by globalization and environmental change.

3.3.1 Vulnerability to diseases: Globalization has not only made the distance between one part of the world to another much shorter, but it has also made the spread of harmful strains of disease much easier thanks to widespread interconnectedness and ease of travel. It is well established that biological colonization is the first step toward political colonization. Likewise, the Canadian Inuit population has suffered from several outbreaks of bacterial and viral diseases like influenza, pneumonia, spinal meningitis, and tuberculosis since the early 1940s due to the increased wartime presence of administrative and military staff in the Canadian South. Due to lack of connectivity and a shallow gene pool compared with the rest of the world, the Canadian Inuit still 'have not developed the requisite genetic and immune resistances to the diseases as mentioned above, which has proven to be fatal to them time and again in the Polar North despite being a common disease in most of the world (Duffy 1987).

There has been a resurgence of diseases in the Arctic in the last one or two decades, which were otherwise thought to have been rare or eradicated in the developed world. According to the Public Health Agency of Canada (PHAC), there were ninety-nine tuberculosis cases in the Nunavut Territory of Canada, which was a rate sixty-two times the national average. In 2016 it drastically climbed to 1,750 patients, and as of a 2017 report, it rose to 1,796 cases.

These figures are 290 times more than the national average (Hogan 2019). Inconsistency in Canada's living standards, one of the world's wealthiest countries, is the prime cause of this phenomenon. But we should not forget the psychological and biological recurrences of the epidemics of the 1940s and 1950s. It is seen that many Canadian Inuit of elderly age carry a somewhat dormant version of the disease contracted during that period.

Moreover, inept antibiotic treatment courses initiated by Canadian federal authorities during that time have left a wrong impression overall in the minds of the Canadian Inuit population, making them reluctant to undertake the long courses of antibiotic medications (Miller et al. 2010, 1779–1790). Around ten percent of Canada's Inuit population were subjected to relocation or were displaced (evidence of forced eviction) in the mid-twentieth century to southern sanatoria. This is a significant cause of mistrust of Canadian government programs, as many still bear a grudge against the forced relocations.

3.3.2 Lifestyle illnesses: The rise of 'lifestyle illness' has been the bane of Arctic people in particular and is a side effect to the 'Arctic Dilemma'. Many health problems have arisen over the years as a result of people reluctant to consume less of their traditional foods and dishes due to fear of lead poisoning, mercury poisoning, and POPs as a result of constant pollution in the region. Since the native Arctic populations are relatively low, coupled with the high costs of long-range transport for processed foods, there was a harmful 'nutritional transition' from the traditional diets that once fulfilled the Inuit people's nutritional requirements. In a bizarre twist of turns, the type of 'Western' foods best suited to the Arctic are processed foods like potato chips, various types of biscuits and crackers, as well as carbonated beverages, rather than fresh fruits and vegetables and meat.

The globalization of culture has also further heightened health insecurity in the Arctic due to the excess appeal and demand for such Western foods. There has been a rise in diabetes and obesity rates, among the Canadian Inuit people in particular, due to these new consumption patterns. The decline of hunting culture and modernization of travel (use of mechanical sleds instead of traditional dog-pulled sleds) in many communities has also contributed to the obesity problem as the Arctic lifestyle has become very passive and relaxed (Sharma et al. 2012).

The native people of Alaska are now nine times more susceptible to die of alcohol-induced mortality than the average US citizen due to the United States's changes in lifestyle and relaxed alcohol consumption laws. As seen during the five years of 2014–2018, the highest rates of

alcohol-induced mortality were generally limited to the northern and southwest regions of Alaska, with 37.0 deaths per 100,000 and 40.6 deaths per 100,000, respectively. The rest of the state usually hovered around the average of 21.5 deaths per 100,000 during that period (Alaska Department of Health and Social Services 2017). Non-contagious diseases like cancers were almost little to non-existent until the last hundred years in the Arctic. But now, cancers such as lung cancer (caused by continued smoking of cigarettes), colon cancers (caused by unbalanced and unhealthy diets), and breast cancer (caused by genetic defects from pollution) have risen over the years due to the social changes brought about in the Arctic region (Friborg and Melbye 2008). To the surprise of many, the Canadian Inuit population has the highest rate of lung cancer cases any other place on Earth (Krümmel and Gilman 2016, 338).

3.3.3 Burgeoning rates of suicide: The percentage of those who have died by suicide among the natives of northern and Siberian Russia is more than three times that of Russia's entire population, a country with one of the worst incidences of suicides in the world. The eastern part of Greenland has one of the highest rates of suicides for a region globally, with 1,500 deaths per 100,000 people (Krümmel and Gilman. 2016, 334), whereas in other places of Greenland, the quality is 82.6 deaths per 100,000 people (NPR Staff 2016).

According to CHEC of Canada, 1,180 Inuit people died by suicide between 2011 and 2016. This resulted in the suicide rate of 24.3 deaths per 100,000 people, which was three times more than the suicide rate of the white Canadian population at 8% during that timeframe, and all of them were between the ages of 19 and 24 (Kumar and Tjepkema 2019).

Even though stereotypical references to the cold, dark, and lonely lifestyles of the Arctic region can easily explain suicide rates, this phenomenon is a product of globalization. Suicide was something quite bizarre and taboo in the Arctic during the premodern era. It might surprise many that during the 1960s, there was only one incident of suicide in Nunavut, Canada. Soon after, the trauma caused by rapid social and environmental change has only exposed the young Inuit population to various forms of alienation linked to depression present in the developed world, such as failures in education and employment, alcohol and drug abuse, sexual frustration, and petty crimes, but to a far greater degree. The rate of suicide began to escalate during the 1960s among the Alaskan Inuit, Greenlandic Inuit during the 1970s, and then among the Nunavut Inuit during the 1980s. These were when the Inuit's traditional environment was replaced with rapid modernization, urbanization, colonial education, and settled communities (Nunavut 2008, 16–17).

3.4 Natural Hazards

Very few places on Earth are as beset with as many natural hazards as the Arctic. But there are specific aspects that require our attention. Spring river flooding and coastal erosion are prevalent in the region because of ice being continuously melted by global warming. Vast tracts of coniferous forests in the Arctic taiga could be potentially subjected to wildfire, which adversely affects the atmosphere and the environment by the release of excess carbon dioxide, other gases, and black carbon from the burning trees. The presence of extreme cold and darkness that prevails for most of the year would render effective disaster response ineffective at best, and useless if this catastrophe ever occurs (Eichelberger 2015).

Although the Arctic has excellent prospects for oil and natural gas, the drilling season window is tiny. With only three months of drilling season available for the extraction of oil and natural gas, thick layers of ice caps still pose significant challenges to the energy-intensive MNCs for most of the year, not to mention that 24-hour darkness during the winter months can impede drilling expeditions. Extraction, offshore mining, and transportation are much more expensive than any place globally, and costs are multiplied by ten times when operations are sited in the iceberg-prone remote locations (Talley et al. 2011, 423-429). Even though there are possibilities that shipping through the northwest passage in northern Canada will become much more comfortable in the foreseeable future due to global warming, it still will not be easy. The melting glaciers' gradual melting of new icebergs will always pose new threats to the ships and their crews/passengers.

In all, these are the main environmental security concerns of the Arctic and how it is impacting the landscape, natural fauna and flora, as well as the most important stakeholders, the indigenous people living in the region irrespective of national boundary. What remains to be seen are the policies and requisite actions by the members of the Arctic Five, something which has become more redundant in the present era given the lack of interest in it by the United States and Russia as a whole.

4. CONCLUSION

The current environmental condition of the Arctic is on the verge of steady decline at best and precarious at worst. We have already mentioned how the human populace is plagued with various physical ailments owing to the change in environment and the double-edged sword of technological advancement. This is added to the existing widespread Arctic haze and residues left behind by POPs and heavy metals like mercury and lead; these are proving injurious not only to the

local human inhabitants but also to several types of aquatic and terrestrial wildlife which indirectly feed on these residuals and so meet their untimely demise. These severely impact the Arctic food chain, which in turn affects human habitation. Right now, most of the countries in the Arctic Five are very little to not at all concerned regarding the environmental degradation of the Arctic. It is known to all that charity begins at home, but in the case of the Arctic and in the sad reality of the current global order, charity has no scope to begin at home. The health condition of the indigenous people of the Canadian Arctic is deteriorating as the years go by, while Canada is more concerned with securing the valuable and geo-strategic northwest passage all for itself. Greenland, considered as the largest reservoir of fresh water locked in permafrost, has become the worst victim of global warming in the last three to four decades owing to the ozone depletion, mainly due to the emission of chlorofluorocarbon (CFC) from the adjoining Arctic countries: the United States, Canada, Norway, and Russia. Even though the emission is very small, it has made a permanent negative impact in the overall fragile fabric of the Arctic ecosystem.

All is not lost yet. Before things go from bad to worse, we must again re-evaluate the Arctic and the damage that had been caused to it so far. It will require the goodwill of all the members of the Arctic Five, something which is incredibly difficult given the current context of world politics influenced by the COVID-19 pandemic, the United States-China trade war, and the potential involvement of Russia in that foray. In this difficult situation, we can only speculate and hope that someone 'smarter' comes forward and makes the right calls before the environmental security concerns of the Arctic take a turn for the worse.

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