Governing environmental security in the Arctic: the perspective of the Arctic Council on climate change, fossil fuel exploration and shipping operation

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Abstract

Global climate change is one of the most pressing environmental issues in the history of mankind and like any other parts of the world, the Arctic region is also under a severe threat. Climate change is already causing noticeable impact to Arctic environment, which may contribute to further complicacies inside and outside this region in the future. On the other hand, the melting of sea ice due to climate change has unveiled opportunities for fossil fuel exploration and shipping in the Arctic. As the new record for global warming is being observed regularly, the Arctic ice sheet melting will most likely continue in upcoming years and the Arctic environment will be encountering a far more complex version of the current situation. This study identifies the Arctic Council as the most influential actor in the Arctic governance and discusses the contribution of this intergovernmental panel to the region's environmental security, primarily, concerning the issue of climate change. Qualitative content analysis of the nine declarations of the Arctic Council from 1996 to 2015 not only reveals its achievements in the field of climate change but also discusses its role in the sectors of fossil fuel exploration and shipping operation in the Arctic. Furthermore, this study indicates about the Arctic Council's lack of significant contribution in the fight against climate change and discusses about strengthening its role in the wake of new challenges.

Key words: Arctic, Arctic Council, Environmental Security, Governance, Climate change, Shipping, Fossil fuel

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Chapter 1: Introduction

Arctic has been a global topic of interest for the last couple of decades and will receive more attention in the upcoming years as well. Climate change, melting of sea ice, increasing political, economic and military activities are among the primary concerns for regional and international policymakers related to the Arctic. Even though there are several international and regional organizations actively participating in governance of arctic, Arctic Council, an intergovernmental body including eight Arctic Circle countries, is the most visible governing organization of this region. As a result, policies regarding environmental security in the Arctic have been made simultaneously from the country level and international level, with mutual collaboration and support to each other. Environmental security threats have already been well addressed by these actors and several policies have already been developed as preventive measures. The changing dynamics of the Arctic environment justify the necessity of continuous study of these policies made by the Arctic Council to cope with future threats and developing new set of policies to broaden its activity.

1.1 Background of the study

The Arctic contains a large amount of Earth's total fresh water in the form of ice pack. Due to the global temperature rise, ice sheet in the Arctic is melting faster than what has been predicted and in 2015 the ice covering was measured as the lowest in history. [1]The melting of sea ice has unveiled many opportunities in the area for economic, energy and tourism sector which also confirms increased human activity in this region. These remote areas with sensitive ecological characteristic are threatened with several environmental challenges because of their enormous potential to contribute in these sectors.

[1] Maria-José Viñas, "*2015 Arctic Sea Ice Maximum Annual Extent Is Lowest on Record"*, NASA, March 19, 2015, https://www.nasa.gov/content/goddard/2015-arctic-sea-ice-maximum-annual-extent-is-lowest-on-record

A geological survey carried out by US Energy Information Administration (EIA) confirms the existence of 13 percent of the world's undiscovered oil and 30 percent of undiscovered gas resources in the Arctic.[2] Coastal countries have already taken initiative to allow petroleum companies for offshore drilling operations that have become possible for ice sheet melting. For example, The United States has renewed its contract with Royal Dutch Shell in 2015 for drilling in the arctic waters of Alaska,[3] a permission for drilling is likely to be given to Statoil in the Norwegian shelf by 2016[4] and also the Russian oil and gas exploration company Gazprom announced to double their production in 2015 by exploring new offshore areas.[5] However, Shell has already announced the termination of its offshore drilling operation in Alaska on the 28th of September, 2015 due to the higher cost of exploration in the Arctic water.[6]

The offshore Arctic oil and gas exploration has already created a serious debate among the international community. As the exploration is becoming easier due to the global temperature rise, it enables the discovery of new reserves of fossil fuels which in return accelerates the phenomenon of global warming. This has been regarded as the 'Arctic Paradox'.[7]

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[2] US Geological Survey, *"Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle"*, fact sheet, 2008, http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf.

[3] Andrew Critchlow, *"Barack Obama gives Shell go-ahead to drill for oil in Alaskan Arctic"*, Telegraph, UK, 31 Mar, 2015, http://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/11507488/Barack-Obama-gives-Shell-go-ahead-to-drill-for-oil-in-Alaskan-Arctic.html

[4] Christina Nunez, *"Norway Offers New Arctic Leases, Stoking Polar Energy Rush",* National Geographic, January 24, 2015, http://news.nationalgeographic.com/news/energy/2015/01/150122-norway-arctic-drilling-ice-climate-change-energy-oil/.

[5] *"Russia's sole offshore Arctic field to double oil output in 2015"*, Thomson Reuters, Apr 24, 2015, http://af.reuters.com/article/energyOilNews/idAFL5N0XL2XA20150424.

[6] "Shell updates on Alaska exploration", Sep 28, 2015, http://www.shell.com/global/aboutshell/media/news-and-media-releases/2015/shell-updates-on-alaska-exploration.html.

[7] Teemu Palosaari, *"The Amazing Race: on resources, conflict, and cooperation in the Arctic"*, Nordia Geographical Publications, 40: 4, (2012): 24.

The Arctic region holds some unique characteristics compared to the other geographical locations on Earth and which is probably similar only to the Antarctic region. One of the major differences between the Antarctic and the Arctic is the amount of inhabitants living in these areas. Specifically, the number of people living inside the Arctic Circle is remarkable compare to the Antarctic. A serious environmental security threat, such as climate change, is undoubtedly effecting the biodiversity of this region as well as the life of people living here. Climate change in this region is also a damaging threat to the people depending on the region for different socio-economic activities.

The impact of climate change in the Arctic is responsible for negative consequences occurring in locations far away from this region. Melting of ice sheets in polar regions is the biggest contributor to the sea level rise across the world. Specially, low-lying coastal states in different parts of the world are in grief danger because of this environmental problem. A huge number of people along with valuable assets are exposed to the devastating impact of sea level rise along the coast of these countries. Similar situation might not harm the coastal areas in the Arctic with same magnitude but due to the source of this problem, this region has received a lot of international attention in climate change debate.

Apart from the sea level rise, climate change has posed an environmental threat in the form of deforestation in several parts of the Arctic. Climate of this region is so unique that there only few species of trees are contributing to the most amount of the forest area and the changing climate is making the situation more hostile.[8]

Approximately 10 percent of the total population living inside the Arctic Circle are indigenous people. These indigenous people, along with many non-indigenous people who are residing in the Arctic region, are dependent on reindeer hoarding. Culturally it is one of the major economic activity of many of those indigenous groups. Besides, limited amount of agricultural activity can also be noticed mainly during summer season that lasts for a very short time. While longer winter season is usually very cold and hostile, summer months are the peak times for the plants to grow. Climate change has caused seasonal changes to occur

[8] *"Impacts of a Warming Arctic: Arctic Climate Impact Assessment",* Cambridge, UK: Cambridge University Press, December, 2004.

during unusual time of the year, ultimately creating complicacy in agricultural and farming activities across the Arctic.

Melting of the Arctic ice sheet and ocean warming has also caused an adverse impact on the marine fisheries. Several indigenous groups, such as coastal Sami and Inuit people, residing in this region are directly dependent to the Arctic fishery. Recent observations by scientists have provided the evidence of changing pattern in the behaviour of migrating fish species. As the fish are moving into suitable waters and unexplored areas, it results into a significant change of harvesting pattern and exploration for these people.[9]

Retreating ice sheet of the Arctic guarantees ice free shipping routes for longer time during summer months. Besides, new options are also becoming available for the Asian countries to access in the Northern Sea Route instead of the Suez Canal. It will reduce shipping cost and duration between Asia, Europe and North America.[10] Such opportunities in the field of regional trade and commerce will surely result into increasing amount of cargo ships operating through these routes and eventually create new threats of pollution and emergency crisis situations.

It is already evident that the climate change is effecting the arctic environment and creating environmental insecurity. The Arctic Environmental Protection Strategy (AEPS) and the Arctic Council have been the most active actors in this region for addressing such types of insecurity and till this day the Arctic Council has remained as the biggest hope against the odds.

The Arctic Council is an intergovernmental panel of eight Arctic Circle countries. It does not have any traditional organizational structure but the chair of this panel rotates among those eight countries in a two year cycle. Ministers and high level officials from these countries come together periodically to discuss different topics except military and land rights issues and set objectives and work plan according to that. The Arctic Council operates within six different working groups dedicated to formulate scientific research about various issues in the

[9] Catherine Jørgen, and Oleg V. Karamushko, *"Arctic marine fishes and their fisheries in light of global change"*, John Wiley & Sons, 2013, DOI: 10.1111/gcb.12395.

[10] Heather A. Conley, *"A New Security Architecture for the Arctic*", CSIS, (2012): 8.

Arctic region, developing solutions and addressing these issues in regional and international platforms.

Among these six working groups, Arctic Monitoring and Assessment Programme (AMAP) keeps a record of the overall environmental threats, Arctic Contaminants Action Programme (ACAP) and Emergency Prevention, Preparedness and Response (EPPR) working group deals with specific pollution and environmental emergency situations. Conservation of Arctic Flora and Fauna (CAFF) works to protect biodiversity in the Arctic, Protection of the Arctic Marine Environment (PAME) identifies threats to the Arctic marine and coastal environment and Sustainable Development Working group (SDWG) suggests socio-economic development policies to different actors in the Arctic. These working groups, containing executives, scientists and researchers, formulate surveys and scientific studies of related issues for reporting changes in the Arctic.

Activities of these working groups are almost entirely focused on scientific studies. These working groups also recommend ways to mitigate current problems and suggest about precautionary steps for the future challenges to the eight member states. In some cases, scientific reports and recommendations of the Arctic Council were deemed as equally important beyond its regional border.

For example, the Arctic Climate Impact Assessment (ACIA) report published by the AMAP working group in 2004 was a milestone in climate change studies. Apart from reporting impacts of the climate change in the Arctic, it has also recommended some steps regarding overall climate governance. Several of its recommendations are almost similar to the policy recommendations for other regions by the United Nations Intergovernmental Panel on Climate Change (IPCC), which is probably the biggest collaborative approach against climate change crisis. Therefore, the environmental governance in the Arctic confirms its importance and applicability in the international platform in case of the global issue like climate change.

Chapter 2: Environmental security and climate change – from concept to governance

The concept of 'Environmental Security' evolved from the traditional security studies. Developed in the recent post-WWII era, the concept of environmental security is still shaping and re-shaping till this day. The sole purpose of this concept is to discuss the complex relationship between environmental change, national and international identities and dimensions of related conflicts, thus, creating a platform for governance and peaceful equilibrium by mitigating relative threats.[11]

The aftermath of the WWII, the Vietnam War, and lastly, activities from the Cold War period made scholars think about the manmade impacts on the environment. Therefore, the understanding of the complex relationship between humans and the environment started shaping up with the concerns of securitizing environment and insecurity of environmental deterioration.

2.1 Definition of security

The meaning of the word 'security' is commonly known to everybody, yet at the conceptual level, it requires some explanation of the widely known definition. In a simpler way, security is a situation without risk but while addressing security in micro level, such as human security or environmental security, it is necessary to include some other factors besides absence of risk and vulnerability. Some of the early scholars of security studies directly mentioned 'absence of military threat to the country' while defining the concept of security. Within time, it has changed and modern definitions describe it as an abstract 'social concept' rather than directly linking its root to the physical violence. This phenomena is clearly visible in the literature

[11] Maria Julia Trombetta, *"Environmental security and climate change: analysing the discourse"*, Cambridge Review of International Affairs, 21:4, (2008): 586.

provided by Allan Collins, who presents a chart of the definitions of security described in academic platform during the past thirty years.[12]

According to the traditional definition of security or 'National security', insurgency, military aggression or any other kind of violent armed conflict that threatens sovereignty of the country is the main reason for creating insecurity. However, the modern concepts of security do not only address the security of the state but also mention human, environment, society, economy and resources while discussing security. For example: 'Human security', a concept presented by the United Nations Development Programme (UNDP) discusses reasons, their sources and impacts of such elements that threaten mankind and create insecurity.[13] Diseases, manmade crisis events and other societal events are elements of discussion under the umbrella of human security. On the same report, 'Environmental Security' was also mentioned as a key element related to human security.[14]

2.2 National and Human security vs. Environmental security

A nation is a collection of its land area, people, resources, economy, society and environment. Its characteristics are primarily shaped by these elements and according to the comprehensive security concept, beside the military activities, the mentioned characteristics are also security concerns of the state. It is necessary to mention that the military activities can create environmental problems and military activities can also be initiated due to environmental problems.

Non-military issues such as basic rights, scope of business and monetary activities, social justice and political stability are concerns of human security. Similarly, environmental issues have the capacity to challenge human security and can ultimately contribute to the national

[12] Alan Collins, "Contemporary security studies", (Oxford university press, 2016), 3.

[13] Hans Joachim Schellnhuber, "Climate Change as a Security Risk", (Routledge, 2010), 20.

[14] United Nations Development Programme (UNDP), *Human Development Report 1994*, (New York: Oxford University Press, 1994).

insecurity in a form of social unrest. In continuation of the above-mentioned common security concerns of the country and its population, it is already evident in the history that the environmental problems can pose a threat at individual and state level. Therefore, environmental security can no longer be ignored but it should be widely mentioned in the modern security concept while discussing national and human security.

The definition of environmental security is a bit complicated one. As the concept has been introduced in a structured form only after the Cold War, it is still developing. However, this concept primarily focuses on few basic questions such as:

- How national security can be threatened by environmental issues?
- How environmental issues can become a threat to human security?
- How environmental issues can fuel into conflict events?

It might be possible to draw the complete picture of this concept by discussing these questions. Therefore, mentioning the linkage of the basic elements of the environment with our social and political activities is necessary.

According to Jon Barnett, "the subject of environmental security is a reflection of broader political and social developments, particularly as they relate to environmental degradation and justice."[15] Undoubtedly, the concept of environmental security mostly discusses about environmental degradation. Our environment is a complex system combining earth, air, water and every living element inside it. Due to different kinds of human activity and natural phenomena, these elements become unstable, polluted or harmful for the mankind. Environmental degradation can provoke security risks at the individual and state level, separately and simultaneously.

Water pollution is a known issue with rich statistical data to indicate its consequences on human health. Besides, control over fresh water sources has resulted into some regional conflicts and fuelled already existing conflict such as, Tigris and Euphrates Rivers fuelling

[15] Jon Barnett, *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era*, (Zed Books, 2001), 1.

conflict in the Middle –East during 1990s.[16] Industrial, military and other polluting activities can result into a decline of the fish stocks and this may cause another significant problem; the depletion of the stock is already known to have created social unrest and forced migration among communities depending on it for economic purpose,[17] thus creating a security risk for the effected community and an opportunity for inter-state dispute between neighbouring countries.

These examples credibly answer questions relating environmental security and similar examples could also be presented in case of other types of environmental problems such as land degradation, air pollution and climate change. In a nutshell, natural and human activities resulting into environment problems that eventually lead into human and national insecurity are the primary concerns of environmental security.

2.3 Environmental peace and conflict

While traditional security studies discuss potential threat and conflict issues, environmental security points out particular environmental dimensions of a conflict. Topics covered within the frame of environmental security are ranged from environmental degradation to the impact of armed conflict and beyond.

Understanding the relationship between peace, conflict and environmental security is essential and obvious, as they are closely related to each other.[18] In the general term, peace is often referred as 'absence of violence'.[19] However, Galtung divided the state of peace into two

[16] David K. Kreamer, "The Past, Present, and Future of Water Conflict and International Security." *Journal of Contemporary Water Research & Education* 149, no. 1 (2012): 87-95.

[17] Anders Jägerskog and Ashok Swain, *Water, Migration and how they are interlinked*: Stockholm International Water Institute (SIWI), (2016).

[18] Barnett, Jon, "Environmental Security and Peace," *Journal of Human Security* 3, no. 1 (2007): 4.

[19] Ibid, 4.

major parts as ‘positive peace’ and ‘negative peace’ and provided broader explanation of peace and violence.[20]

According to him, ‘absence of organized collective violence’ should be considered as negative peace.[21] Here, the meaning of collective violence indicates violent armed conflict, which is a collective effort of a ‘group’ of people. In the context of real life scenario, events like war, invasion or any other types of planned initiative to bring destruction through violence can be sorted into this category.

On the other hand, Galtung mentioned that the concept of positive peace is still ‘vague’ and then provided ten values as the pre-requisite of positive peace. Values including ‘justice’, ‘co-operation’, ‘development’ and ‘equality’ should be practiced among countries to be able to bring positive peace.

To understand the correlation between peace and environmental security, it will be necessary to examine the impact of environmental issues over the state of peace. For example, because of our various socio-economic activities, we collect different types of natural resource, some are replenishable and some are not. Natural resources like fresh water, fossil fuel etc. can be the cause of a conflict and pose a threat to security. In his lengthy research project, Homer-Dixon has demonstrated that the scarcity of natural resources has the potential to lead into violent conflict.[22]

He also mentioned that environmental issues might not be the main source of inter-state conflict but most likely a major inspiration behind that. Environmental problems may escalate violent conflict with the help of other social problems which are mostly related with state governance and policymaking.[23] However, there are also scholars reluctant to consider

[20] Johan Galtung, "Theories of Peace: A Synthetic Approach to Peace Thinking," *International Peace Research Institute, Oslo* 2, no. 6 (1967).

[21] Ibid.

[22] Homer-Dixon, Thomas F, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security* 19, no. 1 (1994): 5-40.

[23] Jon Barnett, "Environmental Security and Peace," *Journal of Human Security* 3, no. 1 (2007): 7.

environmental problems as a security issue and prefer a traditional viewpoint of security discussion.[24] But the amount of evidence and scholarly discussion opposite to their statement is much higher.

Linking environmental security to negative peace is easier than to establish its relationship with positive peace. As, Galtung's concept of positive peace mostly discusses 'consensual values', an interdependent relationship might be possible to uncover by scrutinizing them through the concept of environmental security.

According to Galtung, those values are:

- Presence of co-operation - which indicates 'interdependence' and collaboration between people or nations.
- Freedom from fear - indicating predicted vulnerability over negative event at local or global level.
- Freedom from want - refers to the fulfillment of basic human needs.
- Economic growth and development - stating structural co-operation between governments for equal distribution of resources and shared technological advancements.
- Absence of exploitation - means balanced and equal exchange of resources in any field.
- Equality - concerned with eliminating 'extreme gap' between different parties, both individual and national level.
- Justice - for ensuring equal rights.
- Freedom of action - denoting availability of different choices with regard of applicable limitations.
- Pluralism - indicates the multiculturalism and different social structures surviving in a common space.
- Dynamism, indicating adaptability of social or political structure for positive changes in the future.

[24] Geoffrey D. Dabelko, and David D. Dabelko, "Environmental Security: Issues of Conflict and Redefinition," *Environmental Change and Security Project Report* 1, no. 1 (1995): 3-13.

While resource scarcity impacts our societies and inspires communities to conflict, environmental degradation may silently create intrastate security threats. Environmental degradation in any form such as land, air or water pollution and unfavourable environmental changes can cause indirect violence to both individual and the state. Above-mentioned values can be the tool for eliminating such type of violence.

For example, the Ganges River flows from India to Bangladesh and meets the Bay of Bengal in the north of Bangladesh. This river is important for both countries because a large amount of population in these countries depend on this water for agricultural activity. Sharing water of this river between two countries has been a topic of dispute since the independence of Bangladesh in 1971. As India is the upstream country, enjoying primary flow of the river for industrial and agricultural purpose, Bangladeshi government complained about uneven distribution of the water. Eventually, a treaty was signed between the two countries in 1996 with the aim of ensuring justice over water distribution.[25]

In the pre-treaty scenario, it would have been slightly problematic to classify such type of violence, though, violation of security was evident there. Ultimately, bilateral co-operation was necessary to create the treaty and to ensure security for the population.

Values related to Galtung's concept of positive peace are not only applicable to reduce the chances of violent conflict but also may result into something bigger in case of environmental security governance. Quoting from the work of Ken Conca, Geoffrey D. Dabelko, "….rather than asking whether environmental degradation can trigger broader forms of intergroup violent conflict, we ask whether environmental co-operation can trigger broader forms of peace."[26]

[25] Salman MA and Kishor Uprety, *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective* (World Bank Publications, 2002), 125.

[26] Ken Conca and Geoffrey D. Dabelko, *Environmental Peacemaking* (Woodrow Wilson Center Press, 2002), 9.

2.4 Climate change as an environmental security threat

Climate change or the global climate change is a phenomena that is directly related with the rise of global temperature. Earth receives heat from the sun and releases it to maintain an equilibrium in its climate. There are some gases known as greenhouse gases that are responsible for interfering this system by holding an excess amount of heat inside earth's atmosphere. As the amount of greenhouse gases such as Carbon Dioxide (CO2), Methane (CH4), CFC's and others are increasing, the amount of trapped heat inside earth's atmosphere is also increasing simultaneously. For the last couple of years, the record average global temperature has been changed time and time again. In continuation to that, 2015 has been recorded as the warmest year so far.[27]

The increase in global temperature has severe impacts on ice covering, rainfall, increase or decrease of water level in various water bodies, characteristics of insects, migration and movement of fish and animal species, plants and earth surface. Together, all these factors contribute into enormous complexity in human activities around the world and the situation might become even worse.

Since the early warnings of climate change, this issue has been considered as an important topic of discussion under environmental security studies. Scientists and researchers have predicted possible linkage between climate change, national security and human security. However, there has not been any solid proof of climate change causing conflict between parties and violating national security but its influence in fuelling violent conflict has already been discovered.[28] Countries with big military budget such as United States, United Kingdom etc. are well aware about the possible impacts of climate-change-caused national security

[27] Dwayne Brown, and Michael Cabbage, "NASA, NOAA Analyses Reveal Record-Shattering Global Warm Temperatures in 2015," NASA, Accessed August 30, 2016. http://www.nasa.gov/press-release/nasa-noaa-analyses-reveal-record-shattering-global-warm-temperatures-in-2015.

[28] Nicole Detraz, and Michele M. Betsill, "Climate Change and Environmental Security: For Whom the Discourse Shifts," *International Studies Perspectives* 10, no. 3 (2009): 303-320.

threats and focusing on building adaptation capacity among armed forces.[29] At this point, it is safe to argue that the climate-change-induced violent conflict on the state level is still very unlikely even if the current situation remains unchanged.

On the other hand, the threat posed by climate change is more directly related to human security and its impacts have been recorded around the world. In the UNDP Human Development Report, 1994, seven specific sectors were mentioned under the concept of human security: food security, personal security, environmental security, health security, economic security, political security and community security.[30] The degree of influence by climate change over human security can be clearly indicated by the fact that it is causing significant damage to almost all of these areas and undoubtedly gaining potential to make the situation even worse by the mid of twenty-first century.[31]

For example, together the ice caps, Glaciers and permanent ice sheets are holding 1.7% of total water of the earth and 68.7% of earth's total fresh water.[32] Due to global warming, these ice reserves are melting in an alarming rate which may cause sea level rise in many parts of the world. The report on climate change vulnerability by the Intergovernmental Panel on Climate Change (IPCC) predicted that a 45 cm rise in sea level could cause 10% land area loss to Bangladesh displacing 5.5 million of its population.[33] In addition to Bangladesh, other low lying coastal states may also face similar kind of effect. Millions of people residing in countries such as Maldives, India and small island states in Caribbean and Oceania are exposed to the potential danger of sea level rise.

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[29] Ibid, 303-320.

[30] United Nations Development Programme (UNDP), *Human Development Report 1994*, (New York: Oxford University Press, 1994).

[31] Jon Barnett and W. Neil Adger, "Climate Change, Human Security and Violent Conflict," *Political Geography* 26, no. 6 (2007): 639-655.

[32] "Ice and Glaciers -the Water Cycle-USGS Water-Science School," *United States Geological Survey*, Accessed August, 30, 2016.http://water.usgs.gov/edu/watercycleice.html.

[33] James J. McCarthy, "*Climate Change 2001: Impacts, Adaptation, and Vulnerability: Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change"* (Cambridge University Press, 2001).

The qualities of the problems caused by displacement of such a huge number of people are still unclear but a reasonable prediction could be found under the term 'climate refugee'. Loss of land area will probably affect the capacity of the nation to relocate their population and trigger cross border migration among neighbouring countries. It is completely uncertain how the countries will react to such a situation but a severe threat to human security can be reasonably argued.

Global climate change is not only responsible for the rise in sea level but it is also affecting rainfall patterns in several parts of the world. Changing climate is causing decrease in agricultural activities, drought, unexpectedly heavy rainfall, increase in growth of insects and spread of diseases. Specially, the countries that depend heavily on agricultural activities are in grief danger. In most parts of the world, developing countries are in this category while developed countries are more dependent on industrial activities.

Due to such unfavourable situation, social unrest including intrastate violent conflict, unstable political structure, resource scarcity, economic downfall might be triggered in those developing countries. Therefore, it has been predicted that mitigating and adapting to climate change will be easier for the developed part of the world while the rest will be heavily damaged.[34] Besides the threat against human security, these events might also influence regional and international peace and security issues.

2.5 Environmental security governance on climate change

Climate change is a phenomena caused by global contribution of GHGs. Even though industrially developed countries are the major contributors to this problem, a successful recovery process must include all the countries. Co-operation and joint policy implication is necessary because of the widespread nature of this problem. With this mandate, the first legally binding approach for mitigating climate change began with the formation of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The

[34] Jon Barnett and W. Neil Adger, "Climate Change, Human Security and Violent Conflict," *Political Geography* 26, no. 6 (2007): 639-655.

UNFCCC is an international treaty hosted by United Nations and participated by 197 countries for climate change debate and policy implication.

However, the first official initiative to focus into global climate change took place in 1979 during the first World Climate Conference (WCC). The WCC was organized by the World Meteorological Organization (WMO) and was a conference of science experts. Later in 1988, the Intergovernmental Panel on Climate Change (IPCC) was formed by the joint co-operation of the WMO and United Nations Environmental Programme (UNEP).[35] The IPCC is an international body consisting scientists, researchers and experts from all parts of the world, aimed to deliver reliable scientific information regarding global climate change.

While the responsibility of the IPCC is to acquire knowledge about climate change, the UNFCCC is a platform for taking the initiative based on these findings. So far the UNFCCC has successfully delivered two legally binding agreements, the Kyoto Protocol in 1997 and the Paris Agreement in 2015, stating various initiatives ranging from climate change mitigation to adaptation. Some key features of the Paris Agreement are:

- Limiting global average temperature rise to 2 °C above pre-industrial level and aim to reduce it further to 1.5 °C by reducing GHG emission and other initiatives.
- Collecting information regarding climate change and adaptation. Capacity building, technological development and sharing related knowledge among others.
- Collecting and distributing fund among parties. With special consideration towards developing countries.

This agreement has already been ratified by 126 countries and signed by 194 countries. As this agreement came into force very recently, in 2016, its outcome is yet to be observed. However, bringing all these countries under a single treaty to fight against climate change is surely a remarkable development in the field of environmental governance. This initiative

[35] "IPCC Factsheet", *Intergovernmental Panel on Climate Change (IPCC)*, Accessed August 30, 2016.http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf.

justifies the importance of international collaboration for reducing the threat of climate change in every aspect.

Besides this global initiative orchestrated by the United Nations, national, regional and other non-governmental initiatives are equally important for climate change resistive practice and policy making. Every country, including those involved in the UN lead initiative, are entitled to formulate and peruse its own climate action plan. Similar arrangement could also be done within regional institutions, for example, the European Climate Change Programme (ECCP) by European Union. The ECCP has its own set of policies and aims to achieve while it also recognizes agreements under the UN. Thus, activities under the ECCP supports initiative of the UNFCCC and contributes further in the field of climate governance. Geoffrey D. Dabelko and David D. Dabelko have probably said it right, "The transboundary nature of global environmental problems suggest that cooperation, not competition, between states represents the best strategy for effectively addressing these challenges."[36]

Undoubtedly, pollution, contamination and global warming are also regarded as sources of insecurity resulting conflict events. Environmental degradation such as water and land degradation have raised security debate in different parts of the world. Global warming and sea level rise is threatening the world with 'climate refugee' crisis more than ever before in the history of human civilization. With the changing characteristics of Earth's climate, it has become more essential to focus on these issues through the prism of environmental security concept.

2.6 Environmental security governance in the Arctic: the research question

The arctic environment is the combination of its nature, resources and all the living lives together. Because of such close relationship, changes are significant in this equilibrium and have noticeable impact on every elements inside the arctic environment. The concept of

[36] Geoffrey D. Dabelko and David D. Dabelko, "Environmental Security: Issues of Conflict and Redefinition", *Environmental Change and Security Project Report* 1, no. 1 (1995): 3-13.

environmental security recognizes all these elements and discusses about possible threats concerning or created by any of these elements.

Such security threats can be caused by natural phenomena or human activities. It was the threat possessed by global warming that largely provoked the scholarly debate on environmental security in the late 1980s and in the Arctic environment, such threat has a fairly noticeable impact.

Arctic ice-sheet melting and related environmental security issues have been prioritized in the scientific research in many occasions since the formulation of the Arctic Environmental Protection Strategy (AEPS) in 1991. The Arctic Council, which was created in the course of the AEPS, addressed the climate change impact on the Arctic region firstly through the Arctic Monitoring and Assessment Programme (AMAP) assessment report in 1997/1998.[37] The AMAP again followed up on this issue in the Arctic Climate Impact Assessment (ACIA), 2004.

However, there has also been reports regarding other environmental security threats and different pollution issues. In response to those reports, the Arctic Council has successfully come up with declarations and legally binding agreements such as: 'the Agreement on Cooperation on *Aeronautical* and Maritime Search and Rescue in the Arctic', in 2011 and 'the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic', in 2013. Such initiative of the Arctic Council positively provided materials to deal with some environmental threats and emphasized on collaborative approach on this region.

Despite of its intergovernmental cooperation, researchers have criticized the Arctic Council for not being cooperative or its resistive nature in the changing Arctic.[38] The Arctic Council's 'Arctic Marine Shipping Assessment (AMSA)' report triggered the process for formulating the 'Polar code', a manual that provides guidelines for the ships operating in the Arctic Ocean. So far, the Arctic Council maintained close collaboration with the International

[37] *Arctic Pollution Issues: A State of the Arctic Environment Report*, (Arctic Council, 1997).

[38] Timo Koivurova, "Limits and possibilities of the Arctic Council in a rapidly changing scene of Arctic governance." *Polar Record* 46, no. 02 (2010): 146-156.

Maritime Organization (IMO), the authority responsible for designing the Polar Code. The final version of this guideline will become mandatory from the beginning of 2017 while a voluntary guideline was available in the past.

However, key findings and the final report of the Arctic Climate Change and Security Policy Conference 2008, pointed out 'inadequate' and 'weak' policies regarding the Arctic shipping and pollution prevention.[39] Further involvement of the Arctic Council members and observers through its working groups or task forces might have helped both parties to formulate and implement more efficient guidelines for the environmental safety.[40]

Climate change, a global environmental threat causing the Arctic ice sheet melting, brought the Arctic Council's activities under a magnifying glass. Complex relationship between this regional and global problem needs to be well recognized by the council and should reflect on its policy level. While consequences of global climate change might have a greater impact on the underdeveloped part of the world, these countries are responsible for far less contribution for causing the problem. Thus, it is creating a vacuum of responsibility for possible climate refugees and related situations of unrest.[41] In the given scenario, the Arctic Council has the possibility to create a remarkable example of leading a regional approach for fighting against global climate change crisis in solidarity with the Paris Agreement, 2015.[42] Such policy implication may result into minimizing the local and global environmental threats and create a notion of international cooperation as well.

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[39] Kenneth S. Yalowitz, James F. Collins, Ross A. Virginia, *The Arctic Climate Change and Security Policy Conference : Final Report and Findings*, (University of the Arctic, 2008) : 4.

[40] Richard OG Wanerman, "Freezing Out Noncompliant Ships: Why the Arctic Council must Enforce the Polar Code," *Case Western Reserve Journal of International Law*. 47 (2015), 429.

[41] Jon Barnett, *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era*Zed Books, 2001).

[42] United Nations Framework Convention on Climate Change, *Adoption of the Paris Agreement. Proposal by the President*, (2015). http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600008831.

Besides the eight member states, there are several representative governing bodies of indigenous people integrated in the operation of the Arctic Council. These permanent participants represent a large number of people, who are heavily exposed to the changes in the arctic environment. Researcher Timo Koivurova mentioned the necessity of including all these parties in the policy development as well as increasing their activities inside the Arctic Council.[43]

In order to develop successful policy agendas to mitigate climate change and adapt to the changing situation, a wider regional and international cooperation might need to be considered beneficial for the Arctic Council in the field of environmental security governance. The Arctic Council's past and current activities will definitely contribute in shaping-up its future role in this case. Therefore, this study looks into nine Arctic Council declarations to answer the question: '**how issues related to climate change, fossil fuel exploration and shipping operation are being reflected in the activities of the Arctic Council?**'

2.7 Research data

To answer the above stated question, a reliable observation of the work done by the Arctic Council is needed. At the same time, all the works regarding climate change, fossil fuel exploration and shipping operation are impossible to find in a compiled form. A possible source of observing the Arctic Council's activities in these fields can be the documents and reports published by the working groups. Usually these working groups are responsible for carrying out scientific research, presentation of the data and formulation of necessary recommendations for the member states and international actors. Together or separately all these six working groups have worked with one or more above mentioned issues over the last 25 years under the AEPS and the Arctic Council. Therefore, the amount of information generated by them seemed too large for this study.

[43] Timo Koivurova, "Limits and possibilities of the Arctic Council in a rapidly changing scene of Arctic governance," *Polar Record*, 46, no. 02 (2010): 146-156.

Another possible source of having such observation is the declarations of the Arctic Council. The chair of the Arctic Council rotates among the member states in a two year cycle and after every two years, the chaired country hosts a ministerial meeting that delivers a jointly signed declaration by the ministers of the member states. Nine declarations have been produced by the Arctic Council until 2015 and these declarations are the written documents of its administration. In addition with the administrative information, the Arctic Council's mandate and policies regarding the environmental security in the Arctic region have been documented within these declarations.

Besides information regarding the past current and future works of the working groups and their task forces were also acknowledged in these declarations. During a ministerial meeting the government representatives approve the working group's work plan and request for further initiative on related field (if necessary) and express the Arctic Council's standpoint on different issues. Therefore, these declarations can successfully provide an overall picture of the environmental security governance in the field of climate change, fossil fuel exploration and shipping in the Arctic. At the same time, size of the data (9 declarations) is quite suitable for this study.

2.8 Methodological approach

Nine declarations of the Arctic Council have been collected from the publicly accessible source, the Arctic Council's website, to be analysed through the content analysis. Information inside these declarations are almost entirely alphabetical and descriptive in nature rather than numerical. Therefore, the qualitative content analysis suits the data and the aim of this study.

Content analysis is a well-known way of analysing qualitative data. Usually, data in the form of text, picture, sound or video can be analysed by using this technique. First it requires creation of categories and then systematic distribution of the data into those categories according to their nature.[44] One important characteristic of these categories is the uniqueness

[44] Satu Elo and Helvi Kyngäs, "The Qualitative Content Analysis Process." *Journal of Advanced Nursing* 62, no. 1 (2008): 107-115.

or distinctive nature, which means that all the categories under one analysis are different from each other. Therefore, no data can be distributed in more than one category at the same time. There can be several categories and these categories may also have sub-categories. However, categories must be related or derived from the same source and need revision before distributing data to eliminate the risk of having non-related and overlapping categories.[45]

Categories can be created in two ways. The first way is the theory or literature driven process, which is known as 'deductive' approach.[46] Within this process, categories are being constructed before assessing the data. Theories related to the research problem or previous work on the same issue can be the guide for creating categories and sub-categories.

Another way of creating these categories is to formulate them from the data, a process that known as 'inductive' approach. While creating categories in this process, the characteristics of the data play an important role but the theoretical knowledge is also taken into consideration at the same time.[47] Based on the merit of the data, a set of tentative categories are being created and finalized after thorough examination for cancelling possible duplication.

A well-known problem of content analysis is the reliability of the created categories. Revising categories can eliminate duplication but might not confirm reliability of the categories. A detailed explanation of those categories can demonstrate their validity to the reader and at the same time, it helps the researcher to distribute the data efficiently.

In this study, inductive approach has been used for creating three main categories and two sub-categories. Explanation behind these categories are provided below.

[45] Ibid.

[46] P. Mayring, "Qualitative Content Analysis," *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 1, no. 2 (2000).

[47] Ibid.

2.9 Categorical definition

1. ‘Observations with directional attributes’ are the sections mostly leading with Strongly welcome, Promote, Endorse , Deeply concerned, Acknowledging, Agree, Note, Decide, Take note, Note with appreciation, Recognize, Agree to, Urge, etc. reporting verbs. These sections in the Arctic Council’s declarations usually provided guidelines for the member states, working groups and task forces. Arctic Council’s roles regarding specific issues were clearly reflected in these sections and they are significantly important for understanding Arctic Council’s administration.

2. ‘Observations with less directional attributes’ are the sections mostly leading with Ask, Welcome, Welcome with appreciation, Encourage, Emphasize, Consider, Referring, etc. reporting verbs. Like the previous category, these sections also defined Arctic Council’s role in Arctic governance. However, clear indication about its overall operation or guidelines for its members and working groups regarding related issues were not clearly visible in these sections. In some cases, such sections contain supportive or voluntary instruction for achieving objectives set by previous category.

3. ‘Observations with follow-up attributes’ mostly begin with the reporting verbs Reaffirm, Further agree, Continue, Look forward to, etc. Such sections of the declarations carried impression of reviewing Arctic Council’s previous activities or expressed council’s commitment to continue its participation in some future events.

Observations were also distributed among two sub-categories for explaining these main categories. Sections with ‘Local / Regional’ attribute in Arctic Council’s declarations discuss about the role of Arctic Council’s member states, working groups and task forces in regional level. On the other hand, sections relating council’s co-operations with its observers or any international bodies were distributed under ‘International / Co-operational’ sub-category.

Chapter 3: The Arctic Council and its administration

3.1 History of the Arctic Council

The birth process of the Arctic Council started during an event of global significance, the Cold War. At the end of the Cold War, former Soviet Union leader Mikhail Gorbachev delivered a speech with the call for increasing co-operation and reducing armed tension in the Arctic. Though, his call was mostly related with traditional security concerns, for Finland and Canada, it opened a door for ensuring environmental security in this region.[48] The explosion of oil tanker Odyssey in Canada, 1988 and Exxon Valdez oil spill in Alaska, 1989, might have also encouraged the Arctic Circle counties to think about Arctic environmental security with greater magnitude.[49] As a result, a Finland led initiative took place in 1991 and Arctic Environmental Protection Strategy (AEPS) was created. This Arctic Environmental Protection Strategy (AEPS) later on reformed into a more effective, broader and more organized structure, today's Arctic Council.

The first meeting of the Arctic Environmental Protection Strategy (AEPS) took place in Rovaniemi, Finland with participation of eight Arctic Circle countries. The AEPS is often considered as a remarkable initiative in the Arctic region for addressing environmental issues even though researchers claimed its creation on the basis of 'Soft laws'.[50]

[48] Glenn Hastedt, Donna L. Lybecker and Vaughn P. Shannon, *Cases in International Relations: Pathways to Conflict and Cooperation* (CQ Press, 2014), 247.

[49] Stefán Þór Haukson, "A Legally Binding Regime for the Arctic," (PhD Diss., University of Akureyri, 2009), 12.

[50] Timo Koivurova, E. Carina H. Keskitalo and Nigel Bankes, *Climate Governance in the Arctic*, Vol. 50, (Springer Science & Business Media, 2010), 5.

3.1.1 'Soft law' and the AEPS

While defining soft law, Professor Andrew T. Guzman and Timothy L. Meyer stated that, "The subject of soft law has always been an awkward one for international legal scholars. On the one hand, it is not law at all, strictly speaking."[51]

Soft laws are common practices among international bodies or state governments because of its flexible nature. Soft laws can be agreements lacking legally binding status and they allow agreeing parties flexibility in implementation or acting according to the agreement. However, there might not be any agreement at all but promises upon certain issues. Inability to cope up with such promises also may not result into any legal actions under certain circumstances.[52] In light of this definition, the formulation and strategies of the Arctic Environmental Protection Strategy (AEPS) can be well described.

The non-binding agreement of the Arctic Environmental Protection Strategy (AEPS) was created based on four working groups,

- The Arctic Monitoring and Assessment Program (AMAP)
- The Conservation of Arctic Flora and Fauna (CAFF),
- The Protection of Arctic Marine Environment (PAME)
- The Emergency Prevention, Preparedness and Response (EPPR)

These four working groups are still continuing their operations through the Arctic Council in their respective field. Formed with the 'Rovaniemi Declaration', the AEPS was set to carry out scientific research through these groups on Arctic environmental change, biodiversity related issues and maritime safety. Because of its non-binding nature, the AEPS was unable to implement any policies to govern the Arctic region in any of these issues and its operational activity became limited within intergovernmental exchange of dialogs.

Despite some difficulties and limitations in its early phase, the AEPS managed to recognize the impact of climate change, committed to study its consequences and emphasized on

[51] Andrew T. Guzman and Timothy L. Meyer, "International Soft Law," *Journal of Legal Analysis* 2, no. 1 (2010), 171-225.

[52] Ibid.

sharing related knowledge internationally.[53] Another significant aspect of the AEPS was the involvement of bodies representing Arctic indigenous people as observers. Though, their involvement and role in the newly formed agreement was not clearly specified.

3.1.2 Creation of the Arctic Council

It was demonstrated on the mandate of the AEPS that the Arctic environmental issues will be the only subject of discussion among permanent participants. However, its permanent participatory state, Canada, had a much wider and well-focused perspective on circumpolar co-operation in the north. In 1991, the Canadian Institute of International Affairs (CIIA) and the Canadian Arctic Resource Committee (CARC) proposed a draft regarding an upgrade of the AEPS into a more organized institution of circumpolar countries of the north. Later in 1996, this Canadian proposal set the blueprint of the current Arctic Council.[54] Canadian initiative not only emphasized the environmental protection of the Arctic but also proposed an enhanced involvement of the indigenous people and discussed traditional security challenges including military activities in the Arctic.

The intension of Canadian government behind such initiative was to ensure the existence of a legislative body as an 'institution' representing eight Arctic Circle country. They realized the institution 'Arctic Council' might be helpful for policy implication in this region. On the other hand, United States and Russia were reluctant of any further upgrade of the AEPS or institutionalized co-operation on this issue.[55] These two countries were afraid of such institution interfering their military presence and natural resource development in the north. The events of the cold war between these two superpowers in the recent past surely had influenced their viewpoint on this matter.

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[53] T. Koivurova, E. Carina H. Keskitalo and Nigel Bankes, *Climate Governance in the Arctic*, Vol. 50, (Springer Science & Business Media, 2010), 64.

[54] Douglas C. Nord, *The Arctic Council: Governance within the Far North* (Routledge, 2015), 16.

[55] Ibid.19

However, the Canadian government continued its effort and as a result, the Arctic Council was finally established in 1996. Though, the established form of the Arctic Council came out as an intergovernmental forum of eight Arctic countries rather than an institution with the power of creating legally binding treaties or enforcing guidelines in the Arctic region.

3.2 Operations

According to the declaration of its establishment, the Ottawa Declaration, eight Arctic Circle countries; United States, Canada, the Kingdom of Denmark, Finland, Iceland, Norway, Sweden, and the Russian Federation are the member states of the Arctic Council.[56] Beside these member states there are twelve non-arctic states and nine intergovernmental and inter-Parliamentary organizations that have been accepted as observers into the council. Also, there are six organizations of indigenous people in the Arctic Circle, participating as 'Permanent Participants' in the council.

Arctic Council carries out its scientific assessments and monitoring through six working groups from different areas of interest. In addition to the four working groups that continued from the Arctic Environmental Protection Strategy (AEPS), two more working groups were introduced. They are,

- The Arctic Contaminant and Action Program (ACAP)
- The Sustainable Development Working group (SDWG)

In addition to these working groups, there are task forces that operate on temporary basis for specific issues. These working groups and task forces mostly contain scientists, researchers along with other experts in related field.

For general administration, one of the member countries acts as the chair of the council for two years and thus the chairmanship rotates only among member states. In every two year the chaired country hosts a high-level ministerial meeting consisting government official

[56] *Ottawa Declaration: Declaration on the Establishment of the Arctic Council* (Arctic Council, 1996).

representing each member state and releases a jointly signed declaration. Usually, these declarations are the reflection of council's mandate and operations. The first ministerial meeting of the Arctic Council took place in Canada and delivered the Iqaluit Declaration, 1998. Since then, eight more declarations have been published until 2015.

Since the birth of the Arctic Council, it has been evolving; developing its governance to cope up with rapidly changing Arctic environment. For example, since the beginning, the Arctic Council was lacking a permanent secretariat until 2013. Even though the proposal for a permanent secretariat was present in the Canadian initiative prior to council's formation, it was left out from the final decision.[57] As the Arctic Council runs with voluntary funding from the member states, establishing a permanent secretariat was impossible due to insufficient budget and necessary workforce. Or, maybe, the other member states found it irrelevant for a merely intergovernmental 'forum'. However, by the Kiruna Declaration in 2013, the Arctic Council's secretariat has been established and started its operation in Norway. Establishment of something concrete, a permanent and visible structure for the first time in council's history, was surely a noticeable change. It was an essential shift in operation for better co-ordination of tasks inside the council and also has a commitment for enhancing efficiency in communication within and outside the council.

In addition with the administrative changes, the Arctic Council's mandate and leadership in ensuring environmental security in the Arctic region have been documented within these declarations. Nine declarations of the Arctic Council were collected from publicly accessible Arctic Council's website and only sections relating climate change, fossil fuel exploration and shipping operation were taken into consideration for content analysis. Three primary categories followed by two more sub-categories were created through inductive categorization[58] for distributing and evaluating these qualitative or textual data.

[57] Douglas C. Nord, *The Arctic Council: Governance within the Far North* (Routledge, 2015), 22.

[58] P. Mayring, "Qualitative Content Analysis," *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 1, no. 2 (2000).

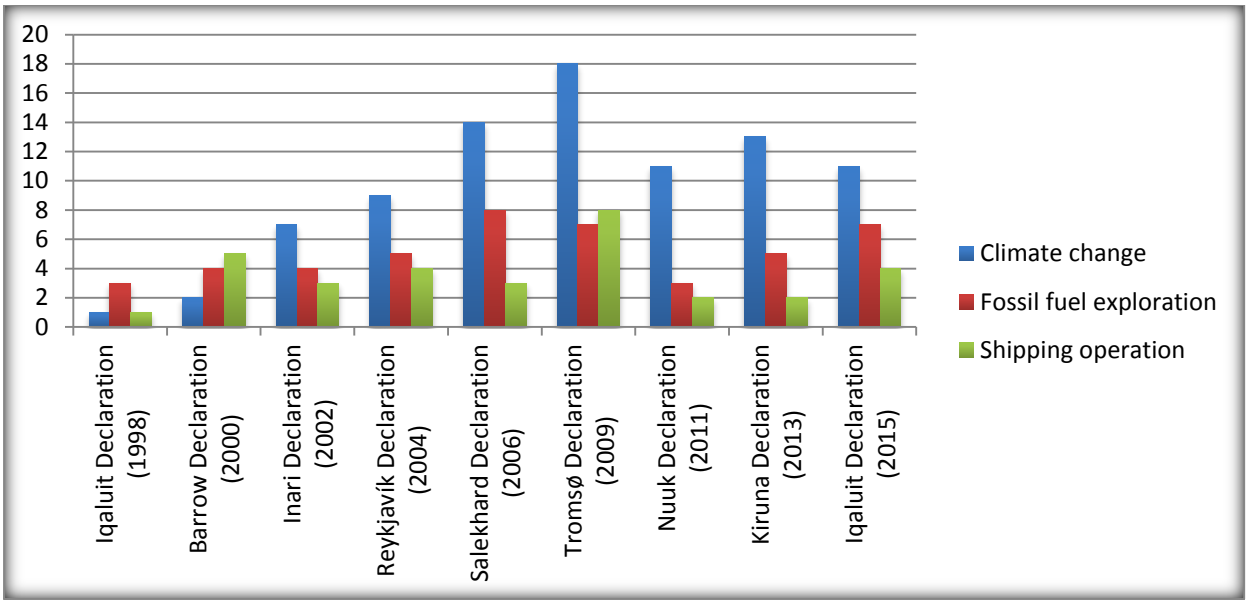

Figure 1: Distribution of primary data

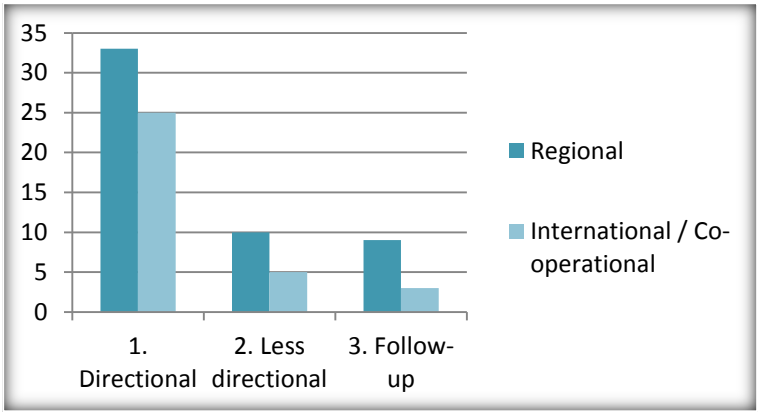

Figure 2: Distribution of 'Climate change' among categories

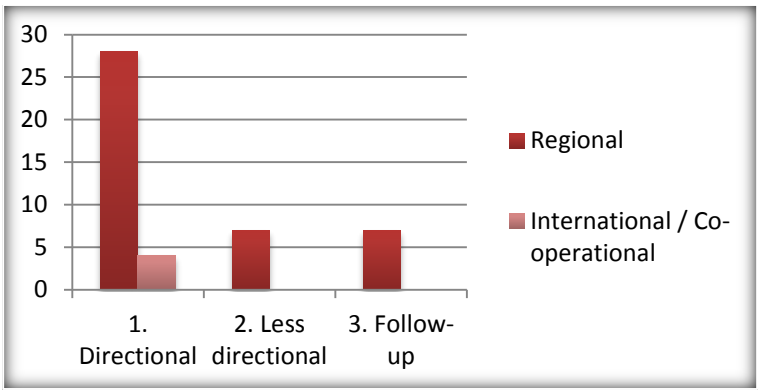

Figure 3: Distribution of 'Fossil fuel exploration' among categories

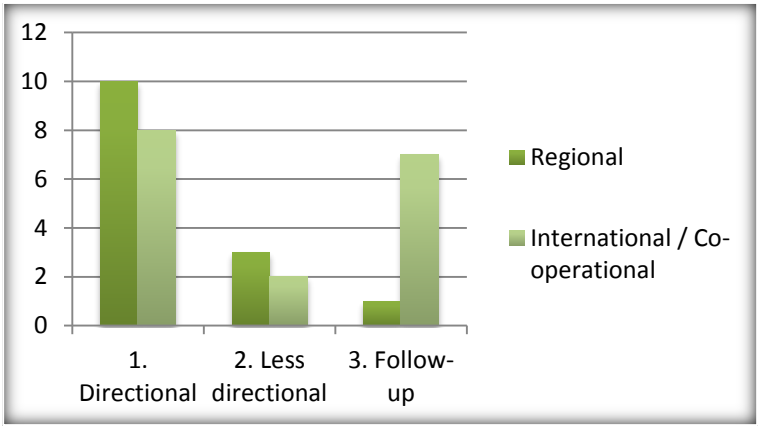

Figure 4: Distribution of 'Shipping operation' among categories

3.2.1 Environmental governance

During the formulation of the Arctic Council, the member states decided to rotate the chair among them for governing this forum in a two year cycle. The responsible member state has to host ministerial meeting, fund scientific projects and carry out other administrative tasks. However, there was co-operation of other member states for funding and hosting working group specific secretariats. But the council's operation and mandate have been influenced by

the ‘enthusiasm’ or ‘lack of enthusiasm’ of the chaired state and such influence might have largely affected Arctic Council’s policies and environmental governance in its early years.[59]

The establishment of the Arctic Council was laid by the Ottawa Declaration, 1996, in which the structure, policy and internal administration of the council was thoroughly discussed. The first ministerial meeting of the Arctic Council that produced the Iqaluit Declaration, 1998, also discussed issues related with the council’s basic administration such as financial policy, observers and basic operations of working groups. Besides these, there were also discussions about several environmental security issues. However, one of the most pressing threats to the Arctic environment, the issues regarding climate change, were hardly mentioned in the Iqaluit Declaration. It was the Barrow Declaration, led by the second ministerial meeting of the Arctic Council, which has addressed climate change with noticeable significance for the first time and since then this issue has remained one of the most important topics in these declarations until this day.

The Arctic Climate Impact Assessment (ACIA), which has been considered as one of the biggest achievement of the Arctic co-operation, was ‘endorsed and adopted’ by the Arctic Council in Barrow Declaration, 1998.[60] The ACIA was a scientific study formulated by the co-operation between the Arctic Council and the International Arctic Science Committee (IASC). Specifically, the Arctic Monitoring and Assessment Program (AMAP) and the Conservation of Arctic Flora and Fauna (CAFF) working groups were responsible on behalf of the Arctic Council. The goal of the ACIA was to observe and report the impact of climate change in the Arctic environment including all of its inhabitants. In the Barrow declaration the Arctic Council also hinted about its contribution towards knowledge on climate change by sharing the findings of the ACIA with an international body, the Intergovernmental Panel on

[59] Douglas C. Nord, *The Arctic Council: Governance within the Far North* (Routledge, 2015), 25.

[60] *Barrow Declaration on the Occasion of the Second Ministerial Meeting of the Arctic Council* (Arctic Council, 2000).

Climate Change (IPCC).[61] However, any clear guideline for the member states to act against the ongoing climate change was still absent.

It was the Inari Declaration, led by the third ministerial meeting of the Arctic Council in 2002, which recognized the global context of climate change and its intense relationship with this region. Indeed, it was a noticeable shift in the viewpoint of this forum to look beyond their regional boundary and realizing the vital role that they could play for securing global environment with their regional effort. As stated in the Inari Declaration, "Referring to the special features of the Arctic environment as an indicator of global environmental impacts, such as climate change and long-range trans-boundary pollution, and the importance this information may have on the work in international for a."[62]

Through the Inari Declaration, the Arctic Council announced to share the findings of the ACIA report to the World Conference on Climate in 2003. Finally in 2004, the ACIA report was published. Undoubtedly, the ACIA report had a significant impact on discussion of the fourth ministerial meeting and was reflected by the increased attention over climate change in the Reykjavík Declaration, 2004. Readdressing the role of the Arctic environment integrated in the 'global climate system' and 'encouraging' eight Arctic Circle countries to consider the findings of the ACIA report while developing their country specific agendas were two important segment of this declaration. However, it has also been 'decided' to share the ACIA report internationally in an intensive manner.[63] This was probably the next most important step taken by the Arctic Council after their decision to formulate the ACIA.

The biggest achievement of the ACIA was to highlight the significance of climate change in detail. Besides the regional impact, it was also successful in addressing the global impact of

[61] Ibid.

[62] *Salekhard Declaration on the Occasion of the Fifth Ministerial Meeting of the Arctic Council* (Arctic Council, 2006).

[63] *Reykjavík Declaration on the Occasion of the Fourth Ministerial Meeting of the Arctic Council* (Arctic Council, 2004).

climate change caused by the Arctic. Among the several key findings that the ACIA mentioned, some important issues were:[64]

- Systematic evaluation of historical data is resulting into the claim of rising temperature in the Arctic region due to climate change. Such rise of temperature is responsible for retreating sea ice and might result in an ice free Arctic if the situation continues.
- Retreating ice sheet and melting of glaciers will lead the global sea level rise. This phenomenon has already been intensified and will accelerate further in the future resulting in a devastative situation.
- The Arctic environment is an important element for maintaining equilibrium in the global climate. Changes in this region are heavily responsible for climate change in the other parts of the world.
- Climate change in the Arctic has noticeable impact on migrating pattern and survival of many animal species. Similarly, climate change has been and will continue damaging flora and fauna of the Arctic region in a large scale.
- Due to climate change, economic activity and livelihood of people residing in the Arctic region are likely to be interrupted. Especially indigenous people, who are heavily dependent on this ecosystem, will suffer from this major shift in the Arctic climate. Besides, human built structures will be more and more in danger because of thawing permafrost in this region. Increasing temperature caused by climate change is a sole responsible on this issue.
- Increased amount of shipping activity will be observed due to retreating sea ice. Access to new shipping routes will also create security and safety challenges including oil spill and exploration. Revising existing policies and developing them further in order to cope up with such challenges will be necessary.

Within these findings, the ACIA was able to draw the complete picture of the environmental threats that already existed and provided an early warning of future complexities in the Arctic environment. However, there were also suggestions to act in the wake of these threats and

[64] *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* (Cambridge, UK: Cambridge University Press, December, 2004).

based on the ACIA report, a policy document was published in the fourth ministerial meeting of the Arctic Council in Reykjavik, 2004. The mentioning of the ACIA was,

> The science suggests that responding to this challenge will require two sets of actions: one, called mitigation, to slow the speed and amount of future climate change by reducing greenhouse gas emissions; and the other, called adaptation, to attempt to limit adverse impacts by becoming more resilient to the climate changes that will occur while society pursues the first set of actions. The scope of this assessment did not include an evaluation of either of these sets of actions. These are being addressed by efforts under the auspices of the United Nations Framework Convention on Climate Change and other bodies.[65]

In the Reykjavik declaration, the attention over climate change has noticeably increased which is also evident in the 'Figure: 1' demonstrated above. In response to the ACIA, the fifth ministerial meeting of the Arctic Council reconfirmed its support towards the United Nations Framework Convention on Climate Change (UNFCC) and the Intergovernmental Panel on Climate Change (IPCC).[66] It is necessary to mention that the efforts of the UNFCC and the IPCC have been considered to be alleviative measures towards climate change and all the members of the Arctic Council were already being integrated in these international approaches. As an adaptive response to the problem, it was necessary to follow up the ACIA activity and allocate renewed information. The Arctic Council managed to acknowledge this and announced its intension for updating the ACIA over time. Besides, there was decision for collecting 'indigenous and local knowledge' about living in a changing climate of the Arctic.[67] These policies also continued in future declarations and the Tromsø Declaration, led by the sixth ministerial meeting in 2009, introduced the next big step taken by the Arctic

[65] *Impacts of a Warming Arctic: Highlights. Arctic Climate Impact Assessment* (Cambridge, UK: Cambridge University Press, December, 2004), 17.

[66] *Salekhard Declaration on the Occasion of the Fifth Ministerial Meeting of the Arctic Council* (Arctic Council, 2006).

[67] Ibid.

Council for mitigating climate change. Establishment of a task force[68] for studying the 'Short Lived Climate Forcers (SLCF)' resulted into publishing several reports regarding the impact of SLCF over ongoing climate change and formulating recommendations or ways to reduce the emission of SLCF.

Short lived climate forcers or pollutants are substances created from both human activity and natural sources. Usually Black Carbon (BC), Methane (CH4), Hydroflurocarbons (HFCs) and Tropospheric Ozone (O3) are considered as SLCF. These substances stay on the earth's atmosphere for a remarkably short time compared to long lived climate forcers (e.g. CO2). Though these SLCFs hold temperature and act like greenhouses gases, their contribution on global climate change is lesser than that of the main responsible CO2. However, by the Iqaluit Declaration, 2015, the Arctic Council member states had 'decided' to consider these reports on the SLCF made by the task force as a 'framework' for a joint effort of reducing SLCF.[69] No further agreement has been signed yet on this issue but an expert group has been assigned to develop this movement further. Hopefully, on the upcoming ministerial meeting in 2017, more specified direction will be provided.

Though climate change has been the most discussed issue among these declarations of the Arctic Council, there are hardly any solid guidelines provided by this forum itself. Of course, the Arctic Council has been addressing the global consequences of climate change in the Arctic and reconfirmed its commitment in several occasions towards the UNFCC declarations, but the void of any directional or guiding measures, global or regional, does put a question mark on the council's achievement in case of climate change. At the same time, while comparing today's Arctic Council with its former shell (the Arctic Environmental Protection Strategy), the accomplishment of the Arctic Council is unable to reflect any policy implications but only scientific studies upon climate change.

[68] *Tromsø Declaration on the Occasion of the Sixth Ministerial Meeting of the Arctic Council* (Arctic Council, 2009).

[69] *Iqaluit Declaration on the Occasion of the First Ministerial Meeting of the Arctic Council* (Arctic Council, 1998).

On the contrary, security concerns regarding fossil fuel exploration, especially oil spill and related preparatory measures in the Arctic, have been a constant topic of interest since the beginning of the Arctic Council. At the end of the 1980's the world experienced two devastating incidents happening very close to the border of the Arctic region. In 1988 the oil tanker Odyssey caused an oil spill of 43.1 million gallons in the Atlantic Ocean, near the coast of Canada.[70] This disastrous event is often considered as one of the largest oil spill incidents till this day, even though availability of reports and discussions is higher in the case of the second incident.

This event took place in 1989, when an oil tanker Exxon Valdez was hit by a rock surface and spilled 11 million gallons of oil in the Alaskan part of the North Sea.[71] This tragic incident had both long term and short term impact on the biodiversity of that region. Studies have also claimed that the remoteness of the area and the difficulties of accessibility in that region had not only increased the cost of cleaning activities but also limited opportunity for efficient response to the situation.[72]

Although any direct relationship between these events and the AEPS or the Arctic Council's policy development in the related field has not yet been observed, it is quite meaningful to argue that these two biggest oil spills in the history of Canada and United States from the recent past might have influenced this circumpolar co-operation to address oil pollution in the Arctic inside the AEPS and also continued from the beginning of the Arctic Council.

In the Iqaluit Declaration, 1998, the Arctic Council endorsed the 'Circumpolar Map of Resources at Risk from Oil Spills in the Arctic'.[73] This work was further developed in 2004 for mapping projects providing information about pollutants and sensitive areas in the Arctic

[70] Dagmar Schmidt Etkin, "Historical Overview of Oil Spills from all Sources (1960-1998)" (American Petroleum Institute, 1999).

[71] Robert T. Paine et al., "Trouble on Oiled Waters: Lessons from the Exxon Valdez Oil Spill," *Annual Review of Ecology and Systematics* (1996), 197-235.

[72] Ibid.

[73] *Iqaluit Declaration on the Occasion of the First Ministerial Meeting of the Arctic Council* (Arctic Council, 1998).

for biodiversity protection. Besides, the Iqaluit Declaration also confirmed the 'Field Guide for Oil Spill Response in Arctic Waters', a voluntary guideline based on the scientific research done by the Emergency Prevention Preparedness and Response (EPPR).[74]

The non-binding field guide was an informative brochure for the member states to act accordingly in case of any offshore and onshore oil spill or related incident. This field guide also addressed the 'uniqueness' of Arctic region and suggested special measures for responding in such scenario. Lastly, it declared that, "The Guide is not intended to duplicate existing manuals and reference documents, but rather to collate available information on the behaviour of, and response to, oil spills in ice and snow."[75]

It is necessary to mention that, there are several international treaties and organizations which have contributed in formulating rules and regulations in case of oil spill and explorations; some of these treaties are valid for any international water and the Arctic Council member states are also integrated in some of these co-operations. For example, the United Nations Convention on the Law of the Sea (UNCLOS) has been providing the guidelines for determining area of oil and gas exploration to each of the Arctic costal states. It also discusses about basic responsibilities of the respective country, where fossil fuel exploration or oil spill has occurred.[76] The 'International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)' is a framework of the International Maritime Organization (IMO) that provides guidelines for the oil rigs and ships transferring or carrying oil in the water.[77] Lastly, the 'International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), another initiative of the IMO, provides instructions to the participating countries for performing preliminary actions in the case of oil pollution and developing country, regional and international level co-operative work plan to facilitate such actions. All the member states of the Arctic Council are involved in above mentioned international initiatives and thus these

[74] Ibid.

[75] *Field Guide for Oil Spill Response in Arctic Waters* (Emergency Prevention, Preparedness and Response Working Group (EPPR), 1998).

[76] Kristin Noelle Casper, "Oil and Gas Development in the Arctic: Softening of Ice Demands Hardening of International Law," *Nat.Resources J.* 49 (2009), 825-882.

[77] Ibid.

regulations should also be applicable in the Arctic water.[78] However, the non-binding Field Guide for Oil Spill Response in Arctic Waters did not clarify the extent of these already existing guidelines but delivered a generalized, region specific, voluntary suggestion to the member states.

Over a decade, the activities of the Arctic Council in fossil fuel exploration were mainly related with scientific studies and understanding the behaviour of oil in the snow and ice. In this period, the council's most significant achievements were to develop the 'Arctic Waters Oil Transfer Guidelines', the 'Shoreline Cleanup Assessment Technique (SCAT)' and revising the previous work on Offshore Oil and Gas Guidelines. Needless to say, all these efforts were mostly local or country specific and voluntary. Finally, in the Nuuk Declaration, 2011, the Arctic Council announced its decision to engage a task force for constructing an 'international instrument' to ensure efficient respond towards oil pollution incident in the Arctic.[79] With continuation of this decision, in the Kiruna Declaration, 2013, the Arctic Council announced the 'Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic'.[80]

The most significant characteristic of this agreement is its legally binding nature. This was only the second legally binding agreement in the history of the Arctic Council. It was a noticeable shift in governance compared to the council's previous activities and its soft law based predecessor, the AEPS. With this declaration the Arctic Council has managed to demonstrate its capacity for a strong leadership in the Arctic environmental governance and has also hinted the possibility of a greater commitment for securing the Arctic environment.

Another important aspect of this agreement is its international characteristic. According to this legally binding agreement, the agreeing parties are committed to share their knowledge and development in this category and co-operate beyond the national borders in case of any oil

[78] Ibid.

[79] *Kiruna Declaration on the Occasion of the Eighth Ministerial Meeting of the Arctic Council* (Arctic Council, 2013).

[80] Ibid.

pollution in the Arctic.[81] This agreement created a notion of mutual support and provided the positive impression against resistive forces inside circumpolar co-operation of the north.

The first legally binding agreement under the umbrella of the Arctic Council, the 'Agreement on Cooperation on Aeronautical and Marine Search and Rescue in the Arctic' declared by the Nuuk Declaration, 2011, was also a milestone for several reasons. Firstly, it was an unexpected development from a soft law based intergovernmental forum. Secondly, to some extent, it resolved the uncertainty of the responsibilities of the Arctic states over disputed boundary in the Arctic. With this agreement, the Arctic Council member states confirmed their participation in the search and rescue operations beyond the national and disputed borders to the 'international water' in the Arctic.

A joint effort for ensuring maritime safety in the Arctic was evident for a long time and the necessary proposals were made by the Russian federation in 2004. However, the Arctic Marine Shipping Assessment (AMSA) report, 2009, was successful in drawing enough attention of the member states to signing such agreement.[82] The primary regulations of this agreement were developed in relation with the International Aeronautical and Maritime Search and Rescue (IAMSAR) manual,[83] published by the International Maritime Organization (IMO).

The AMSA report, published by the Protection of Arctic Marine Environment (PAME) working group, not only recommended the Arctic search and rescue agreement but also contributed into developing the Polar Code by IMO.

The initiation of creating the Polar Code also started with the Exxon Valdez oil tanker incident in the 1989.[84] The Outside Working group (OWG) of the IMO submitted the early

[81] *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* (Arctic Council, 2013).

[82] Piotr Graczyk and Timo Koivurova, "The Arctic Council," *Handbook of the Politics of the Arctic* (Cheltenham, UK: Edward Elgar Publishing, 2015), 298.

[83] Ibid.

[84] Øystein Jensen, "The IMO Guidelines for Ships Operating in Arctic Ice-Covered Waters," (2007).

reports containing suggestions for ships operating in the polar water. After several meetings with the participatory countries and expert groups, the Polar Code was announced in 2002 as a voluntary guideline for the shipping operation in the 'ice covered waters[85].'

While the IMO was responsible for developing this guideline, the role of the Arctic Council in developing safety measures have been limited within scientific studies through its working groups, especially the PAME. The aim of these reports published by the PAME was to help the IMO to further develop the existing framework. Though, in several occasions in these declarations of the Arctic Council, solidarity for the IMO and concern over the Polar Code has been mentioned, no indication of support for implementing the Polar Code has been evident.

In the Tromsø Declaration, 2009, the Council had 'approved' the AMSA report and an 'urge' for a mandatory Polar Code: "Urge that the ongoing work in the IMO to update the Guidelines for Ships Operating in Arctic Ice-Covered Waters be completed, application of its relevant parts be made mandatory, and global IMO ship safety and pollution prevention conventions be augmented with specific mandatory requirements or other provisions for ship construction, design, equipment, crewing, training, and operations, aimed at safety and protection of the Arctic environment."[86]

In response to the AMSA report, the IMO revised the existing Polar Code and included several safety guidelines in the mandatory version of the Polar Code.[87] This mandatory Polar Code will be in force from 2017 for the ships operating in polar areas.

[85] Ibid.

[86] *Tromsø Declaration on the Occasion of the Sixth Ministerial Meeting of the Arctic Council* (Arctic Council, 2009).

[87] Olav Schram Stokke, "Regime Interplay in Arctic Shipping Governance: Explaining Regional Niche Selection," *International Environmental Agreements: Politics, Law and Economics* 13, no. 1 (2013), 65-85.

3.3 Observers

According to the founding declaration of the Arctic Council, the Ottawa Declaration, 1996, the observer status is available for the[88]:

- Non-Arctic states
- Inter-governmental and Inter-parliamentary organizations
- Global and Regional organizations
- Non-governmental organizations

On the basis of these qualifications, the Iqaluit Declaration, 1998, confirmed Germany, Netherlands, Poland, United Kingdom and eight organizations as the observers of the Arctic Council.[89] Between 1998 and 2011, only two more non-Arctic countries have been provided with the observer status: France by Barrow Declaration,[90] 2000 and Spain by Salekhard Declaration,[91] 2006. Though several other non-Arctic countries were interested to participate in this forum, the decision regarding their approval was pending for some period of time.[92] Besides, the council realized the necessity of further specification of observer's role in this circumpolar cooperation.[93] By the Kiruna Declaration, 2013, the Arctic Council has approved China, India, Italy, Japan, Republic of Korea and Singapore as observers. At the same time a new 'manual' for observers was also adopted.[94]

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[88] *Ottawa Declaration; Declaration on the Establishment of the Arctic Council* (Arctic Council, 1996).

[89] *Iqaluit Declaration on the Occasion of the First Ministerial Meeting of the Arctic Council* (Arctic Council, 1998).

[90] *Barrow Declaration on the Occasion of the Second Ministerial Meeting of the Arctic Council* (Arctic Council, 2000).

[91] *Salekhard Declaration on the Occasion of the Fifth Ministerial Meeting of the Arctic Council* (Arctic Council, 2006).

[92] *Nuuk Declaration on the Occasion of the Seventh Ministerial Meeting of the Arctic Council* (Arctic Council, 2011).

[93] Ibid.

[94] *Kiruna Declaration on the Occasion of the Eighth Ministerial Meeting of the Arctic Council* (Arctic Council, 2013).

It is important to notice that, except Italy, all the newly confirmed observers of the Council were from Asia. There must have been some reasons behind that and most likely the reasons were related with the future opportunities of economic development in this region.[95] But the concern over climate change, securing the Arctic environment and influence over policy development in other fields should not be left out from the list of their possible interests. Due to speculation and fear of decrease in power and control over this region,[96] the decision for accepting new and powerful countries as observers was a serious debate among the Arctic Council member states.[97] To some extent, this event might have resembled the reluctant and resistive force from the AEPS period; a ghost from the past, perhaps.

As the Arctic Council had overcome the barrier to develop from the AEPS and marked its achievements in the circumpolar co-operation, a new set of observer states along with reformed roles for observers might also contribute into good governance practice for the Arctic environment. For example,

The Arctic Council has provided the necessary platform and an important scientific knowledge for the two remarkable legally binding agreements that have been created so far. The 'Agreement on Cooperation on Aeronautical and Marine Search and Rescue in the Arctic', 2011 and the 'Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic', 2013 were two significant achievements for a forum in cases of pollution preparedness and maritime safety. Besides, for mitigating climate change with long-term or sustainable solution, the Arctic Council has been emphasizing heavily the UNFCCC decisions.

The UNFCCC led climate change conference in Cancun, 2010, delivered the agreement to limit global temperature increase by two degrees Celsius above pre-industrial levels. This decision was further confirmed by the UNFCCC Paris Agreement in 2015 with a higher

[95] Piotr Graczyk, "The Arctic Council Inclusive of Non-Arctic Perspectives: Seeking a New Balance," (2012).

[96] Ibid.

[97] Piotr Graczyk and Timo Koivurova, "The Arctic Council," *Handbook of the Politics of the Arctic* (Cheltenham, UK: Edward Elgar Publishing, 2015), 298.

emphasis on "pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels"[98] by reducing greenhouse gas emissions. In relation with that, the necessary steps required for dealing with climate change were divided into four categories: Mitigation, Adaptation, Financing and Capacity building.

While mitigation activities almost entirely depend on the country specific effort (reducing greenhouse gas emissions), knowledge concerning adaptation and research for technological development or capacity building to reduce dependency on greenhouse gases can be collective effort. Also, developing knowledge on mitigation technologies can be shared beyond regional borders. It has been emphasized in the Paris Agreement to 'enhance cooperation' among parties involved for 'strengthening' scientific knowledge and institutional arrangements, 'sharing' experiences and information related to climate change, 'assisting' developing countries with capacity building and thus, ensuring a sustainable solution for climate change.[99]

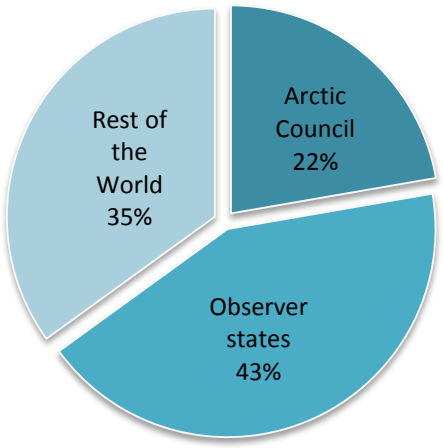

Figure 5: Global carbon dioxide emissions (2012)

Source: "Data on Total Carbon Dioxide Emissions from the Consumption of Energy (Million Metric Tons)," accessed April, 24, 2016. https://www3.epa.gov/climatechange/ghgemissions/gases/co2.html.

According to the US Environmental Protection Agency data 2012, 8 member states of the Arctic Council and its 12 observer states were responsible for almost 65% of the global carbon dioxide emission from different energy sources and carbon dioxide is considered as the biggest contributor among greenhouse gases. Undoubtedly, any degree of effort from these countries regarding reduction of carbon dioxide or other greenhouse gases will have a significant impact on the global level.

[98] *Paris Agreement* (United Nations Framework Convention on Climate Change (UNFCCC), 2015).

[99] Ibid.

Previously, the ACIA report also highlighted mitigation and adaptation as mandatory requirements for reducing the threat of climate change and suggested some necessary steps for remedy, thus proving the capacity of the Arctic Council to develop related knowledge in the light of scientific studies. A joint effort, involving the member and the observer states, might enhance the procedure of allocating knowledge and enrich the quality of information. An exchange of expertise and co-operation in technological advancement would be beneficial for all the parties and ultimately assist in the global venture for mitigating climate change. Besides, the Council has already demonstrated its leadership role in reduction of Short Lived Climate Forcers (SLCF) and asked its observer states to join the movement: "Decide to implement the Framework for Action on Enhanced Black Carbon and Methane Emissions reductions, establish an expert group reporting to Senior Arctic Officials to report on our collective progress, and call upon observer states to join us in these actions given the global nature of the challenge,"[100] By placing these long term and short term solutions under the same umbrella of co-operation, a better integration and support could be ensured for a common benefit.

Similarly, the contribution of these observer states on the newly opened commercial shipping routes around the North Pole could also contribute to economic development of the region. Currently there are several active shipping routes allowing shipping operation between the three continents.

[100] *Iqaluit Declaration on the Occasion of the Ninth Ministerial Meeting of the Arctic Council* (Arctic Council, 2015).

Especially the Northern Sea Route (NSR), also known as the North East Passage (NEP) and the North West Passage (NWP) have seen rapid increase in shipping operations during summer months in recent years. In addition to this, another projected sea route, the Trans-Arctic Sea Route, might allow ships to operate near the geographic North Pole by the end of this century if the rate of retreating sea ice remains unchanged.[101]

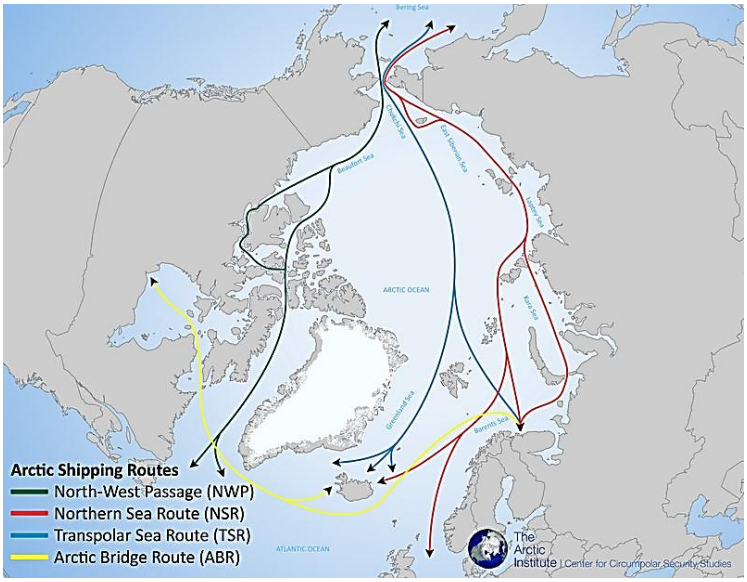

Figure 5: Arctic Sea Routes

Source: "The Future of Arctic Shipping Along the Transpolar Sea Route." Accessed August 28, 2016. http://www.thearcticinstitute.org/future-of-arctic-shipping/

The most popular shipping route between Europe and East Asia through Suez Canal may no longer be the obvious choice if the current development continues in the NSR. East Asian countries such as China, Japan and South Korea will surely grab the opportunity to export and import products through the NSR that allows a ship to reach Europe minimum a week earlier compared to the Suez Canal.[102] Similarly, the NWP can also provide nearly a week shorter journey to North America than the Panama Canal.[103] Reducing the shipping time can be a great deal in terms of profit and efficiency.

However, those shipping routes are still not the automatic choice for most shipping operations due to several obstacles. Firstly, due to the challenging artic environment, ships need to be built with special features to navigate and operate through ice-covering, icebergs and freezing temperature. These ice-class ships are more expensive to build and operate as well. Besides, not all yards have capabilities to build such ships.

[101] N. Melia, K. Haines, and E. Hawkins. "Sea Ice Decline and 21st Century Trans-Arctic Shipping Routes." *Geophysical Research Letters* 43, no. 18 (2016): 9720-9728.

[102] Ibid.

[103] Ibid.

Secondly, due to the sensitive artic environment, authorities have to pay extra attention to the safety and security of the ships operating in the arctic waters. Needless to say, any degree of adverse impact on artic environment is much more severe than any other waterways and recovering such damage will also be much more hazardous compared to other places. Two main sea routes in the Arctic are currently being claimed as 'internal water' by Canada and Russia, where Canada has the longest sea line along the NWP and Russia along the NSR. Separately these countries administer and control the shipping routes and are mainly responsible for future development of the shipping operation along these routes.

Apart from the melting of sea ice, there are several other factors related to the future of arctic shipping. So far, a significant amount of ships passing through these routes were related to oil and natural gas transportation or carrying different types of minerals, such as iron, nickel, copper etc. Undoubtedly, such trend will continue in upcoming years as new reserves are being discovered in the Arctic and there are good chances for a future discovery of these natural resources.[104]

Similarly, infrastructure development and administrative policies will also contribute to setting the speed of development in this region. One of the reasons behind the higher activity in the NSR is the better accessibility during summer months due to less amount of ice compared to the NWP. During other seasons, and sometimes also during summer months, ships operating in the NSR have to rely on the support of icebreakers to find their way through. Currently, Russia has the biggest fleet of icebreakers in the world while Canada is surely lagging behind.

The NSR also offers better port availability than the NWP, which surely is among the reasons attracting vessels to this route.[105] Murmansk and some of the other biggest ports are available

[104] Buixadé Farré, Albert, Scott R. Stephenson, Linling Chen, Michael Czub, Ying Dai, Denis Demchev, Yaroslav Efimov, Piotr Graczyk, Henrik Grythe, and Kathrin Keil, "Commercial Arctic Shipping through the Northeast Passage: Routes, Resources, Governance, Technology, and Infrastructure," *Polar Geography* 37, no. 4 (2014): 298-324.

[105] Lasserre, Frédéric and Sébastien Pelletier, "Polar Super Seaways? Maritime Transport in the Arctic: An Analysis of Shipowners' Intentions," *Journal of Transport Geography* 19, no. 6 (2011): 1465-1473.

on the Russian side of the Arctic. Having more ports gives a better possibility to operate cargo and merchant ships. Besides, ports that can offer more support for repairing and assistance are important for ships operating in these harsh conditions and ports by the NSR has an advantage on this field. Considering these facts, it is safe to argue that the development in technology, knowledge and infrastructure has been important regarding the shipping operations in the Arctic. Here comes the growing importance of East-Asian countries in the context of shipping operations in Arctic.

3.3.1 Involvement of East-Asian countries as observers

While mentioning activities of the Asian countries in the Arctic, China currently occupies the largest share in most sectors. The economic superpower of Asia has been developing its capacity rapidly over the last few decades and has established itself also as a global superpower. China's interest in the development of the Arctic is nothing new and it dates back to the late twentieth century.

Since the beginning of the twenty-first century, some Nordic countries in the Arctic Council have been experiencing increased relationship with China in different fields. While most of the member states in the Arctic Council strongly encouraged Chinese involvement as a permanent observer, Canada and United States expressed relatively neutral point of view regarding the issue.[106]

China has already exposed its active participation on mineral extraction in Greenland and Canada and also maintains bilateral relationship with Russia for developing oil and gas exploration in the Arctic. China's agreement with Russia confirmed billion dollars worth of investments including an under-construction sea port in Yamal Peninsula, which will be one of the biggest and advanced sea ports along the NSR.[107] China also played an important role

[106] Olga V. Alexeeva and Frédéric Lasserre, "The Snow Dragon: China's Strategies in the Arctic," *China Perspectives* no. 3 (2012): 61.

[107] Buixadé Farré, Albert, Scott R. Stephenson, Linling Chen, Michael Czub, Ying Dai, Denis Demchev, Yaroslav Efimov, Piotr Graczyk, Henrik Grythe, and Kathrin Keil.

in Iceland's economic reform in 2008 and signed several agreements on the Arctic research and resource development.[108]

China's growing interest on the Arctic has been cautiously observed by the United States and researchers have already questioned the true intention behind China's ambition for a permanent observer status in the council.[109] Since China has received the permanent observer status recently, it will be interesting to monitor future development of their activities inside the council. It will surely be an important question to the council whether it wants to utilize China's willingness and technological advancement in the Arctic for future development or seek to limit such an opportunity.

To answer that question, the Arctic Council may analyse China's potential to contribute as an observer and decide the extent of such contribution. China has already built its polar research center in 1989 and has been deeply involved in various research activities ranging from environmental issues to economic development in the Arctic since then.[110] It has successfully completed several Arctic expeditions and owns a technologically advanced icebreaker fleet for achieving its agendas in the field level.[111] According to a 2011 data source, China was the country that built the highest amount of ice-class ships, and most likely is still leading the category. Interestingly, Japan and South Korea were also among the top four countries in the same data chart.[112]

"Commercial Arctic Shipping through the Northeast Passage: Routes, Resources, Governance, Technology, and Infrastructure." *Polar Geography* 37, no. 4 (2014): 298-324.

[108] Lasserre, Frédéric, Linyan Huang, and Olga V. Alexeeva, "China's strategy in the Arctic: threatening or opportunistic?" *Polar Record* (2015): 1-12.

[109] Ibid

[110] Ibid.

[111] Ibid.

[112] Frédéric Lasserre and Sébastien Pelletier, "Polar Super Seaways? Maritime Transport in the Arctic: An Analysis of Shipowners' Intentions," *Journal of Transport Geography* 19, no. 6 (2011): 1465-1473.

Japan's interest and presence on the Arctic dates back to the late twentieth century. While China's interest in the Arctic is mostly related with energy and resources, Japan's activities are more lean to research and technological development. In several occasions, this East-Asian country has expressed its honest desire to involve in the development activities at the local and organizational level.[113]

Japan was among the observers of the Arctic Environment Protection strategy meeting in 1996, demonstrating the country's sheer interest on environmental policy development in the Arctic.[114] Japan has its own Centre for Arctic Research and has independently carried out several national scientific expeditions in the Arctic. As a response to its growing interest, the Japanese government has issued Japan's policy statement regarding the Arctic in 2015. On that document, Japanese government clearly stated three specific areas of interest:[115]

- Observation of and research on the Arctic from a global perspective,
- International cooperation on the Arctic and
- Examination of the feasibility of the Arctic Sea Route.

Japan has always considered the arctic environment as an important factor in global climate change and has pursued stronger monitoring for activities that affect the Arctic and thus also pose a threat to this island nation. On the same policy statement, it has also expressed a sheer interest to increase co-operation with the Arctic Council and International Maritime Organization (IMO).

To explore its opportunities in the changed Arctic, Japan has created a 'Japan Northern Sea Route Programme (JANSROP)' and has already conducted two phases of it.[116] The NSR is

[113] Leif Christian Jensen, Geir Hoenneland, Piotr Graczyk, eds., *Handbook of the Politics of the Arctic* (Edward Elger Publication, 2015), 517-532.

[114] Ibid. 517-532.

[115] "Japan's Arctic Policy" *The Headquarters for Ocean Policy*, Accessed January 3, 2017. http://library.arcticportal.org/1883/.

[116] Aki Tonami and Stewart Watters, "Japan's Arctic Policy: the sum of many parts," *Arctic Yearbook 2012 Table of Contents* (2012): 94.

not only important to Japan for maritime research but also significant for its mineral exploration, energy import from Russia and expansion of commercial shipping.

Compared to Japan's and China's Arctic policy, South Korea is focusing specifically on the scope of shipping operation in the Arctic. This technologically advanced country has one of the biggest shipbuilding industry in the world, also capable of building ice-class vessels. South Korean shipbuilding giants are already playing an important role in meeting up the growing need of ice-classed ships. In addition to that, Russia is considering the NSR as a future gateway for energy export to South Korea.

It has already been proven that the interest of East-Asian countries on the Arctic is growing simultaneously with the decreasing sea ice. The growing presence of a superpower such as China has been debated for past few years for presumed threat to sovereignty and dominance on this region. So far, activities of these countries have not given any impression of such threats and most likely will not pose any in the future either. As the involvement of East-Asian countries on various issues concerning the Arctic will keep increasing over upcoming decades, the Arctic Council could analyse the current situation and weigh the advantages and disadvantages that the active integration of these countries may bring and plan how to utilize the opportunities they offer.

According to the 'Observer's Manual' published by the Arctic Council in 2013, the observers are allowed to.[117]

- Attend Senior Arctic Official (SAO), Ministerial meeting and any other types of meeting upon invitation.
- Involve in the activities of the council 'primarily' at the working group level. Involvement on such level may also lead to expenses and observers should be responsible for their financial engagement.
- Present reports and suggest projects through a member country.

In the light of these regulations, involvement of the observers in the working group or task forces seems to be the most favourable option. As the Arctic research capacity of these

[117] *Arctic Council Observer Manual for Subsidiary Bodies* (Arctic Council, 2013.

observer states in the field of maritime activities and climate change has already been proven, the Arctic Council could be benefitted by the knowledge sharing between working groups and these observer states. Multilateral knowledge sharing among member states and observers may also lead to technological advancement and may build up the capacity to fight environmental problems and help to govern the maritime activities. For example, collecting indigenous knowledge to cope up with changing climate has been emphasized in the last two declarations of the Arctic Council. The study and collected information from the Arctic region may also benefit people living in other coastal countries in different regions.

Another significant benefit of introducing these observer states to a deeper role inside the political atmosphere of the Arctic Council might be the balancing of dominative force (if such exists) of so called 'Arctic Five'.

The five coastal states around the Arctic first met in Greenland, 2008 and expressed their opinion about regulating the Arctic governance in a narrower platform, leaving three Arctic Circle countries, Finland, Sweden and Iceland, outside this league. Such conservative approach has received fierce criticism from different parties including the Arctic indigenous councils as the representative bodies of indigenous people were also excluded from this initiative.

In a situation where the Arctic should be considered as a location of global importance and seems to receive more and more international attention, such kind of restrictive force might hinder positive development and create an atmosphere of negativity inside the Arctic Council. The arrival of powerful new actors in the scene might also force these five coastal states to engage attentively into council's political development and thus assist in maintaining the equilibrium of political power-play inside the council and ultimately foster its growth to the positive axis.

Interestingly, the Nordic countries demonstrated their willingness to give observer status to India, China, Singapore, Japan and South Korea, which came to effect in 2013, while Russia and Canada had opposite decision on this issue. Perhaps that was the stance of the Nordic countries against the current development of the Arctic Five. Or maybe it was a farsighted act for bringing common benefit to everyone directly or indirectly linked to the Arctic.

3.4 Working groups and Task forces

The Arctic Council's administrative body is formed by the government officials of the member states and its knowledge base is pillared by six working groups. By including scientists, expert government officials and researchers, these six working groups provide necessary information to address various issues related to the Arctic region. Needless to say, climate change in the Arctic has been a serious topic among these working groups and their activities have been deemed as significant in the study of climate governance, both regionally and internationally.

3.4.1 Arctic Monitoring and Assessment Programme (AMAP)

The so called 'biggest' working group is also the oldest one, the Arctic Monitoring and Assessment Programme (AMAP), which was established as a task force during the Arctic Environment Protection Strategy (AEPS) in 1991 and reformed into a working group in later stage.[118] The AMAP primarily focuses on pollution-related issues such as the source of different pollutants and their level of impact on the environment and the people living in the Arctic. Pollutants, including both natural and human created ones, are scientifically observed and reported by the AMAP.

The AMAP's report on Snow, Water, Ice and Permafrost in the Arctic (SWIPA) is a remarkable scientific assessment of the impacts of changing climate in the Arctic. Published in 2011, this report not only provides valuable knowledge regarding climate change but also serves as a follow-up report to its predecessor, the Arctic Climate Impact Assessment (ACIA), published earlier by the AMAP in 2005.

Besides, the AMAP has separate projects focusing health risks associated to climate change triggered contaminants, named as 'ArcRisk' and for developing knowledge base for adapting climate change, named as 'Adaptation Actions for a Changing Arctic (AACA). Along with the AMAP's study on different pollutants on the Arctic, its contribution in the field of climate

[118] Timo Koivurova and Md Waliul Hasanat, "The Climate Policy of the Arctic Council," in *Climate Governance in the Arctic*, (Springer, 2009), 51-75.

change research and reporting though the ACIA and the SWIPA reports influenced both country specific and international policy developments.

3.4.2 Arctic Contaminants Action Programme (ACAP)

Created in 2006, the Arctic Contaminants Action Programme (ACAP) working group could be labelled as an extended body of the AMAP. While the AMAP works with comparatively broader issues, the ACAP provides information to eliminate pollution from different sources in the Arctic. Specially, polluting agents like black Carbon, mercury and persistent organic pollutants (POPs) are subjects of study under the ACAP.

The ACAP's work is heavily directed by the reports and suggestions of the AMAP. However, its current work on the short lived climate pollutants (SLCPs) is the most relatable activity to the changing Arctic climate.

3.4.3 Sustainable Development Working group (SDWG)

The SDWG works for the wellbeing of the Arctic communities and indigenous people. Equally, it also emphasizes on economic and cultural movement in the Arctic. The SDWG aims to protect and develop values related to communal living, cultural diversity and socio-economic activity.

Adaptation to climate change is currently among the seven primary focus areas of this working group even though, this specific area was overlooked in the framework document.[119] The SWDG's mandate includes protecting human health across the Arctic, improving socio-economic conditions of Arctic communities, promoting eco-friendly energy activity in the Arctic, natural resource management with consideration to the benefit of local communities and protecting culture and heritage of Arctic inhabitants.

[119] Ibid.

SDWG mainly works with the ongoing projects approved by the Senior Arctic Officials (SAOs) and at present, it has an active project concerning young indigenous reindeer herders in changing arctic climate.

3.4.4 Conservation of Arctic Flora and Fauna (CAFF)

Conservation of Arctic Flora and Fauna or the CAFF working group is among the first four working groups that continued from the AEPS. Scientists and experts in the CAFF seek for developing mechanisms to protect biodiversity in the Arctic. Researching the habitat of plant and animal species and maintaining a balance between sustainable development and natural movement of variety of species are the primary attributes of this working group.

Climate change has serious impacts on every element of the nature and the CAFF is studying to understand how it has affected the local ecosystems. Specially their report 'Life Linked to Ice: a guide to sea-ice-associated biodiversity in this time of rapid change' drew attention to the necessity of mitigating climate vulnerability and adaptation to the ongoing changes in order to protect the biodiversity in the Arctic.

3.4.5 Emergency Prevention, Preparedness and Response (EPPR)

The aim of the EPPR is to formulate contingency plans for possible disastrous events in the arctic environment by analysing possible threats, related knowledge and available practices during incidents. The EPPR formulates and provides guidelines to the parties involved in different Arctic affairs including eight Arctic Circle countries.

Specially, the EPPR maintains close contact with parties involved in oil industry in the Arctic. The legally binding 'Agreement on the Cooperation of Marine Oil Pollution Preparedness and

Response' was a remarkable outcome of their work in this sector and the EPPR is undertaking follow-up initiatives to develop this agreement further.[120]

Besides, the EPPR also played an important role in the initiation of the 'Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic'. Including follow-up activities on this agreement, the working group is seeking for further integration of this agreement into its agenda. In the wake of increasing shipping and oil exploration activities blessed by climate change, the EPPR's contribution in ensuring environmental security in the Arctic should be deemed as 'significant'.

3.4.6 Protection of the Arctic Marine Environment (PAME)

The PAME is another working group that continued from the AEPS period and still exists under the umbrella of the Arctic Council. The PAME addresses various safety guidelines and recommendations for different sectors that have potential to harm Arctic marine environment. Guidelines such as: 'Arctic Offshore Oil and Gas Guidelines', 'Arctic Marine Strategic Plan', 'Arctic Marine Tourism Project' and 'Framework for Marine Protected Areas in the Arctic' etc.

Notably, another remarkable work of this working group was the 'Arctic Marine Shipping Assessment (AMSA)', which contributed heavily into developing guidelines for the ships operating in the Arctic, better known as the 'Polar Code'.

The Polar Code has been established under the authority of the International Maritime Organization (IMO) but the PAME working group has maintained close contact with (the?) IMO since the beginning of this guideline and is still continuing collaboration during

[120] "Emergency Prevention, Preparedness and Response (EPPR)," Accessed January 5, 2017. http://www.arctic-council.org/index.php/en/about-us/working-groups/eppr.

implementation of the Polar Code[121]. The Arctic Council has recently taken initiative to follow-up the AMSA report in 2015 with the help of the PAME and other working groups.[122]

3.4.7 Task forces

There are several task forces operating under the Arctic Council for achieving project specific objectives. Those task forces are temporary in nature and include necessary experts from working groups and member states. In the past, such task forces were formed to achieve framework for legally binding agreements as well as for delivering reports regarding council's area of interests such as short-lived climate forcers (SLCF), black carbon and methane, search and rescue etc.

Together those task forces and working groups run the primary mechanisms of the council and their role will remain unchanged in the future unless decided otherwise by the ministerial meeting. As the Arctic Council is facing the challenges formed by the forces of climate change, the achievements, barriers and future prospects of those working groups should be analysed deliberately in order to enhance council's policy development capacity in environmental governance. It was observed in the past that the Arctic Council was unable to respond to the cautionary advices of the WGs,[123] and the same may also happen in the future.

Barriers in communication between the WGs have already been mentioned in the works of several academics.[124,125] Some other barriers and their solutions have also been pointed out by the researchers in the light of practical matters. For example, the Arctic Council has always

[121] *Status on Implementation of the AMSA 2009 Report Recommendations* (Arctic Council, 2015).

[122] Ibid.

[123] Piotr Graczyk, "The Arctic Council Inclusive of Non-Arctic Perspectives: Seeking a New Balance," (2012).

[124] Ibid.

[125] Thomas S. Axworthy, Timo Koivurova, and Waliul Hasanat, eds., *The Arctic Council: Its Place in the Future of Arctic Governance,* (Toronto: Munk-Gordon Arctic Security Program & the University of Lapland, 2012).

been working as an intergovernmental body of the Arctic Circle countries without having any fixed hierarchical structure. Researchers have argued that secretariat and secure sources of funding for the activities of the working groups may foster their growth.

The call for establishing a permanent secretariat has been recently attended by the seventh ministerial meeting of the Arctic Council in Nuuk Greenland.[126] The Nuuk Declaration, 2012, confirmed the landmark decision of the beginning of a permanent secretariat in Norway. Though, until now the workforce and capacity of this secretariat might have been very limited, it has the potential to decrease problems regarding inter-group communication inside the Arctic Council. A solid communication channel will help to reduce overlapping effort on the same issue and foster inter-group co-operation in the joint projects like the AMSA or the ACIA, where contribution of two or more working groups is needed.

Besides the permanent secretariat of the Arctic Council, four of the six WGs have their own secretariat hosted in different countries. The permanent secretariat of the Arctic Council is crucial for the administration of those two remaining WGs. The WG secretariats are currently hosted in Norway, Island and Canada upon voluntary decision by these countries. These secretariats along with the task forces under the WGs are also voluntarily funded by the member states, in some cases, mostly by the host country.[127]

The operations of these WGs heavily depend on the availability of the fund and during several occasions, their frustration of not having a stable financial support has been expressed. However, issues concerning financial contribution to the WGs and task forces were discussed in the ministerial meetings and the Arctic Council has 'invited' financial contribution from member states and observer states for the projects carried by the WGs or task forces in more than one declaration.[128,129] According to the observer manual adopted during Kiruna

[126] *Nuuk Declaration on the Occasion of the Seventh Ministerial Meeting of the Arctic Council* (Arctic Council, 2011).

[127] *Arctic Council Funding: An Overview* (Arctic Council Secretariat, 2016).

[128] *Reykjavík Declaration on the Occasion of the Fourth Ministerial Meeting of the Arctic Council* (Arctic Council, 2004).

[129] *Iqaluit Declaration on the Occasion of the First Ministerial Meeting of the Arctic Council* (Arctic Council, 1998).

Ministerial Meeting, 2013, "Observers may propose projects through an Arctic State or a Permanent Participant but the total financial contributions from all Observers to any given project may not exceed the financing from Arctic States, unless otherwise decided by the Senior Arctic Officials."[130]

It is meaningful to estimate that the proposed project should be carried out by the WG or operated under the direct supervision of the WG. In this way the WGs have a possibility to engage observer states or similar bodies in their operations to enhance capacity on scientific research. Observer states also have the scope to contribute financially in the already existing projects and alleviate financial restrains. It has been argued that the contributions of the observer states in the WG activities were noticeable over previous years[131]. However, the Arctic Council may also look for possible involvement of the observers or similar parties for broadening the scope and capacity of the WGs in response to the threats of global climate change.

[130] *Arctic Council Observer Manual for Subsidiary Bodies* (Arctic Council, 2013).

[131] Piotr Graczyk, "The Arctic Council Inclusive of Non-Arctic Perspectives: Seeking a New Balance" (2012).

Chapter 4: Conclusion

The Arctic environment has been under a rapid change in the last few decades. In response to the changing environment, Arctic Circle countries once came up with the AEPS, which later transformed into today's Arctic Council. The creation of the sense of governance and changing it into a more effective mechanism has been achieved over the last 26 years. The question is, why these eight Arctic Circle countries suddenly felt it necessary to form the AEPS platform and why just within five years, it transformed into something new. The answer to this question is very obvious: the necessity for increasing the capacity to govern this region. Similarly, a changing situation poses a new set of challenges and to overcome those challenges the governance practices might change as well due to the same necessity of having a grasp on the situation.

Undoubtedly, the Arctic Council has changed since the AEPS, especially its operations, capacity and importance in the international platform has increased.[132] In case of governing environmental security through necessary policy development, the question of whether and how much the council has changed, is important for its future development as the most active authority in the field of the environment security in the Arctic.

From the issues discussed above, some significant events related to the environmental governance by the Arctic Council in the field of climate change, fossil fuel exploration and shipping operations have occurred in the last few years. Establishing a permanent secretariat, two legally binding agreements, specifying observer's role etc. are the evidence of some recent changes. However, the Arctic Council is still holding on to the same core values of a soft law based governance policy and a shift towards policy implicating governing body is highly unlikely to happen.[133]

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[132] Timo Koivurova and Md Waliul Hasanat, "The Climate Policy of the Arctic Council," in *Climate Governance in the Arctic*, (Springer, 2009), 51-75.

[133] Timo Koivurova, "Limits and Possibilities of the Arctic Council in a Rapidly Changing Scene of Arctic Governance," *Polar Record* 46, no. 02 (2010): 146-156.

Despite a significant increase in discussion over global climate change as observed in the declarations of the Arctic Council, not having any remarkable policy agenda on this matter is quite frustrating. In more than one occasions, the working groups under the Arctic Council have proven their capacity and expertise to produce valuable outputs and contributed in important treaties or policy developments. In this case, their potential might have been largely unutilized. Further development on the issue of short-lived climate forcers can shed some light into this situation.

Whatever the primary objectives of its future agendas are, in the battle against climate change, the Arctic Council must take them beyond the regional borders, unless they are strictly applicable to the Arctic Circle countries only. In case of oil pollution and preparedness, agendas need to be focused towards local geographic characteristics, and in comparison with other environmental problems, this issue has been well covered by the council. On the contrary, a global issue such as climate change needs to be addressed globally and actions should be made jointly with other countries.

Another possibility to create an image as an international institution could be the proper utilization of observer's willingness to contribute to this intergovernmental panel. It is true that the melting ice in the Arctic has unveiled some opportunities in transportation, mining and energy sector and the presence of countries from other regions will increase gradually over time. Countries along the shipping routes and countries active in the shipping operation will be the main actors on this issue but the Arctic Council has the opportunity to shape the future along these routes. The current situation is crucial as it is the transitional moment and the Arctic Council must decide how evident their role will be in the infrastructure development and environmental security legislation.

Recent developments of the five Arctic coastal countries or so called 'Arctic Five' can also be a challenge to the Arctic Council's governance over the environment. Two successful meetings in 2008 and 2010 have already created the possibility of continuation of similar events in the future. Due to such kind of conservative movement, political sphere inside the council might be influenced by the reaction of other three non-coastal countries. As a result, this might impact ongoing and future works on the climate change issue.

The arms race in the Arctic during the Cold War is long gone and Arctic as the source of national insecurity is unthinkable at this moment. Directly or indirectly, human security will be challenged inside and outside this region due to climate change and the Arctic Council could play a role in securitizing it, locally and internationally. The Arctic Council has achieved some remarkable success despite constrains of political power play but it has the potential to accomplish even a bigger success. In this state of 'absence of violence', desired approach should be to pursue greater good by cooperation, equity and good governance, a road that leads to positive peace.

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