CLIMATE CHANGE AND HUMAN RIGHTS

THE IMPLICATIONS THAT CLIMATE CHANGE HAS ON THE HUMAN RIGHTS OF THE INUPIAT IN BARROW, ALASKA

Hildur Sólveig Elvarsdóttir
University of Akureyri
LL.M. THESIS
FEBRUARY 2010

UNIVERSITY OF AKUREYRI
FACULTY OF LAW AND SOCIAL SCIENCES
LAW DEPARTMENT
POLAR LAW
LL.M. DEGREE

CLIMATE CHANGE AND HUMAN RIGHTS

THE IMPLICATIONS THAT CLIMATE CHANGE HAS ON THE HUMAN RIGHTS OF THE INUPIAT IN BARROW, ALASKA

Hildur Sólveig Elvarsdóttir
Master's degree thesis submitted as part of studies for the
LL.M. - degree in Polar Law studies
FEBRUARY 2010

Mas**ter's Degree Thesis**
Hildur Sólveig Elvarsdóttir
Kt: 140685-2249

CLIMATE CHANGE AND HUMAN RIGHTS

THE IMPLICATIONS THAT CLIMATE CHANGE HAS ON THE HUMAN RIGHTS OF THE INUPIAT IN BARROW, ALASKA

Guðmudur Alfreðsson:

is hereby approved as part of studies towards the M.A. or the LL.M. degree in Polar Law Studies

Akureyri in February of 2010
Master's Degree Examination Committee Members

Department of Law

ABSTRACT

This thesis has the goal of putting a different picture on climate change; replace the one of the starving polar bear swimming in an iceless sea with one of a sunburned Inupiat child. Although climate change is a main topic on the tongues of society today, the discussion very often does not focus on those who will be most affected by climate change, indigenous peoples. This is of grave concern considering that indigenous peoples are those individuals in society whose human rights will most suffer as the climate changes and whose cultures and livelihoods are at risk of extinction.

Although the outlook for the Inupiat is not always a positive one, this thesis encourages adaptation to deal with climate change. The Inupiat can be leaders when it comes to adaptation strategies, especially since their culture and lives have been able to adapt to the Arctic living conditions since time immemorial. A hopeful image will be presented in the conclusion of this thesis, presenting a picture of Inupiat life full of culture. Despite the drastic implications that climate change will and already has on the Inupiat, they can and will survive as a culture.

TABLE OF C TABLE OF CONTENTS

INTRODUCTION

This paper has the goal of changing the way people react to the idea of climate change. The idea that needs to be replaced is the image that comes up when climate change is being discussed. It has become ever so popular for climate change activists to use the picture of a starving polar bear to depict the situation to come and especially the situation in the North. The goal is to change that picture, the polar bear, with that of a human face. To even go further, that of an Inuit child's face, and to elaborate even further, that of a sunburned Inuit child's face.

It is often the case that more sympathy is given to animals than to human beings, that peoples idea of the rights of animals and animal activism often overrides that of human rights and the activism for the survival of a human culture. The anthropomorphizing of animals often make animals the victims and not the human cultures and peoples that rely on them the victims of climate change. That is why this topic was picked as the topic of this thesis: the focus needs not be on that which is predicted to going extinct, but on the culture, people and knowledge that must continue to survive despite a difficult time.

This paper will looks at human rights and the effect that climate change will have on these rights. The rights of indigenous peoples will especially be focused on. Interest is taken to indigenous peoples, especially the Inuit of the Arctic, due to their ability to survive in the harsh Arctic environment since time immemorial. Their survival has been possible because of their unique relationship to the environment, how they have been able to sustainably live off the environment without exhausting the resources. Indigenous peoples have a special status in international law and obtain an extra amount of rights due to this status and unique way of life. This special status in international law, direct or indirect, comes from e.g. the recognition of their culture, language, foods and religion. Indigenous peoples are, in most cases, minority groups and have a history of human rights violations. Hence, it is important for their rights to be observed and respected so that their culture and their unique way of living does not disappear and so that the cultural diversity in this world does not disappear.

The goal with this paper is to show how climate change can and already has impacted these numerous human rights of the Inupiat in Alaska. These findings are ones that are being stated by various organizations, politicians and individuals living

in the region and will be gathered here in the hope of rounding up and presenting a better outlook on the issue at hand. Participation of the local community is a very important factor in order to ensure that the policy being made for the people is applicable to their situation and their way of life. The Inuit presence also in scientific work is also necessary due to the immense amount of knowledge that these people have on the land and animals of their environment. Being so close to nature gives the Inuit of the North a special relationship and knowledge that is, unfortunately, being lost to modernism and the changing climate.

This thesis will find the answers to the questions (1) how climate change has an affect on human rights, focusing on indigenous peoples, (2) what human rights will be affected by climate change and in what human rights instruments these human rights are protected, and (3) how climate change will impact the Inupiat of the North Slope Borough in Alaska, United States of America. A final assessment of whether the focus should be on carbon emission reduction or whether the focus should be on adaptation will be conducted, referring to Bjorn Lomborg's book "Cool It- The skeptical environmentalist's guide to global warming". Documents from the United Nations as well as findings in the 2007 report from the Intergovernmental Panel on Climate Change and the 2004 Arctic Climate Impact Assessment will be the main sources of information, providing both data and information that is both scientific and full of traditional knowledge. These documents will give a holistic view of the situation in Northern Alaska and give an idea on what changes are expected, what adaptation methods must take place and what can be expected in the climate change policy of Alaska.

METHOD OF RESEARCH AND LITERATURE SURVEY

The method of research used for this thesis is a case study. The Inupiat peoples of the North Slope Borough in Alaska, USA are the focus of the thesis and the implications that climate change has on their human rights. In order to find the human rights impacts, various factors are looked into like rights that are and will be affected by climate change, policies referring to climate change, and the way of life of the Inupiat people and other Inuit groups of the North. In order to get a well-rounded and better idea on how climate change will impact the Inupiat, examples from other areas in the North are examined.

When doing the research it was very beneficial to have documents from the United Nations, the Inuit Circumpolar Council, and the International Indian Treaty Council. These documents gave me both a view on how climate change will impact human rights both around the globe, and also in Alaska. The book "The Whale and the Supercomputer" by Charles Wohlforth is fantastically written and gave great insight into the lives of the Inupiat in Barrow, Alaska. It goes further to description all that surrounds the hunt of the whale and how the community partakes in the events surrounding the hunt.

"The Whale and the Supercomputer" was able to capture a substantial amount of knowledge, giving the reader, especially one with a background in Arctic affairs, a good idea about how life in Barrow, Alaska is and what the environment means to the people. The relationship of indigenous people with the environment is seen throughout the readings.

A great amount of information about climate change can be found on the Internet but one has to be careful when choosing what information to use and not to use. The reason why I used the information provided by the Intergovernmental Panel on Climate Change was because it is fact based and well known. I feel it is important to use information from a source that publishes its findings and gets criticized by other scientists for those findings. This means that the scientists have to test their findings, both by themselves and by their peers, and that findings will most likely not be brought to the public by such a known Panel without the findings having undergone criticisms by their peers.

Another great source of information and one focused on in this thesis is the Arctic Climate Impact Assessment. This Assessment is a special piece of work because it

combines scientific research with the traditional knowledge of the people of the North. In my opinion, this is the way climate change research and reports should be done. The knowledge of the locals, especially indigenous populations, should be utilized in order to give a holistic idea about the situation. Scientific findings of course have their place but they do not necessarily say how society is to carry on; society is full of feelings like greed and the feeling of being one with nature that decides whether scientific findings and recommendations take place.

Lastly, *the Report of the Office of the Unite Nations High Commissioner for Human Right on the relationship between climate change and human rights* is a great documentation on the impacts that climate change has on human rights. With examples from all around the world, one is able to get an overview of the issues and the reader is able to get an idea on how climate change will affect ones own area. I would however like to see more reading material where the knowledge of indigenous peoples is used. It is in my opinion that such material will come sooner than later, although I am skeptical about how society will use such documents and findings.

1. THE ISSUES

The two main issues that this paper will focus on are climate change and human rights. The main topics for climate change are the climate change debate and the connection between climate change and human rights. The definition of climate change and global warming is discussed and the contrast between human induced climate change and non-human induced climate change are presented. Extra focus is placed on the climate change debate, and goes to show that even though individuals may be skeptical about climate change, they should be able to see that the rights of indigenous peoples are being affected by the climate. The term indigenous peoples is defined as are the elements necessary in order to be regarded as indigenous. The environment is very important to indigenous peoples and is also discussed in this chapter.

1.1 CLIMATE CHANGE

Climate change is currently having an affect on human rights and as time goes on and the changes become even more drastic, the human rights of these individuals will become even more violated. Not everyone believes the idea of climate change and call it a hoax and a money-laundering scheme for scientists and politicians. However, as this chapter will argue, even though the belief of human induced climate change and the science behind it is not believed to be true, it is evident that at present, the climate is changing and individuals around the world are suffering due to those changes. This chapter will take a quick glance at the climate change debate and the connection between climate change and human rights.

1.1.1 THE DEBATE

The ideas of climate change and global warming seem to be on the tip of the tongue of civilians, scientists and not least politicians these days. Some agree with the idea that the globe is warming at an unprecedented speed and that human activity is causing this warming, others believe that the whole debate is a sham and a controlling tool for politicians and corporations. Some use the terms climate change and global warming interchangeably, although they are two distinct terms. For this reason, the

idea behind climate change, global warming, the climate change debate and the greenhouse effect must be looked into.

Although these two terms, climate change and global warming, are often considers one of the same thing, they are not. The Intergovernmental Panel on Climate Change (IPCC) describes climate as being "the mean and variability of temperature, precipitation and wind over a period of time, ranging from months to millions of years (the classical period is 30 years)."[1] Solar radiation is said to control the climate system and the IPCC goes further to state that the climate can be changed by three things: 1) the incoming solar radiation by changing the position of the earth and sun; 2) the fraction of solar radiation reflected as opposed to absorbed, the albedo, by altering snow, vegetation, and cloud cover; and 3) by altering the amount of radiation from Earth to space by e.g. altering GHGs.

Climate change refers to the long-term weather of a region, the climate, and how it changes over time. Global warming on the other hand is the anthropogenic climate change, the warming of the earth and ultimately the climate because of human GHG emissions. With the industrial era carbon dioxide in the atmosphere increased about 35%, and this is said due to the combustion of fossil fuels and the destruction of forests. As the IPCC says, the chemical alterations that we are creating are causing significant implications for the climate.[2]

Global warming is a hot topic for many skeptics. Many argue, among other things, that climate change is a natural cycle, that CO2 does not cause global warming and that nature emits much more CO2 than humans.[3] Some of their arguments to these

---

[1] Le Treut, H., R. Somerville, U. Cubasch, Y. Ding, C. Mauritzen, A. Mokssit, T. Peterson and M. Prather, 2007: Historical Overview of Climate Change. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p 96

[2] Le Treut, H., R. Somerville, U. Cubasch, Y. Ding, C. Mauritzen, A. Mokssit, T. Peterson and M. Prather, 2007: Historical Overview of Climate Change. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p. 97

[3] "How to Talk to a Climate Skeptic: Responses to the most common skeptical arguments on global warming- a Grist special Series", GRIST- A Beacon in the

points include that Greenland used to be green and is now ice, that the change in climate is normal and what is being experienced today is a natural cycle because we are emerging from the Little Ice Age. Some falsely claim that volcanoes emit much more CO2 than humans do, while others say there is no proof. Nevertheless a majority of the scientific community, composed of skeptics and non-skeptics, have come to the conclusion, through observations, global indicators, measurements and analysis, that human GHG emissions, especially that of CO2 are causing global warming and climate change.

The idea behind the greenhouse effect is that the sun's rays enter the earth's atmosphere, made up mostly up of N2 (nitrogen) and O2 (oxygen), along with the greenhouse gases (GHG) like H2O (water), CO2 (carbon dioxide), CH4 (methane), and N2O (nitrous oxide)[4], warm up the earth, and then bounce back out the atmosphere into space. The GHGs act as a blanket and keep the earth at a stable temperature; a temperature that sustains life on earth and without them the Earth would be inhabitable. This is just like the greenhouse; light travels through the glass panes and warms up the greenhouse, and then some leaves again through the panes (the GHGs that blanket the atmosphere) while some heat stays (because of the GHGs blanketing), heating up the greenhouse. However, if there is a fluctuation in GHG, like too much carbon, then the solar rays are not able to escape through the atmosphere and out into space as easily as before, causing the rays to be trapped with the effect of heating the earth.

Hence, the greenhouse effect is what makes life on Earth possible. However, what the latest hype about global warming and the greenhouse effect is all about is the increase of GHGs due to human activity, hence causing the blanket to become ever thicker. This traps solar rays in the atmosphere, capturing heat. Therefore, as the world warms up, the icecaps, sea ice and glaciers melt. These lighter areas of the world have the effect that they reflect sunlight back into space causing minimal heating. However, as the world continues to become warmer, the amount of lighter surface areas starts to decrease, causing more dark surface area, hence solar ray

---

Smog, http://www.grist.org/article/series/skeptics/ (Accessed February 2010); See http://www.grist.org/article/series/skeptics/ for a list of responses to skeptical comments on climate change.

[4] "The Greenhouse Effect", http://www.ucar.edu/learn/1_3_1.htm (Accessed January 2010)

absorption, and hence more heating.[5] In the Arctic a terrible cycle has started. The warming of the earth is causing the melting of sea ice, which in return leaves a darker surface area (the ocean) that absorbs the solar rays. This causes the sea to get warmer, causing the sea ice to melt even faster.

There are nonetheless individuals today who find global warming to be factitious. Even though they do not believe in global warming, they may agree to the fact that the climate is changing. These changes of the climate, whether they be natural or unnatural are the main focus of this paper and the affect that such climate changes have on human rights. This should suit both the skeptic and believer, although GHG mitigation is discussed. That is to say, even if individuals do not believe that GHG emissions are the cause of global warming hence anthropological climate change, and even if they believe that the warming through the years is temporary and just a weather fluctuation, it is evident that something unprecedented is happening in the Arctic and measures need to be taken to assist those living there. This quote describes the way one Inuit elder sees the changes:

> "My aunt, Mabel Toolie, said [to me]: 'The Earth is faster now.' She was not meaning that the time is moving fast [these days] or that the events are going faster. But she was talking about how all this weather is changing. Back in the old days they could predict the weather by observing the stars, the sky, and other events. The old people think that back then they could predict the weather pattern for a few days in advance. Not anymore! And my aunt was saying that because the weather patterns are [changing] so fast now, those predictions can not be made anymore. The weather patterns are changing so quickly she could think the Earth is moving faster now."
>
> *Caleb Pungowiyi, Kotzebue, Alaska* [6]

The term climate change does not mean a short-lived change; it is a long-lived change in the climate that usually has a dramatic implication on the ecosystem. The

---

[5] *ibid*

[6] Krupnik, Igor I. 2000. Native Perspectives on Climate and Sea-Ice Changes. In: Huntington, H.P., (ed.). Impacts of changes in sea ice and other environmental parameters in the Arctic: final report of the Marine Mammal Commission Workshop, Girdwood, Alaska, 15-17 February 2000. Bethesda, Maryland: Marine Mammal Commission. p 36-37

climate is the invisible hand that controls the way of life in an ecosystem and when that gets disrupted, then life within that ecosystem also gets disrupted. The Arctic is the area on the globe that will first feel the affect of climate change and is often called a "climate change indicator". Hence, focusing this paper on the Inupiat in Alaska will assist greatly in visualizing the implications of climate change.

Climate change is predicted to have an affect on many factors of the world environment. This includes the melting of sea ice, glaciers, the rising of sea levels, more violent storms, desertification, droughts, floods, and erosion to name a few. This paper will look into several of these in the following chapters and their affect on the human rights of people, indigenous people and the Inupiat of Barrow, Alaska. It must be noticed that these are changes predicted by scientists. Many critics of climate change, whether scientists or everyday people, criticize scientific findings and the scientific process used to come up with ideas. Many suspect that the motive behind the research is faulty and that the findings are those that will grant the scientist behind them the most money. Nevertheless, there are changes happening in the Arctic, changes that are due to a changing and warmer climate, and when the broader picture is examined then it is very difficult to deny these changes. This is especially the case since denying the presence of these changes would be denying human rights violations.

1.1.2 THE CONNECTION WITH HUMAN RIGHTS

Drawing the connection between climate change and human rights is becoming more popular as the talk of climate change continues to develop and for a good reason, the livelihoods of people are being threatened. No longer are people, scientists and scholars mainly focusing on the science of climate change but they are also trying to understand what impact it will have on them, as people, and their everyday life. The environment and what kind of world we want our grandchildren to live in is becoming a concern.

Although everyday life may be fairly easy going for some, it is a challenge for a great deal of the world whether it is because of lack of drinking water, poor or no healthcare, famine or disease. These problems are and will become even greater as climate change makes progress, especially if communities are not able to adapt to them. Human induced climate change is mostly the result of GHG emissions from industrialized and developed countries. However, the countries and communities most

threatened by climate change are mostly undeveloped countries and communities whose GHG emissions is just a fraction of the whole. This is the twist and unfairness of the situation. Even though communities are not partaking, or partake very little, they are hit the hardest with the outcome. This is unjustifiable, and measures must be taken both to decrease the emissions of GHG to stop warming and to assist vulnerable communities to adapt to the current and forthcoming changes.

An example of the connection between climate change and human rights is the right to water. All human beings have the right to water since it is needed in order to survive. In sub-Saharan Africa, it is predicted that climate change will cause droughts, forcing nomadic tribes and herders to retrieve their water from government wells or water that they distribute. The government has a duty to see to it that the people have water, and make sure that people are not in harms way when retrieving the water. The people have a right, and they should not be put in harms way when exercising that right. Further elaboration and examples of the rights listed above will be discussed in Chapter 2.

In the short Paper "Climate Change and Human Rights: An Introduction to Legal Issues", three links connect human rights and climate change.[7] These include: A) Climate change affects the enjoyment of human rights; B) Measures to address climate change may affect the enjoyment of human rights; and C) Human rights have relevance to responses to climate change. Link A is further elaborated below, but links B and C are of interest because unlike link A, they are dealing with the solutions to the problems of climate change. The measures taken to address climate change need to be such that human rights are not violated; the building of windmills for wind energy cannot, for example, be placed in the middle of traditional caribou migration grounds that the Saami rely on. That would be a violation of their right to culture, according to Art. 27 of the International Covenant on Civil and Political Rights (ICCPR)[8]. Furthermore regarding link C, it should be a principle that human rights

[7] Siobhán McInerney-Lankford, *Climate Change and Human Rights: An Introduction to Legal Issues*, Harvard Environmental Law Review, Volume 33, Number 2, 2009, 431.

[8] UN General Assembly, *International Covenant on Civil and Political Rights*, 16 December 1966, United Nations, Treaty Series, vol. 999, p. 171. Article 27 of the ICCPR states: In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language.

specialists be involved when drafting climate change legislation, due to the fact that human beings rely on the environment to survive and because of the indivisible relationship between the environment and human rights.

Although a connection between human rights and climate change can be made, it is not always evident as to what human rights instruments are being referred, exactly what rights are being discussed, how exactly climate change will affect these rights, and what actions can be taken in order to ensure that rights are not violated. The human rights that will be discussed in this paper are the right to life, food, water, health, adequate housing and the right to self-determination. As the climate continues to change, these rights of people will be violated and that is why they need to be identified and addressed.

Climate change will not only have negative affects on human rights and the rights of indigenous peoples, but some good could also come of it. The focus cannot only be on the negative changes and what is predicted to become extinct, but also what new opportunities will present themselves in light of a changing climate and even a changing world. These benefits, listed by the "International Expert Group Meeting on Indigenous Peoples and Climate Change" [9] include:

- increased respect for traditional knowledge
- increased participation of indigenous peoples in land and sea management
- opportunity to revive traditional practices e.g. fire-stick farming, fire management and water management
- promotion of more sustainable communities through innovative climate change responses such as development of alternative sustainable energy including small scale hydro, solar and wind or small scale (undercover) agriculture in the sub-Arctic
- Increased recognition of the importance of healthy ecosystems and for indigenous retention and control of indigenous territories.
- Opportunities to preserve forests and vegetation on traditional territories as recognition of mitigation values and promotion of adaptation through healthy and resilient ecosystems
- Increased opportunities for partnerships and participation in science

[9] *International Expert Group Meeting on Indigenous Peoples and Climate Change*, Darwin, Australia. 2-4 April 2008. UN Doc. E/C.19/2008/CRP. 9, 14 April 2008, para 18.

- Biodiversity enhancement and recognition of cultural heritage and values

As can be seen, indigenous peoples, due to their special relationship to the environment, have a lot to offer to the discussion of climate change and how the environment can be enjoyed sustainably. Climate change seems to have given them a stronger voice in their battle against corporations that do damage to the environment and megaprojects.

1.2 INDIGENOUS PEOPLES AND THE ENVIRONMENT

In order to fully understand the impact that climate change has on indigenous peoples, we must further look at the meaning of the term indigenous peoples and their connection with the environment. There are four elements necessary in order to be regarded as indigenous the: objective element, subjective element, number element and time element.[10] Since most indigenous peoples are minorities, these elements refer to them also, although for indigenous peoples special measures extend to them like possession of land and benefit from natural resources.[11]

The objective element indicates that the group or person is of a national/ethnic origin, language or religion. It is something that can be pointed out to others making them see that that person is different because of this element. The subjective element refers to the idea that you are indigenous if you characterize yourself as being indigenous. This would be the case, for example, if an Inuit family would adopt a child from Ethiopia. Ethnically, the child would not be Inuit, but if the child considered itself to being Inuit and with the recognition of the group, then along with the other elements, it could be considered an Inuit. The number element refers to the size of the indigenous group considered; it has to be less than one half of the State population. The time element for minorities and indigenous peoples is different. Whereas minorities must be "well-established in a country over a significant period of time before it is accorded the status of a minority"[12], indigenous peoples must have

---

[10] *International Expert Group Meeting on Indigenous Peoples and Climate Change*, Darwin, Australia. 2-4 April 2008. UN Doc. E/C.19/2008/CRP. 9, 14 April 2008, para 18.

[11] Gudmundur Alfredsson, "Minorities, Indigenous and Tribal Peoples, and Peoples: Definitions of Terms as a Matter of International Law" in Nazila Ghanea and Alexandra Xanthaki (editors), Minorities, Peoples and Self-Determination. Essays in Honor of Patrick Thornberry, Leiden:Brill Publishers, 2005, pp. 163-172.

[12] *ibid*

been on the land from time immemorial or before settlers. Their way of life is closely related to the land like economies built on fishing, gathering, herding or hunting.

Indigenous peoples in the world are usually vulnerable and impoverished people whose human rights are not recognized and are constantly being violated against.[13] Climate change causes problems for them because of the need of resources, financial assistance and technology to assist them with coping strategies. Coping strategies themselves can be problematic e.g. if the building of a dam makes the displacement of indigenous peoples from their traditional territories necessary. This is why the voice of indigenous peoples must be listened to and their opinions and views considered when making mitigation and adaptation decisions.

Indigenous people have a greater, more pure relationship with the environment than non-indigenous people. Their relationship with the earth is of the past, present and future; their ancestors lived and learned off the land, the people have to live off the land today, and future generations must live off the land.[14] They do not exhaust resources for they believe that the resources have to be available the next day, the next time the animals migrate past their area, and the next years. This has e.g. enabled groups to survive in harsh areas like in Africa's Saharan Desert and in the frozen desert, the Arctic. Without knowing their environment and respecting it as a giver of life, they would not have been able to survive. Cases concerning the right to land as a necessity for culture has gone before the Human Rights Council and will be discussed in Chapter 2.

Indigenous peoples usually have knowledge about how to use plants for medicines, what techniques work best for agriculture and how to manage animals so that they do not go extinct. In the preamble of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[15], this development technique is recognized and for this reason, their knowledge about the environment is an asset to law-makers

---

[13] Permanent Forum on Indigenous Issues, "Meeting Report", Conference on Indigenous Peoples and Climate Change, Copenhagen, 21 – 22 February 2008, submitted by the International Work Group for Indigenous Affairs (IWGIA), E/C.19/2008/CRP. 3, 10 March 2008, para. 3

[14] "Using Traditional Knowledge to Live Sustainably" Module 5 Traditional Knowledge, Adapted from Burger, J. (1990) The Gaia Atlas of First Peoples: A Future for the Indigenous World, Penguin Books, Ringwood, pp. 20-62.

[15] Paragraph 11 of the Preamble to UNDRIP states: "Recognizing that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment."

today. It could give them an insight to sustainability that non-indigenous people do not have. To live in harmony with the environment is the main principle that indigenous peoples go by unlike the trend of modern society where resources are exploited until exhausted and then they move on to new resources. The environment and the people are as one and without the other they would not exist.

The environment and lands are not only important as a source of food, but also as a place for culture and spirituality. Take the Inupiat in Barrow, Alaska for example. Hunting for subsistant living is greatly practiced in the area. The members of the community partake in whaling, hunting for seals, polar bears and caribou in order to have food for their families. The people do not only eat the food, but as the animal is butchered, it is *respected* for it is because of the whale that the people are able to survive. Rituals surround the animal in the hunt, when the whale is heaved up onto the ice, when it is being butchered and when it is being distributed to members of the community. This animal and the environment in which the people live allow these people to keep their culture strong and alive, and lets them connect with people of their past for this food, country food, has been eaten by their people since time immemorial.

Country food does not come in a plastic container but is something that needs to be hunted, gathered and/or captured. With the ongoing changes in the climate, indigenous peoples around the world have noticed changes in migratory patterns of animals, affects on vegetation and the land that they live off. This causes difficulties in the hunt for hunters may not be able to predict the hunt like before, making the knowledge passed down by elders not as relevant as before. This causes difficulties when hunting and affects the spirit of the hunter.

Climate change is an issue critical for the Inuit, and as an indigenous people, one of vital importance to their survival. That is why in November 2009, the Inuit released a document to global leaders calling on them to "Act Now on Climate Change in the Arctic"[16] and put forward six Action Points[17]. With this document the Inuit

[16] "Inuit Call to Global Leaders: Act Now on Climate Change in the Arctic" , Inuit Circumpolar Council, November 13, 2009.

[17]
1. Ratify a Post-2012 agreement that will stabilize greenhouse gas (GHG) concentrations at 350 parts per million by volume, in order to ensure that long-term temperature increases remain well below 2°C.
2. Designate avoidance of climate change impacts on the Arctic as one of the key benchmarks for effectiveness of a post-2012 process.

Circumpolar Council (ICC), the representative council of the Inuit of the world from Alaska, Canada, Greenland and Russia, called for action of the global community in regards to climate change at COP 15 in Copenhagen, Denmark.[18]

Actions and reports like that of the ICC and the International Indian Treaty Council (IITC)[19] are among the attempts made by indigenous peoples today in putting their face on climate change. This must be done in order for the people of the world, especially people of the developed world, to stop and think about their actions. Whether they decide to buy goods from green energy corporations or buy locally, just the fact that awareness is there is a step forward. People must stop focusing on the survival of the polar bear and start focusing on the lives, culture and livelihood of those who are among the most vulnerable peoples of this world, the indigenous peoples.

---

3. ICC calls upon the IPCC to develop a future assessment on climate change and Indigenous Peoples and the Important role of Traditional Knowledge in informing policy decisions.
4. Create an International Climate Change Adaptation Fun financed by G20 Countries to help citizens of the planet adapt to the inevitable changes and to accelerate technology transfer. An immediate investment of $20 billion (USD) is needed, increased to $100 billion (USD) annually by 2020.
5. Adopt a mechanism for adaptation assistance to vulnerable groups, communities, and countries that:
    a. Ensures the availability of financial support and technical assistance to communities that are the most vulnerable to climate change impacts;
    b. Devolves funding and decision-making to the lowest possible level (i.e. communities instead of states) and incorporates the right to Free, Prior and Informed Consent as adopted by the UN Declaration of the Rights of Indigenous Peoples;
    c. Ensures that vulnerable communities and populations living within developed nations have access to adaptation assistance.

Incorporate support for appropriate, small-scale, green energy technology as part of adaptation and mitigation financing in support of healthy, local economies.

[18] The UNFCCC(United Nations Framework Convention on Climate Change) is an international treaty produced at the United Nations Conference on Environment and Development), also known as the Earth Summit, in Rio de Janeiro in June 1992. The treaty is legally non-binding but the protocols following the UNFCCC, like the current Kyoto Protocol, set GHG emission limits. The Conference of the Parties 15 (COP 15) had the goal of setting a global climate agreement for post 2012, when the Kyoto Agreement expires. For more information see: the website for United Nations Framework Convention on Climate Change http://unfccc.int/2860.php

[19] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.

1.3 CONCLUDING OBSERVATIONS

Whether an individual believes that human induced climate change is happening is not of main concern of this paper, for even skeptics can deduce that changes are happening in the climate of the Arctic. These are changes that are affecting human life there and this is of grave concern. Every single person on this planet has a handful of rights that are not to be violated against and this is also applicable to indigenous peoples. Indigenous peoples are members of the world community that have "suffered from historic injustices as a result of, inter alia, their colonization and dispossession of their lands, territories and resources…"[20], and have special rights and relationship with the environment. This makes them especially susceptible to changes to their climate. Although many indigenous peoples have adapted to climate changes in the past, current policies and legislation makes adaptation today more difficult.

[20] Paragraph 6 of the Preamble to UNDRIP.

2. THE EFFECTS OF CLIMATE CHANGE ON HUMAN RIGHTS

2.1 INTRODUCTION

This chapter will look at human rights instruments, particularly human rights that will be affected by climate change, and concluding observations. Having established the idea of climate change and its connection to human rights, this chapter will look at the various human rights texts in order to get a well-rounded idea to establish where, in international law, the particular human rights focused on come from. The particular rights section will introduce (a) what affect climate change will have on the right, (b) in what instruments that right is found, and (c) how it applies to indigenous peoples. In conclusion, it will be found that the particular rights are all connected and the arguments for development and self-determination will be looked into.

2.2 HUMAN RIGHTS DOCUMENTS

This paper will look at 9 human rights instruments and how rights protected by these instruments are affected by climate change. These 9 instruments are (1) the Universal Declaration of Human Rights (UDHR)[21], (2) the International Covenant on Civil and Political Rights (ICCPR)[22], (3) the International Covenant on Economic, Social and Cultural Rights (ICESCR)[23], (4) the Convention on the Rights of the Child (CRC)[24], (5) The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)[25], (6) the Convention on the Rights of Persons with Disabilities (CRPD)[26], (7) the International Convention on the Protection of the

[21] UN General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III)
[22] UN General Assembly, *International Covenant on Civil and Political Rights*, 16 December 1966, United Nations, Treaty Series, vol. 999, p. 171
[23] UN General Assembly, *International Covenant on Economic, Social and Cultural Rights*, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3
[24] UN General Assembly, *Convention on the Rights of the Child*, 20 November 1989, United Nations, Treaty Series, vol. 1577, p. 3
[25] UN General Assembly, *Convention on the Elimination of All Forms of Discrimination Against Women*, 18 December 1979, United Nations, Treaty Series, vol. 1249, p. 13
[26] UN General Assembly, *Convention on the Rights of Persons with Disabilities : resolution / adopted by the General Assembly*, 24 January 2007, A/RES/61/106

Rights of All Migrant Workers and Members of Their Families (ICRMW)[27], (8) the Convention concerning Indigenous and Tribal Peoples in Independent Countries (ILO 169)[28], (9) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[29].

The UDHR, adopted 10 December 1948, contains the fundamental norms of human rights that all human being should enjoy.[30] The UDHR, the ICCPR, adopted 16 December 1966, along with its two optional protocols, and the ICESCR, adopted 16 December 1966, form the International Bill of Human Rights. The CRC, adopted 20 November 1989, CEDAW, adopted 18 December 1979, CRPD, adopted 13 December 2006, and the ICRMW, adopted 18 December 1990, are core international human rights treaties and have monitoring committees that monitor their implementation. States are bound to the treaties concerned if they have ratified them. However, even if a State has not ratified a treaty it may be bound to particular articles if articles of that treaty have become customary international law.

ILO 169 and UNDRIP are other human rights instruments that are used in this paper. UNDRIP is a declaration, hence is not legally binding although there is a strong moral force encouraging States to do so. It does not have to be ratified by States, rather it was voted on by the General Assembly. It received 144 State votes in favor, 4 votes against and 11 abstentions.[31] Even though a State votes against it, like the United States of America, it is still applicable to it. Despite the fact that UNDRIP is not legally binding, it does have a legal relevance in the fact that it may reflect

---

[27] UN General Assembly, *International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families*, 18 December 1990, A/RES/45/158

[28] International Labour Organization (ILO), *Indigenous and Tribal Peoples Convention, C169*, 27 June 1989, C169

[29] UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples : resolution / adopted by the General Assembly*, 2 October 2007, A/RES/61/295

[30] "International Human Rights Law" , United Nations Human Rights- Office of the High Commissioner for Human Rights, http://www.ohchr.org/EN/ProfessionalInterest/Pages/InternationalLaw.aspx Accessed January 2010.

[31] United Nations Declaration on the Rights of Indigenous Peoples Adopted by the General Assembly 13 September 2007", UNPFII, http://www.un.org/esa/socdev/unpfii/en/declaration.html Accessed January 2010.

other sources of international law.[32] Here we are talking about customary law and general principles of law[33]. UNDRIP covers the same issues that ILO 169 covers and then some, making it a more far reaching instrument. UNDRIP is monitored by the Special Rapporteur on Indigenous Peoples and has a supervisory role. In addition, monitoring issues can be addressed by the Permanent Forum on Indigenous Issues, the Human Rights Council, and the UN Human rights treaty bodies, particularly the Committee on the Elimination of Racial Discrimination (CERD).[34]

States are bound by ILO 169 if they have ratified the Convention. Even if ratification does not take place, the ILO will keep track of developments in countries. This is found in art. 19 of the ILO Constitution[35]. Member states are to report to the ILO on specific topics and report measures "taken to give effect to any provision of certain conventions or recommendations, and to indicate any obstacles which have prevented or delayed the ratification of a particular convention"[36]. Ratifying ILO 169 is important for the human rights battle of indigenous and tribal peoples for a number of reasons.[37] First of all, it is a commitment of the State to uphold the rights enlisted in the Convention. It also builds a relationship between the State and the peoples, makes complying to the Convention a partner task with the other signature States, and can also be an issue for donors and development partners in their dealings with States. That is to say, they may not want to conduct business with States that do not ensure the rights of Indigenous Peoples. Ratification is especially important for Indigenous Peoples because ratified States can be held accountable at an international level if

---

[32] International Labour Organization, *"ILO standards and the UN Declaration on the Rights of Indigenous Peoples: Information note for ILO staff and partners"*, n.d., distributed at the Permanent Forum on Indigenous Issues, 7th sess., April 2008

[33] *Aurelio Cal et al. v. Belize* "embodying as it does, general principles of international law relating to indigenous peoples and their land and resources, is of such force that the defendants, representing the Government of Belize, will not disregard it."

[34] *"ILO standards and the UN Declaration on the Rights of Indigenous Peoples: Information note for ILO staff and partners"*

[35] International Labour Organization (ILO), *Constitution of the International Labour Organisation (ILO)*, 1 April 1919

[36] "Applying conventions when countries have not ratified them - General Survey (article 19)", International Labour Organization, http://www.ilo.org/global/What_we_do/InternationalLabourStandards/ApplyingandpromotingInternationalLabourStandards/Applyingconventions/lang--en/index.htm (Accessed January 2010)

[37] *"ILO standards and the UN Declaration on the Rights of Indigenous Peoples: Information note for ILO staff and partners"*

they do not comply with the Convention, and also because the Convention can, in some countries, be applied in the courts at a national level. The application of ILO 169 is supervised by the Committee of Experts on the Application of Conventions and Recommendations (CEACR) and does this by receiving periodic reports on implementation by the ratified States.[38]

2.3 PARTICULAR HUMAN RIGHTS

2.3.1 Introduction

Climate change is predicted to have some negative affects on particular human rights, especially on those of indigenous peoples due to their close relationship to the environment. This chapter focuses on the finding of two reports, "The Report of the Office of the UN High Commissioner for Human Rights on the relationship between climate change and human rights" and "Climate Change, Human Rights and Indigenous Peoples" submitted to the UN Economic and Social Council by the International Indian Treaty Council. "The Report of the Office of the UN High Commissioner for Human Rights on the relationship between climate change and human rights" lists six particular human rights that will be and are affected by climate change. This paper will focus on these rights, and they include: (1) the right to life, (2) the right to adequate food, (3) the right to water, (4) the right to health, (5) the right to adequate housing and (6) the right to self-determination. These human rights issues and indigenous peoples are further discussed in the report "Climate Change, Human Rights and Indigenous Peoples". This section will thus give light to what these rights mean, in what international treaties they are protected, and what they mean to the indigenous peoples during this climate crisis.

[38] "Committee of Experts on the Application of Conventions and Recommendations" International Labour Organization. http://www.ilo.org/global/What_we_do/InternationalLabourStandards/ApplyingandpromotingInternationalLabourStandards/CommitteeofExperts/lang--en/index.htm (Accessed December 2009)

2.3.2 Right to Life

The right to life goes hand in hand with many other rights e.g. the right to food, water, health and housing.[39] When considering climate change, there are some serious threats that are posed on the right to life. These include the predicted phenomena like the increase and spread of disease like malaria, heat waves, floods, storms, fires and droughts that will result in illnesses and death. These phenomena will have great impact on disorders like hunger, cardiorespiratory morbidity and morality related to ground-level ozone.[40]

The right to life is clearly stated in the ICCPR, art. 6 and the CRC, art. 6. The Human Rights Committee states in its general comments on the right to life that that right is a "supreme right" and "basic to all human rights" and one that does not cease to exist during public emergencies.[41] Furthermore it states that States are to perform positive measures for the protection of the right to life by taking measures to reduce infant mortality, malnutrition and epidemics.[42] The CRC obliges States to ensure the survival and development of the child and that this is to be done holistically by enforcing the other provisions of the Convention.[43]

The impact that climate change will have on the right to life can be seen below when the other particular rights are discussed. What should be taken in when discussing the right to life is that indigenous peoples are entitled to the same standards as the rest of the population. If food becomes scarce or migration patterns change due to climate change, then the right to life is being affected. Droughts or forest fires

---

[39] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61. p. 9.

[40] *ibid*

[41] General Comment 6 on the Right to Life. Human Rights Committee, General Comment 6, Article 6 (Sixteenth session, 1982), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 127 (2003). para. 1; and Human Rights Committee, General Comment 14, Article 6 (Twenty-third session, 1984), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 139 (2003). para. 1.

[42] General Comment 6 on the Right to Life. Human Rights Committee, General Comment 6, Article 6 (Sixteenth session, 1982), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 127 (2003). para. 5.

[43] CRC, art. 6, para. 2 ; UN Committee on the Rights of the Child (CRC), *CRC General Comment No. 7 (2005): Implementing Child Rights in Early Childhood*, 20 September 2006, CRC/C/GC/7/Rev.1. para. 10.

could result in the destruction of the natural habitats of plants and animals used for traditional healing purposes of indigenous peoples, and would infringe indigenous peoples´ right to life.

2.3.3 Right to Adequate Food

With the changing climate, food, the right to it, distribution of it and the availability of it will become an ever-growing problem. On the global scale however the problem is not one of the lack of food, but rather with the *access* to food. According to the IPCC, lower latitudes crop productivity is predicted to decrease although it is predicted to increase in other areas of the world. Sub-Saharan Africa will most likely be hit the hardest, making an already famished area even more so. Food security and livelihoods are threatened with extreme climate events and has been documented by the Special Rapporteur on the right to food. [44] Migratory patterns of animals will have a devastating impact on the hunt of certain species. The introduction of new species, whether plant or animal, can cause the "home species" to die out, changing the biodiversity of an area. This could result in a alteration of the food in the food chain, loss of natural medicines, affect the hunt and food for human beings.

The right to adequate food is found in the instruments listed below, but it should be noticed that it is more comprehensively dealt with in ICESCR, art. 11[45]. Not only

---

[44] UN Human Rights Council, *Report of the Special Rapporteur on the Right to Food, Jean Ziegler : addendum : mission to Bolivia*, 30 January 2008, A/HRC/7/5/Add.2. paras. 11, 15, and 51.

[45] Article 11 states:

1. The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent. 2. The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures, including specific programmes, which are needed: (a) To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources; (b) Taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable

is adequate food a factor of an adequate standard of living in ICESCR, but it goes on further to say that it is a fundamental right to be free from hunger in art. 11 (2). In CRC art. 24 and CRPD art. 25 (f), and art. 28 para 1, the right to food is unambiguously expressed as a factor for an adequate standard of health. CEDAW, art. 14, para. 2 (h) and ICERD, art. 5 (e) imply this right in the general provisions on an adequate standard of living.[46] According to the Committee on the Economic, Cultural and Social Rights (CECSR), the term adequate food implies:

> "The availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture;
>
> The accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights."[47]

The diet is to provide nutrients for physical and mental growth and the food safety is to be as such to require food to be safe and free from bad environmental hygiene and inappropriate handling at different stages of the food chain. Naturally occurring toxins should also be identified, avoided and destroyed to make sure that food is free from adverse substances.[48]

With a changing climate, measures will and have started to take place where the poor and vulnerable, e.g. indigenous peoples, are pushed aside and their lands taken and used for e.g. agricultural fields, resulting in loss of biodiversity and traditional lands to live off of. In the report the Special Rapporteur links worsening droughts, desertification and related fights over resources to the conflicts in Darfur. Now as the climate becomes even more hostile, the conclusion can be drawn that similar hostile situations will happen in other parts of the world. At desperate times come desperate measures, that

---

distribution of world food supplies in relation to need.

[46] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61. para. 25

[47] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant)*, 12 May 1999
para. 8

[48] *ibid* paras. 9 and 10.

is why it is vitally important for States to uphold their duty to their people and their duty to fulfill these rights.

Opening the eyes of people to the Indigenous Peoples´ rights, The International Indian Treaty Council coordinated the "1st Indigenous Peoples´ Global Consultation on the Right to Food and Food Sovereignty" in 2002 where over 140 indigenous delegates came to the finding that food and food security was based on food sovereignty. The "Declaration of Atitlan"[49] was adopted at the Global Consultation and is the "definitive global statement on Indigenous Peoples´ Right to Food"[50] and emphasizes that the denial of the right to food is a denial of their collective indigenous existence because it denies them not only physical survival, but also their social organization, cultures, traditions, languages, spirituality, sovereignty, and total identity.[51]

Accessibility to food for Indigenous peoples can be threatened if their access to ancestral lands is affected. In 2007 the UN Permanent Forum on Indigenous Issues Secretariate wrote a paper on "Climate Change, An Overview"[52] where it shows examples where effects of climate change on indigenous peoples was already taking place. Some of the examples[53] from different regions of the world are discussed below. In the Amazon Region, serious droughts could lead to forest fires and savannas, and in the Andean Region indigenous peoples are moving to higher altitudes to be able to farm their traditional crops, leading to deforestation, soil erosion and loss of culture. With greater droughts in Africa nomadic groups will have to rely on government drilled bores for water, meaning abandoning their traditional lifestyle. The Arctic is feeling climate change the most and is a climate change

[49] "The Declaration of Atitlan", 1st Indigenous Peoples´ Global Consultation on the Right to Food and Food Sovereignty, Sololá Guatemala, April 2002.
[50] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.
[51] The "Declaration of Atitlan", 1st Indigenous Peoples´ Global Consultation on the Right to Food and Food Sovereignty, Sololá Guatemala, April 2002.
[52] "Climate Change: An Overview" - A Paper prepared by the Secretariat of the United Nations Permanent Forum on Indigenous Issues (November 2007)
[53] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.

indicator because of the rapid changes happening there. Indigenous people in the Arctic depend on the sea ice to hunt, as do many of the animals in the Arctic. As the sea ice melts, the hunt is affected and the hunting environment becomes more unwelcoming and dangerous. The mild winters are affecting the Saami of Finland, Norway, and Sweden because the reindeer are unable to dig through snow and ice to reach lichen.[54]

2.3.4 Right to Water

Already today there are populations that are without sufficient amount of water, the most obvious region being Africa. With the changing of the climate, glacier and snow cover loss is expected, as is exacerbated droughts and flooding. Glacier and snow cover loss will impact those populations living near mountainous areas that live off of meltwater, whereas droughts and flooding will make distribution and water management stressed, calling on governments to have appropriate measures and policies at hand.[55] When the availability of water becomes stressed, death from dehydration, water-related diseases, hygienic requirements and food for consumption also becomes stressed.[56]

The right to water can be found in a number of human rights agreements. The ICESCR refers to, in art. 11, that people are to have an adequate standard of living. It also refers to it in art. 12, dealing with the right to health. Although water is not directly stated in the articles, the general comment states that the list in the article is not exhaustive and that it is impossible to have an adequate standard of living without water.[57] CEDAW and the CRPD go on to say that the water is required for an

[54] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.
[55] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61.
[56] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11.
[57] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11. paras. 2 and 3.

adequate standard of living.[58] The CRC expresses that in order to combat disease and malnutrition, there should be a right to clean drinking water.[59]

The CESCR´s General Comment on the right to adequate water states three factors that must be applied in all circumstances, even though the adequacy of water may vary. These include (a) availability: water must be sufficient and continuous for personal use, (b) quality: water must be safe to consume, free from hazardous substances that threaten health and must be of an acceptable colour, odour and taste, and (c) water must be accessible to all without discrimination. This means that water is to be physically accessible: within or in the immediate vicinity, and physical security should not be threatened; water should also be economically accessible: it should be affordable; and it should be accessible to all without discrimination.

Water is what is needed to sustain life on this earth and is the main element of survival. When water becomes stressed, the biodiversity of an area often takes a hit resulting in a harsher environment for human beings. Water and health are clearly related because without water health declines, and with polluted water health declines.[60] The carbon emission created by humans is not only a root cause of a warming climate, but the burning of fossil fuels is also polluting waters around the world. Due to the relationship that many indigenous groups have with the environment, they rely on spring water, or unfiltered water that they locate in their natural habitat. When this water gets contaminated, people either drink contaminated water that could lead to disease, drink no water at all, or rely on a third source for water, e.g. the government to distribute it. States have an obligation to protect water resources on ancestral lands and protect it from pollution and encroachment as well as provide resources that allows them to design, deliver and control their access to water.[61] This can however be difficult for indigenous peoples when there is no water to control access to or if the quality of the water makes it undrinkable.

---

[58] CEDAW, art. 14, para. 2 (h); CRPD, art. 28, para. 2 (a)
[59] CRC, art. 24, para. 2 (c)
[60] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.
[61] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11.

2.3.5 Right to Health

One of the more common concerns of climate change is the right to health, especially how climate change will affect the well being of people. The IPCC predicts that climate change will increase the outbreaks and occurrences of "malnutrition, increased diseases and injury due to extreme weather events, and an increased burden of diarrhoeal, cardiorespiratory and infectious diseases."[62] Therefore, a great image for the threat of the right to health is an image of an African child starving in sub-Saharan Africa, dying of malaria. This example is one that shows the interconnectedness of the right to health to the right to food and water. Disease is one threat to the right to health and one of the more popular and spoken of one is malaria. Malaria is one of those diseases that is predicted to become more widespread due to a warming climate, making a larger area more welcoming to the virus. Climate change is expecting extreme weather events in the near future and already in the Caribbean, extreme weather events have caused serious health threats like rodent-borne diseases, water-borne diseases, food-borne diseases, and respiratory diseases.[63]

The right to health, or "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health"[64] is most vastly covered by the ICESCR, art. 12, where the steps taken to achieve this right are listed. These steps include:

> (a) provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child;
>
> (b) The improvement of all aspects of environmental and industrial hygiene;

---

[62] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61 para. 32 ; Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Core Writing Team, Pachauri, R.K. and Reisinger, A. (Eds.) IPCC, Geneva, Switzerland. p. 48

[63] Mimura, N., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, 2007: Small islands. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,* M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, P 701.

[64] ICESCR art. 12

(c) the prevention, treatment and control of epidemic, endemic, occupational and other diseases;

(d) the creation of conditions which would assure to all medical service and medical attention in the event of sickness.[65]

The right to health is also listed in the CEDAW art. 12 and 14, ICERD art. 5, CRC art. 24, CRPD art. 16, 22, and 25, and the ICMW art. 43, 45 and 70.[66] According to "General Comment 14 on the Right to the highest attainable standard of health"[67], the interpretation of health extends to appropriate health care, access to safe and portable water and adequate sanitation, adequate supply of safe food, nutrition and housing, healthy occupational and environmental health-related decision-making at the community, national and international levels.[68]

The affect of climate change on health is a bit of a chain reaction. Climate change will have an affect on something, e.g. food supplies or the flora and fauna of a region, and that will, in effect, have an impact on the right to health. Take the connection between the right to health and the right to food; the Arctic Human Development Report makes the connection between traditional foods and human health quite clear and states: "You Are What You Eat"[69]. The pollutants in this world (pollutants created by e.g. fossil fuel combustion and megaprojects, same ones that contribute to greenhouse gas emissions, hence climate change) end up affecting those who live closest to and have the closest relationship to nature. That, more often than not, means indigenous peoples. Either they continue to consume traditional foods with a side effect of deteriorating health, or they may be forced to consume non-traditional food. This change in food can lead many communities to show signs of declining health, e.g. diabetes, malnutrition and infectious diseases.[70]

---

[65] ICESCR, art. 12 para 2 (a-d)

[66] CEDAW, art. 12 and 14 para. 2 ; ICERD, art. 5 (e) (iv) ; CRC, art. 24 : CRPD, art. 16 para. 4, 22, para. 2, and 25 ; ICMW, arts. 43, para. 1 (e), 45, para. 1 (c), and 70.

[67] Human Rights Committee, General Comment 14**,** Article 6 (Twenty-third session, 1984), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 139 (2003).

[68] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12 of the Covenant)*, 11 August 2000, E/C.12/2000/4. para. 11

[69] Hild, Carl M. "Human Health and Well-being" Arctic Human Development Report Stefansson Arctic Institute. Akureyri; Iceland. 2004. pg. 161

[70] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council

2.3.6 Right to Housing

Coastal settlements and those living near rivers and deltas will greatly feel the affect of climate change. Erosion due to harsher sea conditions and mountain runoff will put the housing of many communities in danger, especially since living by water is not only popular, but also economically smart for e.g. some indigenous groups since their substantive livelihoods rely on water. Flooding will become ever more common, putting peoples homes, health, and lives at risk. These causes of climate change will force many to move, and many will end up moving to slums in urban areas and/or informal settlements where the areas that they live could be hazardous.[71] This could be the case because those who will have to move will most likely be in a lower class, their previous homes poorly built and not equip for the changes in climate.

According to the CESCR general comment No. 4, adequate housing is defined as "the right to live somewhere in security, peace and dignity".[72] This right can unambiguously be found in the ICESCR, UNDHR, ICERD, CEDAW, CRC, ICRMW, and CRPD.[73] According to the report of the Office of the UN High Commissioner for Human Rights, the following are human rights guarantees, in regard to housing, in the context of climate change: "(a) adequate protection of housing from weather hazards (habitability of housing); (b) access to housing away from hazardous zones; (c) access to shelter and disaster preparedness in cases of displacement caused by extreme weather events; (d) protection of communities that are relocated away from hazardous zones, including protection against forced

---

(IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.

[71] UN General Assembly, Adequate housing as a component of the right to an adequate standard of living : note / by the Secretary-General, 13 August 2008, A/63/275. paras. 31-38.

[72] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)*, 13 December 1991, E/1992/23. para. 7

[73] ICESCR, art. 11; UNDHR, art. 25, para. 1 ; ICERD, art. 5 (e) (iii) ; CEDAW, art. 14, para. 2 ; CRC, art. 27, para. 3 ; ICRMW, art. 43, para. 1 (d) ; CRPD, art. 9, para. 1 (a), and 28, paras. 1 and 2 (d).

evictions without appropriate forms of legal or other protection, including adequate consultation with affected persons."[74]

Climate change is already having an impact on indigenous communities around the world. In the Arctic, communities are being relocated due to erosion of lands by the sea.[75] Other communities can expect relocation due to the rising sea levels.[76] Many of those who end up losing their homes to climate change will be indigenous populations because many tend to live near the shore, do not have the appropriate safe-guards to protect them from climate change affects, and their housing cannot withstand the changes in weather. These peoples should not have to live scared for their lives that the next storm will collapse their houses. Perhaps as the weather becomes more violent, early warning detection systems should be placed on shores or near rivers to warn those living near the shore that flash floods or severe winds are coming, and evacuation plans distributed to the people. Perhaps for those living in modern housing, safety codes for building and infrastructure should be kept updated to make sure buildings are safe. Indigenous peoples were able to adapt to weather conditions a lot better in the past because they were connected with the earth and their survival counted on it. However today, the Inuit, because nomadic culture, e.g. the Inuit, and traditional housing did not suit the government, they have steady homes and were forced to give up nomadic culture. This makes the housing situation difficult because it is much more difficult to react to the changing climate.

---

[74] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61. para. 38

[75] Anisimov, O.A., D.G. Vaughan, T.V. Callaghan, C. Furgal, H. Marchant, T.D. Prowse, H. Vilhjálmsson and J.E. Walsh, 2007: Polar regions (Arctic and Antarctic). *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK. p 672 ; See e.g. villages of Shishmaref, Kivalina and Newtok.

[76] Bindoff, N.L., J. Willebrand, V. Artale, A, Cazenave, J. Gregory, S. Gulev, K. Hanawa, C. Le Quéré, S. Levitus, Y. Nojiri, C.K. Shum, L.D. Talley and A. Unnikrishnan, 2007: Observations: Oceanic Climate Change and Sea Level. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. pg. 409

2.3.7 Right to Self-determination

The affects of climate change are predicted to have drastic implications for peoples´ lands and territory, least not for the small island States in the Pacific. With predicted rising sea levels, many of those States will fall below the sea line and go underwater in whole or in part. This has drastic implications for the people of those islands. Their right to self-determination will be impacted in a negative way due to the fact that they will most likely not be able to inhabit and exist on their lands, and that their traditional lands and livelihoods will be taken away from them, submerged under the rising seas.[77] This is just one example, others include communities affected by erosion, mudslides and desertification; without their lands their right to "freely determine their political status and freely pursue their economic, social and cultural development"[78] becomes difficult if not impossible. This in return affects other human rights, e.g. their right to enjoy their culture that is recognized in art. 27 of the same convention.

The right to self-determination is regarded as a fundamental right in international law and is covered by several instruments in including the UN Charter in art. 1 and 55. The right to self-determination is recognized in art. 1 (1) in both ICESCR and ICCPR. UNDRIP recognizes self-determination in art. 3 and 4, and states in art. 4 that "Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development."[79] The right to self-determination entails having the right of people to not be deprived of "its own means of subsistence" and obliges States to "promote the realization of the right to self-determination, including for people living outside its territory."[80]

This article is undoubtedly an important article for Indigenous peoples because of the importance self-determination has on them. The term self-determination for indigenous peoples is often a controversial one in the international community

[77] UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61. para. 40
[78] ICCPR, art. 1(1)
[79] UNDRIP art. 3
[80] A/HRC/10/61 para 39. See also Human Rights Committee, general comment No. 12 (1984) on art. 1 (Right to self-determination), para. 6.

because many believe it to grant indigenous peoples independence. This is the idea behind external self-determination and is really only applicable during decolonization and if a territory is overseas. A more applicable definition of self-determination is that of internal self-determination. Internal self-determination deals with autonomy and self-government, bringing about the participation of peoples and groups within a State.[81] This is the self-determination referred to in this paper.

One factor in respecting the right to self-determination of peoples includes the respect of their right to development. According to the Declaration on the Right to Development, the right to development includes: Full sovereignty over natural resources; self-determination; popular participation in development; equality of opportunity; the creation of favourable conditions for the enjoyment of other civil, political, economic, social and cultural rights.[82] Perhaps the idea of development and climate change may seem to contradict each other, but this is not necessarily the case. Developing countries are behind in the game and want to develop like the developed countries. This idea is presented by the Kyoto Protocol[83], where it is noticed that developing countries should be given space to develop. Due to the fact that these communities have not contributed as greatly to greenhouse gas emissions causing human induced climate change, they should be allowed to use energy to assist them into getting to a similar standard of living. This is the idea behind the Kyoto Protocol; greenhouse gas emissions, emission trading and technology transfer.

However, how this is done and what peoples´ idea on development and the ideals behind it are not necessarily the same. Many indigenous peoples argue that they have a subsistent way of living and this is how it should continue, free from development like fisheries, mining, energy production and agriculture. However, it must not be forgotten that Indigenous groups are not actors in a museum; they have just the same right to continue to evolve and develop like the rest of the world. Therefore, the conclusion should not be drawn that all indigenous peoples do not want to develop and engage in things like mining projects, drill for oil, and/or hunt or fish or graze to

[81] Alfredsson, Gudmundur, Human Rights Challenges in the Arctic, paper presented to the Fourth Northern Research Forum in Oulu in 2006 p. 167. http://www.nrf.is/Publications/The%20Borderless%20North/Project%20Legal_Alfredsson.pdf (Accessed January 2010).

[82] UN General Assembly, *Declaration on the Right to Development : resolution / adopted by the General Assembly*, 4 December 1986, A/RES/41/128

[83] "Kyoto Protocol." *United Nations Framework Convention on Climate Change.* http://www.unfccc.int (Accessed June 2009)

the point where they have excess. These communities, just like the rest of the world, have a right to decide in what direction their culture will take them. However, the more outspoken indigenous peoples groups and organizations, dealing with climate change, point out that they do engage in subsistant living. In order to do this in modern day, the ICC has called upon the governments of the world to invest their effort in clean energy and the transfer of technology.[84]

Mililani Trask, a human rights expert, has focused on the fact that human rights cannot be expressed in such a way so that they violate the expression or human rights of others.[85] It is also stated in the preamble of UNDRIP that nothing in the Declaration is to deny peoples of their exercise to self-determination.[86] In UNDRIP the right to development is protected under art. 23: "Indigenous peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them…"[87] and art. 26(2): "Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupational use…"[88]. If the right to development conflicts with the existence of indigenous peoples, e.g. if it is argued that the mining and combustion of fossil fuels mined by the Inuit in the Arctic (right to development) is a serious contributor to the greenhouse effect causing rising sea levels and the sinking of small island States in the Pacific, then it can be argued that the self-determination of the small island Sates, their right to survival and existence, should be put before the Inuit´s right to development. Trask expresses this opinion as a response to the problematic "second option of calls for actions" that are stated by the Anchorage Declaration.[89] As Trask

---

[84] "Inuit Call to Global Leaders: Act Now on Climate Change in the Arctic" , Inuit Circumpolar Council, November 13, 2009.
[85] "2-"REDD oneOone" Mililani Trask about Alaska Declaration, PFII, UNDRIP and REDD" http://www.youtube.com/watch?v=exMCXDI2oC0 (Accessed December 2009)
[86] UNDRIP para. 17 of the preamble
[87] UNDRIP art. 23
[88] UNDRIP art. 26
[89] "Anchorage Declaration" from the Indigenous Peoples' Global Summit on Climate Change, April 24th 2009. The two options for action called upon by the Anchorage Declaration are as follows

a. We call on the phase out of fossil fuel development and a moratorium on new fossil fuel developments on or near Indigenous lands and territories.
b. We call for a process that works towards the eventual phase out of fossil fuels, without infringing on the right to development of Indigenous nations.

puts it, the right to development is seen as a superior right to other rights and it seems to say that other rights are acceptable, as long as they do not infringe the right to development. This is found to be problematic and has created a split decision on development within indigenous populations.

2.3.8 Article 27 ICCPR – the right to culture

Article 27 ICCPR is not mentioned in the report because the report did not focus on minorities, but needs to be mentioned here since most indigenous groups are minorities. Due to the fact that the HRC has been reluctant to decide cases on art. 1 of the ICCPR on self-determination, often because the term "peoples" has not been clearly defined in international law, indigenous groups have relied on the interpretation of the art. 27 of the same Convention, especially concerning the word "culture". Article 27 states:

> In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language.

In many cases indigenous groups will use this article to establish their right to culture, hence their right to land, instead of basing their argument on art. 1 of the ICCPR. In General Comment No. 23, the HRC observes that culture can take on many forms, "including a particular way of life associated with the use of land resources, especially in the case of indigenous peoples. That right may include such traditional activities as fishing or hunting and the right to live in reserves protected by law."[90]

Several cases have been brought to the HRC on its deciding on art. 27, especially cases regarding the link between culture and traditional forms of indigenous peoples´ economic life. In *Lubican Lake Band v. Canada*, we get a decision saying that culture does include land because you need the land to maintain your culture.[91] The Lubican Lake Band needed the area in order to pursue their culture, and that oil and gas extraction by the State in their area was a violation of Article 27. The reason they

[90] UN Human Rights Committee (HRC), *CCPR General Comment No. 23: Article 27 (Rights of Minorities)*, 8 April 1994, CCPR/C/21/Rev.1/Add.5

[91] *Lubicon Lake Band v Canada,* Communication No. 167/1984, Views adopted on 26 March (1990)

gave was because the extraction would jeopardize the culture of the Lubican Lake Band. Hence the connection between land and culture was found; without the material land to practice culture on, culture would have a difficult time in continuing on and surviving.

Minorities of the Arctic, especially indigenous peoples, are fairly similar in the fact that they rely greatly on the land for the preservation and practice of their culture and that people/companies of the South want to use this land also. The presence of Southerners is often a bad thing because destruction of land and pollution often follows them. In the case *Länsman 1*, the State party was collecting rocks from a mountain and in order to reach and transport the rocks from there, vehicles had to pass through Saami reindeer herding land. This was seen as being disastrous to the reindeer herding. In this case the HRC *did* recognize the Saami reindeer husbandry as a part of the Saami culture, but was not able to find that the actions of the State party were in such a way that they limited the culture of the Saami.[92] Although not an ideal decision for the Saami, the decision is helpful because it shows us that Saami reindeer husbandry in Finland is a cultural right according to art. 27 ICCPR. In the case *Länsman 2*, we see a similar decision reached by the HRC. In this case however, the State was logging. The HRC stated once again that reindeer herding was a part of the Saami culture but that the effect of the logging was not enough to be considered a violation of the right to enjoy culture as is meant by article 27 of the ICCPR.[93]

This understanding of the term "culture" in art. 27 is important in the climate change context because climate change will have an affect on the right to culture. Without the traditional lands to hunt, practice religious rituals, and live, the future of many indigenous cultures around the world will be in danger. Not to mention all that will be lost if the sea levels rise and make some islands inhabitable. In the traditional lands of the Saami, the land has been favourable to how they have lived their lives. That could however be change as the winters get milder and ice forms over lichen, affecting the food source of the reindeer. What this could mean is that some reindeer will starve to death, while others will seek different migrating patterns and push further north. A change in migratory pattern could be disastrous to the reindeer

---

[92] *Länsman et al. v. Finland*, Communication No. 511/1992, U.N. Doc. CCPR/C/52/D/511/1992 (1994)

[93] *Jouni E. Lansman et al v. Finland*, (1996), HRC Communication No. 671/1995, U.N. Doc. CCPR/C/58/D/671/1995 (1996).

husbandry business and the survival of the reindeer could even be jeopardized if they migrate to lands outside the traditional lands. This could pose problems for the Saami, especially if they find that they have to move further north to stay closer to the reindeer, since adaptation is more difficult today than it was before they were "settled" by southerners.

2.4 CONCLUDING OBSERVATIONS

The aforementioned rights are all connected in some way or another. The right to water is related to the right to life, the right to the highest attainable standard of health, the right to housing and the right to food. There is an obligation for States to make sure that drinking water is not unsafe or toxic, and that there is an adequate amount of water to ensure the livelihoods and subsistence farming of indigenous peoples. The location of housing also depends on whether water is sufficiently available for personal and domestic use and whether it is physically accessible from the location.[94] The right to water is not only a right to consume it and for sanitation, but also to "freely exercise full authority and control" [95] of it. Therefore the conclusion can be drawn that the self-determination of Peoples is vitally linked to their right to water.

Although the annual report by the UN High Commissioner for Human Rights did not specifically link particular indigenous peoples´ rights and climate change, rather human rights as a whole, the issues for each specific right was undeniably applicable to Indigenous peoples. However, there was a section on indigenous peoples in the report and it recognized several different articles in UNDRIP in which indigenous peoples´ rights will be affected by climate change. Articles 8 is threatened because climate change could instigate forced assimilation and destruction of indigenous culture due to the dispossession of lands, territories and resources. This could very well happen if the traditional lands in which indigenous groups live become inhabitable. Article 29 is threatened because climate change will have an affect on the conservation and protection of the environment and the productive capacity of the lands or territories. Article 31 is threatened because their right to maintain, control,

[94] UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11. paras. 7, 8, 12

[95] Indigenous Peoples Kyoto Water Declaration. "Conditions of our Waters", Third World Water Forum, Koto, Japan, March 2003. para. 9

protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions is so closely connected to the environment.

Despite international conventions and declarations, the status of indigenous peoples is not a strong one and this is very often the case for minorities. However, if climate change has brought about one thing, it is the voice and togetherness of indigenous peoples. It has brought about, amongst other things, arguments against climate change, against carbon emissions, stronger indigenous representation in international affairs, the recognition of the importance of traditional knowledge, and adaptation strategies where indigenous peoples can be involved. Indigenous Peoples believe they can be of assistance in helping societies heal the world. This is a beautiful idea, but might be quite idealistic.

This idealism can perhaps be seen in the discussion of the second opinion of the Anchorage Declaration discussed above. As Trask puts it, indigenous peoples have been cornered and, in response, have started to turn on each other. The splitting into two groups, ones that want to develop and ones that do not, undermine the idea of indigenous unity. Will the Indigenous communities choose development, and in some cases wealth, over the existence of other indigenous groups and the survival of the Earth? The counter-argument could be that some communities do not want to be stuck in a historical image where, e.g. the Inuit, are people that solely survive by subsistant living. They may want to build a State, become a player in the international market and use natural resources and partake in shipping. This development mindset may be seen as traitorous act by other indigenous groups, but is none-the-less covered by their right to development.

Indigenous populations are not displays in a museum, they are ever developing and have a right to develop and evolve as a society. To deny them of this right is denying them the choice and freedom to participate in global economics and often at times, better their community. Hence, a continuing focus should be placed on clean energy, traditional knowledge and internal self-determination of indigenous peoples. In the future it will be interesting to see what stance indigenous peoples´ groups will take as energy become cleaner. Will the damming of rivers for hydroelectricity be welcomed, will wind turbines that make pestering noise be upsetting to the wildlife and will the presence of solar panels upset the nature in which it is placed? This sort of conflict can be prevented with the presence and involvement of Indigenous Peoples in decision making processes, in working groups, forums, etc.

Therefore the concluding arguments are that the particular rights listed in this section are interconnected when it comes to human rights and climate change. These right pertain well to indigenous peoples and the climate crisis even though the real meaning e.g. the right to self-determination, may present contrasting rights and opportunities to various indigenous groups. The idea that indigenous groups want to develop should always be cautiously looked at, understanding both sides of the argument, because development will affect other human rights. With talks about cleaner energy, it will be interesting to see what the future brings in relation to development.

3. CASE-STUDY OF THE INUPIAT IN NORTH SLOPE BOROUGH

A popular image for climate change has been of the starving polar bear swimming in an endless iceless sea. Rather, this paper will attempt to introduce a new picture, that of the people living in the Arctic, those that must continue to fight for the survival of their culture, subsistant way of living and their livelihoods. Polar bear pictures will hopefully be replaced with picture of homes being evacuated or swept away by the sea because of erosion, or the picture of new houses being built on pikes in order to adapt to the thawing permafrost. Perhaps even the picture of something not seen in the past, a smiling sunburned Inupiat child. The Arctic is changing and the people must change with it. This is the picture that must be presented.

> "The living resources of the Arctic not only sustain Indigenous Peoples in an economic and nutritional sense, but also provide a fundamental basis for social identity, spiritual life, and cultural survival"[96]

The Inupiat of the North Slope Borough are currently noticing how their climate is changing. The traditional knowledge that has been passed down for generations is becoming less applicable to everyday life in the Arctic and the adaptability to these changes is difficult due to social, economic, political, and institutional changes.[97] The history of the Inupiat has shown that adaptability comes naturally to them, though not without consequences. This chapter will take a quick look at the history of Alaska and the Inupiat, and examine what the expected changes in climate are for the Inupiat of the North Slope Borough in Alaska, and how they are to adapt to these changes. Furthermore, the work of the Climate Change Sub-Cabinet work groups will be studied, giving us a look into what they recommended for the climate change policy and what such a policy would mean for the Inupiat.

3.1 INTRODUCTION TO THE PEOPLE AND COMMUNITY

The Inupiat are indigenous peoples that live in the State of Alaska. A short introduction to the State of Alaska and the Inupiat is necessary in order to get a

[96] Arctic Climate Impact Assessment p 94
[97] *ibid* p 92

holistic view of the situation of the Inupiat. Also, the terms Inupiat, Eskimo, and Inuit are identified and their usage described.

3.1.1 ALASKA

Oil and gold exploration and extraction has had quite an impact on the State of Alaska's history, and is the main reason for US settlement. Alaska was bought by the United States in 1867 from Russia for two cents per acre, or US $7.2 million. For the first thirty years Alaska was neglected and not of an interest of the government. This however changed during the gold rush in the Yukon Territory and Alaska, raising the government's attention for the area. Oil was discovered in Katalla in 1902 and ten years later Alaska was granted territorial status, meaning it had a say in the lawmaking of the Alaskan Territory.[98] It should be noted that the "new" Alaskans from the South were the stakeholders and not the Inuit. In 1936, with the amending of the Indian Reorganization Act, Alaska Native Villages were granted authority to "reorganize themselves for governmental and business purposes based on a common bond of occupation, association or residence within a well-defined neighborhood, community or rural district".[99] Further explorations for oil in 1949 due to instability in the Middle East led to the finds in the Kenai Peninsula and Cook Inlet regions. In 1968 a find was made in Prudhoe Bay, making Alaska a wealthy state, earning US$900 million in the oil lease alone in 1969. Alaska became a state in 1959. In 1974 the construction of the Trans-Alaska Pipeline System (TAPS) was approved and by 20. June 1977 the transportation of oil from the north to the south, flowing through the pipeline, became a reality, supplying a fair amount of the oil demand from the other States of the Federation.

Both positive and negative impacts have been seen as a result of the creation of TAPS; economic benefits have been great but the affect that the oil exploitation and transportation has had quite an impact on the environment. The building of TAPS, for example, disturbed caribou pastures, and industrial waste polluted hundreds of cavities in the ground. The Alaska Native Claims Settlement Act (ANCSA) was signed in 1971 and has been controversial among native Alaskans. Instead of claiming

[98] Espiritu, Aileen A. Module 10, *Industrialization in the Circumpolar North*, by Aileen A. Espiritu. p. 5; See UArctic BCS 321 webpage: http://www.uarctic.org/singleNewsArticle.aspx?m=502&amid=3169

[99] "Indian Reorganization Act": 25 USC 461 - Sec. 473a. Allotment of land on Indian reservations; See also Arctic Human Development Report p. 88

legal rights to the North Slope lands through historic use, occupancy and aboriginal title, ANCSA was passed. The Inupiat of the North Slope have claimed that ANCSA: "cleared the way for development of Prudhoe Bay and the Trans-Alaska Pipeline. The act granted land and money to Alaska's Native people, and in return extinguished their aboriginal claims."[100] The Inupiat Eskimos were forced to give up all but 5 million of the 56 million acres of the North Slope. The 5 million that they were able to select from was from areas that were left over after the state selected land, after oil and gas leases were granted, after large federal withdrawals for Refuges were made, and after National Petroleum Reserves and other uses were made.[101] Hence, the Inupiat´s 5 million acres were leftover lands that these entities did not want.

A positive aspect of ANCSA has been that it created Native-owned corporations in Alaska, one per Native region; the Arctic Slope Regional Corporation (ASRC) represents the North Slope. ASRC is an important business enterprise with shareholders that live in the villages in the North Slope, an important fact because it ensures local will in decisions and a will to protect the land. Along with being able to live subsistantly on traditional lands, the petroleum industry in the North has provided economic security, self-determination and freedom of the people of the North Slope Borough. The Ukpeaġvik Iñupiat Corporation (UIC), is the village corporation of Barrow, Alaska and provides diverse services through their family companies like Construction, Engineering, Insurance, Oilfield Support, Technology & Professional, and Transportation, Marine, & Product Supply services to government and commercial customers locally and nationwide.[102] It is a local corporation that provides services and jobs for the Inupiat with Inupiat values.

3.1.2 THE INUPIAT

The Inupiat are Inuit people that live in northern Alaska especially the North Slope Borough and speak the language Inupiaq. They are referred to as Eskimos, which is a collective word for both the Inupiat and the Yupik of Alaska. The term Inuit is not used in Alaska but the term Inupiat technically means Inuit. Hence the term Inupiat in this paper is referring to the Eskimos in the North Slope Borough,

[100] "Arctic Slope Regional Corporation, Barrow, Alaska." The Office of the President. http://arcticcircle.uconn.edu/ANWR/asrcadams.html (accessed January 2010)
[101] *ibid*
[102] "Lines of Business" Ukpeagvik Inupiat Corporation. http://www.ukpik.com/LinesOfBusiness.htm (Accessed January 2010)

Eskimo is referring to the Inuit of Alaska (including the Inupiat and the Yupik) and Inuit is the term for all Inuit peoples of the North. The Inupiat of northern Alaska have been subsistant hunters since time immemorial and still rely on subsistant hunting. The marine animals hunted and those still hunted today include whales, walruses, belugas, narwhal, polar bear and seals and in the interior, caribou.

Being reliant on the animals, the Inupiat have a great deal of respect and are very thankful to the land. This connection and respect for the land makes their knowledge special and makes them more aware of the changes happening in their environment. This sensitivity to nature has e.g. not allowed them to exhaust a resource to the point of extinction. Survival for the Inupiat in the Arctic has always been a challenge but knowing their environment and creating and using technology in finding solutions to problems has been their key to survival.[103] Marine animals and caribou are still greatly important to the Inupiat, not only do they subsitantly live off of the animals as food, but also because their livelihoods and culture rely on them. Whales caught in Barrow are still heaved up by members of the village, are butchered by members of the village, and shares of the whale are distributed to members of the village.[104]

In the international perspective, the Inuit of the world, coming from Alaska (USA), Canada, Greenland, and Chukotka (Russia) are a part of the organization Inuit Circumpolar Council (ICC). The ICC is a non-governmental organization that was established in 1977, and was to be a way for the Inuit to partake and work together on an international basis. Among the goals of the ICC is to strengthen unity among the Inuit, promote Inuit rights and interests at an international level, develop and encourage Arctic policies safeguarding the Arctic, and to partake fully and actively in the political, economic and social development of the circumpolar regions.[105] Some of the bodies and forums that the ICC has been active in are the Arctic Council, the United Nations, the World Summit on Sustainable Development, the Convention on the Trade of Endangered Species, the World Intellectual Property Organization, the Organization of American States, the International Whaling Commission, the Convention on Biological Diversity, and the World Conservation Union IUCN.

---

[103] Wohlforth, Charles. "The Whale and the Supercomputer- On the Northern Front of Climate Change". New York: North Point Press, 2004. p. 57

[104] *ibid* pps. 27-33.

[105] "Inuit Circumpolar Council (ICC)" Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/index.php?auto_slide=&ID=16&Lang=En&Parent_ID=&current_slide_num= (Accessed January 2010)

Within these bodies the Inuit have addressed various activities like language promotion, hunting and whaling matters, and intellectual property rights, to name a few.[106] The ICC has also been active in the subsidiary bodies of the UN, especially regarding indigenous matters and UNDRIP.

Climate change was an issue that the ICC took greatly to heart and has worked and spent time on.[107] For the past years they have wanted to draw attention to climate change and its impacts on the Arctic, and in doing so, they have shown that the impacts of climate change are currently happening in the Arctic and that the people can already feel the changes. The ICC and its interest in the protection of Inuit initiatives in international forums can be seen in e.g. summits like the World Summit on Sustainable Development. The ICC dynamically partook in the making of the Arctic Climate Impact Assessment that was initiated by the Arctic Council.[108] The ACIA is a very important piece of work because of the combination of traditional knowledge, scientific observations and indigenous observations, making it a well-rounded, unique assessment. Much of the information about climate change in the Arctic described in this chapter is acquired from ACIA. The ICC has also attended and participated in Conferences of the Parties (COP) to the UN Framework Convention on Climate Change in Milan, Buenos Aires, and Montreal during 2002-2006. When the ICC Chair and 60 Inuit from Alaska and Canada went before the Inter-American Commission on Human Rights with a climate-change petition in December 2005, the ICC supported them.

The petition brought before the Inter-American Commission on Human Rights claimed that the Federal United States Government was to blame for climate change in the Arctic because of its extreme amount of GHG emissions. These emissions were said to cause global warming which in return violated the Inuit culture, food, life, and health.[109] The Petition was deemed inadmissible without prejudice due to insufficient evidence of harm on November 16, 2006. This result has however not discouraged the

---

[106] "Activities and Initiatives" Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/section.php?ID=12&Lang=En&Nav=Section

[107] See "Climate Change" Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/index.php?auto_slide=&ID=385&Lang=En&Parent_ID=26&current_slide_num= (Accessed January 2010)

[108] "ICC" Arctic Council, http://arctic-council.org/participant/icc (Accessed January 2010)

[109] Mary Robinson, Climate Change and Justice, Barbara Ward Lecture, Chatham House, London, December 11, 2006.

Inuit and the ICC, and further efforts have gone into providing information and testaments on the connection between climate change and human rights.[110]

3.2 CLIMATE CHANGE CONCERNS

Climate change in Alaska is a serious concern due to the fact that it is warming at twice the rate of the rest of the United States, with an average temperature that has increased 3.4°F, where winters have warmed by 6.3°F.[111] As has been mentioned before and will continue to be an important factor in this paper, the Arctic is a climate change indicator for the rest of the world. The cold harsh environment of the Arctic is susceptible to a warming climate, especially since it is going from one extreme: intense coldness. The Inupiat and the Inuit across the north are very much concerned with these changes.

Some climate change concerns for the Alaskan arctic talked about in this paper include: (1) reduced sea ice (2) warmer summers and wildfires (3) thawing of permafrost and (4) human rights concerns.[112] Many of these ideas are demonstrated by "Global Climate Change Impacts in the United States"[113] and a further elaboration of them is expressed and can be found in the Inuit Petition to the Inter-American Commission on Human Rights.[114] Although the affect of climate change on the environment is often evident in scientific reports, the focus on the impact on local communities is often lacking. Hence, the reader must keep in mind that it is the *people* that are the focus in this paper and how changes in the climate will affect *their* lives and livelihood. Along with scientific findings and predictions, the voice of the Inuit people will be presented, giving insight to how the changing climate is currently affecting them and how they see, feel and live through the changes. Climate change impacts are being felt by the Inupiat and the Inuit, and examples from Northern

---

[110] "The Inuit Case" CIEL. 11 March 2008. http://www.ciel.org/Climate/Climate_Inuit.html (Accessed January 2010)

[111] Karl, Thomas R. and Melillo, Jerry M. and Peterson, Thomas C., (eds). (2009) Global Climate Change Impacts in the United States: a state of knowledge report from the U.S. Global Change Research Program. ,New York. Cambridge University Press. p. 139

[112] *ibid* pps. 139-144

[113] *ibid*

[114] *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States* (submitted 7 December, 2005). Available at: http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf..

communities, whether it be in Canada, Alaska, or Russia, are indicators for Northern societies on what to expect. It is an opportunity for early adaptation work and policymaking.

3.2.1 REDUCED SEA ICE

The concern of the sea ice seems to be one of the more popular concerns talked about in the North. This is a reasonable concern since the sea is the biggest source of food for the Inupiat. Therefore, if the ice it is not steady, the people will feel the consequences. The area that sea ice covers and the thickness of the sea ice is expected to decline and it is predicted that the seasons of less sea ice cover and thickness will become longer. Furthermore, a trend of sea ice melting further into spring and fall is predicted, and sea ice is projected to retreat away from most arctic landmasses.[115]

The quality of the sea ice and its retreat has not gone unnoticed within the Inupiat community and is of great concern. This concern is based on the fact that the sea ice is used as a surface onto which they haul whales during the whaling seasons and is also used by whaling crews to scout for whales. These actions become dangerous if the sea ice should break and float away, possibly creating life-threatening situations if the people float off to sea. The view of one Inupiat follows:

> "We are seeing many differences in the quality of sea ice. It is less salty, easier to chop, and [it] breaks up sooner. The fast ice retreats early. It breaks up and retreats 20-30 miles and doesn't come back. We used to have ice come in in fall time, but now the water freezes up in place and we don't see the ice floes drifting to shore. Multi-year ice doesn't arrive till later."
> *Charles D.N. Brower, Barrow, Alaska* [116]

Despite the negative affects that reduced sea ice has with it, there are both positive and negative impacts for the North and its people, the main ones being: (1) on the subsistant living of the Inupiat, (2) erosion, (3) shipping and resource extraction.

3.2.1.1.SUBSISTANT LIVING

[115] Arctic Climate Impact Assessment p. 83
[116] Krupnik, Igor I. 2000. Native Perspectives on Climate and Sea-Ice Changes. In: Huntington, H.P., (ed.). Impacts of changes in sea ice and other environmental parameters in the Arctic: final report of the Marine Mammal Commission Workshop, Girdwood, Alaska, 15-17 February 2000. Bethesda, Maryland: Marine Mammal Commission. P. 40

Although the reduction of sea ice can be seen as a way of bringing financial input into the Arctic communities by tourism, resource extraction and marine traffic, it could and already has had devastating effects on the Inupiat economy and subsistant living. It has been recorded and is suspected in Nunavut, Canada that the ringed seal pup production declined and this is connected to the unstable sea ice. This causes the obvious reduction of the numbers of adult seals, but also has an unfortunate affect on polar bears, since the seals are their main source of food.[117] Both of these animals are food sources to the Inuit. Not only are they a source of food that get shared within the community, but their fur is used for clothing, their bones used for art, and the animals themselves provide spiritual relationships with nature.

Due to the fact that the summer sea ice is expected to be nonexistent in the near future, it is almost certain that the polar bears and ringed seals will die out, meaning that two important animals for the Inuit will vanish. The Inuit in Sachs Harbour, Canada, have observed the reduced numbers of polar bears and they have also noticed that the seals are not as fat.[118] Another threat for places like Barrow, Alaska is that with retreating sea ice and stronger storms, polar bears could end up being stranded on land near villages. Polar bear plagues have happened in Barrow, creating an extremely dangerous situation for the people, making it necessary to invest time and money to protect people from polar bears. An example of a measure taken was the placement of GPS systems in buses so that people did not have to wait outside for them (the buses), making them prey for polar bears.[119]

The sea ice is also becoming dangerous to travel on. Since it is melting, the Inupiat have to travel on first-year ice instead of thicker and stronger multi-year ice. This also forces the hunters to not journey as far out as before out on the sea ice. Rosemary Ahtuanguruak, the former mayor of Nuiqsut from the Beaufort Sea Village of Nuiqsut has reported "that many of those who have fallen through the ice were elders and experienced winter hunters who had crossed the ice in that area all of their lives without any problems, indicating dramatic changes caused by increasing temperatures"[120]

---

[117] Arctic Climate Impact Assessment 94
[118] *ibid* p 95
[119] "The Whale and the Supercomputer- On the Northern Front of Climate Change" p 258
[120] Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty

Sea ice reduction is detrimental to the Inuit in the North Slope Borough because they rely on it for whaling. They stay on the ice to scout for whales and when one is spotted they quietly launch the umiaq or boats off the ice and into the ocean, harpoon it and haul it onto the sea ice. The crew must stay on the sea ice because the whale is so much faster than them making a successful chase near impossible. Instead, the Inupiat spend a substantial amount of time on the sea ice waiting to spot whales and harpoon them as they come close to the sea ice edge. Once harpooned, the whale is hauled up onto the ice where the community gathers together and assists the whaling crews with butchering and distributing the whale meat. If the ice is bad, an unstable surface can make the cutting up of a whale very difficult and dangerous. An Inuit perception on the stability and melting of sea ice follows:

> "And another thing in my in area – the ice is not stable anymore, it is not too good in springtime. I don't know, maybe the water temperature is coming up. So, in the spring time when we go out hunting for seals in the day like this, sometimes it's a real warm day or they may even come in groups of two or three days. We can go out hunting to the shore ice and then we come back right to the beach in the boat. The shore ice is melting so fast – it's like opening your hot water socket, and the ice is melted away at once. Maybe the temperature is going up real fast. Before we could go out hunting, come and go – but never like that."
> *Charles Saccheus, Elim, Alaska* [121]

The sea ice has become unpredictable and although the traditional knowledge that has been passed down for generations has changed accordingly to climate change in the past, it is not able to keep up with the current changes. This is because of the fast pace that the changes are happening. In Barrow, Alaska the whaling crews have to adjust their whaling patterns because of the changing sea ice and accordingly to when the sea ice goes out. They have had to "adjust their usual patterns to prepare earlier, go farther out, and be ready to return to shore sooner."[122] They must adapt to

---

Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.; Rosemary Ahtuanguruk spoke at Annual Convention of the Alaska Intertribal Council in Anchorage, December 8. 2008.

[121] Krupnik, Igor I. 2000. Native Perspectives on Climate and Sea-Ice Changes. In: Huntington, H.P., (ed.). Impacts of changes in sea ice and other environmental parameters in the Arctic: final report of the Marine Mammal Commission Workshop, Girdwood, Alaska, 15-17 February 2000. Bethesda, Maryland: Marine Mammal Commission. P. 37-38

[122] Huntington, H.P. (ed.), 2000b. Impacts of Changes in Sea Ice and Other Environmental Parameters in the Arctic. Report of the Marine Mammal Commission

these changes if they want to continue their way of life. The sea ice is extremely important to the people and is vital to the survival of their culture and subsistant way of living.

3.2.1.2.EROSION

The loss of sea ice has several concerns for Inuit communities in the North, especially Alaska because it has many coastlines that are low in elevation. It is predicted that the occurrence of severe storms in the Arctic will increase, especially on the Pacific storm track. These storms will also have an affect on marine traffic and fishing fleets in Alaska, especially on the Inupiat fishermen because of how violent the storms will get. The sea ice not only has an affect on coastal storms, but also on the timing and location of plankton blooms. This could have a huge impact on the location of marine species and whether the Inupiat can reach them.

As sea ice is lost, the natural sea ice buffer will no longer be present to protect the coast from violent winds and waves. This will cause erosion of the coast, especially if the ground is less frozen due to the thawing of permafrost, and flooding. The crumbling of the ground into the ocean is already happening in the Arctic today and Alaska is no exception. This forces the community to either relocate or invest time, money and effort into building new "weather-smart" homes in the area, without necessarily knowing whether they will hold out. Attempting to control erosion is costly and it may be a too hopeful solution for the residents of the north since, from an economical point of view, it does not make sense.

Two examples of the effects of erosion are seen in the village of Shishmaref, Alaska, and Varandei, Russia. Shishmaref is an island off the coast of northern Alaska. Already over a dozen houses have needed to be moved because of the erosion of the shoreline due to (1) reduced sea ice that has acted as buffers in the past and (2) due to the increase of violent storms.[123] The locals have experienced the power that such storms bring with them and the damage they can cause when a single storm took around 15 meters from one end of the village overnight. Being an island, Shishmaref has relied on the sea ice to get to the mainland to hunt caribou and moose. They no longer have the ability to do this since the inlet does not freeze in autumn. In

---

workshop, Girdwood, Alaska, 15–17 February 2000. Marine Mammal Commission, Bethesda, Maryland: Marine Mammal Commission. p. 18

[123] Arctic Climate Impact Assessment p. 80

Varandei, located on the Pechora Sea, the erosion of the shore is also noticeable. What is most interesting in that case is the connection between human activity and erosion. The coast that has been disturbed by human activity withstands erosion much less and is less sturdy than the coasts where there has not been human activity.[124] Here is an example how the impact of humans can accelerate and disturb the natural rate of coastal erosion. When the factors of thawing permafrost, loss of sea ice, and more violent storms are put on top of human activity, the outlook for the coasts in the north is not a good one.

For the people of the north this is of a huge concern for their homes, their culture, their spiritual life and their health. It is difficult when your town is being swept away by the sea and when the weather and reading the weather is no longer trustworthy. The continuing erosion of the coasts affects the amount of land and the safety of it, and infrastructure like sewage pipes, gravesites, docks, and harbours. In Nelson Lagoon, Alaska, located in Aleutians East Borough, an attempt has been made to protect the coast by putting up strong break walls that were to brace the shore ice so that it would act as a buffer. These break walls have however not been effective due to the warming winter and the loss of shore ice, allowing waves to surge the village.[125]

Sediment disposed into coastal waters from erosion can also have an unfortunate affect on the marine species living near the coast. It could destroy habitats or even push species further out to sea to get to the clearer water.[126] This will, in effect, cause increased difficulties in fishing or hunting these animals and in continuing their sustainable lives. Another thing to think about is the quality of the soil is that is entering the coastal waters and whether the chemistry of the soil will pose harm to the present ecosystem.

3.2.1.3 SHIPPING AND RESOURCE EXTRACTION

A positive aspect that sea ice reduction will give the Arctic is that it opens the opportunity for increased shipping and access for ships to maneuver around the Arctic Basin, and the possibility to engage in resource extraction.[127] The navigation season

[124] *ibid* p. 81
[125] Arctic Climate Impact Assessment p. 79
[126] *ibid* p. 79
[127] *ibid* p. 82

for icebreaker ships will continue to increase as the sea ice retreats and get weaker. A way to get a larger image of the opportunities available is by looking at the navigation season predictions. A navigation season indicates how many days a year are navigable, usually where sea ice concentration is 50% or less. It is expected to be around 150 days by the year 2080, whereas currently it is about 20-30 days per year.[128] This creates opportunities that are not present when the sea routes are frozen for a longer time. The ramification that this could have on transportation time for both Arctic and other States´ ships is immense.

Some scientists are skeptic about the opportunities that the opening of the sea routes for shipping will give States. Some scientists predict that the sea ice will become more unpredictable, that the melting of the sea ice will create more icebergs and make navigation difficult if not dangerous.[129] Unpredictability could be a seriously detrimental factor for shipping, making dependence on the Arctic Basin sea routes disadvantageous. There is also a need for international legislation concerning the area dealing with marine safety, environmental protection, offshore structures, port facilities, coastal activities and ship standards.[130] In such a hostile environment it must be concrete how States are to act in, for example, cases of oil spills or calls for ice-breaking assistance from foreign ships. The lack of such regulations today makes the Arctic vulnerable.

The increased traffic in the north could bring about money, people and cultures, and infrastructure to the North Slope Borough. It could create job opportunities. With the increased traffic there would need to be emergency response units near the coast, icebreaking assistance, ice charting and forecasting, and oil-ice cleanup stations and or crews.[131] As positive as the opening of sea routes seems to be, it should be noticed that outsiders would not be the only ones wanting to use them. A conflict could arise if the Eskimos of Alaska also want to use the area. Some agreement would have to be made if there is both Eskimo and "outsider" interest. The Eskimos could want to use and protect the area, especially if migratory patterns of marine animals lie through the newly opened straits and passages. Increased traffic in the area could drive away whales or end up killing many of them for they often tend to get in the way of ships.

[128] *ibid* p. 83
[129] *ibid* p. 84 and p. 85
[130] Arctic Climate Impact Assessment p. 84 and p. 85
[131] *ibid* p. 84

This will be a hot topic for the Inupiat. Therefore, the voice and opinion of the Inupiat in Alaska has to be strong when the United States is deciding on how it will act in international discussions regarding marine transportation in the Arctic.

It is regretfully a trend in the Arctic that with megaprojects like oil extraction projects, come boom and bust economies; there comes a time of a high, and then a time of a devastating low that does not go back up again. Outsiders move north, bringing wealth with them, but then when the resources are exhausted or lose their value on the market, they move back south, usually taking the wealth with them again. They leave empty housing and a situation where the Natives are more dependent on things and people that were previously there during the successful times. Furthermore, the extracted resources are usually moved south for further work, meaning loss of job opportunities and benefits that would follow.

For resource extraction, with the building of infrastructure and the implications of shipping, comes the destruction of nature that is important both economically and spiritually to the Inupiat. With increased shipping comes the concern of safety and oil spills, something that could be disastrous to the Inupiat because of how much they rely on the ocean for sustainable hunting. Resource extraction in the North also has a trend of leaving the environment, the local people, and the local economy worse off than before. All in all, sea-ice reduction will create great troubles for the Inupiat although benefits are also present.

3.2.2. WARMER SUMMERS AND WILDFIRES

Warmer summers are an effect of climate change and make the storing of country foods difficult and also pose difficulties in drying and smoking fish.[132] Having had cooler summers in the past, the storing of country foods has been much easier than it is now with warmer summers. Hunters have to return to the villages more often with the food in order to store it, costing them both fuel and time. In order to adapt when smoking and drying fish, thicker roofs are built on the smoke houses keeping the temperature in the houses cooler. This must be done because if it gets too warm the

[132] Nickels, S., **Furgal, C.**, Buell, M., Moquin, H., 2006. *Unikkaaqatigiit - Putting the Human Face on Climate Change: Perspectives from Inuit in Canada.* Ottawa: Joint publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval and the Ajunnginiq Centre at the National Aboriginal Health Organization.

fish will get cooked. More care has to be taken to make sure the country foods do not get destroyed by heat, e.g. by covering the foods with tarpaulins.

With the heat that warmer summers bring will come drought threats. Although warmer summers would mean longer summers where e.g. tourism could benefit, the agriculture would not necessarily benefit. White spruce forests are among those that are declining due to drought stress and it is this stress that is making trees too weak to fend off bug infestations like the spruce beetle. The milder winters are making year-round survival possible for the spruce beetle, and the warmer, drier summers are sustaining the spruce budworm. Infestations, along with the droughts, are leading to the death of trees and making the forests highly flammable. This in return creates an even greater possibility for wildfires to spark.

Wildfires are devastating to communities; especially ones that rely on nature to subsistantly live. In the North Slope Borough factors that can influence wildfires are lightning, snow-free periods, temperature and precipitation.[133] Not only is the air quality affected by wildfires, but there is also a risk to the Native communities′ source of traditional foods. However, the aftermath of the 2007 Anaktuvuk River Fire in the North Slope Borough has been such that the affect of the fire on the caribou herd was not great and even less than predicted.[134] This was lucky for the Inupiat, but it is also believed that the caribou will not necessarily return to that area since their food source, moss and lichen, is no longer there. [135] This would force subsistence hunters to either find a new animal to hunt, or travel further to hunt the caribou.

3.2.3. THAWING OF PERMAFROST

The thawing of permafrost will negatively affect infrastructure, the coasts due to erosion, and vegetation in the Arctic to name a few. Permafrost is the frozen layer of soil, rock, or sediment that remains under 0° for at least 2 years.[136] Most of the problems regarding permafrost will occur because infrastructure is built on discontinuous permafrost zones and because the top layer is actively thawing and freezing again. This poses problems for countries for several different reasons,

[133] Streever, Bill. Emerging Issue Summaries – Science Technical Advisory Panel, Barrow, Alaska, Revised December 1, 2009. p 56.
[134] *Ibid* p. 57
[135] *ibid*
[136] Arctic Climate Impact Assessment p. 87

including the destruction of roads and airstrips used for transportation, and also buildings and other infrastructure.[137]

With the thawing of permafrost, roadways are expected to experience negative implications. With a hard dependent ground, the driving of heavy trucks is possible, but with a thawing ground, the access and possibility of driving on the road is not achievable as many days of the year as in the past. The Alaska Department of Natural Resources has, for example, lowered the days where travel on the tundra is allowed from 200 to 100 over the past 30 years.[138] This affects natural resource extraction, exploration and the moving of goods, hence affecting the people and the oil, timber and gas industries. This is problematic for industries because the time window where work can be done in Northern Alaska is quite short. These regulations are created to stop vehicles from destroying the vulnerable environment. If these regulations would become more lenient, travel across the thawing tundra would not only be difficult because of the conditions posed by the thawing, but also devastating for the environment.

Some individuals in Barrow, Alaska have noticed the thawing of permafrost when making ice cellars. Today they are able to dig further before they hit frozen ground, unlike in the past when they only needed to dig a couple feet.[139] Although the affect of thawing permafrost is not very evident on buildings in the North Slope Borough, the situation in Russia should be studied to see what sort of conflicts could present themselves if steps are not taken to repair and maintain buildings today. Buildings in northern Russia are cracking and sinking due to the thawing of permafrost and due to poor maintenance and structure of the buildings. Therefore it must be clear that building design and their maintenance accommodates to the thawing permafrost, for example by: making new construction, deeper pilings, and thicker insulation.[140] Such measures can already be seen in structures being built in Prudhoe Bay, Alaska, where they are built on pilings.[141] The thawing of permafrost can become a pricey factor of climate change in the Arctic. It threatens both the public and private sector, producing

[137] *ibid* p. 86
[138] *ibid* p. 86
[139] "The Whale and the Supercomputer- On the Northern Front of Climate Change" p. 25
[140] Arctic Climate Impact Assessment p. 88
[141] *ibid* p. 89

extra costs for taxpayers due to damages done to roads, runways, and water and sewer systems.

Thawing permafrost also affects nature; the soft ground makes the soil weak for the root systems of trees, causing them to lean and fall to the ground. Therefore, even if the summers become warmer for a longer period of time, this does not necessarily help the vegetation already in the Arctic since they rely on the permafrost. Trees have also been helpful in maintaining and keeping permafrost in the Arctic because they shade the ground from the sun and cool it, while ground moss assists by acting as insulation. When these two are threatened by infestations of insects and other species, their role in helping keep the permafrost becomes interrupted.

Natural ecosystems are also under threat because the thawing of permafrost can cause the surface to subside and collapse, and seasonally fill up with water, drowning the trees and vegetation previously there. It has also been observed by the Inuit in Sachs Harbour, Canada that lakes are draining into the sea because the thawing permafrost makes the ground sink.[142] In other areas, the melting of surface ice and snow could create new ponds. Lastly, lakes, ponds, rivers and bogs have been witnessed to dry up in Nunavut, Canada, an event connected to the thawing of permafrost. This could happen if the ground thaws so much that it reconnects to the groundwater system, causing the surface water to seep through the soil.[143] This could have devastating affects on the Inuit's source of water. Habitats and the survival of animals are especially threatened.

3.2.4. HUMAN RIGHTS CONCERNS

Climate change is forecasted to have a great affect on the human rights of the Inupiat. Some changes will be for the better, some for the worse. This section will elaborate a bit further on how the human rights of the Inupiat will be affected by climate change. As has been mentioned before, climate change is expected to have a great affect on hunting, herding and fishing practices, and also political, cultural and spiritual aspects of life.[144]

The right to health of the Inupiat will be affected by climate change, both mental and physical health. A warmer climate will reduce the stress caused by coldness,

[142] Arctic Climate Impact Assessment p. 95
[143] *ibid* p. 90
[144] *ibid* p. 106

allowing people to venture outside more. Also, the increase in outsiders could bring with them more services, ideas, new culture and friendly relationships. However, with all the changes that climate change is expected to bring to the Inupiat way of life, e.g. hunting for traditional food, increased number of outsiders, stress caused by not being able to read the weather, the mental health of members of the community can be expected to take its toll. Like the Arctic Climate Impact Assessment states, "local landscapes, seascapes, and icescapes are becoming unfamiliar, making people feel like strangers to their own land".[145]

Furthermore, the loss of culture could have a serious effect on the people of the north. The effects of the loss of culture in the north have already been seen in previous years, with often devastating aftermaths. That is why it must be important for there to be assistance for the Inupiat and other communities of the Arctic because, in reality, their lives and culture, that which defines them, is being taken away. Suicide rates are relatively high in the Arctic and are a factor that should especially be focused on: what affect climate change impacts will have on suicide in the near future.

The physical health of the Inupiat is threatened because of climate change. Climate change is expected to increase UV radiation levels since "ozone depletion in the Arctic is highly sensitive to changes in temperature"[146], evidently affecting human beings, animals and plants.[147] This increase in UV radiation is believed to be the cause of increased sunburn cases in the Arctic and is expected to increase the number of UV related illnesses. Some of these illnesses include skin cancer, cornea damage, cataracts, immune system suppression, viral infections, aging of the skin, sunburn, and other skin disorders.[148] Plants are expected to suffer from the increased UV radiation, although some will be able to adapt. Those who are able to adapt by increasing their pigmentation become less digestible to animals, hence affecting the animal kingdom, hence human beings. Both negative and positive effects of UV rays on the marine ecosystem have been detected. Since severe UV exposure can damage the DNA of species, fewer animals may become present in the food chain, ultimately affecting human beings who are on top of the food chain.

---

[145] *ibid* p. 94
[146] Arctic Climate Impact Assessment p. 98
[147] *ibid* pps. 98 - 105
[148] *ibid* p. 102

The presence of contaminants like POPs (persistent organic pollutants) and mercury are already being found in the Arctic. POPS are creating problems for human beings because, although most countries banned them nearly over a century ago, the affect of them is being felt today. The greatest affect being seen is the ability to conceive and raise young; eggshells are soft, fewer young or no young at all are being born.[149] POPs are brought to the Arctic by wind and ocean currents and accumulate there, creating what is called a "sink" of toxins. Mercury, brought to the Arctic by coal burning, waste incineration and industrial processes, is affect by climate change because it is in the snow and ice, therefore pollutants are released into the air when the melting of glaciers and multi-year ice happens.[150] Animal migration from the more polluted areas of the south to the Arctic is also predicted to introduce more pollution. There is evidence of this happening when the salmon population migrates from the Pacific Ocean northwards, but is also probable with the changing migratory systems of birds.[151] This is especially alarming for the Inupiat because high levels of POPs and contaminents are in polar bears, arctic foxes, and various seals, whales, fish, seabirds, and birds of prey, ultimately exposing those that eat these animals , the Inupiat, to high levels of harmful pollutants.[152]

The affect that climate change has on animals in the Arctic is already being seen, especially for the animals that live on the permanent floating ice like polar bears, walruses, seals, and the organisms that rely on the ice.[153] As the sea ice retreats, walruses and bottom-feeding animals get further away from the shallow waters near the shore where they feed, causing them to move further away from their source of food. The lack of nutrients and living organisms falling off the ice, e.g. carcasses and feces, on the retreating ice do not nourish clams when they are so far out, impacting the clam consumption of villages.

These are just a few examples of how the change in one variable, the sea ice, has a tremendous impact on the whole Arctic lifestyle. Furthermore, animals that have not been seen in the Arctic areas are seen more often; mosquito swarms are becoming a

---

149 "Persistent Organic Pollutants in the Arctic" NOAR http://www.arctic.noaa.gov/essay_calder.html (Accessed January 2010)
150 Arctic Climate Impact Assessment p. 107
151 *ibid* p. 107
152 *ibid* p. 107
153 "The Whale and the Supercomputer- On the Northern Front of Climate Change" p. 262

common nuisance, and other animals that used to be seen often are rarely seen. This has an affect on the subsistant living of the Inupiat and on their way of life. They must figure out and find the migratory patterns and even learn the ways of the "new" game, how to hunt it, and where to go and the migratory patterns of the game. The following excerpt is what one Inuit has been noticing about the animals in the Arctic:

> "There have been many unusual occurrences in recent years [in our area]. Weather patterns, fish distributions, and other things are very odd. Some species of fish have been caught in areas where they've never been seen before. There used to be a lot of tomcod in our area, but no longer, and we don't know why.
> "In 1998, there was a big die-out of seabirds. Many dead birds washed up on shore. Did they die of starvation, or because the weather was too warm? Animals, too, are going to places they've never been before. Is it lack of food – or because of other reasons? Salmon are decreasing in some places. They are fewer in the Yukon River now. There are fewer clams in our area. The bay used to have lots of clams, but now there are hardly any only very small ones. And the shellfish have moved into our area, where they used not to be."
> *Dale T. Smith, Sr., Mekoryuk, Alaska* [154]

Although the author of the quote did not give a specific scientific reason for why the animals were acting the way they were, he noticed that something was happening to the order of things. With these changes the Inupiat hunting strategies must change. Their hunting trails and migration times are perhaps not as reliable, and their predictions for what, how much, and when they are able to hunt will be affected. One hunter described the changes like this:

> "And another thing in my in area – the ice is not stable anymore, it is not too good in springtime. I don't know, maybe the water temperature is coming up. So, in the spring time when we go out hunting for seals in the day like this, sometimes it's a real warm day or they may even come in groups of two or three days. We can go out hunting to the shore ice and then we come back right to the beach in the boat. The shore ice is melting so fast – it's like opening your hot water socket, and the ice is melted away at once. Maybe the temperature is going up real fast. Before we could go out hunting, come and go – but never like that."
> *Charles Saccheus, Elim, Alaska*[155]

Serious problems are caused for whaling communities if conditions are not such that whaling is possible. The community suffers physically, culturally and spiritually.

---

[154] Krupnik, Igor I. 2000. Native Perspectives on Climate and Sea-Ice Changes. In: Huntington, H.P., (ed.). Impacts of changes in sea ice and other environmental parameters in the Arctic: final report of the Marine Mammal Commission Workshop, Girdwood, Alaska, 15-17 February 2000. Bethesda, Maryland: Marine Mammal Commission. p. 40

[155] *ibid* pps. 37-38

Unsuccessful hunting may mentally make the men feel ashamed and less masculine and self-conscious because of not being able to contribute to the community. This has been found to drive individuals, especially in the Arctic to substance abuse or suicide.[156]

Warmer weather is also predicted to cause less cold related accidents like frostbite. However, warmer weather is also predicted to bring about more warm weather accidents, like those happening when people fall through thinning ice. The difference in the way of the snow and predictability of it has also caused problems. Too loose snow makes navigation difficult and too hard packed snow has posed hardships on hunters when out hunting because they have been unable to make shelter. This has even caused some to die.[157]

The reduced availability of animals to hunt, whether it is because of wildfires, the aftermath of erosion, sea ice retreat or changing migratory patterns, can move communities towards a "southern" diet. The Inuit of the Arctic have long been engaged in subsistant hunting and have had a diet that has been mostly free of processed foods. However, with globalization and with a warming climate, hunting and fishing has been impacted and will perhaps call on more processed or "southern" food to be consumed. This is a concern to health because the food substitutes usually end up being less healthy and is said to be the cause of increased diabetes, cancer, obesity, and cardiovascular disease in the Inuit. [158] Not only does the consumption of "southern" food pose health problems, but the cost of such food is also very high, posing a financial burden.

With warmer weather comes the threat of potential illnesses due to bacterial and viral proliferation and mosquito-borne disease outbreaks.[159] The access to drinking water may also be affected by climate change, as will the access to clean and good quality water. The thawing of permafrost, coastal erosion, and severe storms can disrupt sewage infrastructure creating sanitation system problems. All these factors can have implications to the quality of drinking water. The right to health and the right to water here could be affected if organization, protocols and regulations are not

[156] Arctic Human Development Report pps. 157-158
[157] Arctic Climate Impact Assessment p. 96
[158] Arctic Climate Impact Assessment p. 110; see also "Subsistence Food Safety – Assessing the Risks and Benefits" http://www.epi.alaska.gov/eh/subsistence.htm (Accessed January 2009)
[159] Arctic Climate Impact Assessment p. 110

equipped for the varying factors of climate change. For these same reasons, the right to housing can be affected.

3.2.5. ENVIRONMENTAL POLICY OF ALASKA CONCERNING CLIMATE CHANGE

The State of Alaska has witnessed and understands the urgent need for a climate change strategy. In compliance with this understanding, the then Governor of Alaska, Sarah Palin, signed Administrative Order 238 in 2007, establishing the Alaska Climate Change Sub-Cabinet. The Sub-Cabinet has the task of preparing and implementing Alaska's Climate Change Strategy. The work of the Sub-Cabinet is divided into two broad advisory groups, the Adaptation and Mitigation Advisory Groups. These groups have technical work groups that deal with more specific areas and they meet and discuss findings that they present to the sub-cabinet. The Sub-Cabinet then brings the proposals to the governor. The work produced by the Sub-Cabinet, as well as the Final Commission Report of the Alaska Climate Impact Assessment Commission[160], completed in 2008, provide valuable information for policy making on climate change for the State of Alaska.

Two of the working groups established by Administrative Order 238 were the Immediate Action Work Group and the Research Needs Work Group. The Immediate Action Work Group assesses and develops action plans for the vulnerable communities in Alaska. The Research Needs Working Group identifies what research is needed in order for the Sub-Cabinet to implement the strategies presented by the Adaptation Advisory Group.

Broader, national views on the ideas and areas of focus coming from Alaska can be seen by actions of the Alaskan Senator, Mark Begich. Mark Begich, elected to the U.S. Senate in November 2008, has already introduced an Arctic Policy package to the Senate called the "Inuvikput Package". The "Inuvikput Package" is interesting in the way that it resembles many of the findings found in the work of the Advisory- and

[160] Final Commission Report Alaska Climate Impact Assessment Commission. Juneau, Alaska. March 17, 2008. http://www.housemajority.org/coms/cli/cli_finalreport_20080301.pdf (Accessed Dec. 2009).

Working Groups. It was introduced August 3, 2009 and consists of seven pieces of legislation. These pieces include the[161]:

(1) "Arctic OCS Revenue Sharing Act", providing a percentage of the federal revenues obtained by offshore oil and gas development to Alaskan Natives most affected;

(2) "Arctic Marine Shipping Assessment Implementation Act", protecting the Arctic waters and ensuring safe maritime transportation;

(3) "Arctic Science, Coordination and Integration Act", coordinating research to better its understanding;

(4) "Arctic Ambassador Act", calling for the appointment of a US ambassador to the Arctic to enhance a diplomatic presence;

(5) "Arctic Oil Spill Research and Recovery Act", calling for oil spill prevention research and response and recovery assessment by the Coast Guard;

(6) "Arctic Health Research Act", initiating a study on the various health problems of the Arctic;

(7) "Arctic Climate Change Adaptation Act", assisting the State of Alaska, Alaska Native organization, affected Arctic communities and the private sector to adapt to climate change.

Along with the "Inuvikput Package", Begich also calls for the signing and ratification of the United Nations Convention on the Law of the Sea (UNCLOS)[162] and the Stockholm Convention on Persistent Organic Pollutants (POPs)[163]. He believes UNCLOS is an important agreement to ratify so that the United States can be an active player when countries are taking decisions that pertain to the Arctic, like oil and gas reserves on the continental shelf. Many right-winged groups in the United States have been opposed to the ratification of UNCLOS, claiming that ratification is equivalent to an attack of the United States´ sovereignty and that it is global

[161] "Issues & Legislation/ Issues/ Arctic Policy", Mark Begich U.S. Senator for the State of Alaska, http://begich.senate.gov/public/index.cfm?p=ArcticPolicy (Accessed January 2010).

[162] United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3, 397; 21 I.L.M. 1261 (1982)

[163] Stockholm Convention on Persistent Organic Pollutants, 40 I.L.M. 532 (2001), May 22, 2001

socialism.[164] Begich is also calling for the ratification of POPs, which was adopted in 2001 by the United States but has not yet been ratified.

The "Inuvikput Package" is an example where Inuit perspective is needed due to the fact that this Package would have direct implications for the Inuit. Perhaps the Inuit do not want to be bought off with revenues for offshore oil and gas development. Maybe they would rather want regulations regarding maritime transportation to go even further and grant Natives more rights or organize it in such a way that ships do not enter Inuit hunting areas. If a policy package were being made on any area, one would expect that the communities within the area have a say in the decision-making, since the policy is having a direct effect on them. This idea is backed up by Art. 32 of UNDRIP, requiring States to consult with the indigenous peoples.[165]

Since the Eskimos rely on the ocean and sea ice as a main source of food, they tend to live close to the ocean and have done so for many years. Being so close to the ocean has already started to be problematic for some villages; erosion of the shore due to violent storms has and will cause displacement for many Eskimos in Alaska. In recognizing this threat, the Alaskan government must ensure that certain rights be respected when making such a policy. Care must be taken so that the relocation does not affect the Eskimos in such a way that they will not be able to continue their life subsistantly and that they are not placed in an area where they are unable to continue their hunt. A question also presented is that of culture and tradition and the connection of Eskimos with certain areas in nature, ritual sites or other areas that hold great meaning in their culture. Relocation could mean loss of tradition, religious sites, the

---

[164] "Phyllis Schlafly on the Law of the Sea Treaty (LOST)" [Video]. http://www.youtube.com/watch?v=beb1YPSUX-c&feature=related (Accessed January 2010)

[165] **Article 32**

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.
3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

usual hunting spots, etc. impairing their right to culture. Hence, the human rights of the Inupiat are threatened and care must be taken when creating adaptation and mitigation measures.

3.2.5.1.ADAPTATION ADVISORY GROUP

The Adaptation Advisory Group addresses and deals with ways in which to address the impact that climate change has on infrastructure, human health and ecosystems.[166] The four sectors that are addressed by the Adaptation Advisory Group in the draft report are (1) Public Infrastructure (2) Health and Culture (3) Natural Systems and (4) Other Economic Activities. [167] Adaptation strategies and policies should be the main focus today, in order to find ways of adapting that suit those whose way of life are at risk.

Public infrastructure is under threat in the Arctic, especially because of erosion and the thawing of permafrost. The Draft Report from the Adaptation Advisory Group notes that the adaptation capacity of current infrastructure is low and that new construction is often a better choice. This is the case because infrastructure is hard and fixed, making alterations difficult. Communication in this sector is also at need; both impacted and potentially impacted communities, scientific researchers, and agencies are not talking and sharing ideas or solutions. This must be done in order to get the sought after outcome of all the participating parties, or at least an outcome that they are mostly happy with. This factor is mentioned often in the report and is an important required action in order to fulfill the set adaptation strategies. The recommendation for the Public Infrastructure Adaptation includes: (1) the creation of a coordinated and accessible statewide system for key data collection, analysis and monitoring; (2) the promotion of improvements that use the current best practice (3) to apply building strategies that last; to build resiliency into Alaska's public infrastructure.[168] Currently there are efforts being made to predict and create adaptation processes in Alaska. These include SNAP-UAF, (Scenarios Network for

[166] "Adaptation Advisory Groups of the Governor´s Sub-Cabinet on Climate Change" Climate Change in Alaska. http://www.climatechange.alaska.gov/aag/aag.htm (Accessed April 2009)
[167] "Alaska´s Climate Change Strategy: Addressing Impacts in Alaska" Draft Final Report Submitted by the Adaptation Advisory Group to the Alaska Climate Change Sub-Cabinet draft Adaptation Advisory Report. 27 January, 2010. Alaska Department of Environmenal Conservation.
[168] *ibid* 4-7

Alaska Planning of the University of Alaska) which projects future conditions based on historical conditions and trends; MAP (Alaska Sea Grant Marine Advisory Program), which is working on developing a community-based climate change adaptation outreach; and UAF Permafrost Research Project that is testing and developing adaptive techniques.

Health and culture is addressed by the Adaptation Advisory Group and should especially be of an interest to the Inupiat. This is the section that deals with their way of living and how the Adaptation Advisory Group advises the State react in regard to climate change. The Health and Culture recommendations include: (1) augmented surveillance and control programs for vector-, water-, and food borne diseases by developing educational programs fit for the all areas of society (2) evaluations on community health impacts and if there are impacts then figure out what is to be done, (3) the assessment of sanitation and infrastructure risks created by climate change and whether infrastructure must be moved, rebuilt or modified, (4) the assessment, protection, and development of plans for archaeological sites and gravesites that are threatened by erosion and how it is best to address these sites, whether they be protected or recovered, or the creation of new gravesites .

Today, the Center for Climate and Health and the Alaska Native Tribal Health Consortium find ways in creating a comprehensive approach towards climate change and health. Also, there currently exist numerous State agency programs that could deal with the recommendations listed above, e.g. Environmental Public Health Programs, Drinking Water Program and Solid Waste Program. Hence, there is a need to activate currently established and working programs and get them to place focus on the coming changes. Since these programs are already established, the cost of State implementation will not be as much of a financial burden, allowing even more financing for other recommendations in this sector.

The effect of climate change on the vulnerable environment of the north has already been established. Hence it is obvious how great and important the adaptation for the natural ecosystems is. The recommendations for Natural Systems include: (1) Fisheries assessment and management to climate change and adaptation assistance for communities, (2) wildland fire policy modification and review, (3) freshwater management addressing climate changes affect on freshwater, (4) invasive and eruptive species reduction, (5) fish and wildlife harvest regulation adaptation and monitoring, and (6) the development of a sustainable agriculture program that will

make food affordable and improved.[169] Efforts are currently being made by many parties in monitoring fish and wildlife, in programs on invasive species like Alaska Invasive Species Working Group, and for water quality like Interagency Hydrology Committee for Alaska. State participation and funding is often necessary for the possibility of similar programs to survive, therefore it is important for the groups to be active and for the State to be involved.

Other economic activities are mentioned in the report and include things like mining, ocean transportation, oil and gas, and energy production and demand, and boundaries and ownership. Since this action can be expected to bring in money, it will most likely get the most attention by politicians. That is why special attention must be made to the recommendations that this sector sets out because the economy greatly affects peoples' way of life. The recommendations for this section include: (1) the evaluation of the capability needs for potential expansion of Arctic economic activities, including gaps in infrastructure and the ability to protect environmental resources, human health and safety (2) the development and evaluation of scenarios for the Alaskan economy to see how future conditions could affect stakeholders and (3) the improvement of the availability of mapping, surveying, charting and imagery data in order to track changes so that the challenges and opportunities are better understood. SNAP is developing predictions on climate change and this assists in knowing what kind of environment stakeholders are working with. SDMI (Statewide Digital Mapping Initiative) is working on mapping Alaska, and an Arctic Marine Shipping Assessment has been developed by the U.S. Arctic Research Commission to find what infrastructure and service is needed when the Arctic Ocean opens up for marine traffic.

There are underlying trends in the recommended options for adaptation. These include needs for improving access to data, for community assistance, for coordination and for education.[170] It is encouraging to see that focus is placed on education. In the Arctic today, education and awareness on climate change needs to be in full throttle, making sure that the information being taught and distributed to

[169] "Alaska´s Climate Change Strategy: Addressing Impacts in Alaska" Draft Final Report Submitted by the Adaptation Advisory Group to the Alaska Climate Change Sub-Cabinet draft Adaptation Advisory Report. 27 January, 2010. Alaska Department of Environmenal Conservation. p. 5-3

[170] "Alaska´s Climate Change Strategy: Addressing Impacts in Alaska Executive Summary" Executive Summary- Draft Final Report, 27 January, 2009. p. xii

schoolchildren and adults alike is correct and unbiased. The information distributed should not only be scientific information but also traditional knowledge passed down through generations. Climate change is having a direct affect on the livelihoods of the people and they must demand accurate information that is free of scientific jargons and can be understood by all. The ways to change people, how they act, both negatively and positively, is through the changing of the mindset by educating them.

People will adapt better if there is a clear understanding of why, how and what they are changing. The need for coordination implies that the way of adaptation is coordinated with state agency efforts and that there is interaction with federal agencies. For the Inupiat this can be seen as being extremely important because ways of adaptation do not have to be completely reinvented by communities or the State. The use of information from other sectors should be used so that a timely adaptation strategy plan can be drawn up. It allows their opinion and knowledge, along with new technology and borrowed policies from elsewhere, to come together and create a holistic policy, creating a better understanding for all. Also, the people of Alaska, especially the Eskimos, will have a greater respect and even less objections to solutions proposed if what they have to say is included in the discussion and policies being made. The community will rather agree to terms if they are able to include their knowledge in policies, and if their knowledge is respected and used.

3.2.5.2.MITIGATION ADVISORY GROUP

The Mitigation Advisory Group deals with GHG emissions and how it can be reduced by means of conservation, efficiency and technological advances, and a way to avoid climate change.[171] It is made up of five work groups that analyze mitigation options for climate change caused by contributing GHGs in Alaska. The Mitigation Advisory Group has the objective of finding ways to reduce GHG emissions through conservation, efficiency and technological advances. The six recommendations put forward by the Mitigation Advisory Group on climate change actions are the following[172]:

---

[171] "Climate Change Advisory Groups- Background" Climate Change in Alaska. http://www.climatechange.alaska.gov/advgrp.htm (Accessed November 2009)

[172] "Appendix F Cross-Cutting Issues Policy Recommendations" Alaska Climate Change Strategy's Mitigation Advisory Group Final Report – Greenhouse Gas Inventory and Forecast and Policy Recommendations Addressing Greenhouse Gas

(1) To establish goals for statewide GHG emission reduction that are the same goals as recommended by the IPCC, reductions of 20% below 1990 GHG emissions by 2020 and 80% below 1990 levels by 2050. They advise that implementation could be done by an executive order or by legislation and that further recommendations by Mitigation Advisory Group will assist in reaching this goal;

(2) To identify and implement State government mitigation actions by having the State agencies act as leaders and set an example of how GHG emissions can be reduced by low/no cost day-to-day actions;

(3) To integrate Alaska's Climate Change Mitigation Strategy with the Alaska Energy Plan hence creating a 10-year "Climate Protection & Energy Plan" in 2010 providing the structure to achieve the objectives and energy consumption goals placed by Alaska's Climate Change Mitigation Strategy. The policy also recommends that an energy database be developed;

(4) To explore various market-based systems to manage GHG emissions like carbon taxes, cap-and-dividend and cap-and-trade programs, and study how market-based systems have worked in the European Union and the U.S. Northeast. This would be done so that a recommendation on what would work best for Alaska could be made. Alaska would nevertheless continue to partake in federal and regional discussions on GHGs and carbon emissions;

(5) To coordinate implementation of Alaska's efforts to address climate change by having an individual in the Governor's office track climate change efforts in Alaska and see to it that progress is being made.

These recommendations are found in the Final Report of the Mitigation Advisory Group.[173]

As can be seen by these recommendations, it is not the intention of the State to rid itself of modernity and to not utilize the resources of the State. However, as the Mitigation Advisory Group does, the State should try to find ways of being more environmentally cautious when making decisions and when figuring out ways of

---

Reduction in Alaska Submitted to the Alaska Climate Change Sub-Cabinet August, 2009.

[173] "Alaska Climate Change Strategy´s Mitigation Advisory Group - Final Report - Greenhouse Gas Inventory and Forecast and Policy Recommendations Addressing Greenhouse Gas Reduction in Alaska" Submitted to the Alaska Climate Change Sub-Cabinet, August 2009. of the Mitigation Advisory Group.

conducting projects. It has been seen time and time again that governments focus little attention and consideration on the costs that projects have on the environment. The focus has rather been on what is to be gained, even though they may be detrimental to the environment. This is where the voices of the Eskimos of Alaska come into play. By fighting for their right to partake in decisions directly affecting them and the land and waters that they live, work, and spiritually rely on, environmental destruction should be reduced.

3.2.5.3.THE OUTLOOK

Perhaps the idea that the world is changing and that as citizens of the world we must change too, does not want to be acknowledged by the majority of the human population. Sadly, being economically developed and stuck with the idea that we must continue to keep developing has not seemed to go hand in hand with developing in an Earth friendly way. Could this be because those individuals and companies that profit today, those for example, in the energy business, would lose if green energy would become popular. Are they perhaps the main people in charge and the rest of the world follows?

As people we do not have a problem with developing and feel a need to become more modern by buying the newest cell-phone and automobile. We thrive on *things*, and new modern things fulfill us for some reason. This ability to adapt to modern and new technology and way of living is the main reason why I believe that people *can* change and adapt, not only to climate change, but also to a more Earth friendly way of living. If the Inuit have been able to adapt to survival in the Arctic with its harsh conditions, then the rest of the developed world should also be able to do so, even if it means reducing GHG emissions. However, as is often the case with human beings, we are set in our ways and need someone to take the initiative. Governments and lawmakers need to create laws focusing on climate change adaptation and the reduction of GHG emissions. When drafting legislation they should bear in mind the implications that such legislation will have on climate change and human rights. Governments could go even further and take the initiative to being Earth friendly and be leading examples of how governments, households, and businesses could go about every day in an Earth friendly way. However, as with most issues, creating a climate change policy and encouraging people to act a certain way is easier said than done.

Difficulty can come about when conducting a policy on climate change because the effects of climate change and the information about it is not concrete, even though the information presented by scientists is thought to be fairly accurate. There are also individuals that are skeptical about climate change and global warming, those who say that the warming is just temporary and insist that measures *not* be taken at the moment because things will soon get back to "normal". Instead of focusing on the broader picture, that is that the climate is changing and affecting human populations and livelihoods, they insist on focusing solely on whether GHG emissions are the cause of a warming climate.

The idea that the climate is changing because of GHG emissions is a controversial idea because it calls for a change of lifestyle, cleaner energy and the implementation of controversial laws. Skeptics question the findings of scientists and believe they are only producing outcomes in order to get granted research funds and scholarships. This skepticism, which is great for science because findings must be argued, tested and updated, is why, for example, the setup of the Climate Change Sub-Cabinet and its advisory groups is clever. It focuses on changes and adaptation strategies necessary because they are already happening and can be witnessed by skeptics. On the other hand, it also focuses on the not so visible problem, GHG emissions. Hence, individuals do not write off the Climate Change Sub-Cabinet if they are not convinced by what scientists say about GHG emissions and climate change because they see that adaptation must, non-the-less, take place.

Creating a policy for something that is more theoretical than fact based seems to be quite difficult. It is a trend in politics to create policies and legislation after the fact. For this reason, the Immediate Action Workgroup is asserting that it works with state agencies, university resources, and federal and local stakeholders in order to collect all relevant data and information.[174] The Inupiat are stakeholders and their knowledge should be voiced and considered just like scientific knowledge when considering information and making decisions and legislation. It is important to get the many sides and opinions on what sort of impact climate change will have on the community. By bringing together a diverse group with knowledge and information

[174] "Immediate Action Workgroup Recommendations to the Governor´s Subcabinet on Climate Change" March 2009. p. 72 http://climatechange.alaska.gov/docs/iaw_finalrpt_12mar09.pdf (Accessed April 2009)

about what is happening, the scope will be broader and a greater, and more diverse knowledge will be collected.

In order for a climate change policy to be justifiable and sustainable in Alaska, the government must take into account the words, knowledge, opinion and fears of its indigenous people. Traditional knowledge could assist the experts and scientists in obtaining information and knowledge about the past since scientific monitoring in the Arctic is fairly recent, especially concerning climate change. Since the Inuit are active in their ecosystem and their connection to the environment is such that they study and *know* the environment, they may be able to be of assistance in enhancing the resilience of the ecosystem.[175] Scientific monitoring may not have been done, but traditional knowledge of the land, animals, and stories, hence history, of indigenous peoples is present and alive in the minds and way of life of the people. The way of living of the Inuit is unique. They have yet to exhaust a natural resource, they have lived in the Arctic since time immemorial, they have been able to adapt to the Arctic conditions despite many hardships. This knowledge, the knowledge of adaptation, should come into play and be used in helping lawmakers and policy makers understand what can be done, in a sustainable way, to adjust and adapt to the changes forthcoming. The wheel does not have to be invented again, but rather a more efficient wheel containing information from all aspects of society like policies, traditional knowledge, laws, and actions, replaces the older ancient wheel.

3.3. CONCLUDING OBSERVATIONS

Climate change is already having an impact on the life of the Inupiat, and it is most likely this reason that the Inupiat are active in climate change discussions and are eager in getting the word about the implications of climate change to the rest of the world. The Inuit have, by going on their campaign "Putting the Human Face on Climate Change"[176], made an attempt of showing the destruction that climate change has on the people of the North. That is also the attempt of this paper, to give a well-

[175] "Climate Change: An Overview" - A Paper prepared by the Secretariat of the United Nations Permanent Forum on Indigenous Issues (November 2007)

[176] Nickels, S., **Furgal, C.**, Buell, M., Moquin, H., 2006. *Unikkaaqatigiit - Putting the Human Face on Climate Change: Perspectives from Inuit in Canada.* Ottawa: Joint publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval and the Ajunnginiq Centre at the National Aboriginal Health Organization.

rounded idea on the implications that climate change has on the Inupiat and the effect climate change has on their rights.

The human rights of the Inuit, their right to life, water, food, health, housing, and self-determination are at risk; they are threatened. However, since these rights have already been identified and acknowledged, and what changes the climate has in store have already been predicted, maybe society and the government can think ahead and assist with adaptation and mitigation policies before the situation goes too far and irreparable damage is done. The Inuit, as a people, have had to adapt to the living conditions of the Arctic and in doing so have been able to survive. Their culture and way of living survived the presence of "southerners" and despite some negative impacts and blows to their history, identity, culture, and way of living, they as a people have survived. With the lifestyles of many modern Inuit today, with infrastructure, permanent homes and buildings, reliability on revenues from resource extraction projects, and destruction of the environment caused by human actions, adaptation is more difficult than in the past. If care is not taken, the ability of people to adapt to climate change, e.g. by moving further inland or substituting previous game for a new species, will be difficult. This difficulty could be because of pipelines, roadways, polluted areas, or destructed grounds due to travel on vulnerable thawed grounds, etc. The protection of the wilderness today could mean the survival of not just the Inuit, but of all people in the future.

Therefore this paper concludes and proposes that an extra step be taken in listening to the voice of indigenous peoples regarding climate change, and that this voice and the importance of it be especially placed in the recommendations of the working groups. The Inuit must have a voice on the inside and in the political atmosphere that speaks the Inuit side and, better yet, is an individual from the community with Inuit values. Inuit traditional knowledge needs to be shown special attention and a sustainable way of adapting to climate change needs to be presented. The two Advisory Groups of the Alaskan Sub-Cabinet have acquired vast information on climate change and its impact on not only the citizens of Alaska but also the environment. Alaska is a rural state with a vast wilderness that needs protecting, especially because of the many rural villages that continue to live sustainably. The fate of indigenous communities is at stake and it is important to treat them with respect and listen to them, for they are those who are first and foremost affected by this changing climate.

CONCLUSION

Indigenous peoples rely on the environment for their survival, for the survival of their culture, and their way of life. They are a part of what makes diversity in this world. Diversity in this world must be seen as a benefiting factor to the existence of human beings and not a negative factor. It is my opinion that people will not realize how vitally important the traditional cultures and their survival are to the rest of the human population until it is too late. This is often the case with modern society, we exhaust and exploit resources until there is little left. When we realize that there is a shortage of goods, then, and not only then, do we realize how important and sentimental these resources are. A good example is the interest in endangered species and the fight that activists put up in order to save these animals from extinction.

Due to the fact that indigenous peoples have such a unique relationship to nature, climate change will be devastating for many. Not only will the culture of indigenous peoples feel the impact because of climate change, but also because of the actions that "outsiders" take in order for their own culture and them as a people to survive. An example used above in this thesis is that of windmills. An action taken to reduce GHG emissions by modern society could be that of the introduction of windmills in order to convert to greener energy. This energy would be the source of electricity used by cities and towns, to enable great amounts of energy consumption. However, these windmills may have an affect on the natural habitat of the species living near the area, and ultimately have an affect on the human beings relying on those species. Hence, the benefit of the greater good would overrule the damage done to the minority. This seems, unfortunately, to be a trend with indigenous peoples.

Therefore I question whether the Inupiat in the North Slope Borough are taking the right approach in preparing for climate change and whether they necessarily benefiting from CO2 mitigation policies. They, as well as other communities in the Arctic, are already seeing the implications that climate change has for their ecosystem. They have scientific predictions for what changes the near future is going to bring, and it is very unlikely that CO2 mitigation strategies to reduce CO2 emissions today will prevent the main damages to come. Knowing this, I feel that the main focus of the Inuit in the North should be on adaptation. An unfortunate conclusion to come to, but it may just be the one necessary in order to ensure the rights of the Inupiat and a way for them to go from the role of the victim to the role of

the leader. Having been unable to make the world listen to their warnings and fears regarding climate change and global warming in the past years, perhaps they can focus on being ahead of the game in order to insure that the policies and actions taken by their government will not infringe on their human rights.

In the book by Bjorn Lomborg, "*Cool It- The skeptical environmentalist's guide to global warming*", Lomborg raises the question whether money should be spent on a climate change regime calling for the reduction of CO2 gas emissions or whether it should be used for adaptation methods. That is to say, should we focus on the problems at hand today, famine, disease and housing problems, or should we invest an incredible amount of money into the process of an attempted CO2 reduction policy scheme that the largest players in CO2 emissions have not agreed on?[177] This question, whether to continue to fight without reaching the wanted outcome, or to change the strategy in order to become better prepared for the future situation must be answered by the Inupiat community.

Clearly it would be ideal if we could slow down the rate of global warming but whereas a consensus has not yet been reached about how States are to act regarding emissions, it is very difficult to look with bright eyes to the future of GHG emission reductions. This formulation is backed up by the fact that a consensus was not achieved at the COP 15 in Copenhagen in November 2009. A worldwide attempt needs to be made in order for reductions to be successful, but without a consensus, the battle seems a lost cause.

The ICC has done a fantastic job in raising awareness and being active in the international arena. They have raised awareness and been very verbal in presenting to the world the implications that climate change and global warming will have on their culture and livelihoods. Despite their attempts and hard work, the fish did not take the bait at COP 15 and therefore it is my opinion that they should switch their focus on to adaptation policies and present these ideas to the rest of the world. The Inuit must show the world how to adapt to the changes, show them how they, as indigenous peoples, are going to continue to survive despite the hardships that the changing climate brings with it. They must become leaders of ideas, methods and survival.

---

[177] Lomborg, Bjorn. *Cool It- The skeptical environmentalist's guide to global warming*. New York: Alfred A. Knopf, 2007.

The attempt at making the world understand what implications climate change has on indigenous peoples is not hopeless, but it is an extremely difficult battle for the world is a stubborn and greedy place. Throughout history the rights and wellbeing of indigenous peoples has not been the main issue at hand for governments, and especially with economies like they are in 2010, I cannot honestly say that the well being of indigenous peoples will be of main concern for the governments of States. That is why I say that the Inupiat should prepare themselves by figuring out how they want to adapt to climate change and what actions they want to be taken. When this is clear, they can start to fight for these actions, fight for the financing of upcoming projects, and present tangible solutions to climate change. The Inupiat must be leaders and show the rest of the world how they can adapt.

Adaptation will not come without implications to the Inupiat culture. However, culture is alive and not a set thing and follows the people as their lives change. Culture has the ability to adapt and has been doing so since time immemorial. Perhaps, as with the fight for endangered species, Inupiat children and teenagers will want to learn more about their culture and who they are as indigenous peoples as their way of life and the way of life of their grandparents becomes threatened. As is often the case, people never really see what they have until it is gone, but this does not have to be the case with the Inupiat; the culture does not have to disappear. Perhaps with even more focus on traditional knowledge in the school systems and more encouragement from the parents and grandparents, respect and enthusiasm will blossom in the younger generations, reigniting the fire in them, the flame that makes them understand what it means to be Inuit, their culture.

Therefore I propose that the Inupiat change their game plan and go on the offense. The ball for a GHG reduction policy is already rolling and they have made their attempt at getting sympathy from the world without getting the wanted outcome. Hence they must review what they as a community want to happen, what issues they want to fight for and start planning ahead so that they can be prepared if the State of Alaska, as well as corporations, start to gain even more interest in their lands. What must be done today is just to be prepared and take the initiative. They must teach the children more about their culture, be proud of who they are as indigenous peoples, and stand strong and not bend when the government and outsiders with interest in the resources of their land come along.

BIBLIOGRAPHY

TREATIES

1. "Anchorage Declaration" from the Indigenous Peoples' Global Summit on Climate Change, April 24th 2009

2. "The Declaration of Atitlan", 1st Indigenous Peoples´ Global Consulation on the Right to Food and Food Sovereignty, Sololá Guatemala, April 2002.

3. International Covenant on Civil and Political Rights, Dec. 16, 1966, G.A. Res. 2299(XXI), art. 1(1), 999 U.N.T.S. 171 (entered into force Mar. 23, 1976)

4. International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, G.A. Res. 2200(XXI), art. 1(1), 993 U.N.T.S. 3 (entered into force Jan. 3, 1976)

5. International Labour Organization (ILO), *Constitution of the International Labour Organisation (ILO)*, 1 April 1919

6. International Labour Organization (ILO), *Indigenous and Tribal Peoples Convention, C169*, 27 June 1989, C169

7. Indigenous Peoples Kyoto Water Declaration. "Conditions of our Waters", Third World Water Forum, Koto, Japan, March 2003. para. 9

8. "Indian Reorganization Act": 25 USC 461 - Sec. 473a. Allotment of land on Indian reservations

9. Stockholm Convention on Persistent Organic Pollutants, 40 I.L.M. 532 (2001), May 22, 2001

10. UN General Assembly, *Convention on the Elimination of All Forms of Discrimination Against Women*, 18 December 1979, United Nations, Treaty Series, vol. 1249, p. 13

11. UN General Assembly, *International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families*, 18 December 1990, A/RES/45/158

12. UN General Assembly, *Convention on the Rights of Persons with Disabilities : resolution / adopted by the General Assembly*, 24 January 2007, A/RES/61/106

13. UN General Assembly, *Convention on the Rights of the Child*, 20 November 1989, United Nations, Treaty Series, vol. 1577, p. 3

14. UN General Assembly, *Declaration on the Right to Development : resolution / adopted by the General Assembly*, 4 December 1986, A/RES/41/128

15. UN General Assembly, *International Covenant on Civil and Political Rights*, 16 December 1966, United Nations, Treaty Series, vol. 999, p. 171

16. UN General Assembly, *International Covenant on Economic, Social and Cultural Rights*, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3

17. UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples : resolution / adopted by the General Assembly*, 2 October 2007, A/RES/61/295

18. UN General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III)

19. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3, 397; 21 I.L.M. 1261 (1982)

GENERAL COMMENTS

20. Human Rights Committee, General Comment 6, Article 6 (Sixteenth session, 1982), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 127 (2003).

21. Human Rights Committee, General Comment 14, Article 6 (Twenty-third session, 1984), Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI/GEN/1/Rev.6 at 139 (2003).

22. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant)*, 13 December 1991, E/1992/23. para. 7

23. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant)*, 12 May 1999

24. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12 of the Covenant)*, 11 August 2000, E/C.12/2000/4.

25. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11

26. UN Committee on the Rights of the Child (CRC), *CRC General Comment No. 7 (2005): Implementing Child Rights in Early Childhood*, 20 September 2006, CRC/C/GC/7/Rev.1

27. UN General Assembly, *Adequate housing as a component of the right to an adequate standard of living : note / by the Secretary-General*, 13 August 2008, A/63/275.

28. UN Human Rights Committee (HRC), *CCPR General Comment No. 23: Article 27 (Rights of Minorities)*, 8 April 1994, CCPR/C/21/Rev.1/Add.5

29. UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61

CASES

30. *Aurelio Cal, et al. v. Attorney General of Belize*, Supreme Court of Belize (Claim 121/2007) (18 Oct 2007)

31. *Jouni E. Lansman et al v. Finland*, (1996), HRC Communication No. 671/1995, U.N. Doc. CCPR/C/58/D/671/1995 (1996).

32. *Länsman et al. v. Finland*, Communication No. 511/1992, U.N. Doc. CCPR/C/52/D/511/1992 (1994)

33. *Lubicon Lake Band v Canada,* Communication No. 167/1984, Views adopted on 26 March (1990)

BOOKS – REPORTS

34. ACIA, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*. Cambridge University Press, 2004.

35. *Alaska´s Climate Change Strategy: Addressing Impacts in Alaska,* Draft Final Report Submitted by the Adaptation Advisory Group to the Alaska Climate Change Sub-Cabinet draft Adaptation Advisory Report. 27 January, 2010. Alaska Department of Environmenal Conservation.

36. *Alaska´s Climate Change Strategy: Addressing Impacts in Alaska Executive Summary,* Executive Summary- Draft Final Report, 27 January, 2009. p. xii

37. Anaya, S. James. *Indigenous Peoples in International Law*. 2nd ed. Oxford: Oxford University Press, 2004.

38. Lomborg, Bjorn. *Cool It- The skeptical environmentalist's guide to global warming*. New York: Alfred A. Knopf, 2007.

39. Mimura, N., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, 2007: Small islands. *Climate Change 2007: Impacts,*

Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, P 701.

40. Nickels, S., **Furgal, C.**, Buell, M., Moquin, H., 2006. *Unikkaaqatigiit - Putting the Human Face on Climate Change: Perspectives from Inuit in Canada.* Ottawa: Joint publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval and the Ajunnginiq Centre at the National Aboriginal Health Organization.

41. Wohlforth, Charles. *The Whale and the Supercomputer- On the Northern Front of Climate Change*. New York: North Point Press, 2004.

ARTICLES – REPORTS

42. "Alaska Climate Change Strategy´s Mitigation Advisory Group - Final Report - Greenhouse Gas Inventory and Forecast and Policy Recommendations Addressing Greenhouse Gas Reduction in Alaska" Submitted to the Alaska Climate Change Sub-Cabinet, August 2009. of the Mitigation Advisory Group.

43. Alfredsson, Gudmundur, "Minorities, Indigenous and Tribal Peoples, and Peoples: Definitions of Terms as a Matter of International Law" in Nazila Ghanea and Alexandra Xanthaki (editors), Minorities, Peoples and Self-Determination. Essays in Honor of Patrick Thornberry, Leiden:Brill Publishers, 2005, pp. 163-172.

44. Anisimov, O.A., D.G. Vaughan, T.V. Callaghan, C. Furgal, H. Marchant, T.D. Prowse, H. Vilhjálmsson and J.E. Walsh, 2007: Polar regions (Arctic and Antarctic). *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 653-685. ; See e.g. villages of Shishmaref, Kivalina and Newtok.

45. "Appendix F Cross-Cutting Issues Policy Recommendations" Alaska Climate Change Strategy's Mitigation Advisory Group Final Report – Greenhouse Gas Inventory and Forecast and Policy Recommendations Addressing Greenhouse Gas Reduction in Alaska Submitted to the Alaska Climate Change Sub-Cabinet August, 2009.

46. Bindoff, N.L., J. Willebrand, V. Artale, A, Cazenave, J. Gregory, S. Gulev, K. Hanawa, C. Le Quéré, S. Levitus, Y. Nojiri, C.K. Shum, L.D. Talley and A. Unnikrishnan, 2007: Observations: Oceanic Climate Change and Sea Level. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental*

Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

47. "Climate Change: An Overview" - A Paper prepared by the Secretariat of the United Nations Permanent Forum on Indigenous Issues (November 2007)

48. Climate Change, Human Rights and Indigenous Peoples : Submission to the United Nations High Commissioner on Human by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council, 26. December 2008.

49. Hild, Carl M. "Human Health and Well-being" Arctic Human Development Report Stefansson Arctic Institute. Akureyri; Iceland. 2004. pg. 161

50. Huntington, H.P. (ed.), 2000b. Impacts of Changes in Sea Ice and Other Environmental Parameters in the Arctic. Report of the Marine Mammal Commission workshop, Girdwood, Alaska, 15–17 February 2000. Marine Mammal Commission, Bethesda, Maryland: Marine Mammal Commission.

51. *International Expert Group Meeting on Indigenous Peoples and Climate Change*, Darwin, Australia. 2-4 April 2008. UN Doc. E/C.19/2008/CRP. 9, 14 April 2008.

52. International Labour Organization, *"ILO standards and the UN Declaration on the Rights of Indigenous Peoples: Information note for ILO staff and partners"*, n.d., distributed at the Permanent Forum on Indigenous Issues, 7th sess., April 2008

53. "Inuit Call to Global Leaders: Act Now on Climate Change in the Arctic" , Inuit Circumpolar Council, November 13, 2009.

54. "Joint Indigenous Peoples and NGO Statement on the occasion of the presentation of the Report of the Office of the United Nations High Commissioner for Human Rights (OHCHR) on the relationship between climate change and human rights", Statement to the Human Rights Council, Agenda item 2, Thursday March 5, 2008.

55. Karl, Thomas R. and Melillo, Jerry M. and Peterson, Thomas C., (eds). (2009) Global Climate Change Impacts in the United States: a state of knowledge report from the U.S. Global Change Research Program. New York. Cambridge University Press. p. 139-144.

56. Krupnik, Igor I. 2000. Native Perspectives on Climate and Sea-Ice Changes. In: Huntington, H.P., (ed.). Impacts of changes in sea ice and other environmental parameters in the Arctic: final report of the Marine Mammal Commission Workshop, Girdwood, Alaska, 15-17 February 2000. Bethesda, Maryland: Marine Mammal Commission.

57. Le Treut, H., R. Somerville, U. Cubasch, Y. Ding, C. Mauritzen, A. Mokssit, T. Peterson and M. Prather, 2007: Historical Overview of Climate Change. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

58. Permanent Forum on Indigenous Issues, "Meeting Report", Conference on Indigenous Peoples and Climate Change, Copenhagen, 21 – 22 February 2008, submitted by the International Work Group for Indigenous Affairs (IWGIA), E/C.19/2008/CRP. 3, 10 March 2008

59. *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States* (submitted 7 December, 2005). Available at: http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf..

60. Robinson, Mary, Climate Change and Justice, Barbara Ward Lecture, Chatham House, London, December 11, 2006.

61. Schuchard, Ryan and Weston, Nicki, "The Nexus of Climate Change and Human Rights- Emerging issues for Global Companies", BSR. http://www.bsr.org/reports/leading-perspectives/2009/LP_Spring_2009_Nexus.pdf (Accessed June 2009)

62. Siobhán McInerney-Lankford, *Climate Change and Human Rights: An Introduction to Legal Issues*, Harvard Environmental Law Review, Volume 33, Number 2, 2009, 431.

63. Streever, Bill. Emerging Issue Summaries – Science Technical Advisory Panel, Barrow, Alaska, Revised December 1, 2009

64. U.N. Human Rights Council, Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development, U.N. Doc. A/HRC/7/L.21/Rev.1 (Mar. 26, 2008)

65. UN Human Rights Council, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, 15 January 2009, A/HRC/10/61

66. UN Human Rights Council, *Report of the Special Rapporteur on the Right to Food, Jean Ziegler : addendum : mission to Bolivia*, 30 January 2008, A/HRC/7/5/Add.2

67. "Using Traditional Knowledge to Live Sustainably" Module 5 Traditional Knowledge, Adapted from Burger, J. (1990) The Gaia Atlas of First Peoples: A Future for the Indigenous World, Penguin Books, Ringwood

WEBSITES

68. "2-"REDD oneOone" Mililani Trask about Alaska Declaration, PFII, UNDRIP and REDD" http://www.youtube.com/watch?v=exMCXDI2oC0 (Accessed December 2009)

69. "Activities and Initiatives" Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/section.php?ID=12&Lang=En&Nav=Section (Accessed January 2010)

70. "Adaptation Advisory Groups of the Governor´s Sub-Cabinet on Climate Change" Climate Change in Alaska. http://www.climatechange.alaska.gov/aag/aag.htm (Accessed April 2009)

71. Alfredsson, Gudmundur, "Human Rights Challenges in the Arctic", paper presented to the Fourth Northern Research Forum in Oulu in 2006, http://www.nrf.is/Publications/The%20Borderless%20North/Project%20Legal_Alfredsson.pdf (Accessed January 2010).

72. "Applying conventions when countries have not ratified them - General Survey (article 19)", International Labour Organization, http://www.ilo.org/global/What_we_do/InternationalLabourStandards/ApplyingandpromotingInternationalLabourStandards/Applyingconventions/lang--en/index.htm (Accessed January 2010)

73. "Arctic Slope Regional Corporation, Barrow, Alaska." The Office of the President. http://arcticcircle.uconn.edu/ANWR/asrcadams.html (accessed January 2010)

74. "Climate Change Advisory Groups- Background" Climate Change in Alaska. http://www.climatechange.alaska.gov/advgrp.htm (Accessed November 2009)

75. "Climate Change" Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/index.php?auto_slide=&ID=385&Lang=En&Parent_ID=26&current_slide_num= (Accessed January 2010)

76. "Committee of Experts on the Application of Conventions and Recommendations" International Labour Organization. http://www.ilo.org/global/What_we_do/InternationalLabourStandards/ApplyingandpromotingInternationalLabourStandards/CommitteeofExperts/lang--en/index.htm (Accessed December 2009)

77. Espiritu, Aileen A. Module 10, *Industrialization in the Circumpolar North*, by Aileen A. Espiritu.; http://www.uarctic.org/singleNewsArticle.aspx?m=502&amid=3169

78. Final Commission Report Alaska Climate Impact Assessment Commission. Juneau, Alaska. March 17, 2008. http://www.housemajority.org/coms/cli/cli_finalreport_20080301.pdf (Accessed Dec. 2009).

79. “The Greenhouse Effect”, http://www.ucar.edu/learn/1_3_1.htm (Accessed January 2010)

80. “How to Talk to a Cliamte Skeptic: Responses to the most common skeptical arguments on global warming- a Grist special Series”, GRIST- A Beacon in the Smog, http://www.grist.org/article/series/skeptics/ (Accessed February 2010)

81. “ICC” Arctic Council, http://arctic-council.org/participant/icc (Accessed January 2010)

82. “Immediate Action Workgroup Recommendations to the Governor´s Subcabinet on Climate Change” March 2009. p. 72 http://climatechange.alaska.gov/docs/iaw_finalrpt_12mar09.pdf (Accessed April 2009)

83. International Arctic Science Committee (Content Partner); Peter Saundry (Topic Editor). 2009. "Further research needs on Indigenous Perspectives on the Changing Arctic." In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [First published in the Encyclopedia of Earth September 14, 2009; Last revised September 28, 2009]. http://www.eoearth.org/article/Further_research_needs_on_Indigenous_Perspectives_on_the_Changing_Arctic (Accessed ; Retrieved January, 2010)

84. “International Human Rights Law” , United Nations Human Rights- Office of the High Commissioner for Human Rights, http://www.ohchr.org/EN/ProfessionalInterest/Pages/InternationalLaw.aspx Accessed January 2010.

85. “The Inuit Case” CIEL. 11 March 2008. http://www.ciel.org/Climate/Climate_Inuit.html (Accessed January 2010)

86. “Inuit Circumpolar Council (ICC)” Inuit Circumpolar Council (Canada) http://inuitcircumpolar.com/index.php?auto_slide=&ID=16&Lang=En&Parent_ID=&current_slide_num= (Accessed January 2010)

87. “Issues & Legislation/ Issues/ Arctic Policy”, Mark Begich U.S. Senator for the State of Alaska, http://begich.senate.gov/public/index.cfm?p=ArcticPolicy (Accessed January 2010).

88. "Kyoto Protocol." *United Nations Framework Convention on Climate Change*. http://www.unfccc.int (Accessed June 2009)

89. “Lines of Business” Ukpeagvik Inupiat Corporation. http://www.ukpik.com/LinesOfBusiness.htm (Accessed January 2010)

90. “Persistent Organic Pollutants in the Arctic” NOAR http://www.arctic.noaa.gov/essay_calder.html (Accessed January 2010)

91. *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States* (submitted 7 December, 2005). Available at: http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf. (Accessed December 2009)

92. "Phyllis Schlafly on the Law of the Sea Treaty (LOST)" [Video]. http://www.youtube.com/watch?v=beb1YPSUX-c&feature=related (Accessed January 2010)

93. "Subsistence Food Safety – Assessing the Risks and Benefits" Epidemiology, State of Alaska. http://www.epi.alaska.gov/eh/subsistence.htm (Accessed January 2009)

94. "United Nations Declaration on the Rights of Indigenous Peoples Adopted by the General Assembly 13 September 2007", UNPFII, http://www.un.org/esa/socdev/unpfii/en/declaration.html Accessed January 2010.

95. "United Nations Framework Convention on Climate Change", UNFCCC, http://unfccc.int/2860.php (Accessed Jan. 2010)