25 Years of Arctic Environmental Agency: Changing Issues and Power Relations

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This paper proposes a retrospective of the changes in environmental policies and the various actors' positions and strategies concerning the Arctic since Mikhaïl Gorbachev, then the Soviet Union's General Secretary, visited Murmansk and gave a ceremonial speech in October 1987 – a speech that triggered a new global outlook on the Arctic. The Arctic environment, 25 years ago, was perceived mainly as a Far North affected by distant modern civilization. Environmental concerns included Arctic haze, the depletion of the stratospheric ozone layer, the accumulation of pollutants in Arctic mammals, sea acidification, concentration of radioactive pollution, and hazards related to the presence of armament and military activities in the Arctic. But twenty-five years later, the Arctic has moved to the fore, experiencing environmental changes, mainly due to climate warming, firsthand and at double the rate of the world's average. With climate warming, paradoxically, the Arctic is not only a victim of change but has become a key actor in environmental change, with melting ice opening it up to intense fossil fuel and mineral resource exploitation. Who are the actors who will decide whether, to what extent and how these resources will be exploited? This article identifies the main periods and the main changes in the actors, their strategies and their power relations over the past 25 years in Arctic environmental agency. By doing so, it critically assesses these actors' constraints and potentials for mitigating and adapting to a rapidly warming climate.

> "The North European countries could set an example to others by reaching an agreement on establishing a system to monitor the state of the natural environment and radiation safety in the region. We must hurry to protect the nature of the tundra, forest tundra, and the northern forest areas."
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> Mikhaïl Gorbachev, 1987, Murmansk, Soviet Union

Introduction: Agency in and Around the Arctic Environment

Gorbachev's speech in Murmansk in 1987 placed the Arctic at the center of global political attention. It became a common global concern for peace requiring the commitment of nation-states from the North and beyond. Gorbachev spoke to a public opinion influenced by the vibrant peace and

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environmental movements of the eighties, anxious to end the Cold War. It took another decade, by the turn to the 21st century, for climate change to become the priority issue of Arctic environmental policy, and less than 20 years to experience the greatest summer Arctic ice meltdown ever recorded.[1] But at the time of Gorbachev's speech, climate change was not yet spoken about outside of some small scientific groups.

Some of the environmental issues that were raised by scientists and social movements at that time appear in the general discourse today as being secondary, even though they remain unresolved, such as the environmental impacts of military activities, the accumulation of radioactivity and heavy metals as well as other persistent pollutants, sea acidification, and loss of Arctic mammals. Looking back at the environmental discourses and actions of 25 years ago raises the questions (1) of changing environmental policy in the Arctic, as well as (2) of how the perception of environmental issues and problems has changed over that period of time. Such a retrospective should contribute to developing strategies for the next generation, so that the Arctic and the planet remain a liveable habitat of biological diversity, including Homo sapiens.

Gorbachev, in his speech, highlighted in particular the need to *monitor* the state of the natural environment and of radiation in the region and *protect* the tundra, forest tundra and Northern forest areas. The speech therefore called for both scientific and policy attention and action. The speech was made in the context of the Chernobyl nuclear accident 18 months earlier, which had already severely impacted upon the Arctic environment and its peoples. It came also after more than 40 years of militarization, making the Arctic one of the main theaters of potential conflict between the Eastern and Western superpowers, and Murmansk a central stage of the Soviet naval nuclear striking force. The speech was not only a turning point because it was a preamble to the end of the Cold War, but also because it brought the Arctic to the front stage, where global environmental changes became most visible. Since 1987, advancing globalization and subsequent cultural and biodiversity loss, climate warming and peaking oil production, have changed the lives and the prospects for all of us, but particularly for Arctic peoples.

Geographically speaking, the Arctic is the region North of the 66° 33' parallel, where there is the midnight sun in summer and full darkness in winter, and where the mean temperature of the warmest month is mostly below 10 ° Celsius. In human terms, it is a homeland to about 4 million people, including about 500,000 indigenous peoples, who speak over 40 languages across the territories of eight nation-states (AHDR, 2004). This cultural diversity is related to the Arctic's

biological diversity, encompassing its marine, terrestrial and freshwater ecosystems with endemic and migratory species, which depend upon the Arctic environment, including its ice on land and sea, its tundra, and permafrost peat land.

During the last 25 years the Arctic has moved from being a "policy object" – i.e., an object of resource extraction and environmental changes, which depend upon decisions and actions from outside the region – to a transnational agent engaged in international policy-making with its own regional voice. Indeed, the circumpolar North has increasingly affirmed itself as a homeland, with its own resident population and with indigenous communities who affirm their own concerns and their rights for self-determination and self-governance (Heininen & Southcott, 2010). Arctic agency has been effective at changing its situation in the world's geopolitical and environmental representations. The map of the Northern polar cap with the large but receding Greenland ice shield and the Arctic has become widely known, overshadowing somewhat the image of the Magellan map, where the Arctic was barely outlined and widely spread out, at the plan's furthest top margin. To be in the focus of the world's eye, actors from within the Arctic region and outside have been framing issues, mobilizing and shaping institutional processes.

In the first section, we will define the four main phases in changing perceptions about environmental issues concerning the Arctic over the past 25 years, i.e., (1) the Arctic during the Cold War, (2) the Arctic at the end of the Cold War, (3) the Arctic after the 1992 UN Conference on Sustainable Development, and (4) the Arctic in the first decade of the 21st century. For each of these phases, we identify, in a second section, the actors who have been most influential in shaping Arctic-related environmental policies. In the third section we analyze the power relations among the actors over the past 25 years. The conclusion will provide some insights for institutional transformations needed to face the profound environmental changes the Arctic, in interaction with global dynamics, is already and increasingly will be experiencing.

Indeed, the current literature on the Arctic environment is lacking a critical analysis of the agents and institutional processes that are needed to stem the causes and mitigate the consequences of Arctic environmental degradation. Our paper proposes to take a historical social agency perspective in order to identify and understand the actors that have shaped Arctic institutions so far and those who will address Arctic environmental change in the future. Analyzing the various governmental, non-governmental and corporate actors' interests, strategies, and dynamic power relations explains, we claim, how issues are defined, prioritized, or discarded. By considering the social agency behind the

institutional processes, our objective is to encourage respective stakeholders to take a perspective that helps them better evaluate their constraints and margins of freedom for engaging more effective institutional transformations, aimed at sustaining present and future generations.

We indeed believe environmental problems as well as the current situation of the Arctic should not only be considered in the classical pressure-state-response framework (Omann, Stocker & Jäger, 2009), but also be considered from the perspective of social agency analysis. Defining the various actors, their interests, their power relations, their influence, their strategies, and the institutional context in which they interact, can offer a critical analysis of current environmental governance of the Arctic. While reckoning the essential authority of science in environmental policy making, the outcome of environmental policy-making processes hinge on far more complex interactions between various state and non-state actors of multiple and often conflicting interests (Bocking, 2004). Considering environmental governance as a social system of interacting agents is a perspective that allows us to better address potentials and constraints of actors to adapt and transform some of their attitudes, behavior and social structures of collective actions (Crozier & Friedberg, 1977)[2]. Environmental agency is thus considered as being a process of institutionalization, or more precisely in Gidden's terms of "structuration", whereby social interactions are not only the product of rational behavior, where individuals and organizations pursue their interests, but also of culture and partly unconscious patterns of behavior. These more or less formalized patterns of behavior or institutions are constructed, not only to respond to problems but also to reproduce the social system from which both actors and problems emerge. To recall Giddens, "institutions are practices, which stretch over long time-space distances in the reproduction of social systems" (Giddens, 1995: 28). Indeed, even though environmental institutions are often carried forth by strategies and related discourses pertaining to social change, they are also reproducing social structures that are foundational to the issue or problem and not necessarily sustainable in socio-political, economic, cultural and ecological terms. We thus consider environmental issues as being co-constructed by social agents deliberating about various perceptions and interpretations of social conflicts and values (Finger-Stich, 2005). Issues are framed out of complex time and place bound social and ecological interactions. Framing alternative strategies to address social – including environmental – issues is always a political exercise, in which authority and legitimacy are negotiated around conflicting interests, which outcome will redefine (or reaffirm) a certain configuration of power relations.[3]

Shifting Issues Regarding the Arctic Environment

In our retrospective over the past 25 years, we identify four main phases of changing perceptions about Arctic-related environmental issues, namely (1) the phase of the Cold War, (2) the phase immediately after the Cold War, (3) the phase after the Rio Conference on Environment and Development, and (4) the most recent phase of the beginning of the 21st century.

Environmental Issues During the Cold War: Distant Pollution, Nuclear and Military Waste

During the Cold War, the Arctic was considered to be a remote and inhospitable place, sparsely populated, the backyard of the superpowers accumulating armament and testing defense strategies. This is for example the case in Novaya Zemlya, between the Barents and the Kara seas, where Russia conducted numerous atmospheric and subterraneous atomic tests from 1955 until the 1990s and where much nuclear waste was dumped.

On the other hand, the Arctic continues to be portrayed as a wild sanctuary of mammals needing protection from regional hunters and international commercial interests. Among the global actors constructing this image are the International Whaling Commission, which was already set up under the International Convention on the Regulation of Whaling (1946), and later the (International Union for Conservation of Nature (IUCN) Species Survival Commission and its Polar Bear Specialist Group (1968). In 1973, the five polar bear Arctic states, Canada, US, Denmark (Greenland), Norway and Russia, signed the *International Agreement on the Conservation of Polar Bears and their Habitat*. According to the first Article of the Convention: "Parties shall protect polar bear habitat, especially denning areas, feeding areas, and migratory routes; ban hunting of bears from aircraft and large motorized boats; conduct and coordinate management and research efforts; and exchange research results and data." But the agreement allows for the taking of polar bears for scientific purposes, for preventing serious disturbances in the management of other resources, for hunting by local communities using traditional methods and exercising traditional rights, and for the protection of life and property. Following this agreement each nation has established its own regulations and conservation practices.[4]

Since the early Sixties, the Arctic also became a "benchmark for global pollution" (Radke, Lyons, Hegg & Hobbs, 1984). Travelers by air, sea and land started to observe so-called 'Arctic haze', occurring regularly during the end of winter and spring. Geophysicists observed the concentration of airborne Arctic aerosols[5] in layers above the ground. It was obvious that these pollutants came from

distant sources. Because of reduced photochemistry and particular wind conditions in some Arctic places in early spring, these aerosols could persist for several weeks, reducing visibility in the lower troposphere (ibid). Pollution in the Arctic also stems from activities within the region, not only from mining, but also from extracting oil, starting with the Alaska North Slope field (Prudhoe Bay since 1968) and the Urengoy gas field in Russia, which went into production in 1978. But few other reserves of oil and gas resources had been identified in the Beaufort Sea and the Barents Sea before the end of the Cold War. Including mining (coal, gold and other metal mining), Arctic reserves had been exploited since the nineteenth century, such as on Svalbard Island (Anderson, 2009: 127).

Indeed, during the 1980s, the contaminants issue framed the Arctic image from outside as a common and global environmental concern. And indigenous peoples, in particular the Inuit, raised an alarm for impacts on their health in the wake of the Inuit Circumpolar Conference (ICC), which first met in Barrow, Alaska, in 1977 (Doubleday, 1996). However, the Arctic, during this period, was mostly seen from the South as *another world* or *a world of others*, where a few people struggle for survival, hunting mammals, seals, polar bears and whales. Whereas native peoples in some Arctic states – US, Canada, and Greenland – were gaining rights to self-determination and self-government in the 1970s (Osherenko and Young, 1989: 108-109)[6], other inhabitants of the Arctic, including indigenous peoples from the USSR and numerous immigrants working in extractive industries, the military or scientific missions, were not part of the Arctic image as seen from Southern perspectives.

Environmental Issues at the End of the Cold War: Protection of Peace and Nature

Gorbachev's speech acted like a springboard to an accelerating institutionalization of Arctic environmental agency. Some steps we may recall in this process are outlined below.

In September 1989, the Finnish government took the initiative to invite the eight Arctic governments to meet and discuss "cooperative measures to protect the Arctic environment" (AEPS, 1991: 1). In 1990, the Intergovernmental Panel on Climate Change (IPCC) published its first assessment, which would lead, two years later, to the establishment of the UN Framework Convention on Climate Change (UNFCCC). And in 1991, following the collaborative work started in 1989, Finland organized the first ministerial conference among the eight Arctic states committing to "the protection of the Arctic environment". Subsequently the eight states signed the Rovaniemi Declaration, launching the Arctic Environmental Protection Strategy (AEPS, 1991). Its objectives were mainly to monitor pollution levels (oil acidification, persistent contaminants, radioactivity) as

well as to study the impacts of development activities. The strategy led to the constitution of the Arctic Monitoring and Assessment Program (AMAP), established in 1991 as a Task Force.

The Arctic continued to be associated with the protection of mammals during the early 1990s, with reported declines of fur seal populations ascribed to over-hunting, including indigenous communities' subsistence hunting. However similar depletion of fur seal populations, like those of sea lions, were also recorded in protected zones, which indicated that the decline in their populations may have rather been the fact of declining biomass in the Bering sea, in particular of declining fish on which these species feed (Osherenko & Young, 1989: 139). In 1992, the polar bear was listed under the Convention of International Trade in Endangered Species of Wild Fauna and Fauna (CITES), category II as "endangered species, likely to be threatened with extinction if not regulated" (CITES, 2010). And the US protects the polar bear under the Marine Mammals Protection Act (MMPA) and allows hunting only for Alaskan indigenous peoples who have permits and for subsistence purposes.[7]

Environmental Issues after UNCED: Biodiversity and Sustainable Development

The end of the 1980s was marked by the World Commission on Environment and Development (WCED)[8], also named the Brundtland Commission after the Norwegian former prime minister and chair of the commission Ms. Gro Harlem Brundtland. The WCED final report 'Our Common Future', was published in 1987, the same year Gorbachev pronounced his speech in Murmansk. It made no particular reference to the Arctic, but had an entire section on Antarctica: 'Towards Global Cooperation'. Five years later, the Rio Conference on Sustainable Development (1992) launched the three great environmental conventions on climate, biodiversity and desertification, the UNFCCC, the CBD (Convention on Biological Diversity) and the UNCCD (UN Convention to Combat Desertification), again with no particular mention to the Arctic.

The non-binding Agenda 21 was a soft law commitment of the Conference aimed at involving local and regional governments, as well as "major groups", defined as indigenous people (spelled without an "s" – see Article 26.1), youth and children, women, local authorities, workers and trade unions, non-governmental organizations, business and industry, the scientific community and farmers. These major groups were addressed without distinction of their particular claims and rights, not recognizing a particular status to indigenous peoples. It stated that "any policies, definitions or rules affecting access to and participation by non-governmental organizations in the work of United Nations

institutions or agencies associated with the implementation of Agenda 21 must apply equally to all major groups" (UNESA, EarthSummit, Agenda 21, art. 23.3.). After the Rio conference, indigenous peoples organizations' involvement in international environmental processes increased, in particular on forest policies (the Intergovernmental Panel - and then Forum – on Forests, 1995-2000). Arctic indigenous peoples' involvement helped raise awareness on deforestation and forest degradation, not only for tropical forests, but also for the tundra or boreal forests, in particular in Canada and Russia.[9] Indigenous peoples' participation focused, at that time, mostly on the CBD, in particular Article 8(j) on knowledge, innovation and traditional practices of indigenous and local communities.

Taking "our common future" back home, the process of constructing the Arctic Council continued as the ministers of the eight Arctic States met in Nuuk, Greenland in 1993, and expanded the mission of the AEPS to deal with "sustainable development". It would take three more years before the Ottawa Declaration was signed in 1996, which formally established the Arctic Council, created the Working Group on Sustainable Development and Utilization (SDWG) and granted Permanent Participant status to indigenous peoples'[10] organizations.[11] The Declaration in its first article (a) mandates the Arctic Council to: "[p]rovide a means for promoting cooperation, coordination and interaction among the Arctic States with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues in particular sustainable development and environmental protection in the Arctic". When it defines what these "common Arctic issues" are, the declaration states explicitly, in a footnote to this same article quoted above, that "the Arctic Council should not deal with matters related to military security" (Arctic Council, 1996; Berkman, 2012).[12]

Environmental Issues of the Early 21st Century: Climate Change and Peak Oil

The Intergovernmental Panel on Climate Change (IPCC), in its third assessment report published in 2001, mobilized considerable scientific and political attention on the effects of global warming on Arctic sea and land ice (IPCC, 2001: 2.2.5.2.). It also modeled sea level rise, which was said to be sensibly higher for the Arctic Ocean than for other oceans (3 mm./yr., instead of 2mm).[13] Other positive feedback mechanisms, such as induced albedo effect, melting permafrost with increasing carbon and methane emissions, and stratospheric ozone depletion were also highlighted (IPCC, 2001: 14.2.3.2; UNEP & GRID, 2007).

Further building on the 3rd IPCC Report's findings, in which scientists involved in the Arctic had taken part, the Arctic Council and the International Arctic Science Committee (IASC) presented the

Arctic Climate Impact Assessment (ACIA, 2005) to the IPCC. This document raised global attention to climate warming in the region, which it was argued could suddenly accelerate and lead to possibly catastrophic events with irreversible repercussions, such as the break-up of a big ice shelf section leading to a rapid increase in sea level (UNEP, GRID, 2007). The metaphor and catchword used to describe this situation – when unleashed changes start to proceed – was the "tipping point". For instance, referring to the ice-melt of the summer 2007, Mark Serreze, scientist from the National Snow and Ice Data Center (NSIDC) in Boulder (Colorado), commented that climate models had underestimated the rate of sea-ice loss and that there was a tipping point under which sea-ice loss could no longer recover from year to year. According to a model developed by Marika Holland from the National Center for Atmospheric Research, the critical sea ice thickness may be 2.5 m, and then "you kind of fall over the edge" (Serreze cit. in Emmerson, 2010: 150-151). The warning of IPCC had become an alert, with sea-ice loss occurring sooner than predicted.

There may be a more or less natural 'Arctic oscillation' factor contributing to this sudden change, adding to the warming trend induced by anthropogenic emissions. The IPCC leaves the relative importance of these factors open. But the fact was that in summer 2007 the Northwest Passage (NWP) was for the first time navigable without breaking ice, and the Northern Sea Route (NSR) was to a considerable extent as well (Roach, 2007). Climate models and scenarios of mitigation had to be corrected to reflect the accelerating trend, considering also variables of the climate system such as snow cover, permafrost, acidification of oceans, increase in coverage of Arctic tundra, and increasing occurrences of large forest fires.[14] The impacts of the 'Arctic amplification' became visible, but varied greatly according to the places and the actors concerned. Many impacts were negative but some appeared to be economically positive, at least in the short or medium term, such as increasing fishing stocks for some species and in some places, extended agricultural growing seasons and cultivable areas, increasing accessibility of the seas for shipping shortening formerly longer intercontinental routes, and last but not least, accessibility to fossil and mineral resources of which extraction costs diminish with warmer temperatures.

One year after this Arctic climate event, the United States Geological Survey (USGS) released in 2008 estimates stating that about 25% of the world oil and gas reserves lie in the Arctic, most of it offshore in the Arctic Ocean (13% of world oil reserves and 30% of gas reserves). The Arctic paradox became obvious, as the Arctic is on one hand the place where effects of climate change are among the strongest, and on the other, the region where there are some of the greatest remaining

reserves of hydrocarbons in the world. Furthermore, as the International Energy Agency (IEA) recognized that world peak oil was probably reached in 2006, the pressure to access the few remaining reserves that can be exploited efficiently (with positive energy return on energy and capital invested) became very acute. The Arctic Council has highlighted a further technical constraint, with moral implications bearing on the decision to drilling and shipping in the Arctic: polar ecosystems are particularly vulnerable to oil spills.[15]

Shifting Arctic Agency

In this second section, we will analyze the last three phases, or decades that have passed since Gorbachev's speech, in terms of social agency: who are the actors that have defined the dominant discourse during each of these phases? What were their interests? What were their strategies? More precisely, we will see that during the phase following the Second World War, it was mostly scientists and social movements from outside the Arctic region, who framed Arctic environmental issues, whereas during the phase following UNCED (1992), the Arctic environment became more defined by governments, non-governmental organizations and indigenous peoples, with a strengthening of the voice of the Arctic as a region. Finally, the most recent phase, at the beginning of the 21st century, has tended to come under the influence of global corporate actors, especially TNCs. Whereas the Arctic Ocean rim states willing to defend their claims over fossil fuel resources, mining and fishing resources, and non-Arctic states for their own commercial and (to some extent) environmental security interests.

The Arctic of the 1980s: Scientists and Social Movements

Immediately after the Cold War, environmental issues were defined by scientists who were largely working on the margins of their disciplines. Their audience was the rapidly growing ecological, anti-nuclear and peace movements of the 1980s. Many agents framing the environmental issues actually came from outside of the Arctic region, namely researchers engaged in peace, conservation and the sustainable management of natural resources. To recall, the Arctic, at that time, was conceptualized as pure nature threatened by modernization. Demilitarization and environmental conservation were the main issues and they were viewed as a means to privilege national economies.

Gorbachev's speech (1987) illustrated perfectly the spirit of the time and the strategies of the main actors who would shape Arctic environmental policy in the following decade. His speech echoed the scientists' as well as the peace and environmental movements' concerns. In his speech, he profiled

the region mostly in terms of its global importance, in order to be heard by distant capitals in North America and Europe:

> We attach special attention to the cooperation of the Northern countries in environmental protection (…) the Soviet Union proposes drawing up jointly an integrated comprehensive plan for protection of the natural environment of the North.

But he spoke also to the inhabitants of the region, as he was situated in Murmansk, the biggest city in the Arctic, which was and still is a nuclear hotspot; he spoke to the indigenous peoples of the Russian federation:

> Questions bearing on the interests of the indigenous population of the North, the study of its ethnic distinctions and the development of cultural ties between Northern peoples require special attention.

Gorbachev also envisioned environmental protection and peace as compatible with development, stating that demilitarization and cooperation would help open sea routes to commerce and "make the Arctic habitable for the benefit of national economies".

The strategy for institutionalizing his overall intentions was sketched out, including the creation of the Arctic Council: "we propose holding in 1988 a conference of sub-Arctic states on coordinating research in the Arctic. The conference could consider the possibility of setting up a joint Arctic Research Council" (Gorbachev, 1987).

The Arctic of the 1990s: Inter-governmental and Indigenous Peoples' Organizations

We have pointed out previously that the 1990s were a time of building elements of global environmental governance related to UNCED. At the level of the Arctic, the emergence of strong intergovernmental scientific and political processes, including the establishment of the Arctic Council, occurred.

As of the mid-1990s, the Arctic started to affirm its own identities and voices, asserting claims for sustainable development from within. It was a time when Arctic states started to collaborate and when Arctic indigenous peoples became active in environmental policy making. The interconnection between environmental protection issues and socio-economic development called for a sustainable development approach, which was subsequently promoted by the Arctic Council. This approach was entirely in line with the Rio 1992 Conference on Environment and Development. As a contemporaneous process to the Pre- and Post–Rio processes, the same importance of participation and sustainable development found at Rio was elucidated in the Rovaniemi Declaration (1991).

The first Arctic Indigenous Leaders' Summit, which was organized shortly after the Rovaniemi summit by the ICC and held in Horsholm, was a historic start for the cooperation of indigenous peoples in the Arctic. The Horsholm Declaration was signed by the ICC Environmental Commission, the Nordic Saami Council (NSC) and the Russian Association of Indigenous Peoples of the North (RAIPON) (Faegteborg, 2005). The Aleut International Association, the Arctic Athabascan Council, as well as the Gwich'in International Council joined later, after the Arctic Council was established. Whereas in the Arctic Environmental Protection Strategy (AEPS, 1991), indigenous peoples were granted "Observer Status", this evolved into "Permanent Participant" status in the Arctic Council, something unique to this day in international environmental institutions.[16] Indeed, the indigenous peoples' organizations take part in all of the six programs of the Arctic Council: the Arctic Contaminant Action Program (ACAP); the Arctic Monitoring and Assessment Program (AMAP); the Conservation of Arctic Flora and Fauna (CAFF);[17] the Emergency, Preparedness and Response Program (EPPR); the Protection of Arctic Marine Environment (PAME); and the Sustainable Development Working Group (SDWG).

The rather short Rovaniemi Declaration endorsing AEPS stated that: "Management, planning and development activities that may significantly affect the Arctic ecosystems shall (…) recognize and, to the extent possible, seek to accommodate the traditional and cultural needs, values and practices of the indigenous peoples as determined by themselves, related to the protection of the Arctic environment". The commitment to involve actively indigenous peoples in the implementation of the strategy emerges also explicitly, yet timidly, as a decision: "We agree to continue to promote cooperation with Arctic Indigenous Peoples and to invite their organizations to future meetings as observers" (AEPS, 1991: 3). By saying so, it creates a council for and by the Arctic states including Arctic peoples.

The participation of indigenous peoples is a key component in the emerging regional approach for environmental policy making in and for the Arctic. The regional approach with indigenous peoples' participation has also been strengthened by scientific cooperation, particularly through the establishment of the IASC in 1990; political cooperation promoted by the Northern Forum (NF); and intra-governmental cooperation with the establishment of the Conference of Parliamentarians of the Arctic Region (CPAR) in Reykjavik in 1993.

The Arctic of the Early 21st Century: Transnational Corporations and National Governments

In the beginning of the 21st century, environmental agency in the Arctic changed again, mainly as a result of the newly emerging issue of climate change and the possibilities for resource exploitation resulting from climate change. Transnational Corporations (TNCs), and especially State-Owned Enterprises (SOEs) have been the main agents of such resource exploitation, given their financial means, their expertise, as well as some unsettled land or sea claims (in the open Arctic Ocean). Nation-states have become simply regulators of such activities. Environmental NGOs are pushing for limitations to such exploitation, but sometimes lack credibility because of their perceived complicity with governments, international organizations, private and state enterprises, sometimes at the expense of local communities and indigenous peoples.

The issue of climate change was not yet at the forefront in the process leading to the creation of the Arctic Council in Ottawa in 1996. Climate change became a top issue of global environmental concerns only by the end of the 20th century, and is now at a point where there is a consensus among scientists working on the Arctic that climate change is "the most far reaching and significant stressor on Arctic biodiversity" (CAFF, 2010: 3).

As the first decade of the 21st century proceeded, interest in the Arctic as a homeland was also increasingly emphasized. This perspective was influenced by the Arctic Human Development Report (AHDR) (AHDR, 2004). The recognition of "the human dimensions and concerns of local and Indigenous Peoples and engaged Arctic residents" was explicit in the Washington Ministerial Declaration which took place during the International Polar Year in 2009.[18]

Thus far, military, environmental and climatic issues were considered mainly in terms of national security. They were addressed primarily in international relations because the threat was portrayed as coming to a large extent from outside or beyond the national borders. The new trend of the past decade has been that policy-makers have been moving from (largely ineffective) global mitigation policies to regional and local adaptation objectives, as issues of climate change-induced impacts on health and food security have become obvious. An indicator of this shifting focus was the constitution of an Arctic Human Health Experts Group as a subsidiary to the Sustainable Development Working Group within the Arctic council in 2009 (Tromsø Declaration, 2009). Further, during the Danish Chairmanship of the Arctic Council (2009- 2011), the 7th Ministerial meeting of the Arctic Council recognized "the need to improve the physical and mental health and

wellbeing and empowerment of Indigenous Peoples and residents of Arctic communities" (Nuuk Declaration, May 2011).

Shifting Power Relations

Each of the three phases discussed above have had their dominant discourses shaped by particular actors. Each actor, in turn, had their own specific strategic interest(s). We briefly characterize each of these interests below:

- The five Arctic Ocean rim states affirmed their sovereignty claims over the Arctic oceans' resources, for their national economic growth and military interests.[19]
- The eight states of the Arctic Council increasingly defended regional and global environmental interests, while simultaneously preventing those interests from constraining their respective freedom to access national resources in the region.
- Non-Arctic states affirmed their commercial and environmental security interests in the Arctic, including both the European Union (Council of the EU, 2009) and China, which have applied for permanent observer status in the Arctic Council. (See section on non-Arctic states elsewhere in this volume.)
- Extractive industries' corporations – be they State-owned or transnational private enterprises – competed for access to the natural resources.
- United Nation's organizations, notably the UN Convention on the Law of the Sea (UNCLOS), the International Maritime Organization (IMO), the UN Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the UN European Economic Commission for Europe (UNECE) (and its five environmental treaties) basically affirmed their member states' interests and have been pretty ineffectual given the conflicting nature of these interests.
- The Northern Forum, the Barents Euro Arctic Council (BEAC), the Regional Fisheries Management Organizations and other similar regional associations more basically articulated interests of regional sustainable development.
- Indigenous peoples defended their rights to their ancestral lands, freshwater and marine living resources, so as to self-determine their livelihoods and identities.
- International environmental non-governmental organizations shaped Arctic issues for global awareness raising campaigns, supporting also their own organizational interests.
- Civil society associations considered the more local dimensions of the Artic as an environmental commons, bringing action home and opposing the degradation of their own 'backyard'.
- Scientists, mostly from the natural sciences, monitored the changing state of the environment, assessed the stocks of natural resources, developed technologies and made recommendations for the various actors represented in the graph below, and also as collective actors (i.e., Nordic Council, the European Polar Consortium, the International Polar Year, the International Program on Climate Change, the International Arctic Science Committee, etc.). Their interest was also to be able to develop further research activities.

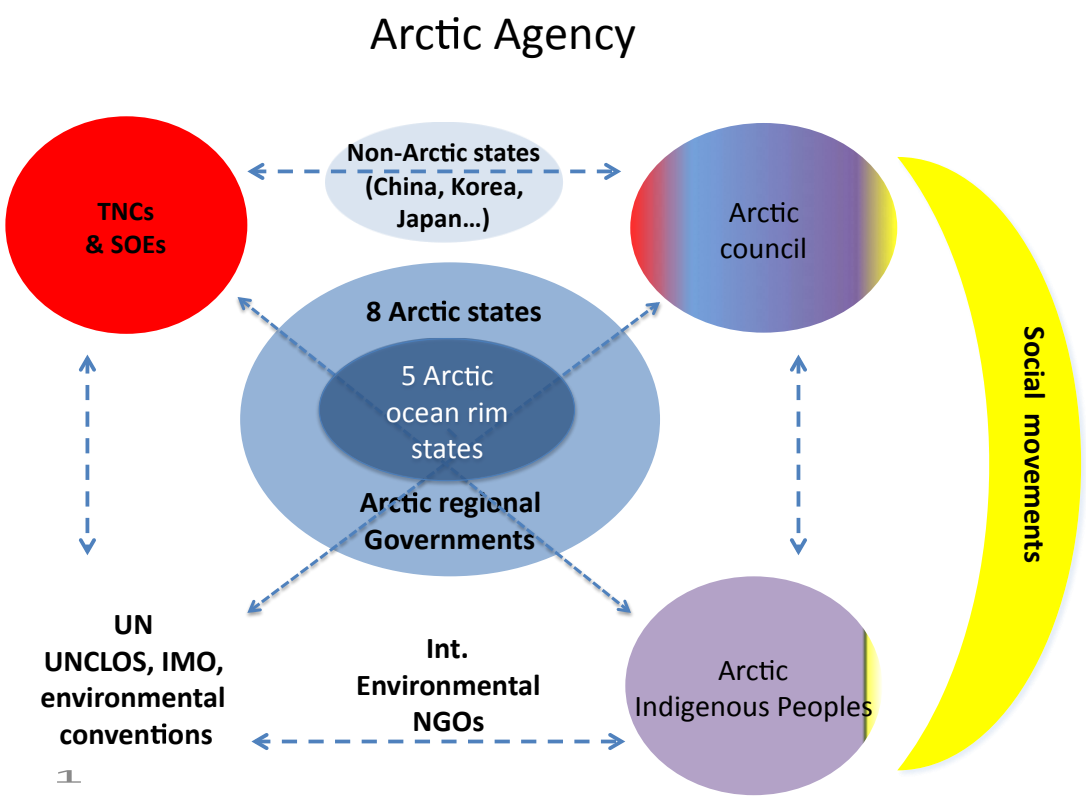

Figure 1 Arctic Actors and Actors' Relationships and Relative Influences
Blue shades indicate government bodies; red indicates corporations; purple indicates indigenous peoples' organizations, and yellow indicates social movements.

While the intrinsic interests of the different actors have not changed much over time, their strategies have varied according to the different phases (and corresponding issues) as identified above. Figure 1 shows the various Arctic actors and their possible strategic relationships during the last phase, in the early 21st century.

This analysis allows us to discuss the structural constraints and potential for more sustainable environmental agency concerning the Arctic, looking in particular at four groups of actors: nation-states, large environmental non-governmental organizations, transnational corporations and indigenous peoples' organizations.

Nation-States

The nation-states' interests are relatively clear, as they are essentially preoccupied by their economic agenda, with energy, military and environmental security being mostly means to ensure that agenda (Finger & Finger-Stich, 2010). It is to serve the economic interest that they are willing to open access

to the extractive industries to the extent that they can still control or regulate their activities, so that they minimize risks of conflict and environmental degradation. Therefore the most influential actors in environmental policy-making regarding the Arctic are nation-states and their respective TNCs or SOEs (see below). The five Arctic rim-states are thus mostly preoccupied with their claims over resources, and keeping good relations amongst themselves so as to not jeopardize their commercial interests (e.g., "commercial peace"). Through the Arctic Council, the eight Arctic states, including the three non-rim-states of Finland, Sweden, and Iceland, represent the broader interests of the entire Arctic region.

The potential of the Arctic Council to be active in promoting needed institutional changes is therefore limited by the Arctic ocean rim-states, who do not want to see their access to the hydrocarbon resources regulated by other actors, and also by countries who have important commercial interests related to their extractive industries, such as China, Japan, Korea, the United Kingdom and France.[20] That said, Arctic Council states, acting through the IMO, are contributing to the development of guidelines for ships operating in polar waters, known as the Polar Code. And the potential for legally binding agreements was shown with the Arctic Search and Rescue Agreement signed by all Arctic Council states in May 2011, at the same time that a permanent secretariat for the Council in Tromsø was announced. However, other declarations show that the five Artic Ocean rim-states are not interested in giving the Arctic Council the status of an international organization with an enhanced legal authority (see Ilulissat Declaration, 2008 and the US Arctic Region Policy, 2009, cit. in Heininen, 2011; Koivurova, T. & Hasanat, W., 2009).[21]

The peace and environmental movements, beginning in the sixties and running into the late nineties, problematised the development of the military and industrial complex on which the nation-states consolidated their power as a political issue. With the end of the Cold War, there was hope for demilitarization, and for the Arctic in particular, to be cleaned from military waste, including nuclear and other contaminants, from radar stations, airplanes, warships, military camps and defense lines in Russia, Northern Europe, Northern Canada and Alaska. However, it was the defense departments of the Arctic states and their allies which kept control over that overwhelming matter, with some programs still underway.[22]

Nation-states have a great responsibility in internationally binding and soft law instruments, but the development and implementation of these instruments has shown to be limited by the willingness of the same states to compromise on their sovereignty and commit to collaborative action. Indeed,

nation-states have kept their capacity to control access to resources and have even reinforced it, to the extent that they have framed energy and the environment as issues pertaining to national security. This control allows them to meet state and private corporations' demands, by adapting property laws as well as the institutions regulating access, use and management of natural resources.

A recent evolution in official discourses and international development policies are the frequently used concepts of 'human security' and 'environmental security'. The term 'security' however, still implies that the threat comes mostly from outside and that it is the state's responsibility to provide its own population with assistance. Framing issues in these terms legitimizes top down service and assistance delivery, which tend to confine peoples in neo-colonial power relations (Cameron, 2012; Ingolfsdottir, 2011). Further, when the geo-bio-physical limits or tipping points are passed, state institutions may be overwhelmed in assisting communities to cope and possibly adapt (Nuttall, 2012).

State Owned Enterprises and Transnational Corporations

With receding ice as a result of climate changes, the Arctic is increasingly open to oil and mineral exploration, driven by the world's hunger for natural resources. TNCs (e.g., Total, BP, Shell, Exxon, and others) and SOEs (especially Statoil of Norway and Gazprom as well as Rosneft from Russia) are rapidly becoming the primary actors in the Arctic. Nation-states give concessions and attempt to regulate them somewhat, but they are reactive. TNCs and SOEs are driving oil and gas exploration, are putting up the necessary investments and are then conducting the resource exploitation. National governments are deriving significant amounts of financial benefits from such exploration and thus have a strategic interest in them. This strategic interest is even bigger if the companies are state-owned. Consequently, the SOEs – especially Statoil and Gazprom – are the most aggressive companies in the Arctic and their strategic interest is almost identical to the strategic interest of their owning governments (Finger, 2013 forthcoming).

Environmental Non Governmental Organizations (ENGOs)

The 1990s were a decade of growth for international environmental non-governmental organizations, arising out of an institutionalization of the ecological movement of the 1970s and the 1980s (Princen & Finger, 1994).

Focusing on protected areas and conservation of species, ENGOs chose to leave out non-renewable resources from their conservation agenda, allowing them to circumvent the great interests of

extractive industries and national economies.[23] This stance was already taken a decade earlier by the ENGOs in close collaboration with United Nations.[24] But during the 1990s, with the territorial expansion of both protected areas and extractive activities, the ENGOs had to address the extractive industries in order to be able to pursue their core mission. They did so by developing partnerships with the private sector, for which UNCED in Rio was already opening the doors (Chatterjee and Finger, 1994). However, some actors working also within these organizations have been critical of this development and have called on them to transform their strategies, so as to be able to address the societal causes of unsustainable business and government practices (World Wildlife Fund for Nature International Arctic Programme, 2008).

Indigenous Peoples' Organizations

Indigenous peoples' organizations, as we have seen, have taken an active role in shaping Arctic environmental policy in order to have corporations and states respect their rights to prior informed consent in all decisions, impact assessments included, that may lead eventually to extractive operations affecting their lands and resources (Fjellheim & Henriksen, 2006). However, indigenous peoples do not always yield to extractive interests, as illustrated by the Native Development Corporation operating in the Kuparuk Industry complex at Prudhoe Bay in the Arctic National Wildlife Refuge (ANWR) in Alaska, one of the greatest reserves for oil exploration in the US (Osherenko & Young 1989: 13). Still, indigenous peoples have learned to both keep check of and oppose extractive industries.

The Arctic Caucus of the Permanent Forum on Indigenous Issues, in its statement to the Chairman of that Forum, asserted in May, 2012 that:

> The basic position seems to be that the most possible resources shall be extracted in the shortest feasible period of time. No other strategy appears even to be contemplated, despite the fact that the present one is unsustainable. Would it not make more sense that no more resources are extracted from the Arctic each year than it takes to feed the people living in the region? Or perhaps it at least makes sense to develop a more long-term plan, according to which it is not necessary to empty the Arctic of resources, within the next decade? Some resources could perhaps be saved for future generations to extract? (Eleventh Session Agenda Item 4: Human rights, 15 May 2012).

In order to turn such wisdom into action, the representative of the Arctic Caucus has made a proposals to develop institutions which will help regulate the behavior of the agents: not only states but also corporations "who are the main players of the industrial revolution happening here" (ibid).

A coalition of indigenous peoples, among their own organizations and with various civil society organizations within the Arctic and beyond, is key for contributing to the further building of an Arctic region cultural identity and for their empowerment in relation both to the eight Arctic states, and globally. Indigenous peoples' organizations are also a force in buffering state interests as well as economic interests by taking a perspective which draws on alternative values, lifestyles and institutions. Their know-how, which builds on long term socio-ecosystemic interactions, opens perspectives of alternative modes of organizing and adapting livelihoods in the context of environmental changes, as well as inspires non-indigenous social movements (Kassam, 2009).

Conclusion: Looking Ahead to Transforming Institutions

This paper is not about the state of the Arctic environment. Rather, it is about the state of Arctic institutions and actors. In our assessment, we have identified a series of recent institutional trends that we think are promising for the future of the Arctic environment.

In the first phase, we identified a series of environmental pollution issues. These issues have not been abandoned, but are now considered within a more systemic and dynamic approach, which allows, to some extent, to work around uncertainties while attempting to commit states to decide in favor of preventive, mitigative or adaptive actions. For instance, long-range pollutants and heavy metals pollution concerns continue to mobilize scientists, as shown by the latest AMAP report on Arctic pollution with its focus on the bioaccumulation of organic forms of mercury further triggered by climate warming (AMAP, 2011). The trend is now to adopt a systemic perspective on environmental issues with a combined attention to mitigation and adaptation, and thus to stop emissions at the source while managing impacts and supporting adaptation. For instance, on mercury pollution, the Arctic Council has considered the development of a legally binding instrument to reduce global mercury use and releases, and to find practical ways to protect peoples and ecosystems from the impacts of increasing mercury concentrations by adjusting their practices, including diets. This work can be done by working across scientific disciplines and by actively involving local and indigenous communities.

There is also a trend to strengthen Arctic governance at the regional level. Indeed, growing mobility, networking and cooperation across the Arctic – not only by indigenous peoples – confirms an evolution towards some sort of enhanced Arctic awareness. As an example, one may take the Calotte Academy's or the Northern Research Forum's efforts to build an "Arctic knowledge base", involving

the indigenous and local communities. Beyond the contribution to the cultural diversity of the region for better adaptation, it opens perspectives for transforming institutions, making resilient what is sustainable. Recognizing, respecting and titling Indigenous Peoples' rights to land, freshwater and marine resources, in biodiversity conservation, protected areas as well as in climate change policies, in particular to favor adaptation, is yet only in an early stage, with great differences in policy amongst the states of the Arctic (Heinämäki, 2009).

It is far from obvious what responsibility nation-states will concede to the Arctic Council in terms of Arctic governance in the near future. The Arctic's regional identity and governance structure could be a good means for avoiding disempowering core/periphery relations (Young, 2012). However, this would require more decision-making power and resources. It is unlikely that the Arctic states will concede greater power to non-Arctic States, which may in fact not be necessarily so helpful to the Arctic environment. Granting them, as well as some additional NGOs, an observer status may be a better option. The democratic legitimacy of the Arctic regional institutions needs also to be strengthened.

We also note that the Arctic Council has been increasingly adopting and developing methods to apply an ecosystem based management approach, which gives greater decision-making power to regional and local actors in matters of natural resources governance and management.[25] This could give an enhanced role to regional sub- and trans-national governmental institutions, non-governmental users' associations, indigenous peoples and local communities. These approaches are key for supporting diverse forms of knowledge and local institutions, and therefore for maintaining resilient communities. In fact, the cultural aspects still need to be more embedded in conservation and environmental protection policies, including protected areas, terrestrial as well as marine. The definition of areas of "heightened cultural or ecological significance" to prevent shipping and extractive industries to penetrate some sensitive areas will be an important, but not sufficient way to set limits (Arctic Council, 2011). Time is indeed running out, as the Arctic Ocean continental shelf will soon be divided among the five Arctic rim states.

Whether we realize it or not, we are all – from within and beyond the Arctic region – agents in finding a way out of the tragedy of the global and the Arctic commons. This tragedy is not a destiny of all resources of common concern. There are many well-documented cases of common resource management institutions that prove to be able to sustain socio-ecological systems and adapt to change (Brower et al., 2002). Communities may indeed be capable of facing climatic and other socio-

ecological changes if they adjust their uses of the resources' limits and develop socio-ecological capacity to regenerate the renewable resources, and if they are well nested within polycentric common resources management systems (Ostrom 2009, 2010). These systems often integrate cultural, social, ecological and economic values, traditional and modern science, and innovative knowledge and know-how. In order to "mind the sustainability gap", common property resources' institutions (distinct from public and private property regimes) will need to be maintained, restored, adapted and innovated at the level of socio-ecosystems, taking into account the limits of the Earth's life support system (Fischer et al., 2007). The Arctic Climate Impact Assessment of 2004 (ACIA, 2005) has also shown that state policies aimed at settling and controlling indigenous peoples' systems of livelihoods can constrain or hamper their capacity to be resilient in the face of climate change, such as when permafrost melts, when pests affect livestock, or when hunting and fishing are affected by changing migration or reproduction patterns of Arctic fauna (Golovnev & Osherenko, 1999; Kassam, 2009; Koivurova, Tervo & Stepien, 2008; Nuttall et al, 2005; Sydneysmith et al, 2010).

Governmental and private organizations tend to accord little legitimacy, hence institutional support, to common property resource management systems. If they do, it is only occasionally and with little security of rights. While energy is framed as a national security issue, also thanks to the active lobbying of TNCs and SOEs, nation-states, which have the ownership rights over ocean and underground resources, impose their decisions, each for their own particular interest and without opening decisions to their own citizens' democratic deliberations. This contemporary trend contradicts the need for international and regional cooperation to address the degradation of the climate (Giddens, 2009).

In fact, it seems that the parenthesis, which had been opened 25 years ago with Gorbachev's speech on the Arctic, is closing up again, as nation-states are pressed by peak oil, debt and recession. None of the great problems raised by Gorbachev has been solved. Militarization of the Arctic has not halted, even though there are less tense political relations than during the Cold War. Albeit the Ilulissat Declaration of 2008 stated the good intentions of the five Arctic coastal states to solve "any differences that states may have over the determination of the new boundaries (…) peacefully and in accordance with UNCLOS", current armaments and military presence in the region rather leads us to think that "if political cooperation in the region should sour in the future, it is clear that most of the Arctic nations will have forces that are prepared for a hostile northern environment" (Huebert, Exner-Pirot, Lajeunesse & Gulledge 2012: 19). However, the social movements of the 1990s,

including the then powerful peace and anti-nuclear movements, are no longer an influential force powerful enough to demand demilitarization, even when some political opportunities seem to open up.

Other problems raised in the late 1980s in the discourse of Gorbachev have not been solved either. Even though there has been important progress in decreasing some emissions at the source, as in the case of acidification, decommissioning some nuclear facilities and armaments, and doubling the coverage of protected areas (Livingston, 2011), heavy metals and Persistent Organic Pollutants (POPs) are still found in increasing concentrations in Arctic ecosystems, and global warming is accelerating at an unprecedented rate and with it is biodiversity loss (McKie, 2012).

The Arctic thus becomes the symbol of a global dilemma, in which everyone is faced with the responsibility to decide if and how to engage and become an actor of resistance and change for setting limits and taking an alternative course to the one taken by the actual economic growth-dependent, extractive and consumption-driven modern global society. Both the Arctic and the Antarctic warn us of limits not to cross. For the future we propose to retain the learning from the three phases outlined in this article – namely (1) the Arctic at the top of world peace and environmental protection; (2) the Arctic as an inhabited region, with its own bio-cultural-diversity and sustainable development interests; and (3) the Arctic as center of world attention on climate and peak oil induced changes, but to leave the downsides of each of the different phases. To recall, these are: (1) the neo-colonial approach to environmental protection which does not integrate the cultural aspects and need to respect indigenous peoples self-determination; (2) the mainstreaming of environmental concerns into governmental and corporate institutions; and (3) the highjacking of climate change by combined TNC, SOE and nation-states resource security interests.

Notes

1. Actually, the 2012 summer meltdown appears to be even more severe than the one observed in 2007, according to the European Space Agency's CryoSat-2 (Center for Polar Observation and Modeling, University College London).
2. The sociologists Michel Crozier and Erhard Friedberg (1977) worked on social systems and power relations at the level of organizations. They showed that agents, when developing their strategies, always seek to increase their margin of freedom, which can, at times, be in contradiction with the collective interest of an organization.

3. Power is defined through social relations in positive and potentially more negative terms. It is both the capacity of an actor to make a difference, to enact decisions, to mobilize bias built in institutions (Giddens 1984: 15). And it can also be a way to control another by "influencing shaping or determining his very wants", or by exercising an "ideological hegemony" (Lukes 1974, cit. In Jordan & Riordan 1995: 16).

4. Nowadays the situation has changed as it becomes obvious that polar bears are not vitally threatened by hunting but by habitat change. Indeed, the greatest threat is sea ice retreat.

5. Made of particles of the size of 0.25 to 4 μm in diameter, mainly sulfates. For a more recent and complete description of the Arctic haze phenomenon see International Polar Year, 2005. POLARCAT White Paper. Retrieved (06.30.2012) from http://zardoz.nilu.no/andreas/POLARCAT/polarcat_white_paper.pdf.

6. Even though only Norway had ratified the ILO convention 169 by 1990, the right to self-determination is recognized since 1919, when the League of Nations, the precursor of the United Nations, was established. It is recognized in the widely ratified human rights covenants (Covenant of Civil and Political Rights, and the Covenant on Economic, Social and Cultural Rights). UNDRIP (United Nations Declaration on the Rights of Indigenous Peoples, 2007) affirms the rights of Indigenous Peoples to self-determination in similar terms: "*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*" (Art. 3). Article 18 and 19 further define the right to participate in decision making – in consultation and consent through their won representative institutions. In front of the United Nations General Assembly, the Declaration received the votes of 144 countries (except US, Canada, New Zealand, Australia, with 11 countries abstaining). Since then the US, Canada, New Zealand and Australia have all endorsed the declaration. (http://social.un.org/index/IndigenousPeoples/DeclarationontheRightsofIndigenousPeoples.aspx, 30-08-12).

7. Since 2008, the US Endangered Species Act (1973) lists the polar bear as "threatened".

8. WCED was created in 1983 by a resolution of the UN General Assembly.

9. The Saami, also active in working groups such as the one on Underlying Causes to Deforestation and Forest Degradation and the emerging forest certification schemes (Borchert, N. 2001).

10. "The use of the term 'peoples' in the declaration should not be construed as having any implications as regards the rights which may attach to the term under international law". In the Ottawa Declaration the term indigenous people in singular appears several times when not referring to explicitly recognized organizations.

11. These are the Inuit Circumpolar Conference, the Saami Council, the Association of Minorities of the North, Siberia and the Far East of the Russian Federation.

12. Whereas military security issues were kept out of the agenda of the Arctic Council, the ministries of defense of three Arctic governments, i.e., the defense secretaries of Norway, the United States of America and the Russian Federation, established in 1996 the Arctic Military Environmental Cooperation Program (AMEC), with funding from the Plan of Action for Nuclear Safety, pursuing projects of decontamination of nuclear and non-radioactive military installations (Dieter, Kroken & Sheremeteev, 2001).

13. Huyrechts, P., Kuhn, M., Lambeck, K., Nuhan M.T. & Woodworth Q.P.L. (2001). Changes in sea level. IPCC Chap. 11. 642. Retrieved from, www.grida.no/climate/ipcc_tar/wg1/pdf/TAR-11.pdf. And UNEP, GRID (2007) Global Outlook For Ice and Snow.

14. See, UNEP (2007), Global Outlook for Ice and Snow ; AMAP, SWIPA (2011). The Snow, Water, Ice and Permafrost in the Arctic report. AMAP SWIPA report summary for policy makers; Richter-Menge, J.,M.O. Jeffris & J.E. Overland (Eds.). (2011). The Arctic report card. Retrieved from, www.arcti.noaa.gov/reportcard.

15. Hydrocarbons persist longer in cold waters, and Arctic food chains are more prone to bio-accumulation, as they are composed of relatively few species, they are also less resilient to environmental change. The Arctic Council's Arctic Marine Shipping Assessment (AMSA) underlines that: "*oil spill prevention is the highest priority in the Arctic environmental protection*" (Arctic Council 2011: 11).

16. Permanent participants have the right to "active participation and full consultation". Like states, they also have the right to present proposals for cooperative activities. This status is distinct from the "Observers" status, which the Arctic Council reserves to (some) non-Arctic states, intergovernmental and inter-parliamentary organizations and non-governmental organizations (Arctic Council 1996).

17. CAFF is working with the Circumpolar Biodiversity Monitoring Program (CBMP) and the GEPON Arctic Biodiversity Observation Network. The CBMP is endorsed by the Arctic Council and the CBD and builds also on traditional ecological knowledge. Indeed, the CBMP and CAFF recognize the importance of indigenous technical knowledge to the conservation of biodiversity. CAFF estimates the loss of indigenous languages since 1800 to be 20, and half of the lost languages disappeared after 1990 (one in Finland, one in Canada, one in Alaska and 17 in the Russian Arctic region) (CAFF, Arctic Council, 2010).

18. Declaration adopted at the Meeting on the International Polar Year and Polar Science, by the Antarctic Treaty Consultative Meeting, Arctic Council Joint Meeting 6/4/2009.

19. All Arctic Ocean rim states have settled Exclusive Economic Zones (EEZ) extending up to 200 nautical miles (370 km), from the baseline from which the breadth of the territorial sea is measured. Within their EEZ, UNCLOS – to which all Arctic states but the USA are Parties – says that "states have sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil" (UNCLOS, Part V, Art.55.). Furthermore, based on their continental shelf, States can possibly claim up to 350 nautical miles. Up to now, two states, Russia and Norway, have received a decision from the Commission on the Limits of the Continental Shelf (CLCS) concerning such claims. Beyond these claimed zones are the « High Seas ». However most of the Arctic Ocean is already under the jurisdiction of one of the rim states. (House of Commons, 2012, Fig 3 Maritime Jurisdiction and Boundaries).

20. See the 99th session of IMO's committee (International Maritime Organization), where UK, Norway, US and Canada blocked a proposal of Indonesia to develop a global liability regime for offshore oil exploration and exploitation, a proposal supported by Bellona and other NGOs, as well as by the European Commission which has an observer status at IMO. Ostman, K. (2012). *IMO fails to prioritize global offshore liability regimes*. Bellona. Retrieved (05.2.2012) from, www.bellona.org/articles.

21. Still, the ministerial meeting of the Arctic Council meeting in Nuuk (2011) launched a task force to develop a legally binding Arctic agreement on marine oil pollution response, to be proposed by the end of 2012, which gives some prospects.
22. In fact it is the G8 Global partnership program against the Spread of Weapons and Materials of Mass Destruction that has been attempting to get rid of some of the worst accessible military and nuclear waste from the Cold War legacy, mostly along the Northwestern Russian borders, in the seas of Kara and Barents. According to information given at a Rosatom-Bellona seminar on the progress of the Global Partnership, held in Moscow in February 2012, over the 10 years period 47 submarine reactors have been removed and placed for storage at Sayda Bay, 50 tons of nuclear fuel has been removed and 23 nuclear installations dismantled in North West Russia, a new nuclear waste processing installation at Andreyeva bay is being built and the naval base of Gremikha on the Kola Peninsula, south of Murmansk, is being cleaned. But there is still much to do, including the safe dismantling of one of the most threatening spent nuclear fuel vessel, the Lepse, moored at atomflot in Murmansk. The Bellona Foundation recently announced that still much nuclear reactors and radioactive waste are reported to be still lying in Arctic Seas and that Russians have sent an alarming demand for help to Norway for searching for their location in fear of drilling for oil and gas in their proximity. Digges, C. (2012). *Russia announces enormous finds of radioactive waste and nuclear reactors in Arctic seas*. Bellona. Retrieved (08.28.12) from, http://www.bellona.org/articles/articles_2012/Russia_reveals_dumps.
23. The social impacts of setting ambitious targets of protected areas as well as more or less transparent partnerships or alliances with extractive industries and multilateral organizations, such as the World Bank, have raised contestation and conflicts within the great ENGOs, and between them and civil society and indigenous peoples' organizations starting from the mid nineties on (Colchester, 1995; Ghimire & Pimbert, 1996).
24. The introduction to the World Conservation Strategy (WCS, 1980) co-signed by IUCN, UNEP and WWF, is entitled "living resources conservation for sustainable development".
25. Indigenous peoples' participation was effective in shaping the concept of the *ecosystem approach,* approved by the Conference of Parties to the CBD in Malawi 1998, including Principle 2 on subsidiarity, promoting decentralized modes of management and the Principle 11 according to which management should be based on multiple forms of knowledge (UNEP-CBD, 1998).

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