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Current Developments in Arctic Law

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Editors' Note

Current Developments in Arctic Law (CDAL) is an online journal published as a part of the actions of the UArctic Thematic Network on Law. The Thematic Network (TN) consists of approximately 150 scholars with expertise in the disciplines of Arctic legal and social sciences from all across the circumpolar- and sub-Arctic regions. The TN aims at building a stronger network among its members, as well as among the institutions that they represent, through collaborative research and outreach activities. CDAL offers information to a wider audience, both academic and non-academic, about the activities of the TN and of its members.

Today, CDAL has entered its seventh year. During its journey, we have been able to update our audience on what is happening in the Arctic in terms of not only legal developments but also of advancements in economic, social, and geopolitical spheres. The focus of the contributions has been mostly in the fields of climate change, sustainable development, institutional and inter-governmental and inter-regional cooperation, rights of indigenous peoples, Arctic biodiversity, onshore and offshore human activities concerning mining and other mineral activities, increased shipping and fishing, infrastructural developments, and trade routes and businesses through the Arctic in general, and in particular through its marine areas. In addition, we have accommodated information about ongoing research and research network projects, doctoral projects of young Arctic scholars, and summary outputs of international scientific events focusing on the Arctic.

During this year, we have successfully completed a number of projects: an international workshop highlighting food (in)securities in the Arctic at the Arctic Centre of the University of Lapland; a NATO-supported international conference addressing climate change and cyber security in the Arctic in Rovaniemi; and an international summer school on Arctic studies at Hokkaido University in Japan, with students attending from Finland and Japan. We also initiated a joint project on education and curricula development for Arctic legal studies between NIEM at the Arctic Centre of the University of Lapland and Tyumen State University in Russia. This project will run until the end of June 2020. In addition, the TN has been actively engaged in the organization of the annual Polar Law Symposium, as well as in collaborating with partner institutions to organize international scientific events on Arctic and polar issues.

In this seventh volume of CDAL, we have included several interesting short articles addressing amongs others the Arctic Council's Ministerial meeting that was held in May 2019 in Rovaniemi, Finland; the 18th Conference of the Parties (CoP18) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that was held in August 2019 in Geneva, Switzerland; the ecological safety of the northern polar regions and their legal situation; the new Arctic Sámi Strategy; the Convention for the Safeguarding of the Intangible Cultural Heritage; the Skábmagovat indigenous film festival that was held in January 2019 in Inari, Finland; the CAO Agreement; project "Arctic2035"; intellectual property rights and their connection to Arctic environmental issues; and production and consumption of Arctic cod. While these contributions are not peer-reviewed, and opinions expressed therein are those of the individual authors of each chapter, we hope our readers will find these articles interesting and insightful. Enjoy reading them!

Kamrul Hossain
Marcin Dymet
December 15, 2019

What's New in Arctic Law?

Kamrul Hossain[*]

September 2019 set yet another record for the lowest ice extent at the Arctic Ocean[1]. This record reaffirms the worsening of the ongoing environmental and ecological challenges that the Arctic has been increasingly facing due to the loss of sea ice. However, the more sea ice disappears, the more the Arctic Ocean opens up, thus creating easier maritime access, which results in increased human activities. Apparently, in addition to natural resources exploitation, one clear indicator of human activity is international trade through the greater volume of maritime traffic at the Northern Sea Route. Therefore, one of the obvious Arctic realities is the gradual increase in maritime shipping. The adverse effect of human activities further accelerates the threats to the Arctic environment. Arctic biodiversity, natural resources, and the identities and cultures of local inhabitants, including diverse groups of indigenous peoples, are particularly vulnerable to these new developments. They face existential threats. Hence, fighting climate change and its consequences to the Arctic environment are repeatedly articulated in any discussions on the governing of the region.

The main legal challenge in the Arctic therefore lies in a possible structure of governance that is capable of responding to the threat to its natural environment. Obviously, ice melting due to the effect of global warming has been and is the major issue in the Arctic. Law cannot ban a natural course of action, e.g. sea ice melt. Instead, law prescribes how to regulate human behaviour in a certain direction to achieve certain goals. The reduction of atmospheric greenhouse gas emissions is a goal set by international climate change law. For almost the last three decades, the international community has continued to set a limit for sovereign nations to agree on the permissible level of emissions. International climate change law even provides various flexible mechanisms for industrialised nations, e.g. clean development mechanisms, to possibly meet the overall global collective target for lowering the atmospheric emission levels. However, a (states') consent-based international legal framework hardly offers a mechanism to make reluctant nations join the efforts to strictly follow and regulate emission levels. Major powers

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[1] Gloria Dickie, 'The Arctic and Climate Change (1979–2019): What the Ice Record Tells Us', *Mongabay Series: Covering Climate Now*, 18 September 2019, https://news.mongabay.com/2019/09/the-arctic-and-climate-change-1979-2019-what-the-ice-record-tells-us/.

such as the United States present their explicit disagreement on the issue of reducing emissions. US President Donald Trump even opposes efforts to limit climate change, both in national and international contexts[2].

The Arctic Council's Ministerial meeting, held in May 2019 at Rovaniemi in Finland, once again reflected the US' position. For the first time in the twenty-three–year history of the Arctic Council, a ministerial meeting ended with no joint declaration being adopted due to the US' reluctance about the use of language concerning combatting climate change. According to Mike Pompeo, the US Secretary of the State, 'Collective goals, even when well-intentioned, are not always the answer. They are rendered meaningless, even counterproductive, as soon as one nation fails to comply'[3]. In the Arctic Council meeting, the US is in fact the 'one nation' that took a position against that of the other seven Arctic nations. This difference in position has brought some disappointment to the efforts of the Arctic Council to fight climate change and the future of sustainable Arctic development. Some analysts explained that the lack of unanimity on the substantial issue of climate change in the Arctic Council meeting will weaken the future of Arctic cooperation within the framework of the Arctic Council—a cooperation that has proved effective over the past years.

Much of the heated debate with the US at and around this time was about the increasing presence of non-Arctic states in the Arctic cooperation, particularly the increasing presence of China. The US (as Pompeo stated) views China's increasing presence in the Arctic as 'an arena of global power and competition'. He referred to the Polar Silk Road, which is an expansion of China's Belt and Road initiative to the Arctic. The US sees China's increased bi-lateral relationship with Russia and investment in infrastructure development in the Arctic as the expansion of its strategic move into the region, which the US is concerned about. According to Pompeo, this move would make the 'Arctic Ocean to transform into a new South China Sea'[4]. China's visibility in the Arctic in recent years has indeed been explicit, exemplified by a number of factors, including its gaining of observer status at the Arctic Council in 2013; regular scientific expeditions to the Arctic since

[2] Frank Jotzo, Joanna Depledge, and Harald Winkler, 'US and International Climate Policy under President Trump', *Climate Policy* 18, no. 7 (2018).

[3] Tom Bateman, 'Arctic Council Fails to Agree on Declaration as US Holds Out on Climate Change', *Yle News*, 08 May 2019, https://yle.fi/uutiset/osasto/news/arctic_council_fails_to_agree_on_declaration_as_us_holds_out_on_climate_change/10770803.

[4] Michael R. Pompeo, 'Looking North: Sharpening America's Arctic Focus', speech at Arctic Council Meeting, 06 May 2019.

2012; ownership of yet another ice-breaker vessel (the first domestically built one) for polar expeditions—the *Snow Dragon II*; increased bi-lateral trade and economic cooperation with Russia; investment in infrastructure development, in particular in the Russian Arctic; increased investments in mining and mineral sectors in Greenland; entering a free trade agreement with Iceland since 2013; and joining in the efforts to build an Arctic railroad to provide a transport corridor.

However, this author believes that China's increasing Arctic engagement will not give the country any special legal claims. Firstly, the rules of international law are clear enough in the Arctic. As with any other state, China has a right to freedom of navigation as long as it complies with the provisions set by the law of the sea, particularly the UNCLOS. As a result, international law does not deny China's maritime access to the Arctic. Secondly, China has expressed its clear commitment to abide by the sovereignty of the Arctic states and to the core values these states held in the Arctic when it joined the Arctic Council as an observer. This commitment was reiterated in its white paper on the Arctic that it adopted in early 2018, which eventually means that China would not act contrary to what sovereignty entails for the Arctic states. Thirdly, in its white paper, China stated its intention to join the efforts to combat climate change in the Arctic, recognising its widespread consequences not only within, but also beyond, the Arctic. In this context, China, alongside its regional cooperation arrangements (such as with the Arctic states through the efforts of the Arctic Council) also highlights the efforts undertaken within the framework of the United Nations. Fourthly, China's participation in the Arctic's legal development, such as in the adoption of the Polar Code and the Central Arctic Ocean Fisheries Agreement, reflects its commitments to work with nations within and beyond the region. None of these threatens the international Arctic legal framework. However, China's increasing strength in the global economy, investments in the Arctic, and expansion of the current BRI project to the Arctic (through the Polar Silk Road) will probably put the country in a better negotiating position in any Arctic developments. Yet, Pompeo's claim of making the Arctic Ocean 'a new South China Sea' is not justified.

Rather, recent discussions of the US' interest in buying Greenland have caused some concerns and also some questions about whether international law allows a sovereign territory or a part of a sovereign territory to be bought or sold. The status of Greenland is relatively unique. It is an island over which Denmark exercises sovereignty. It has self-government status with its own parliament and thus has the authority to

decide on all domestic matters except for foreign and security policy. The island, with a population of 56,000 residents, is financed through a budget consisting of a two-thirds share from Denmark and the rest mainly from fishing activity. Immediately after the US' expression of interest in the possibility of buying the island, the Danish government denounced any such likelihood, saying Greenland 'is not for sale'[5]. Recently, in the Arctic Circle Assembly held on 10–13 October 2019, US Senator Lisa Murkowski, in response to a question on this issue, denounced the possibility of buying a whole nation[6]. However, it has not been uncommon in the past to buy or sell a whole territory. We are aware of Russia's sale of Alaska to the US in 1867 for 7.2 million dollars because Russia thought at that time the territory was worthless land. At earlier times, such selling and buying were done, and thereby the territorial borders of countries were reshaped, but to what extent this practice is now valid remains to be examined. Buying or selling territory has not so far become an established practice in international law. However, we are also aware that there is an active market for proprietary interests in public lands, such as the Chinese state-run Heilongjiang Beidahuang Nongken Group's purchase of 800,000 acres of Argentinian land to grow crops for export to China or South Korea's Daewoo Logistics' lease of 3.2 million acres of farmland in Madagascar[7]. Yet, selling these lands clearly does not have any effect on national sovereignty.

Despite all these tensions, there are indeed some reasons for optimism about Arctic legal developments. Last August, the US became the fourth party to ratify the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean[8]. The agreement was signed earlier in 2018 by ten signatories, including all five Arctic coastal states plus four non-Arctic states (China, Japan, Korea, and Singapore) and the European Union. Given that in the summer the ice-free Arctic Ocean would allow access to fishing, this agreement is a legally binding treaty implementing a precautionary approach to protect the central Arctic Ocean from commercial fishing, which the major fishing nations, including non-Arctic ones, came to by consensus. This is promising and eventually is likely to set the standard for non-parties to comply with the

[5] Eve Conant, 'Greenland Is Not for Sale', *Culture*, 16 August 2019, https://www.nationalgeographic.com/culture/topics/reference/greenland-not-for-sale/.
[6] Arctic Circle Assembly 2019 (answer to a question to Lisa Murkowski on 11 October 2019).
[7] Joshua Keating, 'Why Don't Countries Buy Territory Like They Used To?', *Foreign Policy*, 5 June 2012, https://foreignpolicy.com/2012/06/05/why-dont-countries-buy-territory-like-they-used-to/.
[8] US Department of State, 'The United States Ratifies Central Arctic Ocean Fisheries Agreement', 27 August 2019, https://translations.state.gov/2019/08/27/the-united-states-ratifies-central-arctic-ocean-fisheries-agreement/.

normative principles embodied in the agreement.

However, a major disappointment for non-Arctic states is the third legally binding instrument adopted under the auspices of the Arctic Council—the Agreement on Enhancing International Arctic Scientific Cooperation, signed in May 2017 and entered into force on 23 May 2018. While the purpose of the agreement was to reduce obstacles to international scientific cooperation and to promote the movement of people and equipment across borders for the effective and efficient development of scientific knowledge of the Arctic, it does not apply to the non-Arctic states even when they cooperate with one or another of the eight-member states of the Arctic Council. It has been argued that non-Arctic states 'are left behind at the original legal situation and trapped in an inferior status in Arctic science',[9] and therefore, an avenue to provide at least those with competitive research abilities access to enjoying similar treatment is a demand from the non-Arctic states. For an inclusive Arctic governance framework, Arctic states might consider a possible amendment to the agreement, similar to the one we witnessed for the Central Arctic Ocean Fisheries Agreement.

On the human rights front, even though the Arctic is populated by four million people, and 90% of the population are non-indigenous, most discussions concern issues related to indigenous peoples. During the last year, one of the main issues has been the Arctic railroad project, which has caused tension among the Sámi communities, particularly in Finland. The railroad will connect the Arctic Ocean by linking Kirkenes (Norway) to Rovaniemi (Finland). The impact of the project will surely fall upon the Sámi and their reindeer herding practices. Reindeer herding is an emblem to the Sámi. Given that the vast territory is used as grazing lands for reindeer herding, construction of the railroad will create an obstacle because access to grazing land will be limited. Moreover, possible noise from the construction and subsequent operation will force the relocation of the reindeer. The Sámi's rights concerning the practice of culture are expected to be vulnerable, which eventually will constitute yet another threat to the maintenance of their exercise of a right to self-determination given that the process has not ensured their engagement at its initial phase. According to the president of the Sámi Parliament, they were not aware of the plan until they heard about it on a media channel in the summer of

[9] Liu Han, 'Influence of the Agreement on Enhancing International Arctic Scientific Cooperation on the approach of non-Arctic states to Arctic scientific activities', *Advances in Polar Sciences* 29, no. 1 (2018).

2017[10]. This process has caused disappointment to the Sámi because their rights to be informed, to participate and to be consulted were ignored during the planning process.

During late September 2019, the Saami Council—an organisation representing all four Sámi-inhabited countries and a permanent participant in the Arctic Council—adopted a new Arctic Sámi Strategy[11] highlighting the measures for a meaningful and effective engagement of the Sámi in all aspects of political, diplomatic, cultural, educational and policy-making processes. The strategy suggests that the Sámi have to have an influential role, in addition to political participation, to help set agendas based on their own strategy and priorities through partnership, education, and advocacy. The strategy, as communicated through various influential channels to national and transnational authorities, explicitly set standards and principles that the Sámi expect states to observe. Given that a right to self-determination for indigenous peoples is about the promotion of meaningful and effective inclusiveness and partnership in the process of democratic governance, the strategy set yet another milestone for the exercise of a right to indigenous self-determination.

[10] Linnea Rasmus, 'Sámi Parliament in Finland Disappointed with Arctic Railroad Working Group', *Yle Sapmi*, 20 December 2018, https://thebarentsobserver.com/en/arctic/2018/12/sami-parliament-finland-disappointed-arctic-railroad-working-group.

[11] Saami Council, 'The Sámi Arctic Strategy', September 2019, http://www.saamicouncil.net/fileadmin/user_upload/Documents/Eara_dokumeanttat/FINAL_Saami-Arctic-Strategy_with_attachment.pdf.

CITES CoP18 — Towards New Attempts to List Polar Bears on Appendix I?

*Nikolas Sellheim**

Introduction

The 18th Conference of the Parties (CoP18) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[1] took place from 17—28 August in Geneva, Switzerland. While originally planned to be held in Colombo, Sri Lanka, after the terror attacks in May 2019, the CoP was moved to Geneva.

On the Agenda were 57 proposals for amendments to the Appendices of the convention. To recapitulate, CITES comprises three appendices, each of which provide for different degrees of regulation of international trade in species and products from these species listed on them: Appendix I fully prohibits international trade; Appendix II requires export and import permits and a close monitoring system; Appendix III lists species for which the nation state calling for a listing asks for international help controlling the trade. Any change to the Appendices must be approved by at least a 2/3 majority of the parties.

Arguably the most controversial proposals that we tabled related to African elephants (*Loxodonta africana*), southern white rhinoceros (*Ceratotherium simum simum*), or mako sharks (*Isurus oxyrinchus* and *Isurus paucus*). It was in the context of African elephants that in the late 1990s the so-called 'split-listing' was agreed on: different populations of a species can be listed on different appendices. It is thus that the elephant populations of southern African states are listed on Appendix II (regulated trade) while all others are listed on Appendix I (no trade). At CoP18, some countries tried to move their elephant and rhino populations from Appendix I to Appendix II, while others attempted to do the opposite. Neither proposal reached the 2/3 majority. The previously unlisted mako sharks, however, were listed on Appendix II.

Polar Bears and CITES

Controversy within CITES is not a recent phenomenon. Since its coming into force in July 1975, the number of non-governmental organisations (NGOs) acting as observers has risen

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[1] Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1973 (in force 1 July 1975) (993 UNTS 243)

continuously, a large number of which pushing for stricter trade measures, particularly of so-called 'charismatic megafauna', which is exceptionally often represented on the Appendices[2]. Whether or not this 'overabundance' of charismatic species on the Appendices is due to NGO influence is difficult to ascertain. However, it appears reasonable to assume that by and large Appendix listings occur "for political, economic, philosophical, and even emotional reasons, as well as scientific reasons"[3].

Also, at CoP18 a large number of NGOs was present, each pushing its own agenda. For instance, the International Fund for Animal Welfare (IFAW) distributed stuffed toy sharks to demonstrate its support for the Appendix II-listing of mako sharks.

Not surprisingly, Arctic species have not evaded the controversy of CITES listings: while all 'great whales', including several whale species in the Arctic, are listed on Appendix I — also subject to the moratorium on commercial whaling under the International Convention for the Regulation of Whaling[4] — the polar bear (*Ursus maritimus*) has been listed on Appendix II since 1975. It was therefore one of the first species to be listed on one of the CITES Appendices.

The listing went hand in hand with the conclusion of the Agreement on Conservation of Polar Bears (ACPB)[5] and the realisation that the polar bear is in need of protection[6]. While the ACPB is not a trade, but a management regime, both the ACPB and CITES aim to protect the polar bear through regulated hunts and regulated trade, but not through a total ban on either.

Be that as it may, polar bear hunts and trade in polar bear products went relatively unnoticed within the CITES regime and the CITES Trade Database does not indicate significant changes over the years. Attention towards the polar bear grew in 2010 at CoP15 when the first proposal to uplist the species

[2] Challender, DWS & DC MacMillan (2019) Investigating the Influence of Non-state Actors on Amendments to the CITES Appendices. *Journal of International Wildlife Law & Policy*, 22 (2): 90–114. https://doi.org/10.1080/13880292.2019.1638549, p. 92

[3] Ibid., p. 91.

[4] International Convention for the Regulation of Whaling, 2 December 1946 (in force 10 November 1948) (161 UNTS 72)

[5] Agreement on the Conservation of Polar Bears, 15 November 1973 (in force 26 May 1976) (13 ILM 13)

[6] At the time of the ACPB's and CITES' conclusion, scientific knowledge on the polar bear was not as advanced as in the present day. Major disagreement rested on the question how many polar bear populations existed in the first place. While the Soviets argued for one circumpolar population, Norwegian and US scientist described at least five sub-populations. The scientific status quo in the mid-1970s refers to five populations — to which Soviet scientists agreed — while currently nineteen sub-populations have been determined.

from Appendix II to Appendix I was tabled by the United States. The proposal thus saw a total prohibition on international trade, particularly in between Canada and the United States as well as Russia and the United States. The proposal was a direct outcome of the 2008 listing of polar bears under the US Endangered Species Act as 'threatened'. While the proposal itself did not mention international trade, but habitat loss, as the main reason for the difficulties polar bears had to face, it was nevertheless argued that sports and trophy hunts and the continuous Appendix II-listing would be detrimental to the polar bear population[7].

Whether or not polar bear populations are indeed decreasing or not is not as clear-cut as one might expect. While public discourse has made the polar bear *the* symbol for climate change in the Arctic, the Arctic Biodiversity Assessment (ABA) has found that of the 19 polar bear populations seven are declining, four are stable, one is increasing, and the status of the remaining seven is unknown[8]. International trade and overhunting are, however, not the major threat to the species, but rather, as the US proposal rightfully outlined, habitat loss due to climate change. In order to avoid discussions on the US contributions to anthropogenic climate change, then-US Interior Secretary Dirk Kempthorne made clear that the listing as 'threatened' "not be used as a tool for trying to regulate the greenhouse gas emissions blamed for creating climate change"[9].

Be that as it may, the proposal was rather quickly turned down, facing opposition from all other polar bear range states as well as the European Union. One of the main points that the opponents expressed was that international trade contributed to Inuit subsistence needs and that international trade was not a major threat to the species. In the end, 48 parties voted in favour, 62 against and 11 abstained.

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[7] E.g. Greenemaier L (2008, May 14) U.S. Protects Polar Bears Under Endangered Species Act. Scientific American. https://www.scientificamerican.com/article/polar-bears-threatened/; An interesting side effect of denotation as 'threatened' was that the 1972 US Marine Mammal Protection Act (MMPA) was also amended to ban the importation of polar bear parts stemming from trophy hunts in Canada. This 'loophole' was inserted in 1994 during the reauthorisation process of the legislation. Since the status of 'threatened' now identified the species to be depleted under the MMPA, polar bear trophies from Canada could not longer be imported into the US. Attempts have been made to re-amend the MMPA again to make importation from Canada possible, albeit to no avail (see proposed Polar Bear Conservation and Fairness Act, 115th Congress, 2nd Session, 12 June 2018).

[8] Meltofte H (ed) (2013) Arctic Biodiversity Assessment. Status and trends in Arctic biodiversity. Conservation of Arctic Flora and Fauna, Akureyri, p. 115

[9] Greenemaier, 2008

This was not the end of the story, however. At the following CoP in 2013, the United States tabled yet another proposal to uplist the polar bear to Appendix I. While the main arguments were the same, the proposal furthermore noted that a listing of the polar bear would reduce the overall pressure on the species. While the EU proposed some amendments to the proposal, the CoP voted against an uplisting with 38 in favour, 42 against and 46 abstentions. Since then, no proposal for uplisting of polar bears has been tabled.

The Polar Bear at CoP18

As mentioned in the introduction, the focus of parties and observers rested on high-profile proposals dealing with elephants, rhinos or sharks. No proposal for changes of the Appendices related to polar bears was tabled. In other words, polar bears were not on the agenda of CoP18.

While that may be so, this does not mean that polar bears have disappeared from a CITES discourse. The German Naturschutzbund (NABU) arranged an informative, and arguably biased, side event that promoted the uplisting of polar bears. The main narrative of the event was that particularly the trade in polar bear hides emerging out of Canada constitutes one of the major threats to the species. Two documents underlined this claim: first, the NABU document 'Sold Out. Polar Bears: Caught between Skin Trade, Climate Change and Guns'[10]. The report was freely available to all delegates in printed form at the CoP. Second, the self-published book *Polar Bears & Humans* by Norwegian photographer Ole Liodden provided profound background data on the interplay between polar bear trade and conservation[11]. Liodden furthermore served as the keynote speaker in the event.

The event was well attended by both party delegates and representatives of observers. A rather straight forward narrative was applied which directly linked increasing exports of polar bear hides (and lack of control) from Canada to a declining conservation status. No differentiation was made concerning polar bear populations and it remained unclear what methodology was used to interpret the data that was presented. While increasing trade and decreasing population statuses appeared to be a logical interconnection, the lack of economic need for Inuit served as a basis on which the human dimension was presented. For instance, NABU reports that "a medium-quality polar bear skin […] retails for USD20,000 in Norway.

[10] NABU (2019) Sold Out. Polar Bears: Caught between Skin Trade, Climate Change and Guns. NABU, Berlin; Surprisingly, the report is not available in PDF, but is on file with author.
[11] Liodden, OJ (2019) *Polar Bears & Humans*. Naturfokus Forlag, no location

Native hunters may receive around CAD2,500 (USD 2,000), a mere 10% of the price said by consumers for this type"[12].

It is consequently argued that the local Inuit population does not benefit from the high-value product, thus failing to provide sufficient justification for polar bear trade. This is particularly so since several provincial government initiatives provide hunters with down payments for polar bear skins. NABU argues that since these payments had increased by more than 700% between 2006—2018, more Inuit hunters started to become involved in the polar bear trade, inevitably leading to increased hunting pressure[13].

Whether or not the allegations brought forth in the report and in the side event are true cannot be ascertained and would require significantly more research. What can be said, however, is that neither the report nor the (compressed) data of the book as presented in the event referred to polar bear skins in international trade occurring as a side product of human-polar bear interaction. Instead, international trade and the (arguably small amounts of) money that flows to Inuit hunters was presented as the primary motivator for Inuit to engage in polar bear hunting, leaving aside all considerations of sustainability.

The narrative leaves out that, first, Inuit and polar bears have interacted since time immemorial and polar bears have been an integral part of Inuit societies for centuries. Second, in the course of the ACPB, several sub-agreements have been concluded that are inherently bottom-up and thus serve human and polar bear needs. Third, even if governmental subsidies have increased, this does not automatically mean that more people hunt more polar bears. Instead, this could also be a mean to counter the downward trend on the international market, i.e. to buffer declining polar bear skin prices. Fourth, increasing numbers of polar bear skins on the international markets may not be due to more deliberate hunting, but can also stem from polar bears increasingly encroaching on human settlements[14]. Here, once again, habitat loss due to climate change may play a major role. Lastly, even if the revenues from the international polar bear trade might appear small for outsiders, they may nevertheless be the key revenue to

[12] NABU 2019, p 11

[13] Ibid.

[14] A recent prominent example was the so-called 'polar bear invasion' in Belushya Guba, Novaya Zemlya. See Stanley-Becker, I (11 Feb 2019) A 'mass invasion 'of polar bears is terrorizing an island town. Climate change is to blame. *Washington Post*, https://www.washingtonpost.com/nation/2019/02/11/mass-invasion-polar-bears-is-terrorizing-an-island-town-climate-change-is-blame/

ensure subsistence activities in a region where economic options are scarce.

Conclusion

While not officially on the agenda at CoP18, the above has shown that for the last 10 years or so, polar bears have surfaced within CITES Appendix I-contexts. In light of the side event which, to the untrained listener, did appear to be solid in both data and data interpretation, it does not appear unreasonable to assume that in the nearer future new attempts might be taken to uplist the polar bear. In how far this potential listing might be scientifically justifiable would remain to be seen. Even under the precautionary approach, the listing would be difficult since, particularly in Canada, Inuit have treaty-based rights to engage in the utilisation of polar bears and other species. CITES parties would have to justify how infringements of Inuit rights and wellbeing can be gauged against conservation concerns. After all, dangers of human deaths due to polar bears are real in the Arctic[15].

If CITES advances to uplist polar bears to Appendix I, it does run the danger of sidelining Inuit interests, leading Inuit and other peoples and stakeholders to losing faith in the institution[16]. Japan's withdrawal from the International Whaling Commission over the decades-long dispute on commercial whaling[17] as well as Namibia's announcement of a possible withdrawal from CITES in light of the ban on rhino trade[18] stand exemplary in this regard.

A listing of the polar bear on Appendix I may therefore be counterproductive and may alienate those that have served as the best experts on the Arctic environment: Inuit hunters.

[15] Frizzell S (14 Nov 2018) Inuit lives must be protected over polar bears, Nunavut community says. *CBC,* https://www.cbc.ca/news/canada/north/polar-bear-management-arviat-1.4904164

[16] Weber, DS, Mandler T, Dyck M, Van Coeverden De Groot PJ, Lee DS & Clark DA (2015) Unexpected and undesired conservation outcomes of wildlife trade bans—An emerging problem for stakeholders? *Global Ecology and Conservation* 3, 389–400

[17] IWC (2019) Statement on Government of Japan withdrawal from the IWC, https://iwc.int/statement-on-government-of-japan-withdrawal-from-t

[18] Nyaungwa N (27 Aug 2019) Namibia considers withdrawal from wildlife convention unless rhino trade eased. *Reuters*, https://www.reuters.com/article/us-namibia-cites/namibia-considers-withdrawal-from-wildlife-convention-unless-rhino-trade-eased-idUSKCN1VH1WM

Climate Change, Cod Production and Consumption

Dele Raheem[*] & Camilla Crosta[**]

1. Introduction

The repercussions of climate change will have drastic effects on the four pillars of food security which are defined by the Food and Agricultural Organization as availability, accessibility, utilization and food systems stability (FAO, 2016). Even though our globalized economy is highly sophisticated, it provides consumers with availability and accessibility to food but it does not guarantee food security for all. It is expected that food sovereignty which empowers the local community to utilise their local resources will better ensure food security.

The food system of a country is not dependent only on local or internal changes, they are also affected by external forces (Hossain et al., 2018). Such forces include climate change. Coastal communities will be affected by climate change and their subsistence dependence on traditional foods such as fishing will be affected. In the Lofoten islands of Norway, fishing especially the Arctic cod has played an important role in ensuring food security for the local communities. At the recently held SKREI Convention Conference in October 2019, the convention sets out to re-imagine the historic trade routes of stockfish from the North of Norway to the Baltic Sea as far as Germany, Italy and Portugal. The project is supported by the European Year of Cultural Heritage 2018, Creative Europe cooperation projects. Partners in the project are CERS Italia, the Ílhavo Maritime Museum, Portugal and Museum Nord, Norway as lead partner of this two-year project. In the project, a body of knowledge is created and shared through a new digital archive and through an engagement programme for local communities. It explores the cultural heritage of stockfish from the Iron Age to today. Additionally, an international artists' residency programme investigates stockfish as a natural resource and a valuable food stuff for the future within its social, economic, political and historical context. More on this at Museum Nord projects (www.skrei.net).

In this short review, we present the discussion around the Arctic cod following the multi-disciplinary inputs at the 'Skrei Convention Conference' on the theme of cod. The next section is on the production and consumption of cod. Section 3 highlights the impacts of climate change on cod, section 4

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discusses governance issues and section 5 looks at the future possibilities.

2. Production and consumption

Arctic cod can be trophically linked to sea-ice algae and pelagic primary producers. According to Steiner et al. (2019), they act as key vectors for energy transfers from plankton to higher trophic levels (e.g. ringed seals, beluga). The availability of Arctic cod will be affected by predators such as seabirds and mammal. A better understanding of the cod farming system that will encourage a more sustainable means of production will be very relevant in the nearest future. A good balance to ensure sustainability and avoid loss of biodiversity in the ocean need to be developed. For instance, the Nordic Cod Farming Network as a cooperative project with representatives from Faeroes, Denmark, Sweden, Iceland and Norway. The main goal of the network is to create a forum for research and development that will develop the cod farming business in Nordic countries.

Cod farming has a rich history in supporting the economic pillar of Norway. During the fourteenth century, the Hanseatic league[1] monopolised the distribution of stockfish. The Norwegian-Arctic cod has been the cornerstone of the Norwegian fishing industry. Unlike the coastal cod, the Norwegian-Arctic cod travels far out to sea to the north for much of its life – but when it returns, it returns in numbers. Stockfish is cod that are gutted and immediately dried whole or split along the back. Fish drying techniques in northern Norway date back to the Iron Age (ca. 500 BC). Commercial fishery using traditional methods started approximately 1150-1200 AD. Lofoten and Vesterålen islands provided cured fish to urban and rural populations. After three months outside, cod matures indoors in a dry and airy environment for an additional 4 -12 months[2]. A perfect drying takes a delicate balance of wind, rain, sun and temperatures just above freezing. Traditionally, the drying or hanging period takes place form early March to the middle of April in southern parts of Norway and March until May in the northern part of Norway.

The lean, white meat of the Arctic cod fish has an excellent taste, the cod also contains a number of important nutrients. There is still much to be

[1] The Hanseatic League (also known as Hansa, Hanse, 1356-1862 CE) was a federation of north German towns and cities formed in the 12th century CE to facilitate trade and protect mutual interests. The league was centered in the German town of Lübeck and included other German principalities which established trade centers ranging from Kievan Rus through the Netherlands, Scandinavia, and Britain (https://www.ancient.eu/Hanseatic_League/)

[2] https://seafoodfromnorway.us/norwegian-seafood/products/norwegian-cod/

learned about exact nutritional requirements for different age groups of cod. Along with omega-3 fatty acids, vitamins, and proteins, the cod is rich in iodine, an important nutrient. These nutrients are very important for the metabolism and are essential for brain growth and development in children. The roe and the liver from the skrei are used to make "mølje", which is regarded as a delicacy. The mølje[3] is a Norwegian traditional food regarded as a 'proper vitamin bomb', with enough D-vitamins to keep Norwegians healthy through the dark, cold winter. This is probably why the cod has a special place in Norwegian food-culture and history. At the Skrei conference, a variety of food with stockfish with other ingredients were explored an served to participants.

3. Climate change and the Arctic cod

Arctic cod (*Boreogadus saida*) is the dominant pelagic fish in Arctic seas and a staple food of many arctic predators including several seabird species (LeBlanc et al., 2019). Climate change can lead to a reduction in the production of Arctic cod. The decrease will be caused by increased temperature, acidification and northward migration. Other important drivers that result from climate change are the presence of predators, e.g. seabirds and mammal's migration.

However, with climate change, it was estimated that there will be a 17 % decrease in Arctic cod population at the end of this century in a high emission scenario without considering the devastating effects of ocean acidification Steiner et al. (2019).

Generally, the drying technique in cod processing depends greatly on the cold weather, warmer temperature will favour microbial growth leading to devastating consequences on the quality and safety of stockfish.

Microbial spoilage can cause economic losses in cod production. Infectious pancreatic necrosis (IPN) virus and nodavirus causing viral neural necrosis (VNN) are ranked as highly significant (Santi et al., 2005). These viruses are detected in many marine fish species, and are especially lethal to their larval and juvenile stages. IPN-virus caused heavy losses among farmed cod juveniles, both in Denmark and Faroe Islands, several years ago, and there are recent reports of serious nodavirus outbreaks in juvenile cod in USA & Canada (Samuelsen et al., 2006). Nodavirus outbreaks have also been reported from Scotland. In Norway one of the most significant pathogens of cod larvae and juveniles is the bacterium

[3] http://fishonfriday.org.uk/traditional-norwegian-skrei-molje/

Listonella (Vibrio) *anguillarum* (Samuelsen et al., 2006).

The export market of stockfish is also a function of the storage and distribution facilities to ensure the quality of the fish is maintained over long distances. For instance, Nigeria is the biggest market for Norwegian stockfish in volume, and more or less the only market for dried heads.

In 2018, exports reached 6,100 metric tons of dried heads, at a value of NOK 143 million ($16.3m). The reduction of the tax from 20 % to 10 % is a big boost for the Norwegian stockfish producers, a good example of soft diplomacy from the Norwegian Seafood Council. According to Trond Kostveit, the Norwegian Seafood Council (NSC) representative in central and western Africa remarked on the reduction of tax as something that was worked on and dialogued with the Nigerian authorities for a long time.

4. Governance: Global, EU and Norway

There is a link between management, governance and ecosystem health in the fishing sector that requires an ecosystem-based approach (FAO, 2003). The impacts of climate change in the fishing sector can be minimised by ensuring less greenhouse gas emission in the value chain. A key to mitigation is the requirement of Parties to submit nationally determined contributions (NDCs) that set out planned domestic mitigation measures (UNFCC, 2019). Under the Paris Agreement, adopted in December 2015, the INDC will become the first Nationally Determined Contribution (NDC) when a country ratifies the agreement unless it decides to submit a new NDC at the same time. Once the Paris Agreement is ratified, the NDC will become the first greenhouse gas targets under the UNFCCC that applied equally to both developed and developing countries (WRI, 2014)

The European Union has three fisheries agreements with Norway, namely the bilateral, the trilateral and the neighbouring agreements. The bilateral arrangement covers the North Sea and the Atlantic, the trilateral agreement covers Skagerrak and Kattegat (Denmark, Sweden and Norway) and the neighbourhood arrangement covers the Swedish fishery in Norwegian waters of the North Sea. The agreements are implemented in the form of annual fisheries arrangements. The bilateral and the trilateral arrangements allow for the setting of total allowable catch TACs for joint stocks, transfers of fishing possibilities, joint technical measures and issues related to control and enforcement.

The European Union (EU) and Norway have agreed on quotas for the jointly-managed fish stocks in the North Sea (cod, haddock, plaice, whiting, herring,

and saithe) and Skagerrak (cod, haddock, whiting, plaice, shrimp, herring and sprat), as well as exchange of reciprocal fishing possibilities.

In the North Sea, for two of the shared stocks, namely saithe and plaice, the jointly agreed total allowable catch (TAC) increased compared to last year. For four other shared stocks (i.e. haddock, whiting, cod, herring), a reduction was necessary to protect the stocks.

The EU and Norway also reached an agreement on quota exchanges. In particular, the EU received over 21,500 tonnes of Arctic cod.

These agreed arrangements will ensure continuation of fishing operations for both parties in each other's waters from 1 January 2019[4].

The International Panel of Experts on Sustainable Food Systems (IPES-Food) was established in 2015 to shape debates on food system reform through policy-oriented research and direct engagement with policy processes around the world. Governance reforms are the first building block of a Common Food Policy. The report also puts forward proposals for reforming and realigning policies under five key objectives:

1. Ensuring access to land, water and healthy soils

2. Rebuilding climate-resilient, healthy agro-ecosystems

3. Promoting sufficient, healthy and sustainable diets for all

4. Building fairer, shorter and cleaner supply chains

5. Putting trade in the service of sustainable development

Reforming our food systems in line with the above objectives will provide an opportunity for the EU and its Member States to address the concerns of many citizens, and is the key to meeting the UN Sustainable Development Goals (SDGs), the Paris Agreement on climate change, and many other commitments to protect people and the planet.

5. Future possibilities

As part of finding new solutions to improve food security at local levels in the Arctic, there is a need to ensure that local terrestrial or aquatic resources are developed in ensuring sovereignty. This can be achieved by creating innovative novel foods that are nutritious from research and technology from a multi-disciplinary lens as promoted by the SKREI Convention Conference.

Digitalisation as a tool can be used to enhance consumer experience, marketing and future export-oriented

[4]https://ec.europa.eu/fisheries/cfp/international/agreements/norway

opportunities for cod. Part of the discussion of SKREI Convention was dedicated to exploring the future possibilities of Arctic cod. The session held on October 14th Monday afternoon was centred around the provocation of thinking if the cod can feed the world. Guri Hjallen Eriksen, the first contributor, looked at the future development of Cod fisheries and Law, with attention paid to the connection with the Sustainable Development Goals number 14 and 16 (SDGs), of the 2030 Agenda for Sustainable Development. The discussion continued with the contribution of Rune Stokvold, from Torrfisk fra Lofoten, who positively showed the efforts made by local Stockfish producers to value the quality of the product as well as to adapt it to the current market's needs. Andreas Santi Flach described the biochemical processes that happen within the Arctic cod, which define its distinctive taste and how this can be reproduced and kept in the future. Finally, Kunt Korsbrekke from the Institute of Marine Research, described how the fish stocks are currently kept sustainable, whether sustainable is intended as the "limitation of damage" for future generations. In his words, it is necessary to think about other measures aimed to improve the conditions of the fish stock and the number of catches.

During the conversation, the Arctic cod emerged as a unique product which can be relevant for the future, but attention should be paid to regulations, laws and management of the fish catches and stocks. These ideas weaved into the October 15th Tuesday morning session dedicated to the governance and geographies of Food. Thanks to the presentation of Dr. Bamidele Raheem (first-author), the curators Torill Østby Haaland and Dani Burrows, emerged the need to think about alternatives to the Arctic cod production and consumption. This session was chaired by Camilla Crosta (co-author). The contemporary art field, as shown by the projects developed both by Lofoten International Art Festival (Norway) and the Delfina Foundation (UK), has opened a strand of enquiry into the food production system. In the art projects presented at the conference, such as the Kelp Congress (LIAF 2019) and Climavore Skye (Scotland) by Cooking Sections, lies the opportunity to create a vision for alternative forms of food production, questioning the relationship between fishing communities, the environment and the fish stocks. In these terms, the Arctic cod and its future are topics that can be addressed by different sectors and it is in this multidisciplinary exchange and collaboration that there is potential for innovation and improvement of the fishing, the processing and the eating of Arctic cod.

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Problems of Legal Regulation of the North Polar Region of the Earth

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Introduction

Each year there is a rising research interest to the Earth's polar regions, and it is connected not only to the climate changes which can be actively observed globally[1] and in the Arctic in particular[2]. Sea ice thawing in the Arctic Ocean, in perspective, could open up both new sea routes between Northern Europe and Asian countries, and possibilities for mineral extraction on the Arctic shelf. According to scientists, the Arctic is incredibly rich in natural resources and one could argue that even right now the Arctic shelf is the country's largest oil and gas industry reserve[3].

At the same time, it is worth mentioning the sensitivity of the Arctic region in terms of ecology. The Arctic Ocean is the smallest and shallowest[4] on our planet and is characterized by its harsh climate, the existence of ice caps and the largest continental shelf.

Research results

The harsh climate is the reason behind the Arctic Ocean's poor organic life, both in terms of the species diversity and biomass. In total, approximately 4000 species of metazoan, protozoa and algae living in the Arctic Ocean have been described. Mammal life-cycles are closely connected to the condition and distribution of ice caps in the region. Thus, diatom algae[5], which produce organic matter, organize colonies on lower parts of the ice, are consumed by

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[1] Over the past 100 years, air temperature in the Arctic region has increased by 4-6 ° C. It is predicted that by the end of the 21st century, air temperature will rise by another 7 ° C. // Ice changing of the Arctic. The popular science site on meteorology "Meteorologist and Me" simply about the complex. – Available at: https://meteo59.ru/articles/002-led-arktiki.php.
[2] It should be noted that under the definition of 'the Arctic' we understand the universally used notion of the Arctic as the Northern polar region of the Earth, consisting of the Arctic Ocean with its seas, straits and bays, located to the North of the Arctic Circle, located at a latitude of 66°33'44" (66,5622°) N
[3] The mineral foundation of Russia's Arctic continental shelf and its effect on the development of infrastructure in the Far North / V.D. Kaminskiy, O.I. Suprunenko, V.V. Suslova, A.M. Ivanova, A.N. Smirnov. 2016.
[4] The deepest point of 5 527 m. is off the coast of Greenland
[5] Diatoms are a major group of algae, specifically microalgae, found in the oceans, waterways and soils of the world. Living diatoms number in the trillions: they generate about 20 percent of the oxygen produced on the planet each year.

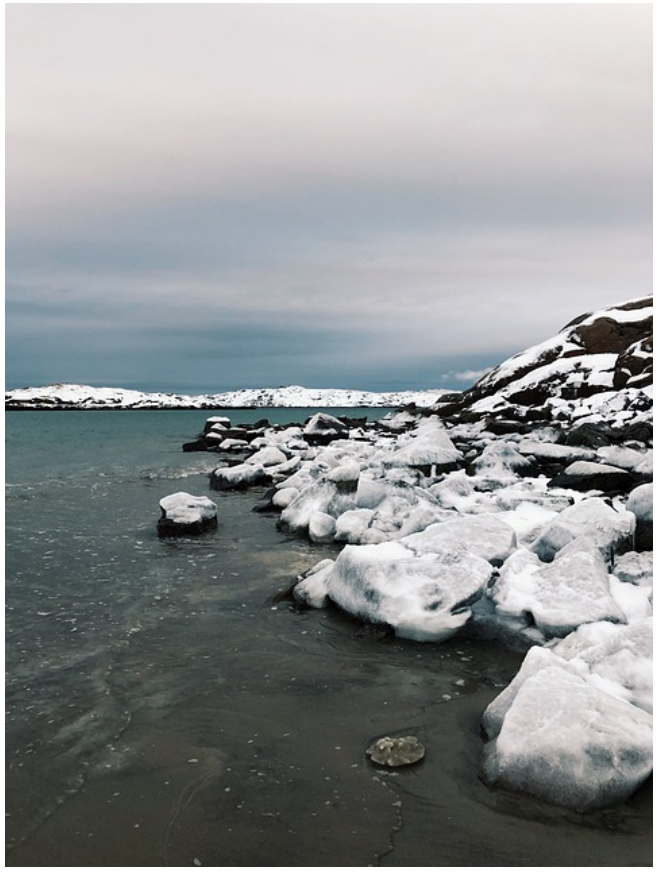
invertebrates and fish, which in turn become food for larger animals.

It is obvious that because of temperature changes Arctic ice[6] suffers a reduction in its mass and consolidated with Siberian river flow, the productive portion of water bodies is coastal and thus is susceptible to large-scale desalination, which ultimately affects marine organisms that can only live in salt water.

There are assessments that, discomfortingly, say about a possible disappearance of 30-40% of animal and plant species as a result of climate change and, consequently, change in their usual places of habitat, which will alter at a faster rate than the flora and fauna will be able to adapt to[7].

It should also be noted that the latest research on trans-country sea ice drift in the Arctic Ocean done in the Columbia University and McGill University, demonstrated that sea ice not only does move faster but also increases the scale of international ice exchange (ice drifts from Russia to Norway and Greenland, Alaskan ice moves into Russian waters). Accordingly, pollution from oil spills or organic pollution could be transferred from one Arctic neighbor to another via ice[8].

Without any doubt, we cannot state that the international community on the whole and circumpolar countries in particular, do little in the sphere of cooperation to save the Arctic natural ecosystem.



[6] According to the deputy director of the Institute of Geography of the Russian Academy of Sciences O. Solomin, over the past 30 years the area of sea ice in the Arctic has been reduced and the area of snow and its volume has been decreasing. // The temperature of the atmosphere over the past 100 years has increased by 0.74 degrees. – Available at: https://www.gismeteo.ru/news/klimat

[7] Climatic Chaos. What is the danger of global warming and what can we do to prevent it? TASS Special Project Available at: tass.ru/spec/climate

[8] Expansion of transnational marine migration of ice formations in the changing Arctic Ocean. Robert Newton, Stephanie Pfirman, Bruno Tremblay, Patricia De Repentigny // Future Earth. 06/27/2017. Available at: http://onlinelibrary.wiley.com/doi/10.1002/2016EF000500/full

Notably, the Arctic Council[9] has been established to come up with decisions and protect, by managing cooperation between both circumpolar and non-polar countries, the unique Northern polar region. Projects in ecology, economy, culture, healthcare, emergency prevention and protection of indigenous peoples and the North are carried out under the aegis of the Arctic Council[10].

International cooperation is based upon norms of international law, which is inevitably affected by sovereign state politics, and its obvious flaw is the uniformity of its applications. International law is based on the principles of sovereign equality of States and its binding nature.

Regarding the disclosure of the legal frameworks of the Northern polar regions, the largest part of which is the Arctic ocean, it should be noted that the single most important international document regulating and protecting the World Ocean is The United Nations Convention on the Law of the Sea of 1982[11]. The Convention, among other things, included a number of then-effective international laws and regulations of the 1958 convention, some of which were specified and amended, considering up-to-date conditions.

This international treaty is, in effect, universal in respect to the number of countries that ratified it and the amount of problems solved. The Convention defined the legal framework of marine territories and provides the international legal basis for state operations in the field of sea exploration and exploitation.

On the one hand, the convention guaranteed protection of economic interests for coastal countries, having instated an exclusive economic zone, while on the other hand it ensured access to sea floor resource exploitation outside international jurisdiction. It also reaffirmed and amended the freedom of the high seas and the right of all vessels, including military and governmental, to exercise navigation in international straits and canals.

The adoption of said Convention should be seen as a result of efforts to raise the effectiveness of the World ocean resource control by redirecting political debate to those issues of marine management which should be resolved

[9] Established in 1996 by Finland's initiative. The Arctic Council consists of the eight Arctic States: Canada, the Kingdom of Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden and the United States. Six international organizations representing Arctic Indigenous Peoples have permanent participant status.

[10] The Council operates by 6 working groups sorted by there are: liquidation of pollution, monitoring Arctic environment, preservation of the Arctic flora and fauna, prevention and liquidation of accidents, maritime arctic environment protection, sustainable development.

[11] Convention entered force on November 16, 1994.

urgently by refining international cooperation and coordination.

Regarding the Arctic, the Convention importance has been acknowledged by circumpolar countries, including the United States of America, who are not a part of the convention, but who have stated their intent to follow the principles of maritime law in the Ilulissat Declaration of 2008, according to which maritime law provides a solid foundation for responsible management in the Arctic[12].

Acknowledging the priority of the UNCLOS, countries adopt provisions on maritime delimitation[13], which provide coastal states with various sovereign and jurisdictional rights.

In case territorial claims are present between countries[14], they are in most cases solved by signing bilateral treaties. With regards to the Arctic region, several can be mentioned, including the Treaty between Norway and the Russian Federation on maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean of 2010. In case a final result to the tensions cannot be achieved, international law considers consulting the International Court of Justice to be the way.

Territorial issues in the Arctic are relatively clear and quite soluble per se. The genuinely important and hard to solve matter is the realization of points in the article 234 of the UNCLOS, which governs the possibility of coastal countries to accept non-discriminatory laws aimed at prevention, reduction and control of marine pollution by vessels in the borders of the ice-covered areas in the EEZ, where the ice itself presents a danger or an obstacle to navigation and marine pollution could do harm to ecological balance or disrupt it irreversibly.

This possibility has been utilized by Canada and Russia, who have passed national legislation which allows a coastal state to reject a vessel entry in case of violation of international laws adopted in lieu with article 234 of the UNCLOS.

The USA, in turn agreeing with the rights of coastal states, claim that such rights should not violate freedoms of the high seas, including the freedom of transit passage which could not be restricted on the basis of national law

[12] The declaration concludes that the Law of the Sea framework "provides a solid foundation for responsible management by the five coastal States and other users of this Ocean through national implementation and application of relevant provisions. We therefore see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean."

[13] Territorial waters – 12 nautical miles, contiguous zone - 24 nautical miles, EEZ – 200 nautical miles.

[14] Up to this date, the most insoluble one is the dispute between the USA and Canada in the Beaufort Sea, which both sides are trying to peacefully resolve.

regulation. It should also be noted that foreign academic and political circles, in response to climate change and ice cap diminishing in the Arctic, also state the necessity to redefine the use of this article to reduce the entitlements of circumpolar countries[15].

Attention should also be paid to the unsolved claims to the Arctic continental shelf and, consequently, sovereign rights to exploitation of its riches, which include not only natural, but also biological resources, covering the continental shelf. UNCLOS suggests a mechanism to expand the shelf borders to outside the EEZ by inquiring the UN on the borders of the shelf and acknowledging that it is a continuation of the coastal country's land territory. Considering widening of the shelf borders, we should note that the Commission (as of yet[16]) has not made any definite decisions on the inquiry (based on geological and geomorphologic traits of the Arctic sea floor) made by Russia to expand its continental shelf borders in the Arctic.

It is crucial that realization of coastal states' right on continental shelf expansion based on conventional decisions could lead to the situation in which almost all entitlements to the depths of the Arctic would ultimately fall under the exclusive jurisdiction of coastal countries, to which would obviously protest non-Arctic states.

Yet another burning issue in the region could be the increase in navigation in the Northern polar waters, the use of the freedom of transit passage in international waters and maritime law frameworks. In the first case the problem arises as a result of Canada and Russia's claims that part of the Northwest Passage and the Northern Sea Route are internal waters and international vessels should request the right to entry. To this the US state that the Northwest Passage and the NSR are international straits and thus a coastal state has no right to restrict transit passage. In the second case, the increase in navigation would lead to an issue of safe seafaring in straits and adhering to the laws of navigational and ecological security.

Conclusions

It should be said that not all countries accept all international treaties and deals all the time. For instance, the USA are not party to the UNCLOS, Canada has left the Kyoto Protocol, Russia has not ratified several agreements regarding the Arctic. Accordingly, unilateral legal approach does not always exist to solve such problems, but it is extremely important to strive to create such a legal

[15] Interpretation and usage of article 234 of the UNCLOS following the reduction of ice caps in the Arctic. Gavrilov V.V., Dremlyuga R.I., Kripakova A.V. // Russian Law Journal. 2017. p. 151- 160.
[16] Mid-July, 2019

system, based on rules of ecological management in the Arctic, that would be suitable for Arctic countries.

It is the international law and the Convention that provide a basis that regulates state rights and obligations in consideration with the exploitation of oceans and their resources, environmental and biological protection, and liability for damage to the oceans as a result of illegal activity of different actors. Arctic states should prevent any potential harm and take preventive measures in ecological security and minimization of accidents in these remote Northern regions, where mitigation of consequences after navigational and technogenic failures could become a national disaster.

In order to prevent hazardous situations and resolving disputes not only would first-priority tasks be completed by Arctic countries by instituting the legal status of their borders and providing complete political and economic safety for them, but also taking up complex measures to reduce potential ecological risk by, among other things, creating joint navigational rules for straits and setting traffic separation zones by conclusion of international agreements.

In this article the authors, expressing the common objective of defining various problems emerging between circumpolar countries and the Arctic, basing on the dialectical method in the form of reflexive theoretical thought, consider the main way to resolve the existing issues in the region to be the realization of the Arctic region's universal importance by the countries and the undeniability of international law and the United Nations Convention on the Law of the Sea, the inevitability of international partnership and the search for compromise.

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Co-Progressiveness of Arctic Governance and the Initiative of Polar Silk Road

*Baozhi Cheng**

Although witnessed some external incidents, like the impacts of Ukrainian and Syrian Crises which intensified some geo-political concerns among the Arctic States, the Arctic governance & cooperation process has undergone fairly steady development in recent years. The five Arctic Coastal States (Canada, Denmark/Greenland, Norway, Russia, and USA, hereinafter as A5) and other five major stake-holders, China, Japan, South Korea, Iceland and EU reached an Agreement on the regulation of the IUU fishing in the Central Arctic Ocean in October 2018. This A5+5 mechanism, to some extent, is a kind of innovative paradigm for the normative generation for Arctic governance, and is also positive for the non-Arctic States' involvement. Besides that, the Polar Code promulgated by the International Maritime Organization (IMO) has entered into force since January 2017, which is the first legally binding instrument regulating the shipping on the ice-covered water areas at both polar regions; and also, in May 2017 the Arctic States signed the Agreement on Enhancing International Arctic Scientific Cooperation, which is the third binding treaties within the ambit of the Arctic Council since the 2011 Nuuk Conference. Thus, how the newly emergent Arctic norms interact with the existing international regulations and domestic laws of the Arctic States is a key point for further research. In short, the coherent development of a normative system is vital for the performance of Arctic governance itself.

In January 2018, Chinese government unveiled its first official Arctic Policy Whitepaper, in which China committed to work with all parties to build a "Polar Silk Road" (PSR) through developing the Arctic shipping routes based on the principle of wide consultation, joint contribution and shared benefits. It encourages Chinese enterprises to participate in the infrastructure constructions for the routes and carry out commercial trial passages in accordance with relevant legal regulations to pave the way for their commercial and regular operation. The first phase of the PSR will mainly focus on improving and renovating infrastructure such as ports, airports, roads and railways, as well as special equipment such as energy supplies, communications, aircraft and

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icebreakers. These urgent investment needs require cooperation between Arctic States and non-Arctic States which are consumers of Arctic products. Due to the huge cost of the projects and the complexity of the harsh environment, investing in the Arctic is by no means an easy task. It requires the international community to form a cooperation framework to guide cross-border investment cooperation.

The PSR initiative marks China's investment commitments on building the Northern Sea Route (NSR) and other part of shipping routes in the Arctic jointly with relevant parties based on win-win and sustainable principles. It provides new impetus for international cooperation in the Arctic such as the Arctic Corridor project launched by the European Union, Finland and Norway. In 2017, President Xi Jinping of China visited Finland. Both countries believe that the Sino-Finnish new-type partnership for the future as a supplement to China's comprehensive strategic partnership with the EU, will promote the implementation of the China-EU Cooperation 2020 Strategic Plan and China-Nordic cooperation. Finland has proposed to link the PSR with its "Arctic Corridor", a railway which is at the cost of $3.4 billion, and will connect the city of Rovaniemi in northern Finland with the Norwegian port of Kirkenes[1], making Finland a hub country connecting the Arctic with Eurasia. The "Arctic Corridor" could open the way for the PSR to reach the Nordic countries and Eastern European markets so as to connect China and Russia with the "Pan-European Transport Network" and jointly build a grand project of Continental Bridge across Europe and Asia. The "Arctic Corridor" project supported by the Nordic governments, could be a possible and promising one under the PSR framework in the future.

China has actively worked with other parties to build the PSR, which will bring opportunities for cooperation in promoting connectivity and sustainable economic and social development in this region. At present, the concept of PSR advocated by China and Russia is still under its initial stages and arouses some anxiety in Western media. The benign interactions between PSR framework and the current Arctic regimes are essential for its future development. In this regard, the Nordic Countries and Eastern Asian Nations could play constructive roles as reliable channels and partners through equal consultation and concrete cooperation.

[1] Kirkenes is a free trading, logistics and industrial port in use for supplies and services to the Russian Barents, Pechaora and Kara seas, Yamal and other Northern Russian onshore and offshore cities.

Heritage-Making in Finland: Implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage

Karolina Sikora[*]

Introduction

In March 2019, press agencies declared that Finnish sauna culture had been nominated for inscription on the UNESCO Lists of Intangible Cultural Heritage. This would be the first Finnish practice enlisted in this register. This paper sheds a light on how the Convention for the Safeguarding of the Intangible Cultural Heritage has been implemented into Finnish national legislation and how the heritage cames into being. This article examines how the participation of groups and communities is applied within the Finnish model of identification intangible heritage.

1. The conceptualisation of intangible cultural heritage

For millennia, a mix of social and cultural elements that provided a foundation for creating and developing the identities of individuals and communities have been passed on to future generations as respective cultures. Culture is a process that changes constantly over time. The question of which cultural elements will be kept alive by future generations depends largely on the degree to which cultural aspects are alive and valued within a community.

However, cultural heritage is a recent concept that evolved in the 20th century, mainly after the Second World War, as a response to the unimaginable damage to cultural artefacts and cultural memory[1]. Established in 1945, the United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialised agency that has been primarily responsible for setting a framework for the protection of cultural heritage on an international level. UNESCO adopted two international conventions from 1972 and 2003, which give a legal foundation for the protection of cultural heritage. The first convention, the World Heritage Convention, regulates the preservation of tangible heritage, which is understood as cultural and natural heritage. The convention conceptualises cultural heritage as including monuments, groups of buildings and sites that have outstanding value for all of humankind[2]. The material artefacts that fulfil the

[*] Arctic Centre, University of Lapland

[1] Blake, J. 2015. International Cultural Heritage Law, Oxford University Press, p. 10.

[2] UNESCO. 1972. Convention concerning the Protection of World Cultural and Natural Heritage, article 1.

formal requirements listed in the Operational Guidelines for the Implementation of the World Heritage Convention are eligible for inscription on the World Heritage List, maintained by UNESCO[3].

More recently, the notion of cultural heritage in international law has become more significantly developed, and now it also includes intangible heritage, often described as ´living´[4]. As a consequence, in 2003, UNESCO adopted the guidelines of the Convention for the Safeguarding of the Intangible Cultural Heritage. This convention recognises intangible heritage as including practices, representations, expressions, knowledge and skills, as well as the instruments, objects, artefacts and cultural spaces associated therewith[5]. Intangible heritage can be manifested through 'oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts'[6].

In contrast to the World Heritage Convention, the Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 put a special emphasis on the participation of individuals, groups and communities in the production, safeguarding, maintenance and re-creation of intangible heritage. Article 11 of the Convention stipulates precisely that each State that is a party to the Convention shall 'identify and define the various elements of the intangible cultural heritage present in its territory, with the participation of communities, groups and relevant non-governmental organizations'. This has been an important change since the World Heritage Convention exclusively legitimised the role of states in identifying and managing their respective heritage.

2. The sauna tradition in Finland

A sauna is a type of a wooden bath, taking the form of a room or a separate log cottage, especially in rural areas. A sauna is heated up with a stove that is covered with a special type of stones. Historically, the bath was usually warmed up with wood, but electric stoves are currently widespread. At times, during sessions, water is thrown onto the stones to produce more moisture. The sauna tradition is comprised of several different practices. Traditionally, after showering and

[3] UNESCO website. http://whc.unesco.org/en/criteria/ (Accessed on 23.11.2019)
[4] Logan, W. 2007. *Closing Pandora´s box: Human Rights Conundrums in Cultural Heritage Protection* in Cultural Heritage and Human Rights, edited by H. Silverman, D. F. Ruggles, Springer, p. 50.
[5] UNESCO. 2003. Convention for the Safeguarding of the Intangible Cultural Heritage 2003, article 2.1
[6] UNESCO website. What is Intangible Cultural Heritage? https://ich.unesco.org/en/what-is-intangible-heritage-00003 (Access on 23.11.2019)

sweating, people in saunas would whisk themselves with bath broom made from a bunch of birch branches with leaves (Finnish: *vihta*) and apply possible healing treatments, such as cupping and bloodletting[7]. Afterwards, when the heat becomes unbearable, they would cool down their bodies by jumping into a lake or river or simply showering. During winter, ice swimming or rolling in the snow is also popular. The procedure is typically repeated a few times.

Historically, when people moved from one place to another, the sauna was the first building to be built, before the main house[8]. This was because many different practices took place in the sauna. People would sleep there, take a shower, do laundry or clean corpses before a funeral. Since a sauna provides strongly hygienic conditions, women also gave birth to children in the bath. In the smoke sauna, when smoke was not coming out of the chamber, people were mainly smoking meat as well as other types of food products.

Sauna culture in Finland has a long and continuous tradition. It is a relevant part of everyday life, and it is treated as a panacea for all ailments. The sauna also has an outstanding social role as a neutral meeting place where no differences in age or social status exist[9]. Moreover, the sauna is a non-sexual space, and men and women tend to use saunas separately, but mixed saunas are not uncommon[10].

3. The implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage in Finland

Finland ratified the Convention for the Safeguarding of the Intangible Cultural Heritage in 2013. The Ministry of Education and Culture delegated the task of implementing the intangible cultural heritage (ICH) Convention into the Finnish national legislation to the government's Finnish Heritage Agency (*Museovirasto*). The Heritage Agency published two crucial documents in this regard: Plan for National Implementation[11] and the Action Plan for Intangible Cultural Heritage (drafted

[7] The Regional Museum of Lapland in Arktikum Science Centre and Museum. Permanent exhibition: 'Northern Ways'.

[8] Roy, R. 2009. "The Sauna: A Complete Guide to the Construction, Use, and Benefits of the Finnish Bath, 2nd Edition". Chelsea Green Publishing. p. 10.

[9] Taylor, K. and V. Williams. 2017. "Etiquette and Taboos around the World: A Geographic Encyclopedia of Social and Cultural Customs". Greenwood. p. 265.

[10] Edelsward, L. 1991. "Sauna as Symbol: Society and Culture in Finland". International Academic Publishers. p. 146

[11] Museovirasto. 2015. UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. Plan for national implementation. Available at: https://www.aineetonkulttuuriperinto.fi/assets/national-plan-2015.pdf

by the expert group and updated every 4 years)[12].

The Plan for National Implementation (hereafter 'the National Plan') provides guidelines for the implementation and follows the general spirit of the ICH Convention concerning the participation of individuals, groups and communities in the heritage-making process. The main actors responsible for the implementation of the Convention are the Ministry of Culture and Education, the Finnish Heritage Agency, an expert group on intangible cultural heritage and circles of intangible cultural heritage (multidisciplinary networks of actors working within respective areas of ICH). Due to the multiplicity of actors, the National Plan describes the implementation process as a 'networking activity'[13].

3.1 Inventorying

The ICH Convention leaves freedom of choice to State-parties to decide on the details of the implementation of the Convention. One exception is Article 12 of the Convention, which precisely stipulates that the State-party to the Convention shall draw up national inventories of the intangible cultural heritage present in its territory. Inventorying is a process of creating catalogues or registers of elements to identify, document and transmit existing ICH[14]. To ensure the identification and, hence, safeguarding of ICH, the participation of communities, groups and relevant nongovernmental organizations is crucial (art. 11). Moreover, the inventories shall be regularly updated.

[12] Intangible Cultural Heritage website. Available at: https://www.aineetonkulttuuriperinto.fi/en/article/enkat-atgardsprogrammet-for-det-immateriella-kulturarvet-2019-2022 (Accessed on 22.11.2019)

[13] Museovirasto. 2015. UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. Plan for national implementation. p.4.

[14] *UNESCO. 2013. Methodology* for inventorying *intangible cultural heritage in biosphere reserves*: the experience of Montseny. p. 8. Available at: https://parcs.diba.cat/documents/29193465/29468345/Montseny_Metodologia_EN.pdf/13e06d7e-eecc-492d-bf35-85b52cab57ff

The Finnish model of inventorying involves two levels, the community level and the national level.

The main tool at the community level is 'Wiki-inventory for Living Heritage'[15]. It is a platform that enables communities and groups to submit proposals of ICH elements as suggestions for the National Inventory. The submitted aspect of ICH should fall within one of nine categories[16]. The platform is maintained by the Finnish Heritage Agency.

Creating a National Inventory of Living Heritage is much more formalised. Its criteria are drafted by an expert group appointed by the Ministry of Education and Culture [17]. The Finnish Heritage Agency recommends aspects of ICH for nomination to the National Inventory, and the final decision is made by the Ministry of Education and Culture. In this process, the Finnish Heritage Agency takes into consideration suggestions from communities and networks of circles of ICH.

Elements listed in the national inventory can be nominated for inscription in the UNESCO List of intangible cultural heritage. A nomination is made by the Ministry of Education and Culture in cooperation with the Finnish Heritage Agency and the expert group on ICH.

3.2 Incentives for the inscription of sauna tradition on the UNESCO Intangible Cultural Heritage List

Sauna culture in Finland is widely practised by all generations in both urban and rural areas. This raises the question of whether the protection of the practice, which as a rule should be natural and alive, is needed.

The process of transformation of certain cultural patterns is a natural phenomenon. Yet, every external influence on this process impacts the meaning that cultural element has in a community. Therefore, who are the communities behind the submission of sauna tradition to the inventory? Mainly, they are private saunas associations, sauna clubs and business entrepreneurs, like restaurants and hotels[18].

Studies show that sites and practices that are formally listed in the UNESCO register trigger a bigger interest in international tourism[19]. In some cases,

[15] Elävän perinnön wikiluettelo. https://wiki.aineetonkulttuuriperinto.fi/ (Accessed on 25.11.2019)
[16] The categories are as follows: Festivities and practices, Music and dance, Performing arts, Oral traditions, Crafts, Food traditions, Games and playing, Nature and the universe, Good practices
[17] Museovirasto. 2015. UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. Plan for national implementation. p. 12.
[18] Elävän perinnön wikiluettelo. Available at: https://wiki.aineetonkulttuuriperinto.fi/wiki/Sauna_bathing (Accessed on 25.11.2019)
[19] Kaminski, J., A.M. Benson, D. Arnoldp. 2013. 'Contemporary Issues in Cultural Heritage Tourism'. Routledge. p. 181.

protection of heritage and sustainable tourism go hand in hand. The publicity guaranteed by the UNESCO brand can contribute to the preservation of dying traditions. However, this is not the case of sauna culture in Finland. In terms of tourism capacities, Finland is a seasonal destination. The country is well known for its winter activities; what is missing in the tourism industry is a year-round attraction. Already, some of the tour operators offer the sauna experience as the main summer activity in Finland. The formal inscription of sauna tradition on the UNESCO list may lead to an increase in the interest of foreign visitors during summer months, which would provide a more stable situation for Finland in the tourism market.

Conclusions

Besides the formal consequences, ratification of the Convention for the Safeguarding of the Intangible Cultural Heritage leads to increased knowledge about this aspect of cultural heritage.

Inclusion in the UNESCO list of intangible heritage is a prestigious matter. UNESCO is one of the most recognisable brands in the world, and the formal UNESCO stamp encourages tourists to visit a place and experience related practices. Hence, inclusion has a positive impact on politics and the economy. Yet, a real threat is the transformation of the sauna tradition into a commercialised product, sold to mass tourism.

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Recent Developments on Transboundary Indigenous Consultation Issues

Dwight Newman[*] *& Maruska Giacchetto*[**]

Consultation with Indigenous peoples is an important part of the legal regime pertinent in the context of choices about development initiatives across the Arctic[1]. Domestic legal rules on Indigenous consultation have developed differently in different Arctic states. One significant contrast is between developments in Canada under a judicially developed "duty to consult" doctrine and developments in the Nordic states guided specifically by their distinctive treaty commitments and also prominently by international law developments more generally[2]. However, all Arctic states will ultimately be influenced by international norms on consultation, which will increase the role of Indigenous peoples – as well as Northern populations generally – in decision-making on issues affecting the Arctic[3].

Even for those states more engaged already with international norms, consultation issues have usually been thought of as relating to consultation with Indigenous peoples within the state. However, international norms refer simply to Indigenous peoples, and they do not necessarily distinguish between Indigenous peoples inside or outside a particular state[4]. Two recent developments involving claims to transboundary Indigenous consultation

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[1] See generally Dwight Newman, Michelle Biddulph & Lorelle Binnion, "Arctic Energy Development and Best Practices on Consultation with Indigenous Peoples" (2014) 32 Boston University International Law Journal 101.

[2] See Christina Allard, "The Rationale for the Duty to Consult Indigenous Peoples: Comparative Reflections from Nordic and Canadian Legal Contexts" (2018) 9 Arctic Review on Law and Politics 25.

[3] See Dwight Newman, "International Indigenous Rights Law and Contextualized Decolonization of the Arctic", in Ken Coates & Carin Holroyd, eds., *The Palgrave Handbook of Arctic Policy and Politics* (Palgrave Macmillan 2020). One interesting recent development in Canada is the adoption by the province of British Columbia in late November 2019 of legislation committing itself to implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)—progress on this legislation will be a worthy subject for attention in future volumes.

[4] For example, article 32 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), specifies only that "States shall consult and cooperate in good faith with the indigenous peoples concerned…in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources…". The "indigenous peoples concerned" might include Indigenous peoples outside the state in question.

illustrate well the potential for such issues.

While they could arise on any Arctic border, these particular developments involve the border between Canada and Alaska, and recent developments have gone in both directions. First, in the context of moves toward opening Alaska's Arctic National Wildlife Refuge to oil drilling, Canadian federal and territorial governments and the Government of Vuntut Gwich'in First Nation ended up voicing their concerns with a Draft Environmental Impact Statement (EIS) from the Alaska Bureau of Land Management (BLM), with these concerns involving a lack of consultation with the Vuntut Gwich'in as an Indigenous people on the Canadian side of the border potentially impacted by the Alaskan decision at issue[5]. Second, in the context of mining activity in the northern part of the Canadian province of British Columbia, Alaskan Indigenous tribes have raised objections and, indeed, sought to launch a human rights complaint, again partly about lack of transboundary consultation[6].

Canadian Objections to Lack of Consultation from Alaska

In 2017, the United States, under President Trump, signed a budget provision approving 800,000 acres of the 1002 Lands in the Arctic National Wildlife Refuge for oil and gas development[7]. This became law under the Tax Act and is referred as Public Law 115-97[8]. The 1002 Lands are 1.5 million acres within the approximately 19.3 million acres Arctic National Wildlife Refuge[9]. In 2018, the Alaskan Bureau of Land Management (BLM) began the process of implementing an oil and gas program within these lands[10]. The Vuntut Gwich'in First Nation Government and the Yukon Government are concerned with the

[5] Rosa Brown, Lands Manager, Vuntut Gwich'in Government, "Comments of the Vuntut Gwich'in Government on the Draft Environmental Impact Statement for the Coastal Plain Oil and Gas leasing Program and Announcement of Public Subsistence- related hearings"(June 19 2018), online: *The Porcupine Caribou Management Board* <https://www.pcmb.ca/PDF/1002/Vuntut%20Gwitchin%20Government.pdf > at 2 [Vuntut Gwich'in Government].

[6] The Southeast Alaska Indigenous Transboundary Commission, "Petition to the Inter-American Commission on human rights seeking relief from violations of the rights of the members of the Southeast Alaska Indigenous Transboundary Commission resulting from hard-rock mining in British Columbia"(Dec 5 2018), online: *The Southeast Alaska Indigenous Transboundary Commission* <www.seitc.org/petitions> [SEITC Petition].

[7] Porcupine Caribou Management Board, "Arctic Refuge Calving and Post-Calving Grounds"(2019), online: *The Porcupine Caribou Management Board* <www.pcmb.ca/1002> [PCMB 1002].

[8] *Ibid*.

[9] *Ibid*.

[10] PCMB 1002, *supra* note 7.

Draft Environmental Impact Statement (EIS) for the Coastal Plain Oil and Gas Leasing Program within the 1002 Lands and requested that full consideration be given to environmental impacts as required by international agreements[11]. Both entities are trying to make transboundary claims regarding the Porcupine Caribou population and other environmental effects. According to the Vuntut Gwich'in First Nation, the BLM failed to acknowledge, consult, or provide reasonable opportunities for Canadian First Nations to participate in the draft EIS processes[12]. In their submission, they requested not only that the BLM correct the deficiencies of the draft EIS but also that BLM acknowledge and engage the Vuntut Gwich'in First Nation and other Canadian users' groups of the Porcupine caribou herd[13].

The Government of Yukon, together with the governments of Canada, the United States, Alaska, and the Northwest Territories have been working on Porcupine Caribou herd matters since 1987 through the International Porcupine Caribou Management Board (PCMB). The PCMB has been monitoring and gathering data on the herd. The PCMB claims that the 1002 Lands are a caribou birthing and rearing area and therefore critical for the welfare of the herd[14]. PCMB asked that a review be provided, as per the 1987 *Agreement Between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Hear.*[15]

The Porcupine Caribou is at the heart of the Vuntut Gwich'in culture. The Porcupine Caribou serve additionally an important role in the subsistence economy[16]. The Porcupine Caribou has occupied the Traditional Territory of the First Nation for thousands of years and has been an important sustenance for its peoples[17]. The Vuntut Gwich'in First Nation fears that the proposed oil and gas leasing program in the Coastal Plain will result in environmental pollution, and habitat disturbance that would lead to long-term instability in the Porcupine

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[11] Pauline Frost - Department of Environment, Government of Yukon, "Scoping Phase Comments-Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement"(June 18 2018) online: *The Government of Yukon* <https://yukon.ca/sites/yukon.ca/files/env/env-anwr-scoping-phase-comments.pdf> *at 2, 6* [Government of Yukon - 2018].

[12] Vuntut Gwich'in Government, *supra* note 5 at 2.

[13] Vuntut Gwich'in Government, *supra* note 5 at 2.

[14] PCMB 1002, *supra* note 7.

[15] Government of Canada, "Agreement Between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd" (July 17 1987), online: *Government of Canada, Global Affairs Canada* <www.treaty-accord.gc.ca/text-texte.aspx?id=100687>.

[16] Vuntut Gwich'in Government, *supra* note 5 at 4.

[17] *Ibid* at 1.

caribou herd[18]. They claimed that a threat to the Porcupine caribou herd's health would be a threat to the Vuntut Gwich'in's physical, cultural, and spiritual survival. In their review of the draft EIS, they observed that the BLM did not address adequately the issues that the First Nation has previously raised[19]. Furthermore, they claimed that the format and delivery of the draft EIS had barriers to effective inclusion of the Vuntut Gwich'in First Nation and that accessible materials that could be understood by Elders and citizens were not made available[20].

In March 2019, the Government of Yukon claimed that "given the long history of cooperative management for the Porcupine caribou herd, the Government of Yukon is concerned that impacts to Canadian subsistence users are not fully concerned"[21]. The Government of Yukon stated that the draft EIS also failed to provide quantitative data of the impact on the Porcupine caribou herds and that this needed to be corrected[22]. Since Canadian First Nations are the primary users of the Porcupine caribou herd, they will be the most affected. By not providing a quantitative data analysis of the impact to Porcupine Caribou of the project alternatives, the BLM failed to account for the transboundary impacts[23].

The Alaskan Bureau of Land Management released its final EIS in September 2019[24]. That EIS does not engage with impacts on the Vuntut Gwich'in. Thus, while developments saw significant claims to transboundary Indigenous consultation, such consultation has effectively not occurred or even received full consideration as a further step in aligning policy development with respect for Indigenous rights.

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[18] *Ibid* at 12, 13.
[19] *Ibid* at 2.
[20] *Ibid*.
[21] Government of Yukon," Appendix 1: The Government of Yukon's comments on the Coastal Plain Oil and Gas Leasing Program draft EIS" (March 12 2019, online: *Government of Yukon* < *https://yukon.ca/sites/yukon.ca/files/env/env-appendix-1-yg-comments-cpoglp-draft-environmental-impact-statement.pdf* > at 4 [Government of Yukon – 2019].
[22] *Ibid.*
[23] Joe Tetlichi, "Porcupine Caribou Management Board Comments on Coastal Plain Oil and Gas Leasing Program Draft Environmental Impact Statement" (March 13 2019), online; *Porcupine Caribou Management Board* <www.pcmb.ca/PDF/EIS/PCMB%20response%20to%20BLM%20re%20EIS%20w%20Appendix.pdf> at 1, 2.
[24] US Department of the Interior Bureau of Land Management, "Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement: Final" (September 2019), online: *U.S. Department of the Interior Bureau of Land Management* <https://eplanning.blm.gov/epl-front-office/projects/nepa/102555/20003762/250004418/Volume_1_ExecSummary_Ch1-3_References_Glossary.pdf>.

Alaska Indigenous Tribes Raise Human Rights Issues Concerning Developments in Canada

On the other side of the border, the Southeast Alaska Indigenous Transboundary Commission (SEITC) filed a human rights petition with the Inter-American Commission on Human Rights (IACHR) in December 2018[25]. SEITC is an association of fifteen tribal nations located in Southeast Alaska. SEITC claims that both Canada and the province of British Columbia have failed to consult with them during the approval or permitting of mine development in British Columbia[26]. SEITC also claimed that the governments in Canada have not conducted or requested environmental assessment of the mines' transboundary impacts of the watersheds[27].

The mines that concerns the SEITC are hard-rock mining and large-scale industrial projects. Of those mines, four are proposed in the upper sections of the watersheds in British Columbia and two are already operating[28]. The SEITC claims that the mines will produce great quantities of toxic waste products that cause a pollution threat to downstream ecosystems[29]. Those ecosystems are significant for fish populations that the SEITC communities relied upon for their subsistence and cultural identities[30].

The SEITC are asking that the IACHR "1) [conduct] an ongoing visit to investigate and confirm the threats to the Southeast Alaskan Native communities from the B.C. Mines; 2) hold a hearing to investigate the claims raised in this petition; and 3) prepare a report setting forth all the facts and applicable law, declaring that Canada's failure to implement adequate measures to prevent the harms to Petitioners from the British Columbia mines violates rights affirmed in the American Declaration of the Rights and Duties of Man"[31].

Southeast Alaska Native Communities depend on the Taku, Stikine, and Unuk watersheds[32]. These watersheds are biodiverse and contained many species of fishes that have been "historical staple commodities" for Native communities[33]. The tribes' traditions, food supplies, subsistence, and survivals are tied to the fish populations, and the watersheds are

[25] SEITC Petition, *supra* note 6.
[26] *Ibid* at 3.
[27] *Ibid* at 1-4.
[28] *Ibid* at 1.
[29] *Ibid.*
[30] *Ibid* at 2.
[31] *Ibid* at 3-4.
[32] *Ibid* at 1, 2, 5.
[33] *Ibid* at 1, 2, 5.

sacred for those communities[34]. Salmon and eulachon support subsistence among the Southeast Alaska Native communities[35]. These species are also central to the maintenance of their cultural identity[36]. The sharing of the fish harvests with elders and others is an important part of strengthening cultural and social connections[37].

Canada has not been subject to many petitions before the Inter-American human rights system[38]. However, it is subject to receiving recommendations from the Inter-American Commission. This petition has not yet been addressed, so it remains to be seen if the southeast Alaskan tribal nations have found an effective route to a remedy. In any event, though, the filing of the petition illustrates further calls concerning transboundary consultation.

Paths Forward on Transboundary Indigenous Consultation

These recent developments illustrate the call for transboundary Indigenous consultation where the actions of one state may affect Indigenous peoples located across an imposed state boundary. Such issues are of particular salience in the Arctic, with certain Indigenous peoples themselves spanning the multiple states – notably, the Sami and the Inuit, each of which is an Indigenous people reaching across four states. As development continues on Indigenous consultation generally, it will be necessary to consider approaches to transboundary Indigenous consultation.

A case accepted for hearing at the Supreme Court of Canada in the coming year illustrates one way in which such issues might come to be considered, but in potentially unstructured ways. This is the *Desautel* case on which the Court granted leave to appeal from the lower court decision in October 2019[39]. The case concerns an American citizen who claimed hunting rights in British Columbia protected by the Canadian constitutional provision on Indigenous rights, with his claim based on membership in an American tribal community that had a prior presence in Canada but that had gradually been excluded from Canada in the late nineteenth and earlier twentieth centuries. At one level, the case will be a determination simply about the hunting rights of a particular community.

[34] *Ibid* at 2.
[35] *Ibid* at 8.
[36] *Ibid* at 10, 41, 42, 44.
[37] *Ibid* at 10.
[38] See Bernard Duhaime, "Canada and the Inter-American Human Rights System: Time to Become a Full Player" (2012) 67 [Canadian International Council] International Journal 639.
[39] *R. v. Desautel*, S.C.C. Docket No. 38734.

However, at a broader level, it speaks to whether Indigenous persons and peoples resident outside of Canada can claim rights protected under the Canadian constitution for the "Aboriginal peoples of Canada". Implicitly, if there can be such claims, the Canadian legal doctrine on duty to consult would then seem to extend consultation obligations routinely into various transboundary contexts, requiring Canadian federal and provincial governments to carry out formal duty to consult activities with Indigenous communities located outside Canada that might have rights claims in Canada. The practical consequences are substantial, but any judicial pronouncement would face severe challenges in structuring those consequences coherently and in ways not posing complex foreign relations issues.

A surely preferable alternative would be to see Arctic states and Indigenous peoples engage in meaningful discussion and negotiations about various transboundary Indigenous rights issues, including protocols for transboundary consultation. The *Nordic Sami Convention,* with a recently reached final text and thus now subject only to final ratification, powerfully illustrates the possibility of reaching appropriate approaches on Indigenous issues that reach across state boundaries. However, such negotiations do require political will and the allocation of agenda time and political capital. There must be an ongoing call on Arctic states to live up to their responsibilities on Indigenous rights, and a recognition that these Indigenous rights issues may have transboundary dimensions as powerfully illustrated in some recent developments.

Intellectual Property and International Climate Research: The Influence of Intellectual Property Rights Regulation on Overcoming Environmental Issues in the Arctic Region and Globally

Vladimir Troitskiy[*]

In 2014, the 5th Assessment Report was submitted by the Intergovernmental Panel on Climate Change (IPCC), which confirmed that global climate change is indeed taking place. The report points at negative effects of climate change, particularly, "an increase in the incidence of extreme weather events and natural disasters, changes in sea level, floods, abnormal temperatures, droughts, desertification, lack of water, and the spread of tropical and infectious diseases" [5]. These phenomena represent direct and indirect threat for human rights throughout the world, including such basic rights as right to life, safe, acceptable, accessible and affordable water, food, health, as well as self-determination, culture and development. Since 1970s scientists started reporting climate changes in the Arctic region. Arctic warming is causing changes to sea ice, snow cover, and the extent of permafrost in the Arctic, which is a strong influence factor for global climate changes. To study these phenomena, ecologists need a huge amount of climate data. The Earth is an integrated system and climatologists are running an ongoing analysis of measurements and observations from land, sea and airspace around the globe to distinguish climate change from normal weather deviations [6]. No national or even international scientific team can collect sufficient data on its own. In this regard, climate scientists must constantly share technical information with each other, as well as look for ways to obtain data from the agencies and organizations that own such data.

Intellectual property laws in most countries grant set of exclusive rights to data owner including the right for legal protection against persons who use data without permission. In most cases, such protection is assigned automatically, with no need to fulfill any formalities. In some cases, IP rights are obtained in accordance with a contract or through registration process.

The exchange of climate data for research purposes is often regulated by public law (national or international) because it obviously affects public interests. According to the Agreement

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on Enhancing International Arctic Scientific Cooperation, the Parties recognizing the importance of such public values as maintaining peace, stability, sustainable use of resources, economic development, human health, and environmental protection took obligations "to support full and open access to scientific metadata and encourage open access to scientific data and data products and published results with minimum time delay, preferably online and free of charge or at no more than the cost of reproduction and delivery"[24].

However, the international exchange of environmental information remains a complex and multifaceted problem regionally and globally. Researchers are often willing to share their data, but they lack infrastructure needed to present information in appropriate format [11]. "Scientific competition" is also an obstacle for information exchange [10]. National security, state secrets and political reasons are other factors making the exchange of geospatial data extremely complex [5].

Intergovernmental organizations and state governments provide much of the climate data by making it available to the public or through mechanisms granting data access to research centres. For example, open data can be obtained through the United Nations Intergovernmental Panel on Climate Change [4]. Three intergovernmental organizations - WMO (World Meteorological Organization), UNESCO, represented by the Intergovernmental Oceanographic Commission (IOC), the UN Environment Programme (UNEP) together with an NGO - The International Science Council have established a global climate monitoring system to collect and provide access to global climate information, including physical, chemical and biological data, and information on atmospheric, oceanic, hydrological, cryosphal and terrestrial processes. International organization - Group on Earth Observation (GEO) was established to promote ideas, principles and technologies facilitating space and terrestrial observation data access and exchange. The World Meteorological Organization plays a key role in the exchange of weather and climate data at the global level. Mechanisms to access climate data at the regional and national levels have also been actively developed in recent decades. There are number of mechanisms elaborated by the Arctic Council to facilitate information exchange. Agreement on Enhancing International Arctic Scientific Cooperation, concluded between the Arctic Council Member States was another step forward facilitating data collection, access and exchange. Several programs, initiatives and organizations providing access to climate data in the Arctic made a great progress, among

them Sustaining Arctic Observing Networks, the International Arctic Science Committee, the University of the Arctic, the Forum of Arctic Research Operators and other.

Due to extreme importance of the Arctic region for global climate as well as specific status of the Arctic in international law, national data "owners" are more open for sharing data with scientist from around the world. National data centers provide convenient tools for scientists and researchers.

However, there is still lot of progress to be achieved. The rules and tools granting data access to climatologists often get into contradiction with rules granting exclusive rights to intellectual property owners which forms a web of complicated contradictions between private and public as well as national and international regulations. This article will focus on some specific initiatives to improve data sharing by encouraging public access to the climate data, as well as universal recognition and protection of the right to reuse data for research purposes.

Let us distinguish two forms of international scientific data exchange: access and use. Depending on the nature of the data and the technical way in which access is granted, such legal relations are only sometimes subject to the regulation by intellectual property law. These are cases when data is subject to trade secrets, or it can be protected in whole or partially by copyright. The use of classified climate data is clearly the subject of intellectual property law regulation. The creator (author) or owner of the database may own the copyright to its structure or user interface. The specifics and volume of environmental information makes it almost impossible to store the data in a "raw" (unclassified) form, and as a result, copyright rules must be considered for any use of climate data. The key criterion for legal protection in this case is the creativity factor and originality. The U.S. Supreme Court has stated that a telephone directory cannot be protected by copyright law because the phone numbers and addresses are "facts" and are not the result of the authors' creative work [12]. In addition, the selection and classification of facts does not meet the requirement of originality, as the way to organize records in alphabetical order by name does not contain even a small degree of creativity. Thus, the originality criterion prevents copyright from being applied to databases that use standard methods of classifying information, such as alphabetical or numerical order.

However, the law in many countries recognizes as copyright objects the non-exhaustive databases, like collections of selective data. (E.g.: 2019 Fifty Best Moovies, Best Restaurant Ranking, etc.). It is prohibited to copy and publish such

data collections without permission of copyright owner. Though it is permitted to use such collections as reference material to create own compilation. In addition, some doctrine sources are insisting on excluding data collections and systems from copyright protection if the nature of the data or idea is sourced from a very limited number of expression or classification options [15].

Software used as part of the database or its interface is also protected by copyright. Hence, same database may contain several copyright objects, as well as elements that are not protected by copyright.

Particular attention should be focused on the legal nature of satellite images. For example, due to satellite data we know for sure that over the past 30 years, Arctic sea ice cover has declined by 30 percent in September, the month that marks the end of the summer melt season. Satellite data also shows that snow cover over land in the Arctic has decreased, and glaciers in Greenland and northern Canada are retreating. These are only few examples. Satellite images are made through a complex technical process "involving remote satellite sensors recording of long electromagnetic spectrum waves. This recordings in an unprocessed digital format are transmitted to Earth servers where data is preliminary processed using an algorithm comparing new data to previously existing geospatial data" [7]. In some cases, additional automated or non-automated image processing is used. As mentioned above, a satellite image is protected by copyright only if it has a creative component in the way it is presented. Whether satellite image is subject to copyright protection is a matter of disputes. In 2005, for example, the German Federal Supreme Court stated that the owners of satellite images did not have copyright [25]. A year later, several French courts stated that satellite images could be subjects to copyright protection, albeit with significant restrictions. To put it more simple, we can say that from legal standpoint in most countries minimally processed satellite images are not subjects to copyright protection.

Normally copyright protection appears automatically at the moment "the work" is created in an objective manner. No formal registration is requested. Exceptions apply. Several countries have mandatory registration rules for some types of creative objects (Turkey), other have voluntary registration procedures for all or some creative objects (Albania, Argentina, Brazil, USA, Russia and Canada). The qualification (volume) of the author's (creator's) rights are, with minor exceptions, similar all over the world. Normally, the right to allow reproduction or copying applies to both straight reproduction and the creation of works similar to the degree of confusion. Copying the database while

downloading information, if a copy of the database is made temporarily and exclusively to facilitate extraction of data from the standpoint of juridical qualification is puzzling. It is unclear whether such use can be considered a reproduction. The answer to this question depends on whether a copy of the database structure is retained on the user's computer drive or not. If a copy is created on the operational disk temporarily and automatically deleted and the memory storage period counts to few seconds, such use is normally not considered a reproduction [20]. If the database is stored on the disk and used as an access interface to the information, such use is to be considered a reproduction. Climate information is complex, requires structural mechanisms of collection and reference, otherwise it becomes a useless set of numbers [17]. Hence in real life any access to large amounts of climate information is associated with the need to acquire the right to use (license) the database structure, which significantly limits international exchange of climate information.

On a national level this problem is partially resolved by copyright restrictions. Continental Europe, Russia, Japan and a number of other countries adopted legal exceptions for private copying of certain types of databases for special categories of users, such as research or educational institutions. The United States and United Kingdom develop a "fair use" doctrine that allows certain uses of copyrighted works without permission. The US doctrine explains this approach by the nature and purpose of use of copyright objects for research purposes which is to public benefit.

Climate change research requires observation data over a long period of time, tens and even hundreds of years. The IP protection term extension is becoming a problem for getting retrospective data. In accordance with the 1886 Bern Convention for the Protection of Literary and Artistic Works [1] and the 1952 World Copyright Convention [2], copyright protection covers at least 50 years period after death of the author. Some countries, including the United States and many EU members, have increased this period even further, to 70 or 75 years. In some cases, the term is extended even longer. Under U.S. law, certain copyright objects originally created in the service work mode may have a copyright protection period of up to 120 years [13].

Legal uncertainty related to retrospective climate data status often prevents its exchange. In case the necessary data is obtained 50, 70 or more years ago, it may be simply impossible to locate the owner and get his permission.

The consequences of violating copyright on climate data vary significantly in different jurisdictions and may lay in the

fields of civil, administrative and criminal law. The owner whose rights are violated has the right to recover from loss of profits caused by unauthorized database use. Climate researcher's activity is normally non-profit and such sanction is hard to apply. But substantial fines stated in legislation of some countries are a problem. For example, in the United States, a copyright holder may claim a fine for violation of his copyright, which could range from $750 to $30,000 for each violated copyright, and if the infringement has been intentional, the fine may rise to US$150,000 [18].

EU database regulation has number of specific features. The 1996 Directive on The Legal Protection of Databases 96/9/EC [3] requires member-states to limit the use of copyright to climate data and apply copyright solely to the original database structure, while urging governments to enact regulations authorizing database owners to monitor the copying of non-copyrighted information. Art. 7 of the Directive specifies the conditions for granting this kind of rights to database owners, who according to the Directive are supposed to invest substantial resources in obtaining and classifying data. All EU member-states as well as some EU trading partners have implemented such rules into their legislation. Art. 7 is highly likely to be applied to Climate data. Under this regulation, the owner of the database may make claims to persons who make unauthorized use, copying, transferring to third parties, and reusing the structure of the database or its essential part. The essentiality criteria are both quantitative and qualitative.

In 2005, the European Commission conducted a study on the influence of the 96/9/EC Directive on legal protection of databases, the analysis demonstrated that the directive was significantly slowing international cooperation of scientists [14]. The Commission proposed four options for addressing the problem: (1) to cancel entire Database Directive; (2) Partially cancel it in regards to empowering database owners to monitor the copying of information, but keeping in force provisions protecting IP rights for creative components of databases; (3) to clarify the scope of application: limit database owners' rights to monitor the use of non-copyrighted information; (4) maintain the status quo. Discussions within European structures on these topics continue, and the directive is in effect as of the November 2019.

Fortunately for climatologists, on the international political level governments generally recognize that broad application of IP rights to databases can negatively affect climatologist's research efforts [5]. On the 37th session of the Standing Committee on Copyright and Related Rights of WIPO held in

November 2018 in Geneva, Switzerland, a report on the progress in implementation of the "Plans for Action on Restrictions and Exclusions for the Period up to the 39th session of the SCCR" was presented, which confirmed the position to exempt educational and scientific institutions, libraries and a number of other non-profit entities from those required to comply with copyright protection rules. Unfortunately, some sets of climate data may be of commercial value and mentioned exceptions may not be applicable [9].

As mentioned above in some countries there is special regulation for environmental information. Normally, such rules apply to data collected and stored by government or public funds, and provide open access to such data for non-commercial purposes with restrictions to be used for public benefits.

However, despite some efforts taken by states to restrict the application of IP protection to environmental data, the problem is not resolved meanwhile global climate threats keep increasing. The efforts taken by specialized international organizations are mostly limited to discussions on the forms and limits of such restrictions. The Agreement on Enhancing International Arctic Scientific Cooperation though encourages governments to facilitate data access and exchange for research and educational purposes, qualifying it as a matter of public interest, immediately returns the status quo by provision of Art. 3 that "parties shall, where appropriate, ensure effective protection and fair allocation of intellectual property rights, in accordance with the applicable laws, regulations, procedures, and policies as well as the international legal obligations of the Parties"[24].

Civil society is taking active steps to make progress seeing free climate data exchange as part of a human right to comfortable environment. In recent years, EU and US courts have begun to process three landmark cases directly related to global warming and sharing environmental information. Judicial watch, Inc. v. United States Department of Commerce was brought in 2015 - 2017 before US District Court of Justice [23]. The plaintiff, citing the Freedom of Information Act and the U.S. Constitution, demanded access to climate information subject to the IP rights of the National Oceanographic and Atmospheric Administration (NOAA). According to plaintiff's stance the lack of such access threatens the ability to timely react to climate change and thus violates the human rights to a safe environment. The Court generally took the Plaintiff's side with reservation that access to information should be granted whenever climate data could be separated from other IP rights. In May 2018 families from 10 European countries and a Finnish NGO, filed a

lawsuit against the European Union to the European Court of Justice [21]. The plaintiffs accuse the EU authorities of violating the environmental policy of the association and basic human rights and demanded the accelerated adoption of several acts' drafts targeted to limit the negative impact on the environment of industrial enterprises and ensuring open access to data resulting from monitoring the effects of global warming. On November 3, 2018, the Supreme Court and the Ninth U.S. Circuit Court of Appeals denied the U.S. government's request to reject the lawsuit of a group of young people supported by an ecologist NGO (Juliana vs. United States) [22]. The government referred exclusively to procedural grounds justifying its claim. The plaintiffs accuse the U.S. of deliberately misrepresenting climate data through application of IP laws and hence denying access to the data, which ultimately leads to, increased CO2 emissions and endangering lives, health and environmental well-being in the country.

Conclusion

IP laws applicable to climate data without doubt create obstacles to scientific research by restricting access to the use of information and, as a result, making climatologists' efforts to solve global environmental problems less efficient. Part of the problem is being addressed by policies pursued by a number of states and international organizations to provide open access to data obtained by state-run scientific centers or entities using government financing. The Arctic is on a forefront of international cooperation of ecologists and access to regional climate data is significantly facilitated by national and international regulations as well as open data access provided by various governmental agencies and their subsidiaries. However, without direct regulatory restrictions on the IP rights application to climate data, restrictions or bans on climate information access will keep being a problem. The removal of classified climate data from the list of copyright protected objects on national and international levels could become an important step in resolving global climate problems. Creating internationally recognized common technical standards for climate data collection and processing as well as developing standard software solutions available for free use to researchers around the world could be additional measures facilitating exchange of climate data. Examples of such measures already partially implemented can be found in the Agreement on Enhancing International Arctic Scientific Cooperation, which determined commonly accepted standards, formats and protocols as tools of facilitating data exchange requested to be implemented by the governments [24].

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Nothing About Us Without Us: Impressions of the Skábmagovat Film Festival*

*Rozelien Van Erdeghem***

Recently, the Sámi Parliament in Inari (Finland) passed a decision implementing a procedure to require the free, prior and informed consent of the Sámi in research projects on Sámi cultural heritage and traditional knowledge, as well as other measures that have or may have an impact on the Sámi cultural heritage and traditional knowledge[1]. This decision by the Parliament represents the increasing activism around the Indigenous right to self-determination and Indigenous representation in decision-making processes, which include the ability to define the narratives surrounding their culture and cultural heritage. This activism has also been present in the art scene, with Canadian filmmakers starting a movement using the slogan 'nothing about us without us'[2]. In January 2019 I had the chance to experience one of the most northern film festivals in Europe: Skábmagovat in Inari. Along the lines of the law recently passed by the Sámi Parliament A.L. Utsi, the Director of the International Sámi Film Institute, wrote the following:

"Indeed, it is essential that Indigenous peoples themselves can tell stories through their films, because it enables us to define, through our films, our past, present and future as well as who we want to be."[3]

In this essay, I will discuss how Indigenous peoples[4] of the Arctic are using art for cultural self-determination

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[1] Available at: https://www.samediggi.fi/wp-content/uploads/2017/08/menettely_saamelaisten_suostumuksen_tiedustelemiseksi.pdf (Accessed 17 February 2019).

[2] The 'nothing about us without us' movement, or in Latin *nihil de nobis, sine nobis*, can be traced back to the 16th century. In 1505, Poland adopted the Nihil Novi law, making sure that the noble men were involved in the decision making of the country after discontent because of their exclusion. (http://polishfreedom.pl/en/document/on-not-laying-down-the-constitutions-without-consensus-of-the-counsels-and-envoys-nihil-novi, accessed 17 February 2019). The disability movement started using the slogan from the 1990s, claiming that people with a disability themselves should be central in decision making, aiming at a society where full equality and inclusion is possible. (https://www.huffingtonpost.com/entry/nothing-about-us-without-us-mantra-for-a-movement_us_59aea450e4b0c50640cd61cf?guccounter=1,accessed 17 February 2019). The slogan is widely used by other activists too.

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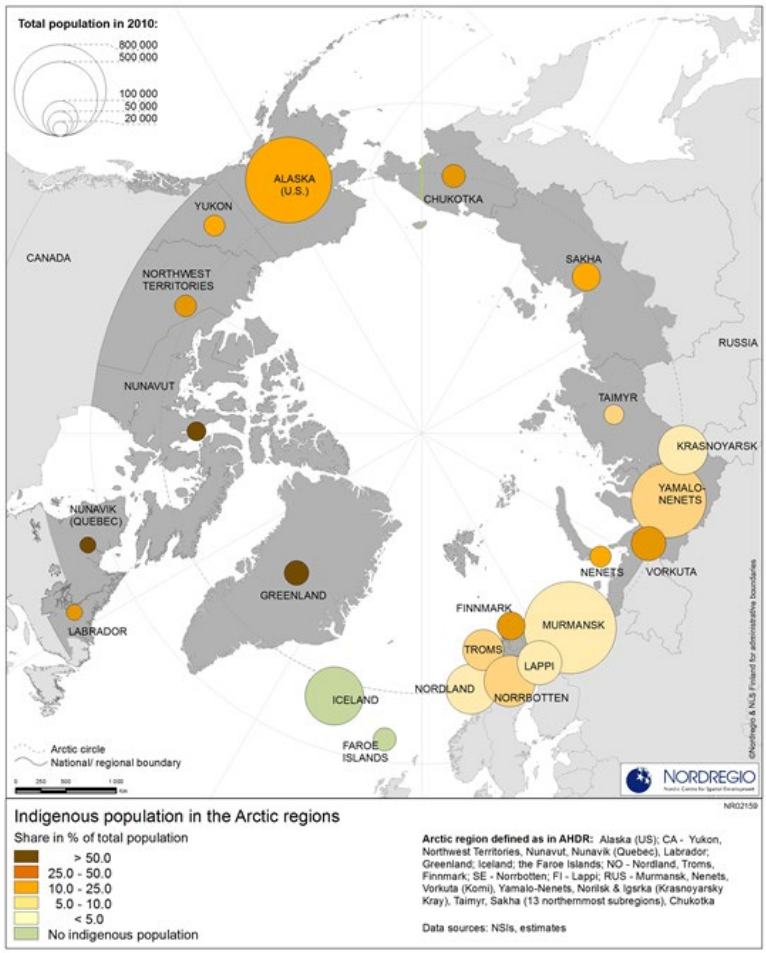
by reflecting upon my experience on the Skábmagovat film festival.

Who are the Indigenous peoples of the Arctic?

The Arctic region consists of both the Arctic Ocean and the parts of the eight countries, which are located above the Arctic circle: Canada, Denmark (Greenland), Iceland, Norway, Sweden, Finland, Russia and United States of America (Alaska). Although the first things coming into the mind of some people who do not live in the Arctic region when thinking about the Arctic region are snow, coldness, darkness and other features that would make the place unliveable according to them, the Arctic region has been a home to people for over 10 000 years[5]. Yet, because of harsh weather conditions and other environmental challenges, it is one of the most sparsely inhabited areas of the world. It is estimated that approximately four million people live in the Arctic region and the proportion of Indigenous peoples is estimated to be ten percent[6]. However, Inuit, Métis and First Nations peoples comprise half of the total population of the Canadian Arctic, and in Greenland, Inuit are the majority[7]. There are roughly 40 ethnic groups living in the Arctic region, including Indigenous peoples such as the Inuit in Labrador, the Nenets in Russia and the Sámi in Norway, Sweden, Finland and Russia[8].



Source: http://archive.nordregio.se/en/Maps/01-Population-and-demography/Indigenous-population-in-the-Arctic/index.html

Although there is a diversity both across Indigenous peoples themselves and in

[5] https://arctic.ru/population/ (Accessed 17 February 2019).
[6] https://www.arcticcentre.org/EN/communications/arcticregion/Arctic-Indigenous-Peoples (Accessed 17 February 2019).
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[8] https://www.arcticcentre.org/EN/communications/arcticregion/Arctic-Indigenous-Peoples (Accessed 17 February 2019).

the Arctic states in which they are living, the Indigenous peoples of the Arctic region also share many commonalities. The Indigenous peoples of the Arctic region have a shared history of oppression under colonisation, cultural destruction and discrimination, including by enforcing boarding schools to 'civilise' the Indigenous peoples[9]. The legacy of colonisation is still present today, and the Indigenous peoples are confronted with narratives defining them as 'uncivilised people', who need to lose their Indigenous culture to become fully human[10]. On the other hand, besides the negative vision on the Indigenous culture in the Arctic, an exoticisation and a romanticisation of Indigenous peoples take place. Throughout time, non-indigenous authors have used caricatures and tropes of Indigenous culture in books and movies. The stories, for example, portray Indigenous peoples as the 'noble savages' by using elements of Indigenous culture without knowing or respecting these elements[11]. The non-indigenous stories create a false narrative or caricature of the real identity of the Indigenous peoples in the dominant narrative without consultation or recognition of the Indigenous peoples' struggles and history of oppression under colonisation. This can partly be described as cultural appropriation, which is defined as "the adoption of elements of a minority culture by members of the dominant culture. It is distinguished from equal cultural exchange due to the presence of a colonial element and imbalance of power"[12]. One well-known example is the books of the German author Karl May about Winnetou, a Native American warrior fighting evil together with his non-native comrade Old Shatterhand[13]. Although this story is not about the Indigenous peoples of the Arctic, it is a good example to demonstrate the cultural appropriation of Indigenous culture and the disrespectful romanticisation of Indigenous peoples. This is also considered to be neo-colonial, with filmmakers taking the collective intellectual property of the Indigenous peoples for own usage without

[9] For example: the Nenets in Russia, 2016, available at https://www.nationalgeographic.com/photography/proof/2016/04/28/nenets-russia-boarding-school/ (Accessed 17 February 2019).

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[13] These books were made into a very popular film, the first one in 1965: https://www.youtube.com/watch?v=OKoOY-QEEuI (Accessed 17 February 2019).

permission or without respecting the property and using these false or harmful narratives in the dominant narratives[14].

Cultural self-determination, what's in a name

The act of non-indigenous authors using Indigenous culture and knowledge in their stories is a complex topic that can only partly be explained with the concepts of cultural appropriation and neo-colonialism. Other concepts, such as misappropriation of Indigenous knowledge and culture, and racism, are also relevant in this context. I decided to focus on cultural appropriation in this article, because that was the most apparent to me during my reflections upon the film festival. However, when talking about harmful narratives of non-indigenous authors about Indigenous peoples, it is important to acknowledge that it is a complex phenomenon with various factors at stake.

In the following part, I will take a closer look at romantic and stereotypical stories like the one about Winnetou with a human rights lens. Essentially, one of the underlying human rights issues with stories like the ones discussed before, concerns self-determination, more specifically cultural self-determination. Self-determination is an important and vital human right for Indigenous peoples. Therefore, it is relevant to know what 'cultural self-determination' means, and what makes it so important. Where can we find this concept in the human rights framework, and how should we understand it? It must be remembered that all human rights are interrelated and indivisible, and the right to self-determination is no exception to that. In practice, this means that we can combine several human rights instruments to come to the interpretation and the meaning of the concept. Common Article 1.1 of the International Covenant on Economic Social and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR) recognise the right of self-determination of all peoples:

"All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development."[15]

In the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the right of Indigenous peoples to freely determine their cultural development

[14] An interesting documentary about the thin line between cultural admiration and cultural appropriation was also shown at the film festival: Searching for Winnetou (2018) by Drew Hayden Taylor.

[15] International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171, Article 1.1.

and to revitalise cultural traditions and customs is recognised[16]. The UNDRIP also acknowledges the right to "maintain, control, protect and develop" their cultural heritage, traditional knowledge and traditional cultural expressions, including concerning visual and performing arts[17]. "They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions."[18] Understanding the meaning of cultural self-determination shows why this concept is so important to Indigenous peoples in the context of filmmaking and cultural appropriation. Cultural self-determination means that Indigenous peoples have the right to maintain, control, protect and develop their culture, something which was historically oppressed during colonisation. Cultural self-determination is the recognition, by both Indigenous and non-indigenous people, that Indigenous peoples are the agents of their own culture. The right to cultural self-determination prescribes that Indigenous peoples should be able to be at the centre of filmmaking generally, but even more (and maybe exclusively) at the centre of movies about Indigenous culture. Cultural self-determination is about cultural diversity and about creating a truly equal and inclusive society.

Cultural self-determination is exactly at the core of the recent movement by Indigenous Canadian filmmakers. They started adapting the phrase 'nothing about us without us' to highlight the need to put Indigenous peoples' voices and artists at the centre of Indigenous storytelling, be it by the use of movies, theatre or books[19]. It has been called the 'new wave' of Indigenous cinema[20]. In 2017 Jesse Wente, a broadcaster and Director of Film Programmes for Toronto International Film Festival, gave a speech at the annual conference of the Canadian Media Producers Association. During his speech, he focussed on the need of Indigenous stories to be told by Indigenous peoples. He said: "Our stories are our survival. That is why it is so important to us that we get a chance to tell them ourselves. That is why some of us are lobbying – hard – for dedicated funds to tell our stories. Because for us, this isn't about making a movie deal or

[16] United Nations Declaration on the Rights of Indigenous Peoples (adopted 13 September 2007) A/61/L.67 and Add.1, Article 3, 5 and 11.1. Hereafter: UNDRIP.
[17] Article 31 UNDRIP
[18] Article 31.1 UNDRIP
[19] https://www.theglobeandmail.com/arts/film/canada-needs-to-give-indigenous-stories-the-platform-they-deserve/article34046186/ (Accessed 17 February 2019). See footnote 3 for the origins of the slogan.
[20] https://www.cbc.ca/news/indigenous/indigenous-film-panel-jackson-arnaquq-baril-wente-mccue-1.4704637 (Accessed 17 February 2019).

getting a network series, this is about our survival, and Canada's – because if you think this nation can exist without Indigenous people, then you just haven't been paying attention"[21]. According to him, reconciliation is about understanding that "consultation is not consent, and this notion applies not just to pipelines and mining operations, but to our stories as well"[22].

Skábmagovat film festival

In the same spirit as the recent Canadian movement, the Skábmagovat film festival 2019 focuses on the cinema of Arctic Indigenous peoples and the need for Indigenous peoples themselves telling their stories through film. This year's slogan was "From the Arctic with Decolonial Love". The festival focuses on the significance of dialogue, solidarity and cultural significance between the Indigenous peoples of the Arctic and universal love[23]. In what follows, I would like to give an overview of the things I saw happening during the film festival. The following is a personal account of my experiences, and should not be taken as speaking broadly about the experiences others at the festival may have had.

First, I will give a short background of this unique film festival. Skábmagovat is one of the oldest Sámi film festivals and one of the oldest Indigenous film festivals, celebrating its 21st edition this year[24]. The film festival takes place in Inari, Finland. Almost one third of the citizens of Inari are Sámi and the municipality uses four official languages: Northern Sámi, Inari Sámi, Skolt Sámi and Finnish[25]. The film festival takes place at two locations: Sajos and SIIDA. Sajos is a cultural administrative center that houses the Sámi Parliament. The Parliament is a self-governed body that aims to plan and implement cultural self-governance of the Sámi as Indigenous peoples[26]. SIIDA is a museum exhibiting Sámi culture and the nature of Northern Lapland. The museum also has an open-air theatre, the "Northern Lights Theatre", which is made of ice and snow for the Skábmagovat film festival.

[21] https://www.theglobeandmail.com/arts/film/canada-needs-to-give-indigenous-stories-the-platform-they-deserve/article34046186/ (Accessed 17 February 2019).
[22] https://www.theglobeandmail.com/arts/film/canada-needs-to-give-indigenous-stories-the-platform-they-deserve/article34046186/ (Accessed 17 February 2019).
[23] http://skabmagovat.fi/skabmagovat_2014/?page_id=189 (Accessed 17 February 2019).
[24] http://skabmagovat.fi/skabmagovat_2014/?page_id=11368 (Accessed 17 February 2019).
[25] https://www.inari.fi/en/information.html (Accessed 17 February 2019).
[26] https://www.samediggi.fi/task/?lang=en (Accessed 17 February 2019).

Inari municipality and Inari city.
Source:
https://www.inari.fi/en/information.html

Skábmagovat provides an accessible platform to screen Indigenous films and to actualize the concept of cultural self-determination, a concept that is more than just existing on paper. It creates many opportunities for both Indigenous and non-indigenous people to experience Indigenous culture and to understand cultural self-determination. Skábmagovat is also a platform to create a variety of dialogues, and I will demonstrate this by sharing and discussing my experiences during the film festival.

One of the most prominent activities at Skábmagovat were the numerous dialogues created about the past, present and future of Indigenous peoples of the Arctic through films and conversations about these films. 'Daughter of the sun', a short movie by S. M. Oskal, painfully displays how openly discriminatory and racist the society was against Sámi in the past and is even still today. Through the eyes of a Sámi woman, the audience sees how this affects a person in the past and the present. The documentary 'WE UP!: Indigenous Hip-Hop of the Circumpolar North' by P. N. Hensley and D. Holthouse is a surprising documentary about Indigenous hip-hop. Through hip-hop, Indigenous peoples of the Arctic have found a new platform to discuss Indigenous issues like the fight for languages and rights. The documentary both introduces the young artists and their motivation to engage in utilizing hip-hop as a medium. It also shows the creation of an Arctic hip-hop ensemble, WE UP!, with Indigenous artists from all over the Arctic region working together. Throughout the movie, it becomes clear that they sing about similar issues in different languages and that hip-hop is a way to address this and to connect. 'Through reindeerherder's eyes' by A. Paltto is a documentary about the recent increase in the number of reindeer being killed by northern predators like wolverines in Finland. One of the ways Sámi sustain themselves is through reindeer herding, which is dependent

upon the well-being of their herd. Although the Finnish state provides compensation for the reindeer killed by predators, the procedure for documenting in order to receive compensation is not adapted to the reindeer herding life itself. Compensation is, for example, only given when the herder finds the dead reindeer, but when it is not freezing this is almost impossible to do before the reindeer is unrecognisable due to decomposing, considering the vast lands the reindeer roam on[27]. On top of this, acts to protect wildlife have resulted in an increase in predators and thus the killing of the reindeer. Although this has been brought to the attention of the Finnish authorities before, no meaningful intervention has been undertaken so far.

Each film was followed by a discussion with the audience, where questions were asked and the directors spoke about their motivations and experiences behind the story. Often the conversation would continue outside of the theatre. Many of these films moved the audience, who was able to either sympathise or empathise with the struggles or issues presented. Meaningful and necessary conversation was given a much-needed space and time during Skábmagovat. Since the film festival took place in Inari, which is in the Sami cultural homeland, many audience members were either Sámi themselves, or interested in the issues and topics discussed. Therefore, the documentary about the reindeer herding was very relevant to many of the visitors of Skábmagovat. The discussion after the documentary 'Through reindeerherder's eyes' was therefore also one of the most extensive, focusing on the inclusion of Sámi perspectives in the law, the influence of technology, and the meaningful preservation of nature. This discussion was emblematic of how the film festival was creating a space for conversation about the past, present and future of reindeer herding, an important aspect of Sámi culture.

Northern Lights Theatre at Skábmagovat

Besides the many dialogues, Skábmagovat also creates a platform for experiencing and displaying the Sámi

[27] Reindeer have a unique cut in the ear to identify the owner of the reindeer.

and other Arctic Indigenous cultures to people from diverse backgrounds and of various ages. It initiates an opportunity to tell stories to young Indigenous peoples about their background and culture. "As from of narration, cinema is the closest thing to the Sámi way of teaching."[28] There were also performances organised, including from Inari hip-hop artists and joiks, a traditional Sámi way of singing. Skábmagovat creates a meeting place and a hub for new ideas and cultural coalitions. There is the creation of a community where the boundaries between director – spectator, young – old, fade away. It creates an atmosphere of inclusion. Skábmagovat shows that cultural self-determination is not only about setting right how Indigenous peoples were unjustly portrayed in the past. It is also about changing other people's views about Indigenous peoples in the Arctic by taking narratives into their own hands. This idea of cultural self-determination was mirrored in the slogan of this year's film festival: "From the Arctic with Decolonial Love".

Decolonial love is a new concept to many people and with the aim of both introducing and explaining it, a panel discussion was organised. The origins of the concept of decolonial love come from Junot Diaz, a Dominican Republican author who describes it as "the only kind of love that could liberate […] from that horrible legacy of colonial violence"[29]. Decolonial love is about social and political transformations and about accepting and acknowledging existing histories. It is "a practice that bears witness to the past while looking towards a transformative and reparative future by unravelling coloniality, the matrix of power that is manifested in our

Poster of Skábmagovat 2019
Source:
http://skabmagovat.fi/skabmagovat_2014/?page_id=189#

[28] Skábmagovat 2019 Festival Booklet p. 53.
[29] http://bostonreview.net/books-ideas/paula-ml-moya-decolonial-love-interview-junot-d%C3%ADaz (Accessed 17 February 2019).

contemporary conceptions of power, gender, and bodies"[30]. Decolonial love is the recognition of the violence of dehumanization and by doing so creating relationships based on love. "Bearing witness to violence, to the past, and even to the present, is central to achieving decolonial reparations."[31] Although decolonial love is not the same as cultural self-determination, both concepts go hand in hand and strengthen each other: cultural self-determination becomes more meaningful when it emerges out of the mind-set of decolonial love and decolonial love could be achieved, among others, through storytelling. Because the concept was new to many people in the audience, the discussion was mainly about explaining decolonial love. Yet, it became clear how relevant this concept could be in the future and how decolonial love could foster the healing process of the legacy of colonial violence.

The power of film

"One of the great acts of decolonization is to create. Make art. Tell stories."[32] That is exactly what one could witness during Skábmagovat: opportunities, stories, debates and memories were created during the festival. Film is a powerful tool: it can both harm and heal; it can both destroy and create. Skábmagovat showed how film can be a medium to heal and create. While colonisation has played a negative role in the experiences of Indigenous peoples in the past, and continues to have a present legacy, Skábmagovat 2019 demonstrated that the future of Indigenous peoples in the Arctic is also one of empowerment and self-determination. By creating conversations about the past, present and future the film festival showed the true meaning of cultural self-determination and decolonial love. Skábmagovat is a film festival that leaves the audience with much to think about, many new impressions but mostly with a feeling of empowerment and the impression that you, as an individual, can make a difference, every day and every moment.

[30] Y. C. Figueroa, 'Reparation as transformation: Radical literary (re)imaginings of futurities through decolonial love', *Decolonization: Indigeneity, Education & Society*, vol. 4, no. 1, 2015, p. 44.
[31] Ibid.
[32] https://www.theglobeandmail.com/arts/film/canada-needs-to-give-indigenous-stories-the-platform-they-deserve/article34046186/ (Accessed 17 February 2019).

Project "Arctic2035" as a Big Step to the New Arctic Russia

Pavel Tkach[*]

1. Introduction

The Decree of the Government of the Russian Federation No. 366 of April 21, 2014 on the State program "Socio-economic development of the Arctic Area of the Russian Federation" required the Ministry for the Development of the Russian Far East and the Arctic to prepare drafts of strategic planning documents defining new goals, priorities and mechanisms of socio-economic development for the Arctic regions of the Russian Federation, as well as revisions of the current state program[1]. This work was to be completed by December 1, 2019. The strategic planning documents include the Russian Federation Arctic Area Development Strategy. In 2014, when the decree above was adopted, there was only one question: for what period should the new strategic planning documents be applicable? In April 2019, the President of Russia, Vladimir Putin, answered that it should run up to 2035. Later, the Ministry for the Development of the Russian Far East and The Project Office for the Development of the Arctic launched a unique forum for cooperation between Russian citizens and state public bodies to identify the biggest concerns of each Arctic Region and to develop ideas for the new Development Strategy. That cooperation took place through an online platform "Arctic2035." This chapter will explain the platform as a project, describe its contribution to the new strategic planning documents, and evaluate its usefulness.

2. Definition and success of the project "Arctic2035"

"Arctic2035" is the result of a cooperation between the Ministry for the Development of the Russian Far East and The Project Office for the Development of the Arctic. It can be defined as an online platform or a bank of ideas where every Russian citizen can propose an idea of the development of the Arctic region of Russia. To participate, one needs to fill out a simple form on the website and briefly describe the essence of your ideas[2]. A proposal of

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[1] The Decree of the Government of the Russian Federation On the State program "Socio-economic development of the Arctic Area of the Russian Federation" [2014] <http://www.garant.ru/products/ipo/prime/doc/70544266/> accessed 14 November 2019 (translation by the author).

[2] https://www.arctic2035.ru/

an idea may be defined as a cooperation process from the private actor's perspective. From a public actor's view, that process may be defined as a realization of the ideas offered by internet users, with a help of private actors. Cooperation will not end after the adoption of the new strategy but will continue through the implementation period. The public actors' engagement in the project takes place through a round-table discussion format of experts in Arctic science and representatives of the regional public bodies. Experts discussed ideas, analyzed issues and prepared proposals for the final document, which will be adopted before the expiry of the current Russian Federation Arctic Area Development Strategy for the period up to 2020. The online platform "Arctic2035" became active from September this year and was open for submissions until mid-November. During this period, 656 ideas were proposed and 10 round-table discussion meetings were held. The author found 1967 media references to the project "Arctc2035" during this time. These numbers indicate the success of the project in reaching the public and gathering views.

Success of the current approach in the development of strategic planning documents consists of the novelty of such a cooperative approach. Actual Development Strategy is an individual project of the Government of Russian Federation adopted on the grounds of Basics of the State Policy of the Russian Federation in the Arctic for the period up to 2020 and further perspectives, approved by the President of the Russian Federation No. PR-1969 of September 18, 2008. There are 3 reasons why private actors' didn´t participate in the development of the present-days Strategy.

The first reason, when Strategy was on the stage of development Ministry for Development of the Russian Far East and the Arctic didn´t exist. At nowadays that Ministry is a key link and support of the project "Arctic2035", but in 2008 when the current Strategy was on the stage of adoption, Ministry for the Russian Far East existed only as a project which has been realized in 2012 when Dmitry Medvedev signed Decree of the President of the Russian Federation No. 636 of May 21, 2012 on structure of federal executive bodies

The second, is the accessibility and availability of the internet in the Russian Federation. According to the statistics in the year 2008, it was 47 million internet users, that's 27.1% of the whole population of Russia. In 2019 this amount increased to 93 million[3]. In

[3] Julia Krivoshapko, *The RuNet audience reached 92.8 million people.* (source in Russian language) <https://rg.ru/2019/04/17/raek-auditoriia-runeta-dostigla-928-milliona-chelovek.html> accessed 14 November 2019 (translation by the author).

comparison to 2008, nowadays accessibility and availability of the internet provide an opportunity for everyone to participate in such online consultations.

And the third, oil and gas exports account for more than two-thirds of Russia's export revenue and more than 15% of GDP. But the financial crisis in 2008 showed how dependent the Russian economy is on oil prices. The plummeting price of Urals heavy crude oil, which lost more than 70% of its value caused big losses in export revenues[4]. The priority of the Government was to extend mining capacity in the Russian Arctic to mitigate revenue losses caused by the collapse of the oil industry in central and eastern parts of Russia.

3. What are the results of the "Arctic2035" platform?

To answer that question we must pay attention to the biggest problems identified by the inhabitants in the Arctic regions of Russia and the ideas proposed through the "Arctic2035" platform. In Murmansk Oblast, Nenets and Republic of Karelia, most attention is directed to infrastructure and transport. In Arkhangelsk, the focus is on tourism. Citizens from Yamal-Nenets express concerns primarily regarding the economy and agriculture. In Chukotka, education and infrastructure are top issues. In the Sakha Republic and in the Arctic part of Krasnoyarsk Region, ecological issues and infrastructure are highlighted. And in the Republic of Komi, demographic issues are the top issue.

Looking into the results more closely, the largest number of submissions from Yamal-Nenets concerned renovation and upgrade of the water sewer system and the expansion of the centralized power supply zone. An interesting idea was proposed by a local inhabitant to create a system for geotechnical monitoring of permafrost temperatures under infrastructure facilities[5]. This is particularly interesting because it identifies the biggest problem in Yamal-Nenets region - permafrost. Permafrost degradation poses a great danger to the buildings and structures located in the Far North: roads, oil and gas pipelines, and living spaces. Permafrost covers

[4] The World Bank in Russia, 'Russian Economic Report' (2008) 17 <http://siteresources.worldbank.org/INTRUSSIANFEDERATION/Resources/rer17_eng.pdf> accessed 14 November 2019

[5] Oleg Romanovsky, *Create a system for geotechnical monitoring of permafrost temperatures under infrastructure facilities* (source in Russian language) <https://www.arctic2035.ru/c/proposals/technology/sozdanie-sistemy-avtomatizirovannogo-geotekhnicheskogo-monitoringa-temperatur-mnogoletnemerzlykh-gru/> accessed 14 November 2019 (translation by the author).

almost the entire territory of Yamal-Nenets. Permafrost degradation remains one of the main factors affecting economic activity in Yamal-Nenets. Many structures were built on perennially frozen soil as a foundation and designed for exploitation in certain temperature conditions. As a result, today many buildings and structures are deformed, damaged, demolished or planned for demolition. This has a major impact on the economic component of sustainable development.

Turning to the Murmansk Oblast, according to the collected ideas, the biggest concerns in Murmansk region are fuel oil (masut) dependency because of the lack of gas supply in the region and the lack of transport infrastructure. The solution to eliminating fuel dependency may be in the transportation of liquefied gas from the north or the laying of a natural gas pipeline from the south of the region. Direct gas supply to the region would allow switching the entire energy supply system to a gas type of fuel, which will give an additional impetus to automation and increase the reliability of systems. Considering the infrastructure problems, here it is necessary to underline the lack of transport connections through and around the White Sea. The construction of a new bridge over the throat of the White Sea and the railway along the Kola Peninsula would facilitate high-speed cargo delivery from the Ural, Siberia and the Far East, and especially from China. It would also connect the largest Arctic cities, Murmansk and Arkhangelsk, with reliable year-round transport links and provide an opportunity for the development of the resources of the Kola Peninsula (bauxite and lithium).

Lack of direct gas supply is a problem not only in Murmansk Oblast, but also in Nenets Autonomous Okrug. Today, most of Nenets villages are using coal for heating. This type of fuel aggravates the environmental situation, and at the same time is laborious to use. Laying of a natural gas pipeline is one solution. A number of citizens also addressed the lack of transport infrastructure and proposed various ideas concerning improvement of the runways in local airports and expansion of the route networks.

The White Sea-Baltic canal holds the most potential for the development of the Republic of Karelia but citizens wanted to see investment to make it more profitable for the region. This canal is an important transport link to ports of the White, Barents and Baltic Seas. Availability of access through the White Sea-Baltic canal to the Northern Sea Route and the Arctic Ocean makes this transport link a potential source of development for the region. However, today, the canal has reached its maximum capacity and can only admit

cargo ships with a deadweight tonnage up to 3-4 thousand tons. According to the ideas proposed through the platform, there are two ways how to increase cargo delivery capacity through the region: the first is expansion of the network of the regional water routes and the second is expansion of the canal's dimensions aimed to increase its throughput for cargo ships with a deadweight tonnage up to 8 thousand tons[6].

As mentioned above, the biggest concern of the Arkhangelsk Oblast is tourism. Analysis of the submissions uncovered two main themes. The first is the lack of transport infrastructure. The Arctic Museum and Exhibition Center described the importance of transport infrastructure improvement, especially to Franz Josef Land: "Franz Josef Land is one of the most attractive Arctic regions for tourism. Nevertheless, the number of tourists is still very small and does not exceed 1500 people per year. For comparison, in neighboring Svalbard, the number of tourists increased from 15,000 in 1997 to 90,000 in 2018. One of the main reasons for the growth is the aviation availability. Franz Josef Land can be visited only on rare and extremely expensive cruise ships. If it is possible to build a runway for a strictly regulated and controlled flow of tourists, this flow will increase significantly and will give a significant income to the federal and regional budgets in the form of taxes, as well as the multiplier effects of economic development"[7]. The second theme is environmental damage and the lack of specially protected areas with a specialized regime for tourism. According to the idea proposed by the Government of the Arkhangelsk Oblast: "In order to preserve and develop the ecological potential of the Russian Arctic National Park, the new Strategy needs to reflect the following issues: completion of work to eliminate accumulated environmental damage in the contaminated areas of the islands of the Franz Josef Land archipelago and the continuation of work on the formation of the territory of the Russian Arctic National Park by extending the conservation regime on Victoria Island"[8]. Most of the submissions from

[6] Vitaliy Spiridonov, *The development of water transport arteries* (source in Russian language) < https://www.arctic2035.ru/c/proposals/infrastructure/razvitie-vodnykh-transportnykh-arteriy-/> accessed 14 November 2019 (translation by the author).

[7] Arctic Museum and Exhibition Center, *Use of the runway…* (source in Russian language) < https://www.arctic2035.ru/c/proposals/tourism/ispolzovanie_vzletno_posadochnoy_polosy_na_zemle_aleksandry_zemlya_frantsa_iosifa_dlya_razvitiya_tur1571780108/ > accessed 15 November 2019 (translation by the author).

[8] Government of Arkhangelsk Oblast, *Development of environmental and tourist activities…* (source in Russian language) <https://www.arctic2035.ru/c/proposals/culture/razvitie-prirodookhrannoy-i-turistskoy-deyatelnosti-sokhranenie-kulturno-istoricheskogo-naslediya-na/ > accessed 15 November 2019 (translation by the author).

the Arkhangelsk Oblast came from the Government of Arkhangelsk Oblast.

Considering the Arctic part of Krasnoyarsk region (Krai), the biggest threat identified for the development of that Arctic region is heavy pollution. The central city of the Arctic part of the Krasnoyarsk region is Norilsk. It is the second-largest city (after Murmansk) inside the Arctic Circle and Norilsk and Yakutsk are the only large cities in the continuous permafrost zone. However, Norilsk is famous not because of the population but because this city is one of the most polluted places on Earth. Norilsk´s air pollution includes radioisotopes (strontium-90 and caesium-137), metals (nickel, copper, cobalt, lead and selenium) and gases (nitrogen and carbon oxides, sulfur dioxide, phenols and hydrogen sulfide)[9]. This explains why most of the proposed ideas were dedicated to upgrading of the cleaning systems in "Norilsk Nickel." The Administration of Norilsk City also proposed the creation of social programs for resettlement from the most polluted areas near the factory zone[10].

In the Chukotka region, there are two major problems identified: lack of educational institutions and poor air-traffic services. Chukotka is the only region in the Russian Federation where there are no federal universities. There is only the affiliate of North-Eastern Federal University (Yakutsk) in the capital of Chukotka-Anadyr. Direct airlinks outside of the region only run to Magadan and Moscow – the latter operates only once per week.

The paradoxical situation can be observed in the Republic of Komi. The biggest barrier to development of this region is a demographic crisis. According to the 2019 demographic ranking of the regions, the Republic of Komi was ranked 81st out of 85 regions[11]. From 2016 to 2018, the population in the Republic of Komi decreased by 3.1%. This region has one of the highest migration outflows of Russia, losing 25,680 people in 2018[12]. Because of a harsh climate, pollution from coal mines

[9] Languages of the World, *Pollution Problems in Norilsk* < https://www.languagesoftheworld.info/russia-ukraine-and-the-caucasus/pollution-problems-norilsk.html > accessed 15 November 2019 (translation by the author).

[10] Administration of Norilsk city, S*ocial programs for the resettlement of certain categories of citizens* (source in Russian language)<https://www.arctic2035.ru/c/proposals/obshchestvo/sotsialnye_programmy_po_pereseleniyu_otdelnykh_kategoriy_grazhdan1571991897/> accessed 15 November 2019 (translation by the author).

[11] RIA Rating, *Ranking of regions by demography – 2019* (source in Russian language) <https://riarating.ru/infografika/20190423/630123908.html> accessed 16 November 2019 (translation by the author).

[12] Ibid 12

and lack of work opportunities, a lot of ideas from local inhabitants were dedicated to the improvement of social programs for resettlement, and provision of additional funding for subsidies for families which want to move out from the Republic of Komi based on the Federal Law No. 125-F3 of October 25, 2002 on Housing Subsidies for Citizens Departing from the Far North and Equated Locations. According to statistics 49,400 families registered for these subsidies in 2019[13]. The submissions from the citizens to the consultation highlight the difficulties of living in the region and desire to move elsewhere but the author contests that facilitating migration outflow will not help to develop the region.

The Sakha Republic is the richest region in Arctic Russia because of Soviet era development of extractive industries, especially diamonds, gold, silver, oil and gas. However, even a relatively rich region has its problems, and the first problem identified is culling of reindeer. Due to reductions in the deer stock, the number of workers in reindeer herding is decreasing. This has serious consequences such as the loss for dynasties of reindeer herders and the increase in the number of unemployed. Reindeer herding is a way of life of the indigenous peoples of the North which explains why recovery of the practice is a key priority to preserve the traditional way of living of the indigenous people and to preserve employment opportunities in that sphere. The second problem identified is the lack of transport infrastructure through the River Lena. A number of submissions addressed the difficulties of transportation through the biggest river in the Sakha Republic and proposed the building of bridges, which would not only improve the safety of transportation but also accelerate cargo delivery from the capital Yakutsk which is located in the southern part of region to the Arctic territories and the settlements of indigenous people located in the northern part of region around the village Chokurdakh.

4. Conclusion

The above review indicates that the online platform has been useful for the future development of Arctic Russia. First of all, the platform "Arctic2035" helped to identify the biggest concerns in every Arctic Region of the Russian Federation and identified possible goals for the future strategic planning documents. Second, the wide participation of people – which exceeded the government's expectations - means

[13] Vladimir Zharuk, *Relocation of Senior Citizens from Vorkuta* (source in Russian language) < https://www.arctic2035.ru/c/proposals/health/nemedlenno_prekratit_genotsid_severyan_stavshikh_zalozhnikami_iz_za_neispolneniya_gosudarstvom_publi1571513516/> accessed 16 November 2019 (translation by the author).

that the strategy has a greater potential to be socially significant, responding to their priorities. There are two main ways that the legislative branch can regulate the elimination of the identified problems in Arctic Russia. The first would be to adopt a very detailed Russian Federation Arctic Area Development Strategy for the period up to 2035, where semantic separation will be based not on the functional feature, like in the 2020 Strategy with separation on matters of economic development, environmental security, military security, international relationships, and development of science, but rather organized by regions and regional priorities. However, such an approach would likely be too large and unwieldly to be adopted. An alternative approach would maintain the separation by functional features without distinction by region but nevertheless develop a series of executive acts and measures to address the obstacles to development identified through the platform. These could be strengthened through obligations on the regional governments to realize these provisions. The most likely form would be through Orders of the Ministry for the Development of the Russian Far East and the Arctic (as a key ministry) to the concerned regions. Russia will present its new Strategy 2035 in early 2020 but meanwhile, the author concludes that cooperation through the platform "Arctic2035" played a significant role in the development of Arctic Russia.

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2. Arctic Museum and Exhibition Center, *Use of the runway…* (source in Russian language) < https://www.arctic2035.ru/c/proposals/tourism/ispolzovanie_vzletno_posadochnoy_polosy_na_zemle_aleksandry_zemlya_frantsa_iosifa_dlya_razvitiya_tur1571780108/ >

3. Government of Arkhangelsk Oblast, *Development of environmental and tourist activities…* (source in Russian language) <https://www.arctic2035.ru/c/proposals/culture/razvitie-prirodookhrannoy-i-turistskoy-deyatelnosti-sokhranenie-kulturno-istoricheskogo-naslediya-na/ >

4. Julia Krivoshapko, *The RuNet audience reached 92.8 million people.* (source in Russian language) <https://rg.ru/2019/04/17/raek-auditoriia-runeta-dostigla-928-milliona-chelovek.html>

5. Languages of the World, *Pollution Problems in Norilsk* <

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6. Oleg Romanovsky, *Create a system for geotechnical monitoring of permafrost temperatures under infrastructure facilities* (source in Russian language) <https://www.arctic2035.ru/c/proposals/technology/sozdanie-sistemy-avtomatizirovannogo-geotekhnicheskogo-monitoringa-temperatur-mnogoletnemerzlykh-gru/>

7. RIA Rating, *Ranking of regions by demography – 2019* (source in Russian language) <https://riarating.ru/infografika/20190423/630123908.html>

8. The Decree of the Government of the Russian Federation On the State program "Socio-economic development of the Arctic Area of the Russian Federation" [2014] <http://www.garant.ru/products/ipo/prime/doc/70544266/>

9. The World Bank in Russia, 'Russian Economic Report' (2008) 17 <http://siteresources.worldbank.org/INTRUSSIANFEDERATION/Resources/rer17_eng.pdf>

10. Vitaliy Spiridonov, *The development of water transport arteries* (source in Russian language) < https://www.arctic2035.ru/c/proposals/infrastructure/razvitie-vodnykh-transportnykh-arteriy-/>

11. Vladimir Zharuk, *Relocation of Senior Citizens from Vorkuta* (source in Russian language) < https://www.arctic2035.ru/c/proposals/health/nemedlenno_prekratit_genotsid_severyan_stavshikh_zalozhnikami_iz_za_neispolneniya_gosudarstvom_publi1571513516/>

Oil and Gas Exploration in the Arctic: Challenges and Perspective

Alexandra Kostareva[*] *& Anastasia Burnakina*[**]

Introduction

To start with, the Arctic is deemed to be one of the most attractive regions in terms of natural resources exploration process. The reason for this is that over the past 30 years, dozens of fields, both oil and gas, have been explored on the Arctic shelf[1]. It would be substantial to highlight among them such oil fields, as the Shtokmanovskoye field, Leningradskoye field, as well as the Prirazlomnoye field and Dolginskoye field. Additional prospects have arisen out of the delimitation of the so-called "gray zone", which took place in 2010. Russia and Norway have divided this controversial territorial section[2], which, according to experts, is very prospective in terms of the availability of hydrocarbon resources[3].

Talking about the distribution of the initial total resources over the water area of Russia, it is important to note that two thirds of all the resources are concentrated in the Barents, Pechora and Kara Seas. Apart from this, according to some estimates, the Arctic contains 25% of all energy resources that exist on our planet[4].

The main problem here is that all estimates of Arctic hydrocarbon resources are quite approximate since the ocean bottom of the Arctic is still very poorly studied and, moreover, the Russian continental shelf is poorly explored as well - ten times lower than the American shelf of the Chukchi Sea and twenty times lower than the Norway shelf.

Challenges and Risks

As it has already been stated, the Arctic region seems to be a little gold mine for the potential investors in the petroleum industry. That is why so many states are willing to develop it. However, the conditions of this region and challenges

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[1] A. Fadeyev, *Transport, Logistics and Production Outlook for Arctic Offshore Exploration: An International Perspective, (Northern (Arctic) Federal University (NArFU)), 2014.*

[2] Alexander N. Vylegzhanin, Oran R. Young & Paul Arthur Berkman, *Governing the Barents Sea Region: Current Status, Emerging Issues, and Future Options, (2017), URL: //* https://www.tandfonline.com/doi/full/10.1080/00908320.2017.1365545.

[3] Ibid.

[4]SDWG Report, *Arctic Energy*, 2009, URL:// https://www.sdwg.org/wp-content/uploads/2016/04/ArcticEnergyReport-2009.pdf

and risks which investors might face with need to be considered.

Taking into account the low level of the region's research together with its specific climate, it should be mentioned that despite the perspectives the Arctic region opens, a plenty of challenges appear in the exploration of it as well[5]. They can be classified in some particular groups:

Environmental challenges (including severe ice conditions; high probability of icebergs, which determines structural complexity of offshore mining; vulnerability of the region's ecosystem, short-term period during which working activity on the shelf is possible <so-called "weather window">, insufficient exploration of the shelf);

Technical challenges (i.e. weak transport system; no service infrastructure, which is necessary for the effective development of Arctic region; shortage of technology and production capacity);

Corporate challenges (involving potentially high costs for the construction of the mining complex, the organization of its infrastructure and protection against industrial accidents; the complexity of the logistics of employees; lack of developed competition between suppliers and contractors who serve the oil and gas sector).

The challenges mentioned above lead to a number of risks, which make the development of Arctic region far more complicated. Among these risks are: geological, economic, environmental and transport and technological risks, which can lead to a significant increase in the cost of the project and to the difficulty of making investment decisions.

Geological risks include low shelf exploration, high costs on drilling, financial losses. Economical risks are: high project cost, long duration of it, significant increase in payback periods and reduced return on invested capital. Among ecological risks are: weak ecosystem of Arctic region, complicated liquidation of emergencies and accidents and ecological disasters. Finally, there are transport and technological risks, such as possibility of the equipment crash, lack of transporting experience in the area and increasing of costs of transportation[6].

[5] Directorate-General for External Policies of the Union Policy Department, *Arctic Governance: balancing challenges and development*, Regional Briefing 2014, URL: // http://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2012/491430/EXPO-AFET_SP(2012)491430_EN.pdf.

[6] E. Thylander, *Offshore Oil and Gas Activities in Arctic areas -An Investigation of Best Available Techniques for Reducing Environmental Impacts,* (Chalmers University Of Technology 2013) 17.

Clusters

In order to solve all the problems arise out of the Arctic exploration and minimize risks involved, a comprehensive offshore project support system is needed. Talking about the Russian Federation, it has been proposed to implement the creation of offshore oil and gas so-called "clusters".

Pursuant to the Russian legislation, cluster is referred to a set of special economic zones of one type or several types, which is determined by the Government of the Russian Federation and which is ruled by one management company[7]. In other words, the cluster is a group of geographically neighboring companies and related organizations that operate in a specific area and help each other staying independent legal entities.

Up to date, within the Russian territory, Murmansk and Arkhangelsk claim to be the capitals of the new oil and gas clusters due to the fact that they are located far close to the hydrocarbon deposits, have a developed infrastructure in comparison with many other regions and have a number of geographical advantages that have allowed them to be in the focus of attention of oil and gas project operators.

There is a range of companies that to some extent compete with each other, but at the same time interact, helping each other, and thereby increase their own competence. This is the way the oil and gas clusters work as well. The concept of cluster policy includes signing of an agreement (memorandum) with companies and organizations of industry clusters; creation of industrial, technological, transport and logistics, tourist and recreational parks involving small and medium-sized companies; creation of resource centers with the participation of educational institutions; drafting of investment plans for the development of municipalities.

Briefly speaking, the model of the oil and gas cluster can be presented as follows: there is some governmental support at least at the regional level, a group of companies that represent research and educational organizations, suppliers themselves, petrochemical processing enterprises, services in the form of an icebreaking and tanker fleet, port infrastructure, exploration and oil companies[8].

Apart from this, definitely, not every single company and/or territory is suitable for successful cluster formation. There are definitely conditions that are

[7] Russian Federation, Federal Law on Special Economic Zones in the Russian Federation, adopted by State Duma, 22 July 2005, art 2.

[8] A. Fadeev *Transport, logistics and industrial prospects for the development of the Arctic shelf: an international aspect*, 2014, URL: // http:// russiancouncil. ru/inner/?id_4=3373#top.

necessary for the cluster to be created, such as:

- regional initiative;
- availability of technology;
- national policy, which requires the demand for this type of product;
- sale of deposits;
- availability of projects for the development of raw materials.

Moving further, in order to launch a cluster, it is necessary to form demand centers. Most companies today face certain difficulties in the international and even Russian oil and gas market. It is explained in the way that they often cannot directly participate as suppliers due to the lack of distribution channels. To solve this problem, the creation of related ventures is necessary.

It sounds not so obvious, but the amount of people involved in the creation of a cluster and its further operation does not have a great sense. For instance, Murmanshelf includes a wide range of companies, most of which are small and medium-sized businesses. 44% of companies have less than 20 employees. And another 20% are firms with 26 to 100 employees[9].

Talking about practice example, the most successful ones are "Sozvezdie" and "Murmanshelf." In 2005, the Norwegian authorities turned to the governments of the Murmansk and Arkhangelsk regions with a proposal to develop the gas field together with local suppliers. The total amount of gas produced was greater than expected. In addition, there was an active economic development of the region, located near the extraction site[10].

State assistance

In terms of preparing local infrastructure, cooperation with regional authorities is of great importance.

Gazprom Neft is actively engaged in dialogue with both the governments of the Murmansk and Arkhangelsk regions. They are talking about opening of checkpoints for flights of staff to drilling platforms, about possible joint participation in the reconstruction of infrastructure, as well as creating a favorable investment climate at the local level[11].

Speaking about the logistics process, it is necessary to reconstruct roads, improve the quality of communications. Changes

[9] Strategy for socio-economic development of the Murmansk region until 2020 and for the period until 2025, URL: http://minec.gov-murman.ru/content/strat_plan/sub02/index.html.

[10] A. Fadeev *Transport, logistics and industrial prospects for the development of the Arctic shelf: an international aspect*, 2014, URL: // http:// russiancouncil. ru/inner/?id_4=3373#top.

[11]"Gazprom and Murmansk region sign Cooperation Agreement" URL: // https://www.gazprom.ru/press/news/2005/november/article55504/.

in customs legislation, the opening of checkpoints, the organization of access for foreign citizens to facilities related to the implementation of logistics operations are also of fundamental importance.

This is especially true for Arkhangelsk, because many enterprises that are perspective from the point of view of creating transport and logistics infrastructure facilities are still under the jurisdiction of the military-industrial complex and even Russian citizens have limited access.

While using the cluster approach, the creation of Special Economic Zones (SEZ) is also relevant and essential for the formation of attractive investment climate.

SEZ is a part of the territory of the Russian Federation, which determined by the Government of the Russian Federation and which has a special business regime, and customs zone[12]. The creation of SEZ is aimed to attraction of financial resources to border regions, by establishing in a limited territory a special legal status and preferential economic conditions for national or foreign investors[13].

According to the Federal Law on Special Economic Zones in the Russian Federation, there are the four types of SEZs: 1) industrial production zone, 2) technical and innovative zone, 3) tourist and recreational zone and 4) port zone[14].

Port Special Economic Zone of the city of Murmansk is an example of how do special economic zones operate in Arctic region.

The specific of this SEZ is that investors of the port SEZ "Murmansk" receive tax and customs benefits, as well as access to infrastructure facilities. Investors are guaranteed stability of tax rate throughout the existence of the SEZ[15].

Nevertheless, by researching the influence of state assistance in the development of the Arctic region, there must be noticed a problem in the balance of participation of state oil and private companies.

There prevails the point of view that the main participants in projects on the shelf will be state-owned corporations.

[12] Russian Federation, Federal Law on Special Economic Zones in the Russian Federation, adopted by State Duma, 22 July 2005, art 2.

[13] E. Bashmakova, A. Nikolaeva, *Influence Of Special Economic Zones On The Clustering Process* (North And Market: Forming The Economic Order 2009) 171.

[14] Russian Federation, Federal Law on Special Economic Zones in the Russian Federation, adopted by State Duma, 22 July 2005, art 4.

[15] On the development of the port special economic zone as an element created at the territory of the Murmansk region production and transport and logistics a cluster. Report of the Minister of Economic Development of the Murmansk Region Agarkov S.A.:, URL: // http://murmanshelf.ru/files/arctic_logistics_2012/6_Min_of_Econom_Dev_ S_Agarkov.pdf

Private companies should have limited access, while the involvement of foreign companies will be minimized[16].

However, it must be taken into consideration that the development of the Arctic region requires the allocation of a huge amount of resources, such as money, assets, authority. In comparison to the private companies, state oil companies are able in larger part to cover these costs[17].

In addition, control of the Russian Federation over the development of the Russian part of the Arctic is ensured, guaranteeing political and economic security.

Huge investments are required for social and economic development of the Arctic zone of the Russian Federation as well as political power, as any project in the Arctic is always connected with many environmental, transport and logistics, infrastructure, financial and social risks. Due to the fact that the Arctic region is a prospective area from the point of economics, politics and sociology, there is a high level of competition between the Arctic States for the area. That is why it is important to ensure economic and political security in the Arctic region, which is impossible without State authority[18].

At the same time, Russian government is ready to minimize the standards for penetration of private investors to the Arctic region. Thus, a draft of Federal Law on companies' access to the unallocated Arctic shelf will be presented for public. This was announced by the Deputy Minister for Development of the Far East and the Arctic[19].

Conclusion

In conclusion, it is necessary to infer that Arctic region is a "double-edged weapon" for the oil and gas industry, as far it attracts by its promising nature, but at the same time, is an area full of a various risks (e.g. environmental, technological, political etc.).

An effective developing of the area, which would be safe and beneficial for the society, environment and enterprises, is impossible without formation of complex and well-organized system, where the authority of government and the assets and abilities of investors will be coordinated.

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[16] P. Kaznacheev, R. Bazaleva, *Comparison of the role of private and public oil companies in development offshore fields*: http://cre.ranepa.ru/wp-content/uploads/2015/04/policy-paper-arctic-2.pdf

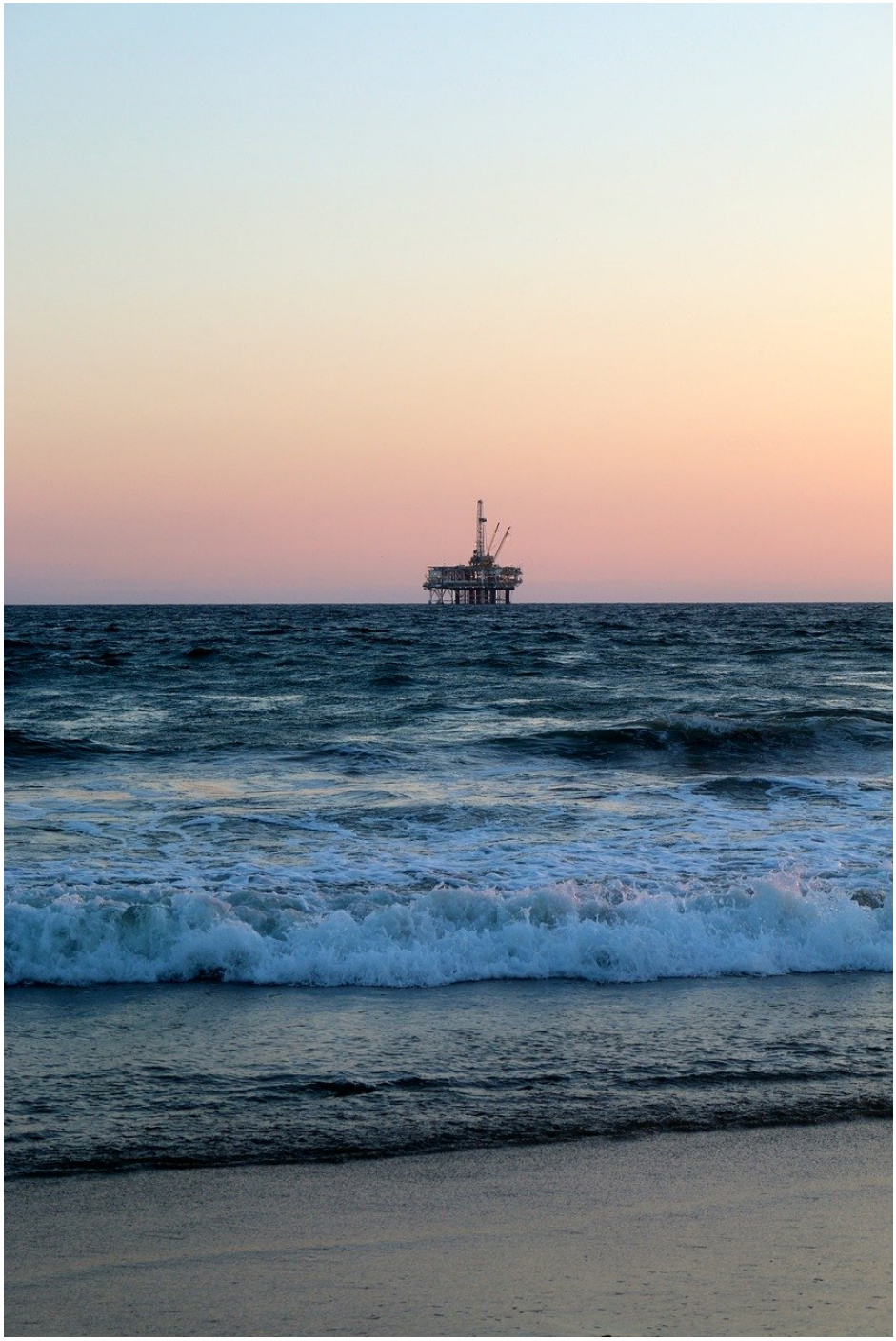
[17] I. Vizhina, A. Kin, A.A., V. Kharitonova, *Problems of the state-private partnership in strategic projects of the North, (Ekon. Sotsiol.*, 2011, no. 4) 154.

[18] Ibid 155.

[19] "A draft law on expanding access to the shelf of the Arctic will be presented within a month": , URL: // https://tass.ru/ekonomika/7052935.

Nowadays this system has been creating with the creation of clusters and Special Economic Zones.

The foundation of a modern effective management model in the Arctic implies the balanced participation of all interested parties - companies in the development of Arctic deposits, including federal, regional and local authorities, business organizations, educational institutions, the creation of oil and gas clusters in the Arkhangelsk and Murmansk regions, while ensuring the economic and political security of Russia.



Can Science Fiction Help Arctic Research?

Marcin Dymet[*]

Introduction

Rapid changes are on-going in the Arctic, and their impact on Arctic societies requires supporting research tools that can keep up with the changes and even anticipate them. Two forces are strongly influencing the ways of life of Arctic inhabitants: climate change and development of information and communication technologies (ICTs). A literature genre that explores both is science fiction (SF). This study proposes the idea of analysing Arctic-related SF as a supporting tool in Arctic research. A specific matter present is SF for analysis is resilience, and an initial source, which will be used in this text as an example, is the SF book *Eyland* by the Icelandic author Sigríður Hagalín Björnsdóttir.

Science Fiction

SF is a genre of literature that focuses on the potential reactions of humankind to the development of technology, a new technological invention, or a natural or societal event. It describes potential future worlds or alternative realities in which humans encounter a major change and react to it[1]. The genre makes it possible for authors to test reactions to potential events in a 'laboratory of the mind'[2]. Additionally, the SF genre has a specific feature, which is a likelihood of moving from speculative to non-speculative fiction over time. A technology or an event described in an SF piece can be considered fictional within a frame of knowledge or a reality that is contemporary to its author. Knowledge and technology, however, develop with time. An invention that was at one point only a product of the imagination may become a reality[3].

Some SF authors find the changes in the Arctic important and interesting enough to site their stories in the region and to imagine potential reactions of its inhabitants to the changes. These stories, although fictional, are still grounded in contemporary reality and the state of science, and they are usually an attempt to predict to some degree what could happen if certain conditions were met.

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[1] Christopher McKitterick, 'Defining "Science Fiction". What Is Science Fiction…and Why Study It?', Gunn Center for the Study of Science Fiction, University of Kansas, 2016, http://www.sfcenter.ku.edu/SF-Defined.htm, accessed October 24, 2019.

[2] Susan Schneider, 'Thought Experiment: Science Fiction as a Window into Philosophical Puzzles' in Susan Schneider (ed.), *Science Fiction and Philosophy: From Time Travel to Superintelligence* (Hoboken: Wiley, 2016), 2.

[3] Annie Neugebaure, 'What Is Speculative Fiction', 2014, https://annieneugebauer.com/2014/03/24/what-is-speculative-fiction/, accessed October 23, 2019.

Experience shows that many speculative stories come to realisation[4]. Thus, SF pieces can be used as supporting material in the analysis of the Arctic changes in a meaningful way because the fictional situation presented in a piece has a chance of becoming factual. Assessing if worlds created in SF stories stayed resilient or underwent a transformation, and why, can be one element of analysis that can impart a lesson for the future.

Resilience

Resilience is an important part of many SF stories. It is the ability of a social-ecological system to return to its original state after it experiences a change caused by the pressure of outside or inside factors[5]. It can be also described as the 'potential for recovery from damage'[6] of a given system. One major factor threatening the resilience of Arctic systems is the climate change that is inducing global warming. As the fragile climate of the Arctic changes, societies inhabiting the region have to adjust and adapt. Another factor that could be considered a threat to the resilience of a system is the development of ICTs. The contemporary Arctic is becoming increasingly digitalised and its inhabitants are becoming more dependent on ICTs[7]. A serious malfunction of ICTs could also cause a necessity to adjust and adapt. Such adaptations and adjustments can lead to two possible outcomes. Firstly, the core elements of an Arctic system remain unchanged and recognisable despite adjustments and modifications introduced as a response to outside factors. Secondly, an Arctic system could change to a point at which core elements are unrecognisable. Such a situation is described as a transformation of a system, i.e. a situation, in which a system

[4] Rachel Seigel, '40 Fantastic Facts about Science Fiction that Became Reality', *Factinate*, https://www.factinate.com/things/40-fantastic-facts-science-fiction-became-reality/, accessed October 23, 2019; BBC, 'Science Fact: Sci-fi Inventions that Became Reality', 2016, https://www.bbc.com/news/health-38026393, accessed October 23, 2019.

[5] Marcus Carson, Garry Peterson, and Claudia Strambo, *Arctic Resilience Report 2016* (Stockholm: the Stockholm Environment Institute and the Stockholm Resilience Centre, 2016), http://www.deslibris.ca/ID/10090074.

[6] Jared M. Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin Books, 2011).

[7] Mirva Salminen and Kamrul Hossain, 'Digitalisation and Human Security Dimensions in Cybersecurity: An Appraisal for the European High North', *Polar Record* 54, no. 2 (March 2018): 108–18, https://doi.org/10.1017/S0032247418000268; Michael Delaunay, 'Submarine Cables: Bringing Broadband Internet to the Arctic, a Life Changer for Northerners?', Arctic Portal, 2017, https://arcticyearbook.com/arctic-yearbook/2017/2017-briefing-notes/250-submarine-cables-bringing-broadband-internet-to-the-arctic-a-life-changer-for-northerners, accessed October 24, 2019; Loren Grush, 'Internet-from-space Provider OneWeb Says It Will Provide Coverage to the Arctic by 2020', *The Verge*, 2019, https://www.theverge.com/2019/9/4/20849142/oneweb-arctic-internet-coverage-space-2020, accessed October 24, 2019.

crosses a threshold, after which original elements of the system cannot be sustained[8].

Resilience and Transformation in Arctic Science Fiction

One example of Arctic-related SF that can serve as a source for analysis of the resilience and transformation of Arctic systems is the book *Eyland*[9] by Sigríður Hagalín Björnsdóttir. Set in Iceland, the story begins when Icelanders realise that their country is completely disconnected from the outside world. Any attempts of communication via the internet, phones, satellite systems or other means are failing. Communication with ICTs works only within the country. Contact with planes and ships that left Iceland is also lost, and no vehicles are arriving. Björnsdóttir creates a state of isolation of Iceland to conduct a mental exercise that tests the potential reaction of Icelandic society to such a situation. She describes the technical aspects, for instance marine cables connecting Iceland to the global network. Another matter the book explores is Iceland's sustainability in complete isolation. The author makes an effort to calculate how many people can survive on the island without facing starvation. Probably the most difficult to predict are reactions of society to the situation described in the book. Björnsdóttir describes one possible outcome, which is that democracy will fade away.

The marine cables' connections are described accurately. The three currently working submarine cables, FARNICE-1, DANICE, and Greenland Connect, are identified. In addition, CANTAT-3, currently not in commercial use, is included[10]. The author also describes an older marine cable, but precisely what that cable would be is not explained. The only information a reader receives is that the cable was built by the American Secret Service during the Cold War. The accuracy of such technical details in an SF book can be easily tested by examining scientific literature and referring to publicly accessible data. In the case of commercially used marine cables, data are widely available[11]. Finding information on the old cable connection established during the Cold War would require additional consultations with specialists because

[8] Carson, Peterson, and Strambo, *Arctic Resilience Report 2016*.
[9] Sigríður Hagalín Björnsdóttir, *Eyland* (Reykjavík: Benedikt bókaútgáfa, 2016).
[10] TeleGeography, *Submarine Cable Map: Iceland*, Last updated, October 4, 2019, https://www.submarinecablemap.com/#/country/iceland, accessed. October 24, 2019; *Landsvirkun, Data Connectivity in Iceland: A White Paper, 2016,* https://www.landsvirkjun.com/Media/international-data-connectivity-in-iceland-a-white-paper.pdf, *accessed October 24, 2019.*
[11] Ibid.

that kind of data is more difficult to acquire and confirm.

The number of people who could be sustained in Iceland in isolation, Björnsdóttir implied, is around 200,000. This is assessed by taking into account access to contemporary knowledge, and the current stage of development of resources that allow the use of geothermal energy. In the book there is also an example of historical assessments of the maximum population capacity of the island. It was assessed that in Iceland in the past, around 50,000 inhabitants could sustain themselves through the traditional use of land and agriculture and without access to modern technologies and knowledge[12]. Such estimations in a speculative narrative can be tested against similar estimations by scientists. However, the analyses are starting to get more complex because the estimations given cannot be proven. Many variables have to be considered to estimate the number correctly. In addition, factors that cannot be predicted or controlled could have a significant influence on the number of inhabitants who could be sustained by the resources available on an isolated island. In the case of Iceland, unpredictable events could be volcanic eruptions or periodically unfavourable weather that would affect crops. To make the estimation as accurate as possible, again, consultation with specialists would be required.

Why is the number of people that may survive given so much emphasis on the analysis of the resilience of the system under certain circumstances? It may be that a high number of people will need to die in order to keep the system self-sustainable, for example. See e.g. Dillon and Reid.

The knowledge of submarine cables and the assessment of the maximum number of inhabitants Iceland could entirely self-sustain are technical matters that are helpful in building a credible world in SF. However, '[s]cience fiction works that focus on social aspects of potential futures or alternate realities are as valuable as the ones that are more of user manuals of future technological devices'[13]. *Eyland* focuses on these social aspects of the created world.

Like many SF pieces, *Eyland* belongs to the class of dystopian works, that is, works describing a potential future that is unwanted or disturbing. Authors create dystopia when they want to bring attention to or raise awareness of the weaknesses of contemporary society that could become threatening under certain circumstances[14]. Björnsdóttir illustrates the interconnectedness and

[12] Sigríður Hagalín Björnsdóttir, *Eyland* (Reykjavík: Benedikt bókaútgáfa, 2016).
[13] Marcin Dymet, 'Letters from the Future', *Digital Culture & Society* 4, no. 2 (1 December 2018): 203–18, https://doi.org/10.14361/dcs-2018-0211.
[14] Literary Devices, *Dystopia*, https://literarydevices.net/dystopia/, accessed October 24, 2019.

dependencies of the contemporary world. In her book, the political system of Iceland transforms with surprising ease into a totalitarian system full of oppression and violence. The economic system also does not show any resilience to the new reality. Money loses its value, and a barter system, in which people start to exchange goods directly, comes into place. In addition, nationalistic trends grow exponentially, and any citizen or visitor with roots that are not purely Icelandic cannot feel safe anymore. Björnsdóttir explores what can cause a system to lose its resilience and what kind of pressure factors can contribute to a transformation of a system's elements.

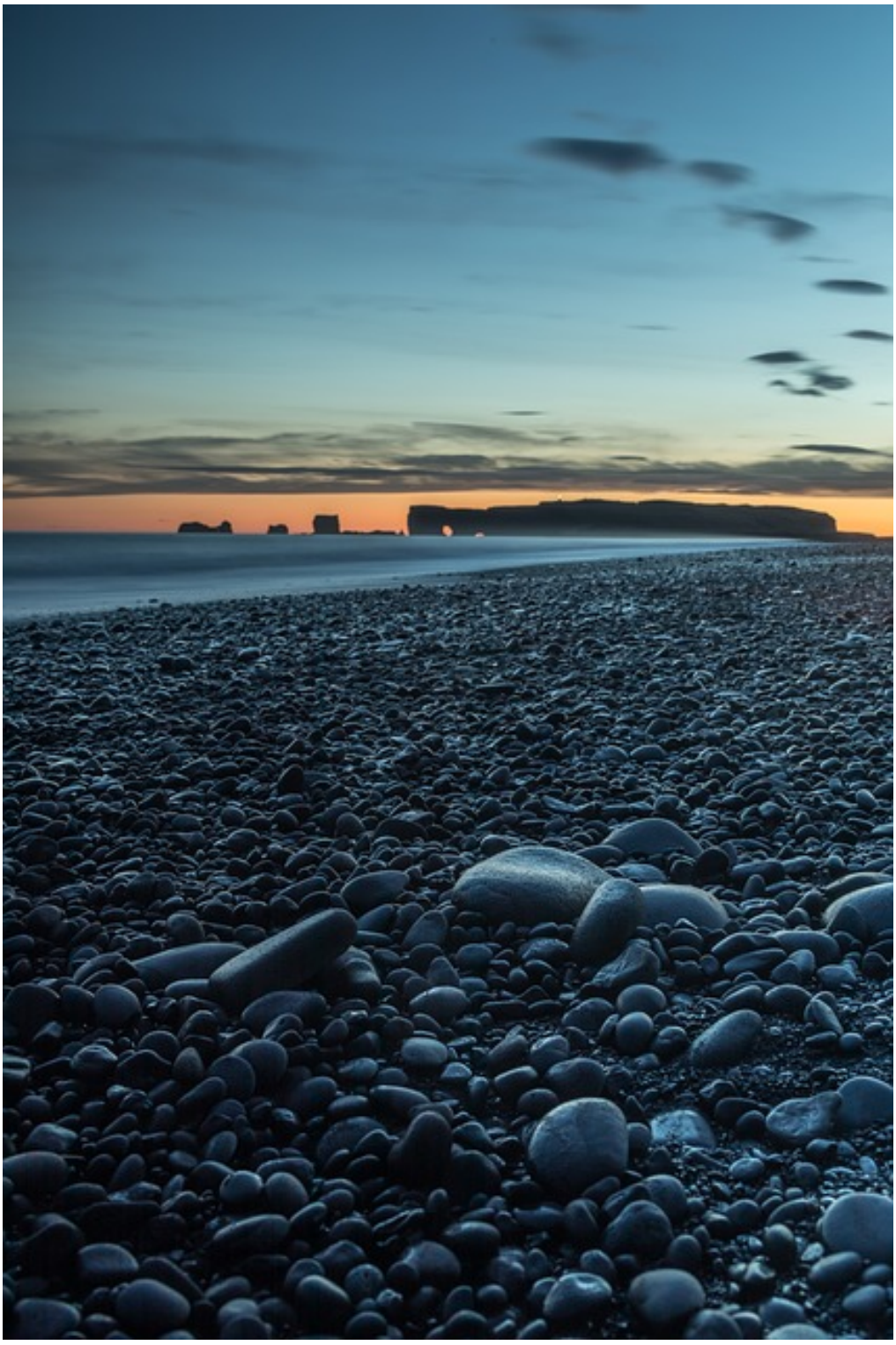
The credibility of a potential reaction of Icelandic society to the situation Björnsdóttir created is much more difficult to verify because many factors could potentially affect the directions of action chosen by the Icelandic government, the media, and the citizens. The vision Björnsdóttir offered is only one option out of many. This opens up a great possibility for discussion and can help us reflect on human nature, current social problems in Iceland, and the potential effects of ideologies. If an SF book can induce such a discussion and self-reflection, it deserves attention.

Conclusions

As a genre that describes the reactions of humans to change, SF can be used as supporting material in Arctic research in social sciences. Climate change and the development of ICTs are affecting the Arctic's environment and inhabitants in visible ways. SF can serve as a mental experiment, helping us understand the potential reactions of Arctic systems to on-going and future changes. A feature of SF—a possibility of moving from speculative fiction to non-speculative fiction over time—makes the genre even more valuable because it proves that creations of the imaginations of SF authors lie close to reality.

Elements appearing in SF that could be analysed are the resilience and transformation exhibited in reaction to potential changes. In Sigríður Hagalín Björnsdóttir's *Eyland*, Iceland undergoes transformation in reaction to the isolation of the island from the rest of the world. The book includes technical elements that can be compared with the current state of knowledge, which gives the narrative credibility. It also includes speculative elements such as one possible reaction of society to potential changes. The speculative elements are particularly important while analysing the content of an SF book because they can help us visualise and understand better the possible outcomes of fictional, as well as currently on-going, changes. Such visualisations of what can happen

(or what could happen if) may play a role in increasing awareness of, for instance, threats related to climate change. It can also help us navigate and manage changes and threats. Studies of the fates of potential future societies may help us understand what can happen to our society under circumstances that are likely to happen, but that thus far are not certain.



A Decade of Polar Law *(adapted from the Preface of the 10th Volume of the Yearbook of Polar Law)*

Adapted by Joëlle Klein[*]

The Yearbook of Polar Law is a compilation of articles, statements, and current developments in the field of polar law. Now surpassing a decade in publication, the Yearbook represents an important annual contribution of scholars to the. The 10th volume includes statements from the 10th Polar Law Symposium held in Rovaniemi in September 2017. Hosting over 115 participants from diverse regions, the conference underscored the continuous and increasingly global relevance of polar law. In that year, the Master in Polar Law program at the University of Akureyri in Iceland also concluded its first decade. Several significant and noteworthy activities during this decade of polar law also include: the publication of three polar law textbooks edited by Natalia Loukacheva and published by the Nordic Council; the serial electronic publication of Current Developments in Arctic Law by the Northern Institute for Environmental and Minority Law (NIEM) at the Arctic Centre in Rovaniemi, Finland; and the thematic network on Arctic law established under the auspices of the University of the Arctic (UArctic).

Finally, a new series, Studies in Polar Law, has been established with Brill | Nijhoff publishers. The series, with Editors-in-Chief Gudmundur Alfredsson and Timo Koivurova, will publish monographs and collected works devoted to the legal regimes applicable to the Arctic and the Antarctic. The series' inaugural volume, Human and Societal Security in the Circumpolar Arctic, edited by Kamrul Hossain, Jose Miguel Roncero Martin and Anna Petrétei, was published in September 2018, and the series editors look forward to book proposals for subsequent volumes.

The relevance of polar law as a cross cutting theme is also demonstrated by its expansion as a normative and technical term. Initially, 'polar law' brought together the terms Arctic law and Antarctic law. Today, polar law even incorporates the Third Pole, thus including a third regional component. The two terms, Arctic law and Antarctic law, have of course existed for a long time.

However, the use of 'polar law' is more accessible for cross-referencing and comparative approaches to substance, procedures and institutions in relation to climate change, the environment, natural resources law, the law of the sea,

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and governance. Moreover, a search for the term 'polar law' on Google now brings up a multitude of entries referring to education, research, publications, conferences, intergovernmental instruments and so on, at the global, regional, sub-regional, national and local levels.

The main themes of the Polar Law Symposia and of the Yearbook have so far been the rights of indigenous peoples, environmental law, climate change, the law of the sea, maritime law, natural resources, local and national governance, as well as regional and international cooperation. As represented in the 10th volume of the Yearbook, two new themes have emerged as leading topics: the role of China in the Polar Regions, and digital security. The application of the term is broadening, and it will be interesting to observe the continued growth of scope and breadth of issues that polar law will encounter in the years to come.

Peaceful cooperation between polar actors in all regions has been consistent and reliable, and despite potentially worrying signals in relation to unsettled disputes and increasing military build-up, a peaceful trend will hopefully continue. With this in mind, and in light of the numerous positive developments mentioned above, the continued relevance and status of polar law over the next ten years is promising. Forthcoming Polar Law Symposia will be held in Hobart, Australia (2019), and Kobe, Japan (2020). The future of polar law is bright, and its continued growth is anticipated and encouraged. The 10th Volume of the Yearbook of Polar Law is now available for purchase via Brill | Nijhoff publishers: https://brill.com/view/title/54621, the 11th Volume of the Yearbook of Polar Law will be published in 2020, and the 12th Volume of the Yearbook of Polar Law will soon be accepting articles for submission.

Original Preface:

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PhD Thesis in Public International Law: The 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean: Its Background, Motivations and Aspirations (Abstract)

*Lena Johanna Zahner**

For decades, the establishment of a new agreement or the modification of existing agreements safeguarding the delicate area of the Arctic waters have been demanded. At a time when environmental conditions are changing and fishery becomes more of a reality in the Arctic, the 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean ("CAO Agreement") was set up just in time to stipulate necessary regulations.

Beyond addressing fisheries, the thesis employs a broad approach to gain an adequate understanding of the delicate environment of the Arctic area in order to classify the issue of fisheries. To comprehend the demands of the Arctic and the necessary level of protection in this area, a short overview of the Arctic land and marine area is given. Before an assessment of the CAO Agreement and its achievements can be made, the factual environmental situation must be determined. Special focus lies on the issue of climate change and its possible implications for the Arctic, the CAO and the fish inhabiting its waters. Prognoses regarding the development of the region are made on the basis of scientific evidence. The environmental approach is one of the key elements of the thesis.

The thesis does not merely deal with the status quo of public international law but takes into account common policy issues in the Arctic area arising from territorial, economic or other national matters. Signatory States of the CAO Agreement as well as non-signatory States pursue different approaches and interests they want to safeguard. These might collide with the demands of effective protection. Similar issues arise in the case of regional associations of States and coastal States. Further, special weight is given to the interests of indigenous communities that the CAO agreement intends to take into consideration.

Further, the thesis analyses the current status of protection and compares it with existing regional and sub-regional fishery management organizations and similar arrangements. Thereby, common mistakes and difficulties as well as efficient measures that evolved over the history of these arrangements can assist

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in assessing the effectiveness of the CAO Agreement and might serve as best practice examples. Exceptional norms are discussed and recommendations for a better implementation of efficient management measures and tools are made.

The aim of the thesis is to provide suggestions for an improvement of the CAO Agreement and thereby the protection of the high seas of the Arctic Ocean, its environment, and its fish stocks in the long-term. Consequently, the thesis aims to serve as a basis for future renegotiations of the present agreement or other agreements dealing with regional fishery management.