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Drivers of climate change: Seismic testing and human security in Nunavut

When considering the tolls on human security because of climate change, we generally direct our attention to the future as we contemplate the catastrophic effects of our fossil fuel dependence. But (increasingly invasive) non-renewable resource development currently threatens human security at the earliest stages of the climate change process. This takes place before any actual burning of fossil fuels, and even before extraction. This policy brief focuses on the impacts of the drivers of climate change; specifically, it examines impacts of seismic testing on the food security of the Baffin Island Inuit.

What does security mean to Inuit? Security doesn't come from the comfort that some find in icebreakers, sonar detectors and Arctic military capabilities. Security from our societal perspective comes from access to the basic essentials of life – food, shelter and water.¹

The warming Arctic as a major driver of global weather systems

According to the Arctic Council, over the last four decades, global warming is most evident

in the Arctic region. The National Snow and Ice Data Centre (NSIDC) reports, “the Arctic is losing its oldest and thickest ice.”² Diminishing sea ice reflects less sunlight, and dark waters absorb more solar energy, further increasing temperatures—at twice the rate of the rest of the planet, according to the US National Oceanic and Atmospheric Administration’s 2014 annual report. Recorded sea ice extent is the second lowest on record, and with slow regrowth, the Arctic was missing a mass of sea ice the size of

1 Inuit Tapiriit Kanatami (ITK) (2013). *Nilliajut: Inuit perspectives on security, patriotism and sovereignty*. <http://www.inuitknowledge.ca/sites/naasautit/files/attachments/20130125-En-Nilliajut-InuitPerspectivesSecuritySovereigntyPatriotism.pdf>

2 S.E. Moore, R. Reeves, B. Southall, T. Ragen, R. Suydam, and C. Clark, “A new framework for assessing the effects of anthropogenic sound on marine mammals in a rapidly changing Arctic,” *BioScience* 62 (3):2012. 289–295.

the eastern half of the U.S. in October 2016.³ This presents a global challenge, because the Arctic is a major driver of global weather systems.

In 2014, the Intergovernmental Panel on Climate Change (IPCC) reported on the decline of Arctic marine, freshwater, and terrestrial ecosystems, with changes in permafrost, sea ice, and ocean conditions.⁴ Circumpolar peoples face environmental challenges on a growing list that includes disruptive weather changes (making land, ice, and sea travel risky), ocean acidification, declining species' habitats, thawing tundra, dangers associated with thinning, and melting sea ice, flooding, erosion, and increased exposures to contaminants, unsafe drinking water and elevated levels of mercury and PCBs in the food chain. The safety and human security of Arctic populations—forty different Indigenous groups numbering approximately four million inhabitants within the Arctic Circle—are threatened by the increasing access to “one of Earth’s last frontiers.”⁵ In 2007, the once-impassable Northwest Passage (connecting the Atlantic and Pacific oceans via northern Canada) became ice-free; an open seaway during summer for the first time since satellite record keeping began. Our fossil fuel

dependence is at the root of climate change, causing carbon dioxide in the atmosphere to pass the 400-ppm threshold in 2016.⁶

Canadian federal government decisions impact climate change, and the security of Arctic Indigenous peoples in Nunavut. While environmentalists express grave concern about catastrophic costs of rapidly declining sea ice, and with it, the opening of the Northwest Passage, others, such as the resource extraction sector, prefer to focus on new opportunities for profit generated by these developments. In the last century especially, the Government of Canada has supported the resource extraction sector’s efforts to gain access to the enormous economic potential of “Canada’s incredible endowment.”⁷ However, opening the Arctic to fossil fuel companies, mining, commercial fisheries, and tourism inadvertently “locks the world into known accelerators of climate change.”⁸

Arctic human security at risk: The Clyde River Supreme Court case

Canada is one of the world’s wealthiest nations, yet its Inuit communities (numbering 103,000 in 2011) suffer from chronically urgent food insecurity, compounded by high unemployment and high cost of living, aggravated by reliance on groceries

- 3 Alexander Verbeek, “A letter to Santa in these troubled times.” *South China Morning Post* 24 Dec. 2014. <http://www.scmp.com/comment/insight-opinion/article/1668579/letter-santa-these-troubled-times>. Also see David Chen, “Food Security in the Canadian Arctic. Presentation at the Global Food Security Conference, McGill Institute For Global Food Security”; Elyse Skura, “Clyde River hunters laud ‘surprising’ Greenpeace partnership” CBC News, Nov 16, 2015.
- 4 “Acceptance of the Actions Taken at the Tenth Session of Working Group II” Thirty-eighth session of the IPCC, March 2014. <http://www.ipcc.ch/apps/eventmanager/documents/7/030420140912-Doc.%203.%20Add.1%20-%20Approved%20Summary%20for%20Policymakers%20-%20Tables%20and%20figures.pdf>;
- 5 Will Oremus, “The Upside of Global Warming: Luxury “Northwest Passage” Cruises for the Filthy Rich,” *Slate*. 17 August 2016. http://www.slate.com/blogs/future_tense/2016/08/17/crystal_serenity_s_northwest_passage_cruise_is_a_festival_of_environmental.html

- 6 Brian Kahn, “Physics Doesn’t Care Who Was Elected President: Eight worrisome climate patterns are well underway, regardless of politics” *Scientific American*. 10 November, 2016.
- 7 “Statement on Canada’s Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada’s Northern Strategy Abroad,” *Global Affairs Canada*. http://www.international.gc.ca/arctic-arctique/arctic_policy-canada-politique_arctique.aspx?lang=eng
- 8 Sarah Cornell, PSI 2015 Report - Arctic Security & Conflicting Interests. https://www.planetarysecurityinitiative.org/sites/default/files/2016-11/PSI2015_WG8_Arctic_Security_P26_Conflicting_Interest.pdf.pagespeed.ce.daWmlphPJw.pdf

imported by air.⁹ Seventy percent of Nunavut Inuit homes are food insecure, exceeding the Canadian average eight times over.¹⁰ The Clyde River Inuit rely on subsistence hunting of marine mammals for fifty-five percent of their diet. While crucial for human security, “country food” is also culturally significant as a medium through which social relations are expressed. The economy of hunting ensures community survival through a structural obligation to share that does not extend to expensive, imported groceries. Land development has led to declining food sources in various parts of the world, but the Clyde River case may be unique in its locally specific connections between food source and cultural identity.¹¹

Oil prospecting off the coast of Baffin Island is carried out through seismic surveys. Seismic testing causes hearing loss in sea mammals, disrupting their migration patterns, with direct effects on food security. During test periods, seismic oil and gas surveys involve repetitive, underwater dynamite-like blasts every ten seconds, twenty-four hours a day, seven days a week. Marine biologists have observed disruptions to vital marine mammal behaviour caused by the deafening of sea mammals reliant upon echolocation to navigate, find food, nurture their young, and communicate with each other. This is thought to be the reason why almost 1000 narwhals started their migration too late in 2008, and perished after becoming trapped in sea ice along Baffin Island. Clyde River elders recalled seeing pus oozing from the ears of seals they had caught.¹² A driver of climate change, seismic blasting contributes to a precarious future by supplying our growing appetite for fossil fuels, but also presenting an immediate threat to their food security, as fish and sea mammals normally make up an important part of their diet.

Canada’s National Energy Board issued a five year permit in June 2014 to a trans-national consortium of fossil fuel corporations to map as much as ninety billion barrels of technically recoverable sub-sea hydrocarbons off the east coast of Baffin Island over the next five years. The Arctic has become crucially important to global human security, military strategy, and climate justice. With investments in this decade potentially surpassing \$100 billion, nonrenewable

9 Statistics Canada: “Aboriginal Peoples in Canada: First Nations People, Métis and Inuit” <https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/99-011-x2011001-eng.cfm#a5>

10 M. Harder and G. Wenzel, “Inuit Subsistence, Social Economy and Food Security in Clyde River, Nunavut,” *Arctic*, Vol. 65 (3) 2012. 305 – 318; G. Egeland, A. Pacey, Z. Cao, and I. Sobol, “Food insecurity among Nunavut preschoolers: Nunavut Inuit Child Health Survey 2007-2008,” *Canadian Medical Association Journal*, 182(3): 2010. 243-248; A. Cucknell, O. Boisseau, A. Moscrop, “A Review of the Impact of Seismic Survey Noise on Narwhal & other Arctic Cetaceans,” Report prepared for *Greenpeace Nordic* by Marine Conservation Research Ltd. 2015; M. Heide-Jørgensen, R. Guldborg Hansen, K. Westdal, R. Reeves, A. Mosbech, “Narwhals and seismic exploration: Is seismic noise increasing the risk of ice entrapments?” *Biological Conservation* Volume 158 (February 2013), 50–54; L. Cecco, “The food desert of the North: In northern Canada, Inuit rely on an annual narwhal hunt to relieve hunger.” *Al Jazeera America*. 27 December 2015; Nunavut Food Security Coalition Annual Report 2014-15; 2010 - 2011 Annual Report on the State of Inuit Culture and Society).

11 George Wenzel, *Animal Rights, Human Rights: Ecology, Economy, and Ideology in the Canadian Arctic* (Toronto: University of Toronto Press, 1991); Claude Lévi-Strauss, *The Savage Mind* (Chicago: University of Chicago Press, 1962); M. Freeman, “Why Matataak and other kalaalimerngit (local foods) matter,” 45-53 in B. Jacobsen, ed., *Cultural and Social Research in Greenland 96/96. Essays in Honour of Robert Petersen*. NUUK: Iisimatuserfik/Atuakkiorfik, 1996. Also see George Wenzel “Ningiqtuq: Resource Sharing and Generalized Reciprocity in Clyde River, Nunavut,” *Arctic Anthropology* 32(2): 1995. 43-60.

12 David Chen (2015) Food Security in the Canadian Arctic. Presentation at the Global Food Security Conference, McGill Institute For Global Food Security; Cucknell, A-C., Boisseau, O., Moscrop, A. (2015) *A Review of the Impact of Seismic Survey Noise on Narwhal & other Arctic Cetaceans*. Report prepared for Greenpeace Nordic by Marine Conservation Research Ltd.; Heide-Jørgensen, M., Guldborg Hansen, R., Westdal, K., Reeves, R., Mosbech, A. Narwhals and seismic exploration: Is seismic noise increasing the risk of ice entrapments? *Biological Conservation* Volume 158 (February), 2013. 50–54; Elyse Skura, “Clyde River hunters laud ‘surprising’ Greenpeace partnership” CBC News, Nov 16, 2015. <http://www.cbc.ca/news/canada/north/greenpeace-clyde-river-nunavut-seismic-testing-battle-1.3318691>

resource extraction in the melting Arctic compounds the global threat already posed by disappearing Arctic ice sheets. A fundamental problem is how to ensure environmental and human security in the face of market agendas focused upon profit.

While extending rather than limiting Inuit rights is arguably in the interest of Canadian claims to sovereignty, the Arctic Inuit, lacking sufficient economic power and political autonomy, face a spectrum of human insecurity, including health risks, cultural vulnerability and food insecurity.

Former Inuit Tapiriit Kanatami President Mary Simon has suggested that protecting the environment and sustaining the Inuit economy in Inuit Nunangat are vital to preventing “inappropriate levels” of nonrenewable resource extraction. Prevailing economic structures prioritize government policies designed to facilitate the marketplace. Canada’s *Northern Strategy* (2009), a set of guidelines developed in response to increasing global interest in the Canadian Arctic, focuses on economic development (through the Nunavut Land Claims Agreement, the Mackenzie Gas Project and Geo-Mapping for Energy and Minerals) and military security. By emphasising competition, consumption, and prioritization of the market, deregulation, and privatization, the Strategy positions Inuit on the periphery, limiting the ways in which they may participate in “Arctic dialogues”. Similarly, the Arctic Council restricts Indigenous decision-making power. A high-level intergovernmental forum, the Arctic Council is comprised of member states with territory in the Arctic. While it addresses issues pertinent to Arctic governments and Arctic Indigenous peoples, the latter may gain access only as Permanent Participants, with no vote, and therefore, no direct agency. Decision-making power in the Arctic Council remains out of Inuit hands.

The Makivik Corporation, the legal representative of Quebec’s Inuit, has argued, “The oil and gas regime in Arctic waters takes development for granted and adds Inuit consultation as an afterthought.” The Canadian government has made unilateral decisions with regard to natural

resources, “fed by an attitude of paternalism and the policies of assimilation.”¹³

What is being done?

For the past two years, former mayor Jerry Natanine, and the Nammautaq Hunters and Trappers Organization of Clyde River have been legally challenging a National Energy Board decision to permit seismic testing in Baffin Bay and Davis Strait as a direct threat to their right to food and survival in the case: *Hamlet of Clyde River, Nammautaq Hunters & Trappers Organization - Clyde River, and J. Natanine v. TGS-NOPEC Geophysical Company ASA (TGS), Petroleum Geo-Services Inc. (PGS), Multi Klient Invest as (MKI), and Canada (A-G)*. In October 2015, Clyde River filed an application for leave to appeal its seismic testing challenge to the Supreme Court of Canada, and the case is being heard 30 November 2016. This, the first Supreme Court case from Nunavut, has implications of national and international importance, because the court may define more clearly the extent of the Crown’s constitutional duty to consult Indigenous groups according to the tenet of “free, prior and informed consent” outlined in the [United Nations Declaration on the Rights of Indigenous Peoples](#).¹⁴ As of March 22 2017, the Supreme Court of Canada decision on the duty to consult is still anticipated. It will hopefully bring legislative and policy changes to Indigenous involvement in the monitoring and protection of Arctic natural resources in Nunavut.

13 Elyse Skura, “Nunavut seismic testing appeal could help define Canada’s duty to consult Indigenous groups,” *CBC News*, 21 November 2016.

14 *United Nations Declaration on the Rights of Indigenous Peoples*, United Nations A/RES/61/295 Resolution adopted by the General Assembly on 13 September 2007 [without reference to a Main Committee (A/61/L.67 and Add.1)] 61/295, at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/512/07/PDF/N0651207.pdf?OpenElement>; Elyse Skura, “Nunavut seismic testing appeal could help define Canada’s duty to consult Indigenous groups,” *CBC News*, 21 November 2016.

Understanding obstacles to further progress: The problematic insertion approach

According to Gail Russel (2015), Inuit are missing from Canada's Northern Strategy. Inclusive gestures that acknowledge the "complementary" nature of Indigenous knowledge in security and development plans overlook Inuit participation beyond inserting them into already defined frameworks. This raises the question of whether or not non-Inuit actors genuinely understand food security for Arctic Indigenous peoples or their traditional economic activities, which she contends are not recognized by the mainstream as a legitimate economic order. Russel is in agreement with many other academics that Inuit perspectives on "better security tactics" are not permitted to drive Arctic projects.¹⁵

This lack of agency gives rise to unlikely Indigenous alliances, such as that forged between the Clyde River Inuit and Greenpeace (a global campaigning

organization). Greenpeace has apologized for its historical campaigns against seal hunting that devastated the Baffin Island Inuit economy in the 1970s, and is financially assisting Clyde River's legal opposition to the fossil fuel industry. Greenpeace has also recently installed solar panels in Clyde River to reduce the hamlet's dependence upon fossil fuels.

Extractive industries and potential for private-sector employment

Might it be possible that private-sector employment opportunities arising out of the opening up of the Northern Passage seaway compensate Baffin Island Inuit for the collapse of subsistence hunting caused by seismic testing? In her study of northern Alberta's Mikisew Cree First Nation, political scientist Gabrielle Slowey examines community prosperity and economic autonomy developed through Indigenous partnerships with the resource extraction sector. Communities such as the Mikisew Cree First Nation reorganized their economic relationship to the global market, and the money they earned afforded them more independence and control over their affairs, but "through a dependency on a predatory economy at odds with the deep reciprocity that forms the cultural core of many Indigenous people's relationships with land."¹⁶ Their engagement with extractive industries eroded egalitarian traditions, resulting in increased economic disparity, and attendant tensions and divisiveness amongst band members.¹⁷ Andrew Hodgkins notes that "resource development" in the North has historically produced precarious cycles of rapid economic growth followed by sudden economic decline. Such "boom and bust cycles" have historically disrupted slower, but more stable developments of

15 Elizabeth Gail Russel, *Canadian Arctic Policy and Program Development and Inuit Recognition: A Neoliberal Governmentality Analysis of Canada's Northern Strategy and The "Missing Piece"*. A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy. Graduate Department of Social Justice Education. Ontario Institute for Studies in Education, University of Toronto. 2015. Also see Trudy Govier, *Taking Wrongs Seriously: Acknowledgement, Reconciliation, and the Politics of Sustainable Peace*. Amherst, NY: Humanity Books 2006; Julie-Ann Tomiak, *Indigenous Self-Determination, Neoliberalization, and the Right to the City: Rescaling Aboriginal Governance in Ottawa and Winnipeg*. A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Canadian Studies; Political Economy. Carleton University Ottawa, 2011. 90; Poka Laenui, *Federalism and the Rights of Indigenous Peoples: A Hawaiian Perspective*. Paper presented at the Conference on Federalism and the Rights of Indigenous Peoples: Comparative Perspectives and Strategies on January 9, 2007 at the University of Hawai'i, Manoa, Hawai'i. http://www.opihi.com/sovereignty/federalism_and_the_rights_of_indigenous_p.doc

16 Glen Coulthard, *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition*. Minneapolis: University of Minnesota Press, 2014. 171.

17 Gabrielle Slowey, *Navigating Neoliberalism: Self-Determination and the Mikisew Cree First Nation* (Vancouver: UBC Press, 2008).

traditional economies, especially when volatile markets compel extractive industries to pull out of the region, making regional underdevelopment worse.¹⁸

Economic interests in the Arctic as a result of globalization are often socially and politically in conflict with various, stated Indigenous objectives. The short-term profit imperatives driving fossil fuel prospecting off the east coast of Baffin Island immediately threaten the food security of nearby Inuit communities, and have long term consequences for human security on a global scale, given that the warming Arctic is a major driver of global weather systems. The food security threat at hand, along with long-term, global costs, is not prioritized in national economic planning.

Recommendations and policy options:

Based on discussions held at the Planetary Security Working Group on the Arctic the following recommendations could be made to policy makers, government representatives, and those in high-level positions of decision-making related to Arctic member polities¹⁹:

1. The Planetary Security Working Group on the Arctic recommended that government representatives pressure the Canadian government for more comprehensive implementation of the UN Convention on the Rights of Indigenous Peoples, to consult with Arctic indigenous peoples (through their own representative institutions) in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources.
2. Because Arctic indigenous peoples lack political and economic autonomy, they cannot safeguard their food sources. Thus, the Arctic working group recommended that policies be implemented to promote the direct and meaningful participation of Arctic Indigenous peoples (through voting rights in bodies like the Arctic Council), and the right of Arctic Indigenous peoples' to determine their own priorities for development.
3. The Arctic working group recommended that the burden of proof to ensure environmental safety be placed on encroaching extractive industries rather than with Arctic indigenous peoples. The working group further recommended that the price of environmental degradation should be incorporated into extractive industries' real costs of development.
4. In order to protect Arctic food security, the working group also recommended an underwater noise policy to address increased underwater chaos (from shipping, oil and gas development, stronger storms, less ice cover). Participants also recommended expanded, independent scientific studies on the impacts of seismic testing on the entire ecosystem (including marine life) upon which Inuit communities depend, and robust policies to deter exacerbation of ocean acidification, and poisoning from mercury, PCBs and other toxins. Escalated climate change in the Arctic, aggravated by expanding marine traffic and industrial activity is having a deleterious impact on Arctic food security. The need for the immediate implementation of robust policies to recognize, respect and protect the human rights of Arctic Indigenous peoples to (uncontaminated) "subsistence" food is urgent.

18 Andrew P. Hodgkins, "Re-appraising Canada's Northern 'Internal Colonies,'" *The Northern Review* 30 (Spring 2009): 179–205. 84.

19 These recommendations fall under the responsibility of the author of this policy brief, but she would like to express her sincere gratitude to the participants of the WG and the input they provided.

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About the Planetary Security Initiative

The Planetary Security Initiative aims to help increase awareness, to deepen knowledge, and to develop and promote policies and good practice guidance to help governments, the private sector and international institutions better secure peace and cooperation in times of climate change and global environmental challenges. The Initiative was launched by the Netherlands Ministry of Foreign Affairs in 2015 and is currently operated by a consortium of leading think tanks headed by the Clingendael Institute.

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