

This PDF is auto-generated for reference only. As such, it may contain some conversion errors and/or missing information. For all formal use please refer to the official version on the website, as linked below.

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

<https://www.e-ir.info/2014/04/10/arctic-indigenous-peoples-climate-change-impacts-and-adaptation/>

ADAM STEPIEN, APR 10 2014

In the Arctic, climate change has been one of the main topics discussed by media, researchers, Arctic inhabitants, and policy-makers for more than a decade. Impacts of climate change on the livelihoods and cultures of the region's indigenous peoples[1] are at the core of this discourse. As the region warms over twice as fast as the global average (IPCC, 2013), many changes are already visible and adaptation actions are called for or are underway. However, a superficial understanding of Arctic realities, as well as simplistic or naïve responses, may lead to ineffective strategies, adverse outcomes, and copying past policy failures.

Climate Change Puts Arctic Peoples in the Spotlight

Following the recent publication of the Intergovernmental Panel on Climate Change (IPCC) report "Climate Change 2014: Impacts, Adaptation, and Vulnerability," a renewed attention to climate change in the Arctic and the challenges faced by region's residents can be expected. The report does not introduce a new understanding of problems and challenges in the North in comparison to what was stated a decade ago in the Arctic Council's "Arctic Climate Impact Assessment" (ACIA, 2004 and 2005), but underlines the rising confidence regarding climate change impacts in the Arctic.

For many years, particularly since the publication of ACIA, the Arctic has been seen as a "canary in the coal mine" in relation to global climate change and its impacts, as the region is first to be affected. The consecutive Arctic sea ice minima (in 2007 and 2012) resonate especially strongly with public imagination and provide tangible proof of global change. Within such an image of the region, indigenous peoples, in particular North American coastal Inuit communities, have become an example of what the warming means for humans.

The place of Arctic indigenous peoples in the climate change discourse has been strengthened by the actions of indigenous leaders. In 2005, the Inuit, under auspices of the Inuit Circumpolar Conference (now known as the Inuit Circumpolar Council, since 2006), submitted a petition to the Inter-American Commission of Human Rights (IACHR) claiming that the United States had violated human rights of the Inuit (to life, food, and culture, inter alia) by refraining from action to decrease US CO₂ emissions ("Petition...", 2005). Recently, a similar step has been taken by the Arctic Athabaskan Council, which accused Canada of violating Athabaskan rights due to air pollution, including black carbon, which is considered another important driver of Arctic climate change due to its effect on snow/ice albedo. In addition, indigenous organizations and communities actively take part in research projects or in the governance venues addressing climate change, such as the Arctic Council (Koivurova and Heinämäki, 2006).

The plight of Arctic indigenous peoples is particularly striking as, being themselves marginalized, they inhabit the most developed states, some of which – Canada, Russia, and the US – are among the biggest CO₂ emitters. Although they are citizens of rich states, their life standards are often below the national averages and, as Elspeth Young (1995) put it, they can be considered the "third world in the first". Even though the future impacts of climate change are expected to be felt to a much greater degree in southern latitudes – where millions of people are affected by droughts, water shortages, effects on food production, heat waves, extreme weather events, etc. – the Arctic communities are seen as the first to "take the heat" and the first who would need to adapt to changing environment.

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

The challenges faced by Arctic communities are, therefore, used in public debate to emphasize the urgency of action. Consequently, researchers have given much attention to understanding the impacts, vulnerability, and adaptive capacity of Arctic peoples. Increasing emphasis is given to the adaptation actions and strategies already at work.

Vulnerable Communities and Impacts on Livelihoods

Identified impacts are numerous. Many Arctic indigenous communities are characterized by mixed economic systems, where formal or cash economy based on employment and public transfers is combined with informal, subsistence economy, as part of food and clothing originates from hunting or fishing (AHDR, 2004; Nuttall, 2002). Both components are crucial for life in remote communities, not only in economic terms. Harvesting or reindeer herding constitute the core of culture and social relations. The retreat of sea ice – an icon of Arctic warming – bears implications for subsistence livelihoods. Many Arctic coastal communities rely on Arctic species, distribution of which depends on the sea ice. The ice is indispensable for transport and hunters cannot no longer trust their traditional knowledge and experience in the light of changing ice conditions. When coupled with coastal erosion and storm surges, the effects on Arctic communities can be dramatic, with the likely need for costly relocation of some settlements (ACIA, 2005; Ford et al., 2010; Hovelsrud and Smit, 2010). Kivalina village in Alaska is perhaps the best known example of a community affected to such an extent by coastal erosion, with relocation expected to cost around or above USD 100 million. Changes in ocean ecosystems, like warming waters or currently emphasized ocean acidification, may influence the distribution of marine species and affect people engaged in fisheries.

The problems faced by coastal communities are perhaps the most vivid for the global public. However, such focus on the problems typical for the Inuit, although understandable, has often obscured the observed and predicted impacts on terrestrial social-environmental systems and other Arctic peoples. The changes in snow cover and thawing permafrost are, in many places, of greater consequence than retreating sea ice. Traditional livelihoods, such as reindeer herding – an iconic Arctic livelihood across Eurasia – face challenges as the availability of food for the reindeer is affected. In some locations, winter transport depends on snow conditions and ice on lakes and rivers. The thawing permafrost is a problem for many communities, as housing and water supplies, but also oil and gas pipelines or roads, may be at risk (ACIA, 2005). The phenomenon of Arctic greening and northward movement of ecosystem zones (CAFF, 2013) reshape the landscape which forms the basis of Arctic livelihood. The impacts on livelihoods are not confined to the subsistence activities themselves, as they have implications for the viability of indigenous traditional ecological knowledge, group identity, or inter-generational transmission of culture. Researchers also highlight the human health risks connected with the appearance in the North of invasive species and vector-borne diseases.

Complex Reality: Multiple Pressures, Indirect Impacts, and High Resilience

The landscape of changes presented above is surely alarming and somewhat predominant in public discourse, if no longer in research discourse. However, it is also overly simplistic and likely to produce a distorted picture of reality and lead to misconceived policies. First, climate change is only one of multiple stressors affecting Arctic indigenous communities, and in most cases it is not the dominant one. Second, direct impacts on harvesting and infrastructure are not the only implications of climate change. Third, Arctic communities are characterized by fairly high resilience and capacity to adapt to Arctic environment characterized by natural variability (Arctic Resilience Interim Report, 2013), and indigenous peoples should not be seen as defenseless victims of climate change, industrial developments, and state policies.

Moerlein and Carothers (2012) characterized the current situation of indigenous peoples as a life in a “total environment of change”, including economic, environmental, social, cultural, and governance pressures. Economic and cultural globalization and modernization remain a key factor of change, affecting indigenous communities via their dependence on governmental support, global demand for Arctic resources, as well as availability (and cost) of goods indispensable not only for modern lifestyles, but also for traditional activities where modern technologies are utilized. Arctic peoples still experience legacies of colonial policies, marginalization, poverty, and structural discrimination in terms of access to education or health care. The access to and ownership of traditionally occupied or used lands and waters remains a critical issue around the circumpolar North, with competition for land from

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

industrial or infrastructural developments. During the last four decades, a number of land claims settlements were concluded in North America; Greenland gained self-government status; and in Fennoscandia, legal systems have increasingly opened to indigenous land rights (for example, the 2005 Finnmark Act in Norway). However, many issues continue to be unresolved. Moreover, new regulatory and co-management regimes – born out of difficult negotiations and balancing of divergent interests and values – established complex governance frameworks, stretching the capacities of indigenous communities (Huntington et al., 2012).

The highlighted direct impacts on indigenous livelihoods are not the only consequences of changing climate for Arctic peoples. New economic opportunities – such as opening of Arctic shipping lanes, enhanced access to oil, gas, and mineral resources, or increased production in forestry – are readily embraced by Arctic states and major companies. Even though the expected developments are rather moderate and are driven, to a great extent, by global demand for resources rather than by climate change (EUAIA, 2014), they constitute additional pressures on indigenous livelihoods. There are, however, places where indigenous communities, especially when they have gained control over their lands, may be in favor of industrial developments, seeing them as a source of resources necessary for addressing social, economic, and environmental changes. Similarly, tourism in many places constitutes a crucial economic activity, even if it entails a risk of commercializing indigenous cultures. Climate change may affect tourism positively (for example, easier access to more remote locations for cruise vessels) or negatively (winter tourism activities dependent on snow conditions), thereby influencing communities' economies.

Climate change mitigation actions are perceived by researchers and indigenous leaders as having certain negative impacts on indigenous communities, especially in terms of inducing renewable energy developments. For instance, production of biofuels potentially increases already high food prices in remote northern communities. Investments in wind power and hydropower may have impacts on livelihoods, such as reindeer herding. In addition, indigenous groups can be affected by mitigation measures, such as protection of harvested species, populations of which are affected by climate change. The recent discussion within the Convention on International Trade in Endangered Species of Wild Fauna and Flora on (so far unsuccessful) banning of international trade in products of polar bear hunting is a good example (see, e.g., Tauli-Corpuz and Lynge, 2008). Traditional harvesting contributes little to the decrease in polar bear population, but would have constituted a human activity most affected by a measure directed, in fact, primarily towards mitigation of climate change impacts. Indigenous spokespersons emphasize the unfairness of the situation where the peoples least contributing to global warming are not only among the most affected by its impacts, but are disproportionately affected by climate change mitigation policies as well.

Arctic communities and the social-environmental systems they are part of are characterized by high resilience – they are capable of retaining their identity and basic characteristics in the context of change. Forbes et al. (2009) show that living from the land means an ongoing process of negotiating one's position in a changing environment and that adaptation is a crucial part of Arctic life, not necessarily a catastrophe. Over the last century, indigenous peoples have adapted, often successfully, to a profound transformation of their way of life and have been exposed to new – often alien – legal, economic, social, political, and cultural frameworks. However, the Arctic Resilience Interim Report (2013) warns that Arctic social-environmental systems may be reaching the limits of their adaptive capacities when all the various pressures and changes are taken into account. Adaptation actions that could have been implemented one century ago (for example, relocation or partial change of livelihood) are often impossible, very difficult, or extremely costly. Modern Arctic settlements are equipped with elaborate infrastructure, and resettlement is highly controversial in cultural and political terms, partly due to past experiences of forced or semi-forced relocation (AHDR, 2004; Pearce et al., 2010).

Risky Paths of Adaptation Policies

In the light of the danger of reaching the point exceeding communities' resilience, researchers call upon states and local authorities to plan and implement adaptation strategies. Proposed actions are numerous and may include supporting transmission of traditional ecological knowledge and training in the use of modern technologies, financial support for traditional activities, enhanced search and rescue capabilities, and enhanced surveillance of changes (Ford et al., 2010; Pearce et al., 2011; Tennberg, 2012). These adaptation strategies should be dynamic, continuously adjusted to changing conditions, and based on the traditional knowledge and participation of those

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

affected by climate change impacts. They should also address a broader spectrum of social and economic problems.

Designing responses characterized by such qualities is already a major challenge, but even then the adaptation policies remain problematic. There is a paradox in the fact that, while the adaptive capacity of indigenous communities has decreased from reliance on public transfers, permanent settlement, and the use of modern technologies (Bone et al., 2011), these very same technological, engineering, and public policy solutions are presented as proposed adaptation actions (Cameron, 2012). There are risks connected to introducing, also by indigenous groups themselves, crisis narratives or resilience language. Researchers also compare proposed adaptation to benevolent interventions, similar to what indigenous communities experienced in the past.

As the plight of vulnerable indigenous peoples is used to make technical and abstract climate science tangible and morally relevant, the resilience and crisis narratives are charged with moral overtones and emotional rhetoric (Bravo, 2009). Vulnerability discourses are seen as solidifying the victimization of indigenous communities (Lindroth, 2011; Niezen, 2003). It is not, therefore, surprising that indigenous peoples are often uncomfortable with being pictured as populations on the verge of extinction and cultural collapse.

Cameron (2012) points out that an understanding of indigeneity in the context of climate adaptation becomes confined to the notions of “local” and “traditional”. This may exclude indigenous groups from discussions on such issues as sovereignty, militarization, extractive industries, or shipping, perceived as being outside of “local and traditional” matters where the voice of indigenous peoples and their traditional knowledge are accepted as valid.

There is a danger of adaptation policies becoming a new form of state intervention – usually of a neoliberal, market-based, and technical character. Economic concerns dominate the debate (Moerlein and Carothers, 2012) and the risks are constructed as manageable and governable (Tennberg, 2012). Notions of crisis and urgency may lead to adaptation actions resembling trusteeship and, unconsciously, colonial ways of thinking (Cameron, 2012; *see, e.g.*, Li, 2007). The environmental challenges, if presented as technical problems, could be subject to expert directions. Politically charged issues (such as colonial legacies) may be neglected as they are located outside of such technical approaches. It happened often in the past that external experts claimed stakeholder and stewardship status in regard to resources, governance, and the environment of the Arctic (Bravo, 2009; Nuttall, 2002; Cameron, 2012). Bravo (2012) even highlights a danger of the emergence of a new lucrative industry of climate change risk and adaptation analysts, resembling the well-known IR scholars development industry in the Global South.

Empowerment: A Not-So-Simple Response

Tackling these dangerous, connected adaptation policies requires greater involvement of indigenous groups and genuine empowerment of Arctic communities. Ideally, this could offer Arctic governance a fairly safe passage between the need for active adaptation policies and the danger of new state interventionism and paternalism. Without participatory engagement coupled with capacity-building, adaptation efforts may prove ill-conceived, ineffective, or costly, or turn into a continuation of colonial trusteeship. Thus, any deliberations on policy options need to begin with the needs, perspectives, and perception of indigenous peoples. Empowerment should also refer to challenging issues like self-determination, or lands and resources, not only to technical aspects of climate adaptation.

Implementation of indigenous rights based on existing international instruments (such as the 1989 International Labour Organization Convention concerning Indigenous and Tribal Peoples in Independent Countries [No. 169] and the 2007 UN Declaration on the Rights of Indigenous Peoples) is one of the key elements of such an empowerment process. Rights-holder status gives indigenous peoples a stronger position than that of one among multiple stakeholders. The aforementioned 2005 Inuit petition to the IACHR is a good example. Although formally unsuccessful, it brought attention to the problems faced by the Inuit, framed them in a powerful language of rights, and affected the discourse on the climate change and Arctic peoples for years to come.

However, empowerment is also not a simple remedy for problems connected to climate vulnerability and adaptation. Consultation/participation overload has already become a problem in some places, as communities and their leadership are required to take part in multiple decision-making procedures. Moreover, the results of these

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

participatory efforts are often unclear, leading to frustration rather than empowerment. A balance between providing indigenous groups with genuine possibility to be fully consulted and capacities of these actors needs to be taken into account when designing decision-making procedures (Huntington et al., 2012). Devolution is also not a straightforward path to improvement of social, political, and economic situations, and consequently to better adaptation policies. Experiences with mismanagement and questionable policies during the 1999 establishment of the Canadian territory of Nunavut are a case in point (see, e.g., Loukacheva and Garfield, 2009).

These numerous constraints do not mean that actions are impossible or bound to be ineffective. Every adaptation policy bears a risk of failure or may have unintended negative outcomes. However, as long as climate change impacts are taken seriously, as long as indigenous groups are treated with respect as partners, rights-holders, and culturally distinct communities, and as long as climate change challenges are not singled out from the “total environment of change”, there is a chance for effective and fair adaptation strategies and a possibility that the Arctic indigenous plight, by contributing to global discourse, may play a role in the intensification of mitigation efforts.

References

- ACIA, (2005) *Arctic Climate Impact Assessment: Scientific Report*. Cambridge University Press.
- ACIA, (2004) *Arctic Climate Impact Assessment: Impacts of a Warming Arctic*. Cambridge University Press.
- AHDR, (2004) *Arctic Human Development Report*. Akureyri: Stefansson Arctic Institute.
- Arctic Resilience Interim Report*, (2013) Stockholm Environment Institute and Stockholm Resilience Centre. Nillson. A. (Ed). Arctic Council.
- Bravo, M.T. (2009) ‘Voices from the sea ice: the reception of climate impact narratives’, *Journal of Historical Geography*, vol. 35, pp. 256-278.
- CAFF (Conservation of Arctic Flora and Fauna), (2013) *Arctic Biodiversity Assessment. Synthesis*. Conservation of Arctic Flora and Fauna. Arctic Council.
- Cameron, E.S. (2012) ‘Securing Indigenous politics: A critique of the vulnerability and adaptation approach to the human dimensions of climate change in the Canadian Arctic’, *Global Environmental Change*, vol. 22, pp. 103-114.
- EUAIA, (2014, in print) *EU Arctic Impact Assessment Report*. Stepien, A., Koivurova, T., Kankaanpää, P. (Eds.), Arctic Centre, University of Lapland.
- Forbes, B.C., Stammer, F., Kumpula, T., Meschtyb, N., Pajunen, A., and Kaarlejärvi, E. (2009) ‘High resilience in the Yamal-Nenets social-ecological system, West Siberian Arctic, Russia’, *Proceedings of the National Academy of Sciences of the United States of America*, vol. 106, pp. 22041-8.
- Ford, J.D., Pearce, T., Duerden, F., Furgal, C., and Smit, B. (2010) Climate change policy responses for Canada’s Inuit population: The importance of and opportunities for adaptation. *Global Environmental Change*, vol. 20, pp. 177-191.
- IPCC (Intergovernmental Panel on Climate Change), (2013) *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex & P.M. Midgley (eds.)].
- IPCC (Intergovernmental Panel on Climate Change), (2014) *Climate Change 2014: Impacts, Adaptation and Vulnerability*. Summary for Policy-makers. Fifth Assessment Report (draft), [Online], Available: http://ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf.

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

Hovelsrud, G. K., and Smit B. (eds.), (2010) *Community Adaptation and Vulnerability in Arctic Regions*. Berlin: Springer.

Huntington, H.P., Lynge, A., Stotts, J. , Hartsig, A., Porta L., and Debicki Ch. (2012) 'Less Ice, More Talk: The Benefits and Burdens for Arctic Communities of Consultations Concerning Development Activities', *Carbon and Climate Law Review*, vol. 1, pp. 33-46.

Koivurova, T. and Heinämäki, L. (2006) 'The Participation of Indigenous Peoples in International Norm-making in the Arctic' *Polar Record*, vol. 42(221), pp. 101-109.

Li, T. M. (2007) *The Will to Improve: Governmentality, Development, and the Practice of Politics*. Durham: Duke University Press.

Lindroth, M. (2011) 'Paradoxes of power: Indigenous peoples in the Permanent Forum', *Cooperation and Conflict*, vol. 46(4), pp. 542-561.

Loukacheva, N., and Garfield M. D. (2009) 'Sustainable Human Rights and Governance: The Quest of an Arctic Entity in Transition', *Polar Law Yearbook*, vol. 1, pp. 283-305.

Moerlein, K.J., and Carothers, C. (2012) 'Total Environment of Change: Impacts of Climate Change and Social Transitions on Subsistence Fisheries in Northwest Alaska', *Ecology and Society*, vol. 17, doi:10.5751/ES-04543-170110.

Nuttall, M. (2002) *Protecting the Arctic, Indigenous Peoples and Cultural Survival*. London: Routledge.

Pearce, T., Ford, J.D., Caron, A., and Kudlak, B.P. (2012) 'Climate change adaptation planning in remote, resource-dependent communities: an Arctic example', *Regional Environmental Change*, doi: 10.1007/s10113-012-0297-2.

Petition To The Inter American Commission On Human Rights Seeking Relief From Violations Resulting From Global Warming Caused By Acts And Omissions Of The United States. December 2005. Submitted by Sheila Watt-Cloutier, [Online], Available: <http://www.inuitcircumpolar.com/files/uploads/icc-files/FINALPetitionICC.pdf>.

Smit, B., and Wandel, J. (2006) 'Adaptation, adaptive capacity and vulnerability', *Global Environmental Change*, vol. 16, pp. 282-292.

Tauli-Corpuz, V., and Lynge, A. (2008) *Impact Of Climate Change Mitigation Measures On Indigenous Peoples And On Their Territories And Lands*. Permanent Forum on Indigenous Issues. Economic and Social Council. United Nations. E/C.19/2008/10. 19 March 2008.

Tennberg, M. (2012) *Governing the Uncertain. Adaptation and climate in Russia and Finland*. Springer.

Young, E. (1995) *Third world in the first*. London: Routledge.

[1] The Arctic region is home to a number of indigenous peoples with diverse cultural, social, economic, and historical background, including the Inuit of Russia, Alaska, Canada, and Greenland; Aleut; North-American Natives (Athabascans, Gwich'in, Métis); Sámi people of Fennoscandia; and numerous groups in Russia (e.g., Chukchi, Eveny, Evenky, and Nenets).

This paper is based on the chapter "Arctic Indigenous Peoples and the Challenge of Climate Change" by A. Stepien, T. Koivurova, A. Gremesberger, and H. Niemi in Arctic Marine Governance: Opportunities for Transatlantic Cooperation (E. Tedsen, S. Cavalieri & R. Kraemer, eds.; Dordrecht: Springer, 2014). The author would like to thank the co-authors of the aforementioned chapter and especially Professor Timo Koivurova (Arctic Centre, University of Lapland) for comments and suggestions.

Arctic Indigenous Peoples, Climate Change Impacts, and Adaptation

Written by Adam Stepien

About the author:

Adam Stepien is a researcher at the Arctic Centre, University of Lapland, Finland. Adam's research interests are twofold. His doctoral project discusses interconnections between the Arctic and the realm of development assistance, with focus on the role of common identity, shared between cooperation partners, and the communication of experiential knowledge as a development project. In his other research activities, he deals with Arctic governance, legal issues, and socio-cultural changes, as well as Arctic indigenous politics. Earlier, he took part in a number of projects dealing with the EU's role in the Arctic, as well as climate change impacts on indigenous and local communities in the region. Currently, he works primarily as an editor of the EU Arctic Impact Assessment report.