

# CLIMATE CHANGE

# CHANGE

## AND THE WARMING POLITICS OF AUTONOMY IN GREENLAND

Mark Nuttall



The melting of Greenland's massive inland ice sheet has become much-reported in the scientific literature as a potentially catastrophic example of the Arctic as a region experiencing unprecedented and rapid climate change.<sup>1</sup> The Intergovernmental Panel on Climate Change's (IPCC) fourth global assessment concludes that airborne, satellite and seismic data indicate thinning around the periphery of the inland ice, where summer melt has increased during the past 20 years, while there is evidence of slower rates of thickening much further inland.<sup>2</sup> A recently updated review of climate change science, since the Arctic Council's Arctic Climate Impact Assessment (ACIA) was published in 2005, suggests that the melting of Arctic sea ice and the Greenland inland ice has severely accelerated.<sup>3</sup> This has prompted scientists to debate whether both may be close to their "tipping point" of sudden, rapid and possibly irreversible change. Both the ACIA and IPCC reports suggest, with a high degree of confidence, that climate change in the Arctic will have significant global consequences during this century. The Greenland inland ice covers 1.7 million sq. km, has an average thickness of 1600m and a total volume of some three million cubic km. It contains enough ice to raise global sea levels by seven meters over the next two to three centuries.

Recent work suggests that Arctic communities are facing greater change, and that they need to be prepared for the unpredictability of the weather, the loss of sea ice, increases in threats from coastal erosion, the migration of animal species important for local livelihoods, and an increase in extreme climatic events. They are told to prepare themselves for a future of living precariously on thin ice, and researchers and indigenous leaders report to the wider world that the peoples of the Arctic are becoming strangers in their own lands.

Canadian and Alaskan Inuit activists have stressed the human rights aspects of climate change, and this is well illustrated by former Inuit Circumpolar Council (ICC) chair Sheila Watt-Cloutier's testimony to the U.S. Senate in 2004. Climate change is interpreted as a matter of cultural survival for Inuit and this point is

also occasionally reinforced by ICC Greenland, most recently by Aqqaluk Lynge's submission to the public hearings for a second runway at London's Stansted Airport in May 2007. Lynge, who is President of ICC Greenland, travelled to England for the inquiry and he spoke of the loss of sea ice and habitat critical for Arctic wildlife, of the melting of the inland ice, and of the cultural impact of climate change on Greenland Inuit. In his testimony, he accused British holiday-makers of making unnecessary journeys that contribute to the greenhouse gas emissions responsible for the environmental problems Greenland now faces. Lynge's narrative drew attention to global consumption patterns and to the globalisation of leisure, positioning Greenlanders as victims of modernity and environmental change:

*"The serious consequences affecting my people today will affect your people tomorrow. Most flights from Stansted are not for an important purpose. They are mostly for holidays and leisure. Is it too much to ask for some moderation for the sake of my people today and your people tomorrow? For the sake also of our wildlife and everything else in the world's precious and fragile environment that is more important than holiday flights."*<sup>4</sup>

This is an Inuit NGO view which, as far as the Greenland Home Rule government is concerned, is inconsistent with an Inuit government view, and missing from Lynge's testimony was any mention of the fact that Greenland has had a specific policy since the early 1990s of attracting increasing numbers of tourists. The disappearance of sea ice may well hasten the end of traditional Inuit hunting lifestyles in northern Greenland, but in the far south of the country sheep farmers are experimenting with growing wider varieties of vegetables and herbs, and some are diversifying and becoming cattle-breeders. And for politicians in the Home Rule government, climate change brings opportunities for opening up this self-governing North Atlantic island to mining and hydrocarbon development.

(left above) Hunting entails the navigation and negotiation of shifting environments. Ammassalik, East Greenland - Photo: Mark Nuttall

(left) South Greenland - Photo: Mark Nuttall

## **“Nothing is so bad that it is not good for something else”: adaptation in Inuit hunting and fishing communities**

In 2008, Josef Motzfeldt, an MP in the Home Rule government and a former Minister of Foreign Affairs, told the audience at the ‘Trans-Atlantic Climate Conference’ in the Faroe Islands:

*“While reduction of ice cover may have negative impact on some hunting activities, it may open up new opportunities for other activities in our society, like fisheries. A new generation of hunters and fishermen, building on their ancestors’ skills, knowledge and cultural socialisation, adds to this by learning how to cope with the changes. In the way we look at climate changes we have a saying that “nothing is so bad that it is not good for something else.”<sup>5</sup>*

Motzfeldt concedes that,

*“For sure the Inuit hunters in the Northern parts of Greenland, Canada, and Alaska and Russia are not happy with the fact that the sea ice is getting unreliable. These hunters can no longer go hunting during the winter months the way they have been doing for generations. They will have to accommodate to the changes in their way of living, and such changes are not always easy to accept. But – and this is my point – through our cultural heritage and our socialization we have been brought up with the mental tools that help us inventing these necessary changes in our way of living.”<sup>6</sup>*

With this confident assertion of the resilience of Inuit culture, Motzfeldt points to the essence of adaptive capacity in Greenland. Resilience depends, in many ways, on how people perceive, conceptualise and negotiate change. In my work throughout Greenland, mainly in small hunting and fishing communities, I have often been struck by how people do not necessarily talk of the environment as *changing* but of it being in a constant process of *becoming*.<sup>7</sup> *Pinnngortitaq* is often translated from Greenlandic as ‘nature’, but also ‘creation’ and it is this which perhaps comes closest to its literal meaning – ‘to come into being’. *Pinnngortitaq* is thus more than the physical world or even life in general. It is a process of *becoming* – ‘to come into existence’, and refers to the unfolding of possibility and opportunity. Responding to change, and remaining resilient in the face of change, is informed by the way Inuit continue to learn how to grow up in, move

around, and dwell in an environment in which one is always prepared for surprise and uncertainty.

### **The role of government subsidies**

While this hallmark of adaptive capacity goes a considerable way to ensuring sustainable livelihoods in many parts of Greenland, the economies of small hunting and fishing settlements are only viable when this culturally-specific approach to human-environment relations is practised in combination with Home Rule government subsidies. Although few politicians would publicly admit that it would be better to close some hunting communities and relocate their inhabitants to larger villages or towns, the reality is that hunting, while informing Inuit cultural identity, contributes little to the economy of this nation in formation. The Home Rule authorities inherited a Danish colonial policy of subsidies for trade in hunting and fishing products and a system of fixed prices on daily consumer goods, water, electricity and fuel throughout Greenland. A litre of milk, or the cost of providing lighting for homes, has until recently, cost the same wherever people may live, whether in Nuuk or the most northerly settlements. While keeping small communities populated, the system has also been criticised as a reason why little has been done by way of introducing development policies for them since the introduction of Home Rule in 1979.

The recent abolition of this system, beginning in 2005 ostensibly to reflect the true value of providing and importing goods and services, has been disputed and debated. A new system of differentiated prices is being introduced throughout Greenland. This may lead to some villages diversifying their economic base and emerging in a stronger position than many are currently in. Yet some critics of the Home Rule government see it as a way of encouraging the depopulation of some communities, which would be consistent with long-term policies of demographic shift and investment in a few major centres.<sup>8</sup> It would appear that statements such as ‘hunters not being able to hunt anymore because of thinning sea ice or changing climatic conditions’ are simplistic. The changing nature of hunting practises and hunting households is a consequence of many other factors, including Greenland’s nation-building process and its push towards greater self-governance. The viability of Inuit livelihoods in Greenland must be understood within the context of multiple stressors, including institutional, political, social and economic changes that reduce flexibility and adaptive capacity, leaving people with

little room to move in a changing world, meeting its challenges and seizing its opportunities.

### The quest for developing the 'greening land'

Elsewhere in the circumpolar North, particularly in Canada and Alaska, indigenous politicians, community leaders and activists portray indigenous peoples as victims of climate change but the Greenlandic official response to climate change diverges from this prevalent view.<sup>9</sup> Climate change is happening and Greenland is getting warmer and greener, but rather than portraying themselves as victims of climate change and its impacts, Greenlanders are being encouraged to think positively about the opportunities that climate change is bringing, and one of these opportunities, as Greenland Home Rule politicians tell the Greenlandic public, is that the world is heading for Greenland – tourists are eager to see the inland ice, icebergs and sea ice before it all disappears, and prospectors and seismic survey crews are busy preparing the ground (and sea bed) for when it does. As Greenland melts, the country is preparing to be gripped by frontier fever and an influx of foreign workers attracted by jobs in the extractive industries. The 'greening of Greenland' is a metaphor for a warming politics of autonomy, self-governance and possible independence.

Greenland's Home Rule politicians and business leaders of the new millennium, eager to attract energy multinationals, mining companies and aluminium producers, are extolling the virtues of their country as a green land, or at least a land that is getting greener. Industry events and conferences profiling Greenland's resource potential, such as the Greenland Sus-

tainable Mineral and Petroleum Development Conference held in Copenhagen on 6-7<sup>th</sup> May 2008, are becoming more frequent and are designed as platforms for international resource companies seeking to learn more about development opportunities in Greenland. They aim to attract international investors who are looking to gain more knowledge of potential projects in the region. The message conveyed by the Home Rule government is that Greenland is open for business and it is thanks to climate change that many new opportunities are arising.

This desire for industrial development is framed within a Greenlandic political discourse of nation-building and development that puts a positive spin on the prevailing global discourse of climate change as a cataclysmic force about to devastate human existence. It is also distinctive in the way it differs from many other indigenous responses to the scientific rhetoric about Arctic meltdown as social and environmental crisis.

### Nation-building and self-governance

Greenland was granted Home Rule within the Danish Realm in 1979 and the newly-formed Inuit-controlled regional government quickly assumed responsibility for most domestic matters within the first decade of its existence. The Greenlandic political system is similar to the Danish style of parliamentary democracy. It comprises a 31-seat parliament (*Inatsisartut*) which elects the Home Rule government (*Naalakkersuisut*), headed by the Premier. Greenlandic Home Rule was not an ethnic settlement granting a degree of self-government to the Greenlandic Inuit population. Although the Home Rule government and its adminis-

*Narsaq, South Greenland - Photo: Mark Nuttall*



tration are Inuit-run, Greenlandic Home Rule is public government and there is no formally-recognised political distinction between persons born in Greenland and persons born in Denmark. All have the same right to vote provided that they are Danish citizens. This political, rather than cultural or ethnic dimension to government in Greenland is important to understand as it shapes and frames decisions made that aim to strengthen self-determination and the Greenlandic economy.

While subsistence-based hunting (mainly for marine mammals) and small-scale fishing are important as the mainstay for many people, particularly in the villages of the north, east and extreme south of the country, Greenland's technologically-sophisticated fishing industry has provided the major portion of Greenland's internally-generated revenue. A central characteristic of Home Rule is that it has been a nation-building project. The country's leaders have long expressed an ambition to achieve a greater degree of political and economic independence through a process of *Greenlandisation*.<sup>10</sup> Although issues of language, such as the ascendancy of Greenlandic (*Kalaallisut*) over Danish, and occasional tensions between ethnic Inuit and Danes sometimes cloud the Greenlandisation debate, above all, it is a process based on Greenlanders 'claiming their right as political agents to determine their own future rather than on the basis of a well-defined cultural agenda'.<sup>11</sup>

### **The Danish-Greenlandic Self-Government Commission**

Almost thirty years after Home Rule was introduced, there is a widespread popular feeling in Greenland that this political arrangement has served its purpose and that a new constitutional arrangement should be negotiated with Denmark. In 2004, a Danish-Greenlandic Self-Government Commission was appointed to explore the possibilities and options for a new form of self-governance. Along the way, while the Commission continued its work, in 2005 the Danes allowed Greenland greater involvement in foreign policy discussions, in accordance with the broader interests of the Danish Realm. The Commission completed its work in May 2008 and handed its report and recommendations to Greenland's Premier Hans Enoksen and Denmark's Prime Minister Anders Fogh Rasmussen. The Commission's process has revealed a number of divergent viewpoints among Greenlandic politicians as to what the future relationship between Greenland and Denmark should be. A referendum on introducing Self-Rule will be held in Greenland on

25<sup>th</sup> November 2008 and, if the majority votes in favour, the Commission has recommended that it should be instituted on 21<sup>st</sup> June 2009.

The main barrier to greater autonomy, at least economically, appears to be the annual 3.5 billion DKK (around 470 million EUR) block grant Denmark gives to Greenland, and on which the Greenlandic economy depends. Oil, gas and mineral development has the potential to ease this dependence. The Commission also included a series of negotiations on mineral rights, ownership of subsoil resources and the administration of revenues from mining and hydrocarbon development. The Commission has concluded that minerals in Greenland's subsoil belong to Greenland and that the country has a right to their extraction. Both parliaments have yet to debate the issue, but Denmark has agreed that Greenland should be granted the rights to administer revenues from the energy and other extractive industries. The Home Rule government would receive the first 75 million DKK – around 10 million EUR – (for example, from oil exploitation) and future revenues from oil and mineral resources will then be divided between Greenland and Denmark while the annual block grant is reduced. Once the block grant is phased out and compensated for the revenues will go to Greenland, but the agreement will also be open to renegotiation.

### **Warming to opportunity: mining and oil**

The international resources community has identified the potential for Greenland to be a significant source of new mineral and petroleum development, with the opening of new mines and heightened interest in exploration opportunities in offshore Greenland in recent years. The Home Rule authorities have begun to award mineral exploitation licences to mining companies and local people in many parts of the country are noticing the seasonal arrival of prospecting crews heading off into remote areas. The Nalunaq gold mine opened near Nanortalik in south Greenland in 2004, and an olivine mine north of the capital Nuuk began operations in 2007. Five more mines extracting gold, rubies, diamonds and other minerals are expected to open over the next five years. Some politicians are confident that mining will eventually overtake the fishing industry as Greenland's main source of income.

Over the last few years, the Home Rule government has been involved in talks with several multinationals coveting exploration licenses for oil and gas.<sup>12</sup> A warmer climate, and hence easier access to exploratory sites, is seen as something positive if Greenland

is to attract international investors. Each year sees increased activity – in summer 2008 the Norwegian StatoilHydro company will conduct drillings in the coastal area off northeast Greenland (controversial because of its proximity to northeast Greenland’s national park), while other energy companies will conduct seismic tests in west Greenland’s coastal waters, particularly west of Disko Island and further north in Baffin Bay. While divided on the merits of an oil boom, many Greenlanders remain concerned at the country’s lack of laws, public information and binding regulations regarding Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA).

### The big smelter: Greenland as an aluminium-producing nation?

In 2007, the Greenland Home Rule government drew up a memorandum of understanding with the American aluminium company Alcoa. This opens the door to Alcoa moving through the initial planning and assessment phases to build an aluminium smelter on the west coast with an annual production capacity of 340,000 tonnes of aluminium ingots. In February 2008, the Home Rule government recommended to parliament that, if the project does go ahead, the smelter should be constructed just northwest of the town of Maniitsoq. The Home Rule government has established a company, Greenland Development, to assist it in the various activities related to the project, and the limited public debate in Greenland has so far focused on the environmental and social impacts. The smelter would require two hydro-power plants to supply it with energy, which would be built between 2010-2014, with construction of the transmission and smelter parts of the project occurring between 2012-2014. Alcoa and Greenland Development estimate employment for between 2,000-5,500 people (the majority of which, the Greenland premier Hans Enoksen has gone on record as saying, will be Poles, Portuguese and Chinese) during the four years needed to construct the dams and the smelter, with employment for around 600 people when the project is operational.

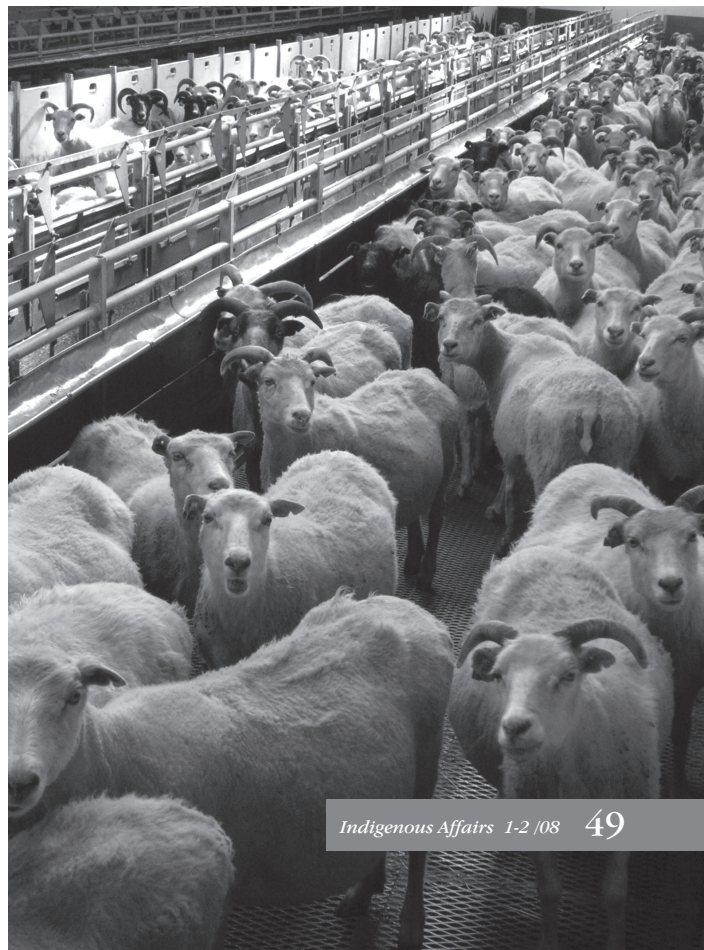
At this stage, an initial Strategic Environmental Assessment (SEA) has been carried out for political discussion. A revised SEA is expected to be carried out and submitted in spring 2009 before a politically-binding decision is taken on whether the project should go ahead. Only then would the project move to the EIA stage. Greenland’s government appears confident that it will go ahead. Aleqa Hammond, the Minister of Finance and Foreign Affairs, has said that



*Climate change and thinning sea ice pose challenges to hunters. Thule, North Greenland - Photo: Mark Nuttall*



*Sheep farming and agriculture play an important role in the economy of South Greenland. A warming climate enables farmers to diversify, for example into cattle breeding. Photos: Mark Nuttall*



*"In terms of global warming and climate change policies Greenland has other gifts from nature that may help meet the global environmental challenges. Greenland has today opportunities to develop hydro-power stations to supply process facilities with power, for instance to produce aluminium. The aluminium and mineral resource industries are eager to invest in Greenland. Greenland is a mineral-rich country, so it is only a question of which requirements my Cabinet asks the industry to fulfil, when we issues licenses to exploit our resources or develop new industries."*<sup>13</sup>

This is multilayered and perhaps slightly ironic in its articulation of a proposed contribution to solving global environmental challenges brought about by climate change. Hammond speaks of climate change, yet she seems to be suggesting that global warming is helping to provide Greenland with an abundance of natural resources, in this case enough water for hydro-power development which, while providing renewable energy, will be used for aluminium production. Aluminium production is also one of the most energy-intensive industrial processes, contributing to climate change, social impacts and environmental pollution.<sup>14</sup> The SEA anticipates that, during normal operations, the smelter will have an annual impact of 4,600 tons of sulphur dioxide and 450,000 tons of carbon dioxide emissions (although some estimates suggest the latter figure will be around 612,000 tons, increasing Greenland's current average of 700,000 tons of CO<sub>2</sub> emissions by some 90%). The SEA assumes that there will also be a discharge of other environmentally damaging substances in the form of heavy metals, chlorine compounds, and other toxic waste such as cyanide and arsenic that may accumulate in the ecosystem, and calls for more information concerning such emissions.<sup>15</sup> Although there is a commitment to develop a new Centre for Climate Research, to be housed within the Greenland Institute of Natural Resources and the University of Greenland in Nuuk, and while a new government department will be created to deal exclusively with climate change, the country's economic policies on resource development and extractive industries look set to establish Greenland as a contributor to climate change.

### **Public concern**

The Alcoa aluminium smelter venture has highlighted public concern over the absence of appropriate EIA and SIA processes and a lack of consultation and pub-

lic information on megaproject development. It has also raised questions about the political participation of local communities in decision-making processes around the extractive industries that will affect the country's future. While Alcoa carried out public hearings in the three communities originally suggested as the location for the smelter (Nuuk, Sisimiut and Maniitsoq) following the SEA, and while environmental and social impacts are considered in the report, there is nothing in place in Greenland like the diverse and often complex mechanisms for public consultation over proposed development projects as found in, for example, Canada, particularly oil, gas and mining projects taking place on indigenous peoples' lands. And some politicians have also questioned what job-training initiatives the Home Rule government will put in place to ensure Greenlanders can benefit from employment in the Alcoa project as well as in other extractive projects. This seems particularly significant considering the EIA for the Alcoa smelter and its associated hydro-power plants will probably proceed once a decision has been taken to actually go ahead with the project.

In Canada, land claims and self-government negotiations between Inuit and First Nations have resulted in a proliferation of mechanisms and the creation of boards that allow (legally and theoretically, at least) for the inclusion of indigenous people in decision-making processes.<sup>16</sup> They are statutory requirements, and the Supreme Court of Canada has ruled that Canada's Aboriginal people should be consulted if their rights are infringed, affirming Aboriginal rights enshrined in the Canadian Constitution Act of 1982.

In Greenland, the SEA for the aluminium smelter has identified areas of considerable concern with respect to the Alcoa proposal. In doing so, it has revealed that Greenland's regulatory review process, environmental impact assessment procedures, mechanisms for considering cumulative impacts and public hearings process lag far behind some of its circumpolar neighbours, and that Greenland is ignorant of processes that have shaped historical patterns of resource use and socioeconomic development elsewhere in the indigenous world.

### **Topographical reshaping and the challenge of autonomy**

As the inland ice melts, a new Greenland is emerging. Geographically, mountains, headlands and islands are appearing and cartographers are beginning to revise maps and charts – for example, the retreat of the

Sermeq Avannarleq glacier near Ilulissat has recently created a new island, which has been named Qarsunga ('always pale island'). But this physical process of topographical reshaping is coinciding with the emergence of a new Greenlandic political entity that is not only redefining its relationship with Denmark but also, internally, redefining people's relationships to place, to the environment, and to its resource base.<sup>17</sup>

Politically, Greenlanders say they are prepared for the challenge of greater autonomy and eventual independence – indeed, as this article has discussed, a warmer climate is seen by some as a positive transformation, helping Greenland to become a modern nation. Yet the additional political and fiscal responsibility accorded to Greenland will also challenge the Home Rule authorities as they face the magnitude of possible environmental change and its local, regional and wider global social and environmental effects. Greenland is moving into a new phase of self-governance but is opening itself up to the influence of powerful multinational corporations who view the country as a resource periphery.

Experience in other regions has shown that the large-unit size and sheer scale of most oil development, mining and aluminium smelting can actually increase the dependence of local communities on transnational corporations. Throughout the world, indigenous peoples are arguing that they have contributed the least to producing the greenhouse gas emissions that are at the root cause of anthropogenic climate change, yet they suffer the gravest consequences. In Greenland, the changing definitions and uses of the environment and resources reveal a complicated, multidimensional side to this discourse. □

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### Notes

- 1 For example, ACIA (2005): *Arctic Climate Impact Assessment: scientific report* Cambridge: Cambridge University Press
- 2 IPCC (2007): *Climate Change 2007: the Physical Basis* Cambridge: Cambridge University Press
- 3 WWF (2008): *Arctic Climate Science: an update since ACIA* Oslo: WWF International Arctic Programme
- 4 Lyngø, A. (2007): *Global warming is not just a theory to us*. The Independent, May 30
- 5 Joseph Motzfeld: *Climate change in a Greenland perspective*. Presentation at the 'Trans-Atlantic Climate Conference', Torshavn, Faroe Islands, 7<sup>th</sup> – 8<sup>th</sup> April 2008
- 6 Ibid
- 7 Nuttall, Mark (in press): Living in a world of movement: human resilience to environmental instability in Greenland. In Susan A. Crate and Mark Nuttall (eds.) *Anthropology and Climate Change: from encounters to actions* Walnut Creek, CA: Left Coast Press
- 8 Nuttall, Mark (1992): *Arctic Homeland: kinship, community and development in northwest Greenland* Toronto: University of Toronto Press
- 9 Nuttall, Mark (in press): Living in a world of movement: human resilience to environmental instability in Greenland. In Susan A. Crate and Mark Nuttall (eds.) *Anthropology and Climate Change: from encounters to actions* Walnut Creek, CA: Left Coast Press
- 10 Nuttall, Mark (1994): Greenland: emergence of an Inuit homeland. In Minority Rights Group (ed.) *Polar Peoples: self-determination and development* London: Minority Rights Group, pp. 1-28
- 11 Sejersen, Frank (2007): *Indigenous urbanism revisited: the case of Greenland*. Indigenous Affairs 3/07: 26-31
- 12 Rasmussen, Rasmus Ole (2006): *Oil exploration in Greenland*. Indigenous Affairs 2-3/-6: 40-47
- 13 Aleqa Hammond, 'Greenland's involvement in the international climate debate'. Presentation at the Earth Charter and A-21/Narsaq 'Seminar on Climate and Environment in Greenland and the Arctic', Narsaq, Greenland 19<sup>th</sup>-23<sup>rd</sup> April 2008
- 14 See, for example, Quevillon, Mel, Peter Hartmann and Gaston Anevolicil. (2003): *Dam the environment: the case against Noranda's proposed aluminium smelter in Patagonia, Chile*. CERLAC Bulletin 2 (5), March.
- 15 *Summary of Strategic Environmental Impact Assessment Report Greenland Home Rule*, Nuuk 12<sup>th</sup> December 2007
- 16 For example, Nuttall, Mark (2008): *Aboriginal participation, consultation, and Canada's Mackenzie Gas Project*. Energy & Environment 19 (5): 617-634.
- 17 Nuttall, Mark (in press): Living in a world of movement: human resilience to environmental instability in Greenland. In Susan A. Crate and Mark Nuttall (eds.): *Anthropology and Climate Change: from encounters to actions* Walnut Creek, CA: Left Coast Press.

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