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Original article

Managing the social impacts of the rapidly-expanding extractive industries in Greenland

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ABSTRACT

The recent rapid expansion of extractive industries in Greenland is both causing high hopes for the future and anxieties among the local population. In the Arctic context, even small projects carry risks of major social impacts at local and national scales, and have the potential to severely affect the way of life of local indigenous peoples. The effective identification and management of social impacts is therefore essential. We explore the challenges associated with on-going development as perceived by people in Greenland. We also review and synthesize the regulatory tools used to ensure social issues are adequately managed and taken into consideration when regulatory approval of new projects is considered. We found that there are many issues of concern. Of particular interest is the lack of trust by the public in the capacity of the Government of Greenland to protect local values. We suggest that, in the context of Greenland, social impact assessment is needed, not only at the project level, but also at the policy level carried out by or on behalf of the government and prior to project planning. We also advocate for the use of free, prior and informed consent.

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1. Introduction

Greenland has been undergoing rapid transformation as a result of the recent expansion of the extractives sector, which is being actively encouraged by the Government of Greenland in order to achieve a solid economic base for its future social development (Government of Greenland, 2014; Aningaasaqarnermut Siunner-suisoqatigiit, 2014) and to overcome problems associated with dependence on Danish assistance (see Paldam, 1997). While Greenlanders generally welcome this industrial development and there are high hopes for the future, there is nevertheless a degree of concern amongst the general public and some uncertainty about life in the future (Østhagen, 2012; Hansen and Tejsner, 2016). There have also been some protests expressed in newspapers and at public meetings (Nuttall 2012a, 2015; Wilson, 2015). The extensive geological mapping of Greenland's territorial lands and waters, and the international promotion of known mineral deposits by the government, together with increasing market prices for many

commodities, at least from 2009 to 2014, have created much interest in the exploitation of Greenland's mineral, oil and gas reserves (Government of Greenland, 2014; Geological Survey of Denmark and Greenland, 2015). Although the recent downturn in commodity prices has slowed this development, interest within Greenland in developing extractive industries remains high (Boersma and Foley, 2014; MLSA, 2015).

The activities associated with this exploration and subsequent exploitation of resources will cause, and have already caused, dramatic changes to life and culture, not only at the local community level, but also to Greenland in general (Sinding, 1992; Nuttall, 2013; Lynge, 2014; Olsen and Hansen, 2014; Taylor, 2014). A key issue is that, while companies can move on to other projects when reserves are exhausted or if mistakes are made, a community generally only has one chance at development, and therefore it is of utmost importance to get it right first time. Social impact assessment (SIA), impacts and benefits agreements (IBA), and environmental impact assessment (EIA) are tools that are implemented in the legislation of Greenland to ensure sustainable development and to manage social change (Bureau of Minerals and Petroleum, 2011; Government of Greenland, 2015). The objective of these tools is to ensure informed decision-making and to get companies to consider how to mitigate potential negative impacts

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and enhance positive benefits in cooperation with local communities (Bond and Pope, 2012; João et al., 2011). Public participation is a legislated requirement in impact assessment processes which includes accessing local knowledge, to make it possible for locals to adapt to changes, and to encourage connections between companies and locals (Olsen and Hansen, 2014). However, the EIAs that have been conducted so far, typically do not include community engagement activities and do not adequately address social issues. These EIAs have a project-specific focus with a very limited scope that does not cover cumulative impacts or higher-level, strategic considerations.

Expansion of the resource industries in Greenland will have significant impacts on the way of life of local people, just as it has in other places around the world (Franks et al., 2013; Hanna et al., 2014). The way projects are managed can enhance and/or retard social development options and trends (Esteves and Vanclay, 2009). The social impacts of extractive projects can be both controversial and complex. Projects can create wealth, but can also cause considerable disruption to people's livelihoods (Vanclay et al., 2015). New jobs, roads, schools, and other infrastructure may be provided, but the benefits and costs are likely to be unevenly shared. If communities feel they are being unfairly treated or inadequately compensated, the projects can lead to increased social tensions and violent conflicts (IIED, 2002; Prenzel and Vanclay, 2014). Therefore the nature of the extractive activities and the socio-economic context in which companies operate has a direct bearing on human rights issues (Kemp and Vanclay, 2013). For example, mining requires access to land and water, often the basis of livelihoods for communities. The land acquisition activities needed for these developments and their associated displacement and resettlement of people also have considerable potential for human rights infringements and social and environmental impacts (Adam et al., 2015; Owen and Kemp, 2015; Smyth et al., 2015). Similarly, particularly in areas of political instability and conflict, the manner in which the security of mining assets and employees is managed can pose risks to local people, especially in terms of their human rights (ICMM, 2012).

Settlements located in close proximity to new extractive projects will likely experience dramatic changes in their everyday life, both directly and indirectly (Mortensen, 2013). In Greenland especially, there are strong interrelations between the human and natural environments (Olsen and Hansen, 2014). Thus impacts on the biophysical environment have consequent major impacts on people through their use of ecosystem services (Sejerssen, 2004; Slootweg et al., 2001; Wells and Rollings, 2012). The social impacts that ultimately result from individual projects depend on the nature of the activities planned, the effectiveness of any mitigation, and the characteristics of the community especially in terms of their vulnerability and resilience (Vanclay, 2002). Impacts may be remediable or irremediable, they can be short term, long term and even permanent, they are often cumulative and interact with other environmental and social impacts, they can vary in many other ways, and they are often site specific (Vanclay, 2002).

Although there are different types of extractive projects, in general they tend to go through similar project development phases: exploration, conceptual, pre-feasibility, feasibility and planning, construction; operations; and closure (Vanclay et al., 2015). Each phase is associated with different impacts. The social impacts also tend to vary according to the size and scope of the project, and the context in which it is implemented. For example, onshore mining and offshore hydrocarbon projects are different—and so their impacts will vary. In general, people in nearby settlements experience impacts differently to people at a greater distance from the project site, although the patterns of adaptive ability, tolerance and resilience over time may vary between communities during the different project phases (Bjørst,

2016). In the early phases, some locals may more willingly tolerate negative impacts in order to gain access to jobs and development, while others who don't directly benefit from the projects tend to be more critical in relation to potential negative impacts. As the locals become stressed and increasingly critical towards the project during production, those at a distance seem to forget about the project and consider the national revenue to be of greater importance than the local impacts (Bjørst, 2016). To date, however, only a few projects have been implemented in Greenland and thus experience is limited.

This paper discusses the challenges of managing social change in Greenland in relation to the current development of the extractive industries. It points at ways to strengthen the management of social change to improve the benefits of the extractive industries for Greenlandic society (see *Committee for Greenlandic Mineral Resources to the Benefit of Society*, 2014). We first present a short overview of points of concern raised by Greenlanders in relation to the on-going developments. Then the legal framework and impact assessment tools used in Greenland to manage social impacts are presented. Finally, the paper discusses the challenges related to the management of social change in Greenland and considers the potential for increasing the benefits to locals. The conclusion provides a series of recommendations for addressing the current gaps in the application of policies concerning social change and development.

2. Methodology

The research underlying this paper had two components. The first was a categorisation and description of the social issues related to on-going development as identified by Greenlanders themselves. The second was a document review of applicable legislation and procedures related to the management of the extractive industries and their impacts in Greenland. In addition to our primary data collection, a comprehensive literature review of the limited literature on Greenland was undertaken. The research also drew on the personal insights of the authors, two of whom have spent the larger part of their lives in Greenland and speak the local languages, Kalaallisut and Danish.

The concerns of local people were collated via analysis of a series of in-depth, qualitative, in-person interviews conducted with key informants in Greenland in 2013 as a part of a bigger research program *To the benefit of Greenland*, 2014), with some follow-up interviews undertaken in 2014. The results of the latter are presented in this paper for the first time. Interviews were conducted on the basis of the principles of informed consent and respect (see Vanclay et al., 2013). They were conducted in Kalaallisut (the local language) or Danish depending on the preference of the person being interviewed. Interviews ranged in length typically taking over an hour each. A total of 15 interviews were undertaken with key informants, including the key actors in the debate about the future of Greenland. They included politicians, key government officials, people active in NGOs, as well as with key staff of mining and oil companies. Since the aim of the research was to consider how Greenland was preparing itself for the future, three young artists who were generally known as youth ambassadors were also interviewed, speaking on behalf of themselves as individuals, but also reflecting on general youth issues. All interviews addressed a list of key themes, and were undertaken as conversations about the current situation in Greenland and the potential opportunities and challenges relating to the management of new extractive industry projects.

The second component of the research was a document review of applicable legislation and procedures in Greenland related to the management of extractive industries and their impacts. The intention was to identify and assess when and where social

impacts are taken into consideration or not, and how they are managed.

3. Key issues facing Greenland

Here we provide an overview of six key issues of concern that were raised during our interviews and/or that derive from our literature review related to the positioning of Greenland and its ability to manage the expansion of the extractive industries. Interspersed with these issues, we also provide some background information to enable the reader to understand the situation in Greenland.

3.1. Sparse population and limited infrastructure

Demographic issues and limited infrastructure were identified by the interviewees as potentially restricting the occupational mobility of Greenlanders, and their ability to be workers for resource projects. Greenland is the world's largest island at 2.17 million square kilometres (Statistics Greenland, 2013). Located in the Arctic, approximately 80% of the land surface is covered by an ice sheet. With only 56,000 inhabitants in 2012, it has a very low population density of only 0.026 people per square kilometre. The population is predominantly settled in 17 towns and some 60 smaller settlements primarily along the west coast (see Fig. 1), which are administratively organised into four municipal regions. There is a current and anticipated continued trend for people to move from the smaller settlements to the bigger towns (Statistics Greenland, 2012). Transport between settlements is primarily by helicopter, small airplane or boat, as there is no

national road system and very few roads. For shorter distances, people travel primarily by private boats, dogsleds and snowmobiles. Dogsleds are also used for hunting, although this too is being replaced by snowmobiles (Sejersen, 2004). Transportation is hence expensive and the mobility of individuals is limited, which potentially will influence the ability of local people in gaining access to employment in resource projects.

3.2. Governance issues

There seems to be a lack of faith by local people that the government is actually protecting their interests, and there are worries that the government doesn't have the necessary resources to be a strong counterpart to the power and influence of the private companies. Greenland is a former Danish colony. A Home Rule Government governed Greenland for 30 years until 2009 when the Greenland Self-Government Act replaced the former Greenland Home Rule Act. Under the Self-Government Act, legislative power lays with Inatsisartut (Greenlandic Parliament), executive power with Naalakkersuisut (Government of Greenland), with judicial power and the courts of law remaining the responsibility of the Kingdom of Denmark, which also manages foreign affairs and some other functions. The Government of Greenland holds the right to control and use all mineral resources within its territory, including oil and gas exploitation, and it is entitled to all revenue collected from these activities (Government of Greenland 2014; A. M. Hansen, 2014; K.G. Hansen, 2014). Development of the extractive industries is actively promoted by most politicians as a way to gain increased independence and autonomy from Denmark (Bureau of Minerals and Petroleum, 2004). In Greenland, in general, there are expectations of a positive future with extractive industries, but there are also fears about the unknown and uncertain aspects, partly due to the perceived lack of experience of the government with these types of projects. Even though in the past the public sector had been strong and dominant compared to the private sector, there now seems to be a fear that the private sector will set the agenda, will not protect local values, and will not bring about positive development (Hansen and Larsen, 2014; Hubbard, 2013). The Director of the Greenland Employers Association, Brian Buus, expressed his concern during our interview: "How do we make sure that we understand the way the international companies are acting, their strategies, in order to regulate and administer them in the best manner? We need to increase the quality and competence in the management of natural resources". The Director of Sermersooq Municipality, Stine Johansen, had been working with the Bureau of Minerals and Petroleum in relation to mineral exploration in the Nuuk area. She similarly noted that: "The Self Rule Government does not recognise its lack of competence".

3.3. Culture and national identity

Another issue that was highlighted during the interviews was that Greenland is still in a phase of developing a new identity as a postcolonial nation. The ethnic composition comprises a mixture of Inuit (approximately 90%) and Scandinavians, who are mostly Danes (Greenland Statistics, 2012). Culture, understood as shared customs, values and beliefs, has developed from a traditional Inuit culture to a modern Greenlandic culture which is influenced by hundreds of years of exchanges with Danish, European and other influences (Niclasen and Mulvad, 2010). The preservation of traditional language and diet are important markers of Greenland culture today (Young and Bjerregaard, 2008). A large proportion of Greenlanders are still able to understand their local Greenlandic dialect, with Kalaallisut being the most common dialect spoken. Most Greenlanders also understand and speak Danish, which is taught in all public schools. However, there are significant

Fig. 1. Towns in Greenland.

differences between the levels of proficiency in Danish between the smaller villages and the larger towns. English is the third language taught, however most Greenlanders speak only a low level of English (Rasmussen, 2011). In general, Greenlanders are creative and artistic, and there are many strong interest communities around music, food and the arts. There is a current trend in the arts of exploring traditional Inuit roots, perhaps as a counter-response to Greenland's rapid development, with many artists using the increased contact with the rest of the world as inspiration to explore their personal identity and the national identity of Greenland (Rygaard, 2003; Otte, 2015). It seems that young Greenlanders are more likely to engage with cultural activities that are associated with change, development and transition, although retaining a sense of Greenlandic identity. In comparison, older adults and elders often prefer activities that focus on preserving historic traditions and transmitting these to the younger generation. The young author, Niviaq Korneliusen, underlined during our interview how she experiences the approach to culture by youth: *"I have written a short story about being young in Greenland. I tried to capture and address the desire by young Greenlanders to be part of the modern global society, while still upholding a Greenlandic identity"* The young actor, Klaus Geisler, expressed his thoughts this way: *"I am not afraid about the potential development of new industries and foreigners moving in. I see the newcomers as a potential audience. We need to tell them our history too. As long as we have our hearts in what we do, it is true and Greenlandic"*.

3.4. Health and diet

Within a few generations, traditional Inuit culture has changed into a modern, western-inspired community. Health conditions are usually much influenced when living conditions in communities change rapidly (Jeppesen, 2012). Health in Greenland has already been highly impacted by the western way of living and this makes health and diet key issues for consideration when new industries are implemented. The national government and the four municipalities share responsibility for societal needs regarding services and funding (Government of Greenland, 2011). The healthcare system is a publicly-financed government responsibility. A recent reform adjusted the healthcare system to cater for the population shift from smaller settlements to larger towns and to improve the effectiveness of service delivery (Niclasen and Mulvad, 2010). Meat from marine mammals, deer, birds and fish have been the main ingredients in the Greenlandic diet for generations, traditionally hunted and fished locally by men. This is still the case today in many smaller settlements. However, on average, the diet in Greenland is now made up of only 20% local and 80% imported food (in terms of percent energy) (Jeppesen, 2012). This ratio of local versus imported food varies according to age, community, and ethnic group. Societal changes over the last 50 or so years have been accompanied by an epidemiological transition. In the past, morbidity and mortality rates were dominated by perinatal complications, chronic infectious diseases and injuries (Young and Bjerregaard, 2008). Today, chronic and lifestyle-induced diseases and disabilities are more frequent, with the 'old diseases' having dropped to lower levels than typically found in most Western countries (Niclasen and Mulvad, 2010). Still, health and diet are issues highlighted by the locals as being important to have in mind when extractive industries are implemented. A nurse from Nuuk (who prefers to be anonymous) explained during our interview that: *"most of our fresh food in Greenland comes from wild animals . . . I am afraid about the potential contamination of animals when extractive industries are implemented . . . if we can't eat domestic foods we will eat even more imported foods of poor quality which again will perhaps lead to bad nutrition"*.

3.5. Traditional livelihoods and motivation to work in industry

An issue stressed by several locals during the interviews was the challenge to secure local benefits from the implementation of new projects. Consistent with international best practice (Esteves and Barclay, 2011), the emphasis by the government and companies on providing local benefits typically takes the form of initiatives to train and educate local people, thereby to prepare them to take part in the on-going development. However, in a study in the Upernavik district, Hansen and Tejsner (2016) found that people have a clear intention to continue traditional ways of living rather than take jobs in the extractives industry. The locals considered that fishing and hunting were not undertaken as a livelihood necessity because they had no other choice, but rather because it was a highly desirable and preferred way of life. If the local people choose not to accept new job opportunities, this will significantly reduce the potential benefits the developments intend to bring, and worse will increase the influx of foreign workers which may bring increased pressure on local services and social tensions. The opportunities for and barriers to enhancing local content, as well as the consequences of large-scale change in people's occupations, are important issues to address as they will ultimately influence the benefits that might flow from the implementation of new industries.

3.6. Previous experiences with extractive industries

Large-scale resettlement has previously occurred in Greenland primarily in the 1970s and 1980s with the forced relocation by the Danish government of people to settlements so that social services could be easily provided. Although arguably for a justifiable social welfare reason, this had the effect of alienating people from their culture and livelihoods, creating artificial living conditions that people were not used to and not culturally prepared for, and this has led to an increasing prevalence of several mental health issues and social behavioural problems including substance abuse, domestic violence and suicide (Deth-Petersen, 1986). Further controversial resettlement has occurred in relation to the development of mining projects (Sejerssen, 2014). This legacy experience has created a deep concern about the potential impacts on inhabitants of settlements in close proximity to potential mine sites. For example, in relation to the potential rare earth metal and uranium mine in Narsaq, South Greenland, the company considered moving people if environmental problems were to occur, raising much protest from local people. The young politician, Avaaraq Olsen, who lives in Narsaq stressed in our interview that: *"It would be an awful paradox if the government ended up moving people away from Narsaq to be able to have the mine, while arguing that it is implemented to secure jobs and benefits to the locals"*. She further noted that: *"We are extremely attached to the place we grow up and moving people could cause devastating trauma"*.

The lack of potential for further industrial development unrelated to the extractive sector, uncertainty related to the expected distribution of benefits, and concerns about the economic feasibility of individual projects, collectively have put Greenland in a situation where the future is extremely uncertain and the possible negative consequences of developments are very significant and likely (Government of Greenland, 2011). At the same time, projections foresee that if business development is not achieved, Greenland faces, among other things, a declining economy, increasing urbanisation, increasing outmigration, and increasing inequality (Government of Greenland, 2011). These development trends challenge political decision-making and planning at national and community levels (Aaen, 2011; Hansen and Larsen, 2014).

4. Tools used to manage social impacts in Greenland

Awareness of the social impacts arising from the extractive activities has led to the development of a range of tools to improve projects and inform decision-making (Franks and Vanclay, 2013). In Greenland, it is a legal requirement for companies to conduct a Social Impact Assessment (SIA) during their planning process (BMP, 2009). SIA is the only formal tool to inform decision-makers about potential social issues (Hansen and Mortensen, 2013). SIA is now generally acknowledged as being a tool for managing the social issues associated with development (Esteves et al., 2012). Although sometimes a component of regulatory EIAs and/or corporate ESHIAs, it can also be undertaken as an independent, stand-alone activity, as it is in Greenland.

The *Mineral Resources Act* 2009 (as amended) (Greenland Parliament Act no. 7 of December 7, 2009) is the formal mechanism for regulating extractive activities in Greenland. This Act lays down the main principles for the administration of extraction projects. It outlines the roles and responsibilities of the government, including providing authorization to establish provisions in executive orders and standards and to set specific licence conditions. According to §1(2), the purpose of the Act is “to ensure that activities under the Act are securely performed as regards to safety, health, the environment, resource exploitation and social sustainability as well as properly performed according to acknowledged best international practices under similar conditions”.

A 2013 amendment to the Mineral Resources Act changed the structure of the various ministries and re-allocated responsibilities for mineral resource activities between two distinct agencies: the Environmental Protection Agency, which is in charge of all matters relating to the environment; and the Mineral License and Safety Authority (MLSA), which is in charge of licenses and the monitoring of licensed activities. The new Ministry of Industry, Labour and Trade is responsible for the management of socioeconomic issues, such as Social Impact Assessments, Impact Benefit Agreements, and royalty schemes. The *Guidelines for Social Impact Assessments for Mining Projects in Greenland*, developed by the Bureau of Minerals and Petroleum (2009) and used to guide SIAs for both mining and hydrocarbon projects, is currently being revised and expected for release in 2016. The 2009 guideline provided details on how the SIA process should be conducted, what content should be included, and various other general requirements. Impact Benefit Agreements (IBA) are also expected, and legislation relating to IBAs was being considered in 2015.

4.1. Social impact assessment

The SIA Guidelines document produced by the Bureau of Minerals and Petroleum (2009) (hereinafter BMP SIA Guidelines) does not define SIA, except perhaps in the appended glossary where it describes it as being “the process of planning to integrate a mineral project in local community/Greenland resulting in a report describing the process and assessments of future impacts and how to manage these in a successful way”. On page 5, it states that: “Social Impact Assessments for mining projects in Greenland have to be conducted in accordance with good international practice” and it specifically identifies the *International Principles for Social Impact Assessment* published by the International Association for Impact Assessment. The International Principles (Vanclay, 2013, p.6) defined SIA as including “the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions”.

The BMP SIA Guidelines (2009, p.4) outlines the main objectives of the SIA process for an extractive industries project in Greenland as being:

- to engage all relevant stakeholders in consultations and public hearings;
- to provide a detailed description and analysis of the social pre-project baseline situation as a basis for development planning, mitigation and future monitoring;
- to provide an assessment based on collected baseline data to identify both positive and negative social impacts at both the local and national level;
- to optimize positive impacts and mitigate negative impacts from the mining activities throughout the project lifetime;
- to develop a benefit and impact plan for implementation of the impact benefit agreement.

The BMP SIA Guidelines (2009) instructs developers that the following issues must be addressed: recruiting Greenlandic labour; engaging Greenlandic enterprises; focusing on knowledge transfer (e.g. education programmes) in order to ensure long term capacity building of local competence within the mining industry and mining support industries; and preserving socio-cultural values and traditions. The BMP SIA Guidelines are thus very consistent with the current focus in the international SIA community of SIA being the process of managing the social issues of development (Esteves et al., 2012; Vanclay et al., 2015). The BMP SIA Guidelines also provides general information to developers about the Greenland context; it lists key stakeholders who should be consulted; and it outlines the expected contents of a typical SIA report. It also provides a list of some of the key social variables that must be included in the social baseline.

While, in general, the BMP SIA Guidelines might be considered to have considerable merit, there are some limitations. For example, even though social impacts can arise from initial exploration activities (Hanna and Vanclay, 2013; Hanna et al., 2014), in Greenland SIAs are conducted only at the project planning phase, that is, for hydrocarbon projects just prior to the exploration drilling phase, and for mining projects only prior to the construction and production phase. Companies submit completed SIAs and EIAs as a part of their application documents when they apply for production permits and/or for exploration drilling. At the time of writing (2015), the restructuring of the governance arrangements, the requirements and procedures relating to SIA were under review.

4.2. Impact benefit agreements

An Impacts and Benefits Agreement, or Impact Benefit Agreement (both abbreviated IBA), is generally understood as a formal contract between an affected community and the developer that outlines the impacts of the project, and the related commitments and responsibilities of all relevant parties. It focuses on how the local community will share in the benefits of the operation through employment, local procurement, economic development and social investment expenditure (Gibson and O’Faircheallaigh, 2010; O’Faircheallaigh, 2011). The BMP SIA Guidelines (2009, p.13) describe an IBA as a document that defines “the cooperation between the licensee, national authorities and local authorities, in form of the respective municipal council, in relation to maximizing development opportunities and mitigating impacts from mining projects”—in other words, a three way arrangement including government. For oil and gas projects, an SIA and an IBA have to be prepared to accompany an application for exploration drilling, and again when an application for production is submitted. For a mine, an SIA and IBA have to be carried out in relation to the application

for a production license. The BMP SIA Guidelines specify the expected content of an IBA. In general, the expectations reinforce the stated goals of ensuring benefits to Greenland from the extractive industries. The IBAs are negotiated and content decided on a case-by-case basis. The strategic goals related to the establishment of educational funds and community development funds have been debated by politicians and in the media, however, no formal objectives, policy or strategy for the strategic use of IBAs have been presented to the public.

An example of an IBA is that of [Cairn Energy \(2011\)](#). It was negotiated to accompany an exploration drilling licence and was signed in September 2011. It was the first of its kind in Greenland and although IBAs are often confidential in other countries, in this case the original signed IBA and annual reports on progress against the targets are published on the internet. For this IBA, the promised expenditure associated with the IBA was DKK 505 million (about €65 million, or USD\$75 million) in 2010 and a further DKK 800 million (about €100 million, or USD\$120 million) for expenditure in 2011. These large figures, however, are somewhat misleading, and close examination of the components of this expenditure is required. A substantial amount (about 30%) is the normal production spend within Greenland, i.e. local procurement. A further 8% relates to the expected expenditure of contractors' spend in Greenland. Less than 1% relates to costs of training of staff. Normal tax payments to the Government of Greenland amount to DKK 53 million (or about 7% of the total figure), and payments to the government shareholding entity, Nunaoil, amount to DKK 430 million (about 54%). Finally, the IBA promises to contribute DKK 380,000 (about €50,000, or USD\$57,000), not a very significant amount, to a community development fund.

4.3. Public participation

The SIA process is expected to have a high level of public participation, and specifically that all relevant stakeholders should be heard and involved in a timely manner, and information should be made available through workshops and public meetings held in both Greenlandic and Danish ([Bureau of Minerals and Petroleum, 2009](#)). However, much criticism has been levelled at the participation processes. The lack of specification about actual requirements and expectations, and the poor understanding of developers leaves room for various interpretations among the different stakeholders creating diverse expectations of what participation can and should do and how to do it ([Nuttall, 2012a, 2015](#)).

In an earlier study ([Olsen and Hansen, 2014](#)), several stakeholders involved in oil exploration activities in Baffin Bay were interviewed in 2012 about their perceptions of the purpose of participation and the desired level of engagement. This research established that the key actors – e.g. the Mineral License and Safety Authority (MLSA) and petroleum company representatives – considered the appropriate level of participation to be minimal. They saw the primary purpose of participation being to provide information and prepare the local communities for future potential development and social change.

In general, the public debate in Greenland emphasises greater transparency in decision-making processes. A higher level of participation is seen as being essential to guarantee that the interests of the general public are taken into account ([Aaen, 2011](#); [Titussen, 2011](#); [Myrup, 2012](#); [Nuttall, 2012b](#); [Hansen, 2013](#)). NGOs especially express concern over the form and content of participation and argue that adequate information is lacking. In 2012, the Greenlandic Employers Association issued a report that questioned the democratic legitimacy of the consultation processes associated with large-scale projects in Greenland ([Aaen, 2011](#)). The criticism was mainly targeted at the MLSA and focused on

shortcomings in the existing consultation processes. Piitannguaq Titussen, chair of the NGO, Nuuk Fjords Friends, expressed the opinion that: *"The public meetings are conducted in a terrible manner, the quality of the meetings is low. It destroys any interest in being there"*. While Aqqaaluk Lynge, the then director of Inuit Circumpolar Council (ICC) stressed that: *"First we need to learn and understand when and how to influence decisions, then we need to be engaged in debates prior to decision-making"*. The shortcomings include, among others: the need for more time (to read through material and produce responses); better timing of the process; and an impartial consultation entity to lead the process rather than resource companies themselves ([Aaen, 2011](#)). As a result of the report, the Greenlandic Government extended the public hearing period from 6 to 8 weeks and decided to make the contingency plans for oil and gas exploration activities publicly available ([Government of Greenland, 2015](#)). However, there remains an inadequate approach to effective engagement and participation. The anticipated revision of the guidelines may include initiatives to improve this, as it seems to be an area of increased attention and priority.

5. Potential for higher level assessment and more effective public participation

At present, the management of social change from extractive projects in Greenland is primarily left to the companies themselves to implement in each of the project phases. There is little formal scrutiny of their activities or any ongoing compliance assessment. This is problematic because previous projects in Greenland and elsewhere have shown that people and the environment are harmed by exposure to rapid development ([Nuttall, 2010, 2012b, 2013](#); [O'Faircheallaigh, 2014](#)). Involving the potentially-impacted communities in the decisions regarding their future can have a major influence on their welfare and self-esteem, and of the legitimacy of decisions and the social licence to operate of the projects ([Dare et al., 2014](#)). Increased benefits can be achieved for all stakeholders when there is trust between the various actors, and a willingness to involve the public early in the process, and to make an effort to understand and manage the social impacts of the planned development ([Vancly et al., 2015](#)). However, this requires that the developer and the relevant government agencies consider and address the interests of the public. Below, we present two approaches we consider could be useful in ensuring better outcomes for Greenland: strategic social assessment (i.e. a social form of strategic environmental assessment); and the continued use of free, prior and informed consent.

5.1. Strategic social assessment

There are different ways of facilitating public debate about the values over and appropriate use of the land and sea ([Wilsdon and Willis, 2004](#)). Internationally, public participation within strategic environmental assessment (SEA) processes is sometimes used as a platform for this purpose ([Therivel, 2010](#)). SEA is used in Greenland in relation to the planning of extractive industries. Experts have undertaken SEAs on behalf of the Government, however, public participation is not always an integral part of the SEA processes, and social issues are seldom addressed ([A.M. Hansen, 2014](#); [K.G. Hansen, 2014](#)). Integrating the social and environmental assessments into SEAs and using SEA as a tool for public debate could turn SEA into a platform for the mapping of both social and environmental vulnerabilities and risks, and to inform decisions regarding if, who, when, where and how extractive developments should be pursued.

Where authorities do undertake SEAs, an important part should be identifying relevant social investments to prioritise in the IBAs

(Esteves and Vanclay, 2009). Currently, the IBAs are negotiated between the local authorities, the MLSA and the companies, themselves, however they do not necessarily focus on the needs of local communities or the wider society. A more strategic approach could lead to greater awareness about what strategic investments could be built into the IBAs, including, for example, greater funding for education, healthcare, training to enable a higher proportion of Greenlanders to be involved in senior roles, and other useful social investments.

5.2. Free prior and informed consent

The principle of Indigenous Peoples' right to free, prior and informed consent (FPIC) has been recognized by a number of intergovernmental organizations, international bodies, conventions and international human rights law to varying degrees and increasingly in the laws of various states (Hanna and Vanclay, 2013). Over the last few decades, the concept of FPIC has increasingly been used by Indigenous rights advocates to guide negotiations between Indigenous communities and outside interests. The principle of FPIC was first formally established in the 1989 International Labour Organisation's Convention on Indigenous and Tribal Peoples in Independent Countries (ILO 169). Articles 6, 7, and 9 of ILO 169 establish that consent is required before Indigenous communities are relocated or before development is undertaken on their land. FPIC was reinforced in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007), which outlined a host of scenarios in which FPIC should become the standard "best practice" for negotiations between Indigenous peoples and any other entity. UNDRIP articles argue for the inclusion of FPIC in negotiations regarding land, culture, property, resources, and conservation.

With Denmark ratifying ILO 169 in 1996 (Thomsen, 2013), all decisions of the Danish Government pertaining to Greenland would have arguably required FPIC up until self-rule in 2009 (Hubbard, 2013). Since then, with Indigenous majority rule, the requirement to apply FPIC is contestable. Nevertheless, the local ICC affiliate, is advocating for continued use of FPIC in Greenland. However, during our study, several governmental officials expressed that they considered this 'strange' since FPIC was considered only relevant in decision making contexts where minorities or Indigenous groups were under represented, and since the Inuit in Greenland are now in government, having achieved independence from Denmark, the people interviewed explained that they expect that Inuit values are inherently included when decisions regarding development in Greenland are made. Nevertheless, the ICC argues that Inuit in Greenland are represented on the United Nations Permanent Forum on Indigenous Issues and therefore are subject to the rights and entitlements of the UN Declaration on the Rights of Indigenous Peoples. The ICC is of the view that Inuit values are not adequately taken into consideration, especially in relation to the industrial development. Therefore, in Nordlandet, before the oil blocks were put up for bidding by the companies, the ICC initiated a public debate and facilitated meetings to ensure that values and concerns were addressed. Ababsi Lyberth from ICC explained to us in an interview: *"We are arranging a debate in Nordlandet about areas not yet open for bidding. About if we want it to be used for extraction. We need this type of discussions prior to the political decision-making"*. He further stressed that: *"It is important to improve the civil society's possibilities and capacity to enter a dialogue regarding extractive industries before decisions are made."* This paradox around whether the designation of Indigenous still applies following political independence from Denmark has created several other lingering issues which cannot however be adequately addressed here (see Strandsbjerg, 2014).

6. Conclusion

The expansion of extractive industries will inevitably influence Greenlandic society dramatically in the future, and thus decisions made now regarding this development will contribute to forming the foundations upon which the future society will be built. The social, cultural and political context in Greenland creates a vulnerable situation, especially for those Greenlanders who live in the many small rural villages. The government struggles to manage the social issues in such a huge country with a very small number of inhabitants. It is therefore important to continuously debate how these developments can be best managed to benefit Greenland society and to secure the sustainable development emphasised as the overall goal by the government.

Even though the extractive industries in Greenland are regulated and even if government requirements regarding the management of social change are fully implemented, careful consideration is still needed and good decisions made to ensure that, if the development of the mineral industries in Greenland proceeds, it creates the maximum benefit for society. This is essential because decisions about where, when and under what conditions industrial activities should be permitted are generally made at the project level on a case-by-case basis, and not prior to license agreements, thus there is no over-arching comprehensive plan or regulatory strategy that identifies the scope, intensity, direction or consequences of activities judged to be appropriate and desirable. A comprehensive framework and plan should be developed so that decisions about the extractive industries can be evaluated with respect to: their compatibility with overall social goals; the likely effects of individual project activities on all groups and individuals likely to be affected; and the likelihood that the activities will result in undesirable effects that are long lasting or difficult to reverse. Social impact assessment is predicated on the notion that decision makers should understand the consequences of their decisions before they act and that the people affected will not only be made aware of potential effects, but also have the opportunity to participate in designing their future. The social environment is different to the biophysical environment in that it reacts in anticipation of change, but can adapt in reasoned ways to changing circumstances when people are involved in the planning process. In addition, people in different social settings interpret social change in different ways and react in different ways. We suggest that as a way of ensuring sustainable social development, Greenland should implement a form of strategic social impact assessment and the use of FPIC in its future planning for the extractive industries to ensure equitable and effective decision-making.

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References

- Aaen S., 2011. Demokratisk legitimitet i høringsprocesser i forbindelse med storskala-projekter i Grønland (Democratic legitimacy in hearing processes

- related to large scale industry projects in Greenland). Nuuk: Grønlands Arbejdsgiverforening. Available at: <http://www.ga.gl/LinkClick.aspx?fileticket=u3Dqm159SjY%3D&tabid=36&language=da-DK> (accessed 25.09.15).
- Adam, A.B., Owen, J.R., Kemp, D., 2015. Households, livelihoods and mining-induced displacement and resettlement. *Extr. Ind. Soc.* 2 (3), 581–589.
- Aningaasaqarnermut Siunnersuisoqatigiit, 2014. Grønlands Økonomi 2014 (The economy of Greenland 2014). Nuuk: The Economic Council of Greenland. Available at: <http://naalakkersuisut.gl/~media/Nanoq/Files/Attached%20Files/Finans/DK/Oekonomisk%20raad/G%3C%38nlands%20C%398konomi%202014%20DK.pdf> (accessed 25.09.15.).
- Björst, L.R., 2016. Arctic resource dilemmas: tolerance talk and the mining of Greenland's uranium. In: Thomsen, R.C., Björst, L.R. (Eds.), *Heritage and Change in the Arctic*. Aalborg Universitetsforlag.
- Boersma, T., Foley, K., 2014. *The Greenland Gold Rush: Promise and Pitfalls of Greenland's Energy and Mineral Resources*. The Brookings Institution, Washington, D.C.
- Bond, A., Pope, J., 2012. The state of the art of impact assessment. *Impact Assess. Project Appraisal* 30 (1), 1–4.
- Bureau of Minerals and Petroleum, 2004. Report on Socio-Economic Aspects of Hydrocarbon Exploration and Exploitation in Greenland. Available at: https://www.govmin.gl/images/stories/about_bmp/publications/socio_economic_aspects.pdf (accessed 25.09.15.).
- Bureau of Minerals and Petroleum, 2009. Guidelines for Social Impact Assessments for Mining Projects in Greenland. Available at: https://www.govmin.gl/images/stories/minerals/sia_guideline/sia_guidelines.pdf (accessed 25.09.15.).
- Bureau of Minerals and Petroleum, 2011. BMP Guidelines: for preparing an Environmental Impact Assessment (EIA) report for activities relates to hydrocarbon exploration and exploitation offshore Greenland. Available at: https://www.govmin.gl/images/stories/petroleum/BMP_EIA_Guidelines_Jan_2011.pdf (accessed 25.09.15.).
- Cairn Energy, 2011. Impact Benefit Agreement under licenses 2008/11, 2002/15, 2005/16 and 2011/16 for 2011. Available at: <http://ccsi.columbia.edu/files/2015/03/Greenland-Qaasutsup-Qeqqata-Sermersooq-Capricorn-Greenland-2011-IBA.pdf> (accessed 25.09.15.).
- Committee for Greenlandic Mineral Resources to the Benefit of Society 2014, To the Benefit of Greenland. Available at: http://nyheder.ku.dk/groenlands-naturressourcer/rapportogbaggrundspap/To_the_benefit_of_Greenland.pdf (accessed 25.09.15.).
- Dare, M., Schirmer, J., Vanclay, F., 2014. Community engagement and social licence to operate. *Impact Assess. Project Appraisal* 32 (3), 188–197.
- Deth-Petersen, M.L., 1986. The impact of public planning on ethnic culture: aspects of Danish resettlements policies in Greenland after World War II. *Arct. Anthropol.* 23 (2), 271–280.
- Esteves, A.M., Barclay, M.A., 2011. Enhancing the benefits of local content: integrating social and economic impact assessment into procurement strategies. *Impact Assess. Project Appraisal* 29 (3), 205–215.
- Esteves, A.M., Franks, D., Vanclay, F., 2012. Social impact assessment: the state of the art. *Impact Assess. Project Appraisal* 30 (1), 35–44.
- Esteves, A.M., Vanclay, F., 2009. Social development needs analysis as a tool for SIA to guide corporate-community investment: applications in the minerals industry. *Environ. Impact Assess. Rev.* 29 (2), 137–145.
- Franks, D., Brereton, D., Moran, C., 2013. The cumulative dimensions of impact in resource regions. *Resour. Policy* 38, 640–647.
- Franks, D., Vanclay, F., 2013. Social impact management plans: innovation in corporate and public policy. *Environ. Impact Assess. Rev.* 43, 40–48.
- Gibson, G., O'Faircheallaigh, C., 2010. *IBA Community Toolkit: Negotiation and Implementation of Impact and Benefit Agreements*. Walter & Duncan Gordon Foundation: Ottawa. Available at: <http://www.ibacommunitytoolkit.ca> (accessed 25.09.15.).
- Geological Survey of Denmark and Greenland, 2015. Greenland Day at PDAC, MINEX, Greenland Mineral Exploration newsletter. 46, 7–8. Available at: <http://www.geus.dk/DK/publications/newsletters/minex/Documents/minex46pdf> (accessed 25.09.15.).
- Government of Greenland, 2011. Vores velstand og velfærd: kræver handling nu. (Our wealth and welfare: demands action now). Nuuk: Oddi Printing. Available at: http://dk.vintage.nanoq.gl/Emner/Landsstyre/Departementer/Departement_for_finans_indegnings/SkatteVelfaerdsKommissionen/~media/812349A726754A4F8E37C894FC95E4ashx (accessed 25.09.15.).
- Government of Greenland, 2014. Our Mineral Resources—Creating Prosperity for Greenland: Greenland's Oil and Mineral Strategy 2014–2018 Quick Read Version. Nuuk: Naalakkersuisut, Government of Greenland. Available at: <http://naalakkersuisut.gl/~media/Nanoq/Files/Publications/Raastof/ENG/Olie%20og%20mineralstrategi%20ENG.pdf> (accessed 25.09.15.).
- Government of Greenland, 2015. Borgerinddragelse i Råstofprojekter. Available at: <http://naalakkersuisut.gl/da/Naalakkersuisut/Departementer/Erhverv-Arbejdsmarked-og-Handel/Borgerinddragelse-i-raastofprojekter> (accessed 25.09.15.).
- Hanna, P., Vanclay, F., 2013. Human rights, indigenous peoples and the concept of free, prior and informed consent. *Impact Assess. Project Appraisal* 31 (2), 146–157.
- Hanna, P., Vanclay, F., Langdon, E.J., Arts, J., 2014. Improving the effectiveness of impact assessment pertaining to Indigenous peoples in the Brazilian environmental licensing procedure. *Environ. Impact Assess. Rev.* 46, 58–67.
- Hansen J.L., 2013. Kamp om beskatning i Grønland (The tax fight in Greenland). Information 14 March 2013 (Danish online newspaper). Available at: <http://www.information.dk/454325> (accessed 25.09.15.).
- Hansen, K.G., 2014. Greenlandic perspectives on offshore oil and gas activities: an illustration of changes in legitimacy related to democratic decision processes. *J. Rural Commun. Dev.* 9 (1), 134–154.
- Hansen, A.M., 2014. *Community Impacts: Public Participation, Culture and Democracy*. University of Copenhagen, 1–18.
- Hansen, T.T., Mortensen, B.O.G., 2013. Social Impact Assessment, including impact assessments in relation to mineral extraction in Greenland. *The Yearbook of Polar Law Online* 5 (1), 359–386.
- Hansen, A.M., Larsen, S.V., 2014. Use of scenarios and strategic planning to explore an uncertain future in Greenland. *Reg. Environ. Change* 14 (4), 1575–1585.
- Hansen, A.M., Tejsner, P., 2016. Challenges and opportunities for residents in the Upernavik District whale oil companies are making a first entrance in Baffin Bay. *Arct. Anthropol.* 53 (1).
- Hubbard, R., 2013. Risk, rights and responsibility: navigating corporate responsibility and Indigenous rights in Greenlandic extractive industry development. *Mich. State Int. Law Rev.* 22 (1), 101–166.
- ICMM, 2012. *Human Rights, Social Development and the Mining and Metals Industry*. London: International Council on Mining and Metals. Available at: <https://www.icmm.com/document/3740> (accessed 25.09.15.).
- IIED, 2002. *Breaking New Ground: Mining, Minerals and Sustainable Development*. London: International Institute for Environment and Development. Available at: <http://www.iied.org/mmsd-final-report> (accessed 25.09.15.).
- Jeppesen C., 2012. *Traditional Food in Greenland: Relation to Dietary Recommendations, Biomarkers and Glucose Intolerance*. PhD thesis, University of Southern Denmark. Faculty of Health Science. Available at: http://www.sil-folkesundhed.dk/upload/chj's_ph.d.-afhandling.pdf (accessed 25.09.15.).
- João, E., Vanclay, F., den Broeder, L., 2011. Emphasising enhancement in all forms of impact assessment. *Impact Assess. Project Appraisal* 29 (3), 170–180.
- Kemp, D., Vanclay, F., 2013. Human rights and impact assessment: clarifying the connections in practice. *Impact Assess. Project Appraisal* 31 (2), 86–96.
- Lynge A., 2014. Jan 21. Inuit in the New Arctic: Challenges of change. Available at: http://inuit.org/fileadmin/user_upload/File/2014/Press/Arctic_Frontiers_2014_Aqaluk_Lynge_speech_jan-21-2014.pdf (accessed 25.09.15.).
- MLSA, 2015. List of Mineral and Petroleum Licences in Greenland October 2, 2015. Nuuk: Mineral Licence and Safety Authority. Available at: https://www.govmin.gl/images/stories/minerals/list_of_licences/list_of_licences.pdf (accessed 5.10.15.).
- Mortensen, B.O.G., 2013. The quest for resources: the case of Greenland. *J. Mil. Strateg. Stud.* 15 (2), 93–128.
- Myrup M., 2012. Mar 13. Avataqs høringsvar til Redegørelse om rammevilkår for realisering af storskalaerhvervsprojekter i Grønland Avataq. Available at: http://vintage.nanoq.gl/Service/Hoeringsportal/Redeg%3C%38relser-rapporter/2012/~media/2012/storskala_hoering/130312_avataq_dk.ashx (accessed 25.09.15.).
- Niclasen, B., Mulvad, G., 2010. Health care and health care delivery in Greenland. *Int. J. Circumpolar Health* 69 (5), 437–447.
- Nuttall, M., 2010. Pipeline Dreams: People Environment and the Arctic Energy Frontier. International Work Group for Indigenous Affairs, Copenhagen.
- Nuttall, M., 2012a. The Isukasia Iron Ore Mine Controversy: Extractive Industries and Public Consultation in Greenland, 41(5). Nordia Geographical Publications, pp. 23–34.
- Nuttall, M., 2012b. Imagining and governing the Greenlandic resource frontier. *Polar J.* 2 (1), 113–124.
- Nuttall, M., 2013. Zero-tolerance, uranium and Greenland's mining future. *Polar J.* 3 (2), 368–383.
- Nuttall, M., 2015. Subsurface politics: greenlandic discourses on extractive industries. In: Jensen, L., Hønneland, G. (Eds.), *Handbook of the Politics of the Arctic*. Edward Elgar, Cheltenham, pp. 105–127.
- O'Faircheallaigh, C., 2011. SIA and Indigenous social development. In: Vanclay, F., Esteves, A.M. (Eds.), *New Directions in Social Impact Assessment: Conceptual and Methodological Advances*. Edward Elgar, Cheltenham, pp. 138–153.
- O'Faircheallaigh, C., 2014. Social equity and large mining projects: voluntary industry initiatives, public regulation and community development agreements. *J. Bus. Ethics* doi:<http://dx.doi.org/10.1007/s10551-014-2308-3>.
- Olsen, A.H., Hansen, A.M., 2014. Stakeholder perceptions of public participation in environmental impact assessment: a case study of offshore oil exploration industry in northwest Greenland. *Impact Assess. Project Appraisal* 32 (1), 72–80.
- Østhaugen, A., 2012. *Dimensions of Oil and Gas Development in Greenland*. Washington: The Arctic Institute, Center for Circumpolar Security Studies. Available at: <http://www.thearcticinstitute.org/2012/12/dimensions-of-oil-and-gas-development.html> (accessed 25.09.15.).
- Otte, A., 2015. Nuuk underground: musical change and cosmopolitan nationalism in Greenland. *Popular Music* 34, 113–133.
- Owen, J., Kemp, D., 2015. Mining-induced displacement and resettlement: a critical appraisal. *J. Cleaner Prod.* 87, 478–488.
- Paldam, M., 1997. Dutch disease and rent seeking: the Greenland model. *Eur. J. Political Econ.* 13, 591–614.
- Prenzel, P., Vanclay, F., 2014. How social impact assessment can contribute to conflict management. *Environ. Impact Assess. Rev.* 45, 30–37.
- Rasmussen, R., 2011. More migrant workers in the Arctic. *J. Nordregio* 11 (2), 19–20.
- Rygaard, J., 2003. Youth culture, media and globalization processes in Greenland. *Young (Nordic J. Youth Res.)* 11 (4), 291–308.
- Sejersens, F., 2004. Horizons of sustainability in Greenland: inuit landscapes of memory and vision. *Arct. Anthropol.* 41 (1), 71–89.

- Sejersen F., 2014. Efterforskning og udnyttelse af råstoffer i Grønland i historisk perspektiv. Background paper for the Committee for Greenlandic Mineral Resources to the Benefit of Society. Available at: http://news.ku.dk/greenland-natural-resources/rapportandbackgroundpapers/Efterforskning_og_udnyttelse_af_rastoffer_i_Gr_nland_i_historisk_perspektiv.pdf (accessed 25.09.15.).
- Sinding, K., 1992. At the crossroads: Mining policy in Greenland. *Arctic* 45, 280–296.
- Slootweg, R., Vanclay, F., van Schooten, M., 2001. Function evaluation as a framework for the integration of social and environmental impact assessment. *Impact Assess. Project Appraisal* 19 (1), 19–28.
- Smyth, E., Steyn, M., Esteves, A.M., Franks, D., Vaz, K., 2015. Five ‘big’ issues for land access, resettlement and livelihood restoration practice. *Impact Assess. Project Appraisal* 33 (3), 220–225.
- Statistics Greenland, 2012. Statistics Yearbook 2012. Available at: <http://www.stat.gl/dialog/main.asp?lang=en&version=201203&sc=SA&subthemecode=o2&colcode=o> (accessed 25.09.15.).
- Statistics Greenland, 2013. Greenland in Figs. 2013. Statistics Greenland. Available at: <http://www.stat.gl/dialog/main.asp?lang=en&theme=Greenland%20in%20Figures&sc=GF> (accessed 25.09.15.).
- Strandsbjerg, J., 2014. Making sense of contemporary Greenland: indigeneity, resources and sovereignty. In: Powell, R., Dodds, K. (Eds.), *Polar Geopolitics? Knowledges, Resources and Legal Regimes*. Edward Elgar, Cheltenham, pp. 259–276.
- Taylor, A., 2014. Community impacts from large oil and natural gas ventures in rural and remote areas. *J. Rural Community Dev.* 9 (1), i–vi.
- Therivel, R., 2010. *Strategic Environmental Assessment in Action*, 2nd ed. Routledge, Abingdon.
- Thomsen, M.L., 2013. Greenland and the United Nations declaration on the rights of indigenous peoples. In: Loukacheva, N. (Ed.), *Polar Law Textbook II*. Norden, Copenhagen, pp. 241–267.
- Titussen P., 2011. Aug 30. Ensidigt borgermøde om Isukasia. Sermitsiaq.ag Available at: <http://sermitsiaq.ag/node/106442> (accessed 25.09.15.).
- UNDRIP, 2007. United Nations Declaration on the Rights of Indigenous People. Available at: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf (accessed 25.09.15.).
- Vanclay, F., 2002. Conceptualising social impacts. *Environ. Impact Assess. Rev.* 22 (3), 183–211.
- Vanclay, F., Baines, J., Taylor, C.N., 2013. Principles for ethical research involving humans: ethical professional practice in impact assessment part I. *Impact Assess. Project Appraisal* 31 (4), 243–253.
- Vanclay F., Esteves A.M., Aucamp I., Franks D., 2015. Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. Fargo ND: International Association for Impact Assessment. Available at: <http://www.iaia.org/pdf/IAIA%202015%20Social%20Impact%20Assessment%20guidance%20document.pdf> (accessed 4.10.15.).
- Wells, N., Rollings, K., 2012. The natural environment in residential settings: influences on human health and function. In: Clayton, S. (Ed.), *The Handbook on Environmental and Conservation Psychology*. Oxford University Press, Oxford, pp. 509–523.
- Wilsdon J., Willis R., 2004. See-through Science: Why Public Engagement needs to move Upstream. London: Demos. Available at: <http://www.csec.lancs.ac.uk/docs/nano%20project%20seethroughsciencefinal%20nov05pdf> (accessed 4.10.15.).
- Wilson, E., 2015. Energy and Minerals in Greenland: Governance, Corporate Responsibility and Social Resilience. London: International Institute for Environment and Development. Available at: <http://pubs.iied.org/pdfs/16561IIED.pdf> (accessed 4.10.15.).
- Young, T.K., Bjerregaard, P. (Eds.), 2008. *Health Transitions in Arctic Populations*. University of Toronto Press, Toronto.