Aalborg Universitet

AALBORG UNIVERSITY

DENMARK

Community Impacts

Public Participation, Culture and Democracy

Hansen, Anne Merrild

Publication date:
2014

Document Version
Accepted author manuscript, peer reviewed version
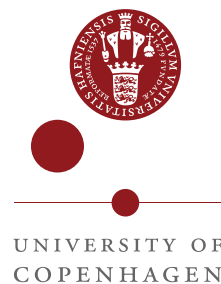
[Link to publication from Aalborg University](#)

Anne Merrild Hansen, Lektor,
Det Danske Center for Miljøvurdering,
Institut for Planlægning,
Aalborg Universitet,
merrild@plan.aau.dk

Community Impacts: Public Participation, Culture and Democracy

Background Paper for the Committee for Greenlandic Mineral Resources
to the Benefit of Society

Aalborg, December 2013

Preface

This background paper is undertaken as an integrated part of the work in the Greenlandic-Danish Committee for Greenlandic Mineral Resources to the benefit of Society. Ilisimatusarfik, University of Greenland and Copenhagen University 2013, set up the committee, chairing Professor Minik Rosing. The author of this background paper (Ph.D. Anne Merrild Hansen) was appointed as a member of the committee, by Ilisimatusarfik, University of Greenland. During the work on the background paper, Ph.D.-fellow Anna-Sofie Olsen has contributed with text to the chapter Public Participation and participated in the research and preparation.

The background paper has been peer reviewed by:

Professor Frank Vanclay, Head of Department of Cultural Geography, Faculty of Spatial Sciences, University of Groningen, The Nederlands and Peter Croal, P. Geol. International Environment and Development Advisor, Canada.

Thank you to all who contributed with input, critique and ideas.

Anne Merrild Hansen, 14. January 2014
Associate Professor, Department of Development and Planning, Aalborg University
DCEA, Skibbrogade 5, 9000 Aalborg
merrild@plan.aau.dk

1. Introduction

Greenland is undergoing a transformation process as development of new industries in the extractive sector is pursued with the objective of achieving a solid economical platform for the future development. Greenlanders generally welcome the development. Hopes for the future are high but there is also a certain degree of anxiety in the public concerning uncertainty about how life in Greenland will be when new projects are implemented. And implementation of new projects in the extractive sector in Greenland does seem like a realistic scenario within a shorter timeframe. Geological mapping and promotion of identified mineral deposits on the international scene has together with increased market prices on the global level created an interest for exploitation of minerals and oil and gas in the Greenlandic underground. The number of mineral exploration licenses for mineral exploration is four doubled within the last 10 years (Statistics Greenland 2012). Further oil and gas exploration presently takes place in seven blocks offshore from the west coast of Greenland.

Implementation of these new industries will potentially cause dramatic change to life and culture, not only at the local community level but also in Greenland in general. While companies if mistakes are made can move on from one project to another, a community may have only one chance for development and it is hence important to get it right. Social Impact Assessment (SIA), Impact Benefit Agreements (IBA) and Environmental Assessments on project and plan (and to some degree also policy) levels of planning (EIA and SEA) are tools implemented in the legislation of Greenland to promote sustainable development and manage the parallel process of social change in relation to exploration and exploitation of minerals and hydrocarbons. The objective is to secure informed decision-making and to get the companies operating to consider how to mitigate potential negative impacts and support the positive impacts in cooperation with the local communities. Public participation is an integrated requirement in relation to the impact assessment processes in order to capture local knowledge, make it possible for the locals to adapt to the changes and to build bridges between the companies and the locals (Olsen and Hansen 2013). However the environmental assessments undertaken at the regional level (SEA) do not include public engagement and do not include social issues or the management of social impacts – which only takes place at the project level and is undertaken by companies, with a project specific focus which leads to a limited scope that does not cover strategic considerations. This paper discusses the challenge of managing social change in Greenland in relation to the development of extractive industries and emphasise the need for a related social vision for Greenland. The paper also points at ways to strengthen social change management for the benefit of the Greenlandic society.

The forthcoming sections present first a short overview of development trends and implications related to social and cultural change in Greenland today. Then social impacts are conceptualised and the formal management tools in Greenland are presented. Finally the paper discusses challenges related to the management of social change in Greenland and the potentials for increasing the benefits for the locals. Further potential adjustments of the system are suggested on a more overall level. In the conclusion an overview of recommendations based on the discussion is provided.

2. Greenland in brief

Greenland is the world's largest island at 2.17 million square kilometres (Statistics Greenland 2013). Greenland is located in the Arctic Region and approximately 81% of the land surface is covered by ice sheet (IPCC 2001). The population of Greenland is relatively small in comparison to the total land area (56.000 inhabitants in 2012). Settlements are spread along the coastal areas. The population is predominantly settled in the 17 towns and approximately 60 smaller settlements primarily along the west coast. Current population projections predict small changes in the population numbers in Greenland over the next decade. There is a trend for locals to move from smaller settlements to the bigger towns. The population is in general young and with slightly more males than females. The national life expectancy is 72,8 years for women and 67,8 for men (Statistics Greenland 2012). Transport between settlements in Greenland is conducted by helicopter, airplane or boat as no road system connects them. For shorter distances people travel by private boats, dogsleds and snowmobiles (Greenland Tourism 2013). Dog sledges are also used for hunting.

Greenland comprises a mixture of mainly Inuit (approximately 90%) and Scandinavian ethnicities, mostly Danes (Greenland Statistics 2012). Culture in Greenland, understood as shared customs values and beliefs, has developed from a distinct Inuit culture to a modern Greenlandic culture influenced by hundreds of years exchanges with Danish, European and global societies (Niclasen and Mulvad 2010). Language and diet are important markers of Greenland culture today (Young and Bjerregaard 2008). Compared to other Arctic nations, a large proportion of the population in Greenland is able to understand one of the local dialects of Greenlandic (Kalaallisut) (Rasmussen 2010). In 2013 there is a tendency to seek the traditional Inuit roots in music, foods and arts, maybe as a response to the development as the artists use the increased contact to the rest of the world, as inspiration to explore the identity of Greenlanders (Geisler and Kjeldsen 2013). Greenlanders in general are creative and there are strong communities developed in relation to music, food and arts (Geisler and Kjeldsen 2013). It seems that young Greenlanders are more likely to engage with cultural activities that are associated with change, development and transition, while adults and elders often prefer activities that focus on preserving traditions or transmitting these to the younger generation (Arctic Council 2004).

Fig. 1. Municipalities in Greenland (Statistics Greenland 2012).

The government and the municipalities in Greenland share the responsibility for societal needs regarding services and funding (Government of Greenland 2011). The health care system in Greenland is a public financed governmental responsibility (Niclasen and Mulvad 2010). A recent health care reform was to adjust the health care system to the population shift from smaller settlements to larger towns and to create more effective service delivery (Niclasen and Mulvad 2010). Meat from marine mammals, deer, birds and fish have been the main ingredients in Greenlandic food for generations, traditionally hunted and fished locally by men in the family. This is still the case in many of the smaller settlements (Hendriksen 2013). However on average the diet in Greenland today is made up of 20% local and 80% imported food (percent energy). The consumption ratio of local versus imported food varies significantly according to age, community, and ethnic group. Societal changes over the last 50-100 years have been paralleled by an epidemiological transition. In the past, perinatal complications, chronic infectious diseases and injuries dominated the primary morbidity rates (Young and Bjerregaard 2008). Today, however, chronic and lifestyle-induced diseases and disabilities dominate morbidity, with the "old" diseases having dropped to lower levels than found in Western countries. The burden of poor health related to social conditions however does not appear to be decreasing (Niclasen and Mulvad 2010).

Greenland is a former Danish colony. A Home Rule Government governed Greenland for 30 years until 2009 when the Act on Greenland Self-Government replaced the former Greenland Home Rule Act from 1978. Under the Act on Self-Government, legislative power lays with Inatsisartut (Greenlandic Parliament) executive power with Naalakkersuisut (Government of Greenland) and judicial power with the courts of law remains the responsibility of the Kingdom of Denmark. 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 2009).

The employment rate in Greenland was 71.6% in 2011 (Statistics Greenland 2012). Overall, the employment rate is higher for men than for women. There are considerable geographical and social

6

differences in the distribution of income in Greenland. In 2011, the average gross household income in towns was 39% higher than in settlements. Similarly, the differences in average gross personal income between municipalities were high. People in Sermersooq Municipality had the highest average gross personal income, more than 50% higher than people in Qaasuitsup Municipality. An overview of the municipalities in Greenland is presented in figure 1. The Greenlandic economy has, in the past, been heavily influenced by the public sector. The Greenlandic GDP has grown in recent years. While the Greenlandic economy is no longer purely traditional, traditional activities such as hunting and traditional culture are still important and indirectly impact the formal economy. The economic vision of the country is to develop three economic pillars to lessen reliance on the public sector: resource exploitation, fishing and tourism (Government of Greenland 2011).

The potential for industrial development related to resource exploitation in the extractive sector, the uncertainty related to the expected distribution of benefits, and concerns about the economic feasibility of the individual projects, place Greenland in a situation where the future is extremely uncertain and the possible consequences of developments are very significant (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 emigration and increasing inequality (Government of Greenland 2011; Danish Ministry of Foreign Affairs 2011). There are substantial differences between the capital, the larger towns and the more remote often sparsely populated towns and villages in the south, north and east regarding lifestyle, living conditions, occupational structure, educational achievement etc. (Bjerregaard and Dahl-Petersen 2008). Because of their small size and isolation, the towns and villages in Greenland often need to be self-sufficient and are very vulnerable to external factors (Niclasen and Mulvad). This challenges political decision-making and planning on both national and community levels in Greenland (Hansen and Larsen 2013; Aaen 2011). However a social vision for the future is lacking. Implementation of new industries within the extractive sector as pursued will potentially cause significant changes to the Greenlandic society in general and to the settlements in close proximity to new projects in particular.

3. Extractive industry phases and community impacts

Implementation of industries like mining and hydrocarbon exploitation are likely to have significant impacts on the way of living in Greenland, as in many other places on the world. The development of projects can both speed up and/or reverse the development trends described in the former section depending on the way they are managed. The social impacts of extractive industry projects can be both controversial and complex. Projects can create wealth, but can also cause considerable disruption. New jobs may be created, roads, schools, infrastructural features and other service facilities may also be developed based on increased demand, but the benefits and costs may be unevenly shared. If communities feel they are being unfairly treated or inadequately compensated, the projects can lead to social tension and violent conflicts (IIED 2002). The nature of extractive activities and the socio-economic context in which companies operate has a direct bearing on human rights. For example, mining requires access to land and water, often the basis of livelihoods for communities. Human displacement and resettlement holds further potential for human rights infringements. Similarly, in areas of political instability and conflict, the manner in which the security of mining assets and employees is maintained can pose risks to the rights of local people (ICMM 2012).

Settlements in Greenland located in close proximity to new projects will potentially experience dramatic changes to their everyday life both directly and indirectly. Environmental impacts are conceptualised in another background paper for the Committee (Mosbech 2014). It is stressed however that there are strong interrelations between the human environment and natural environment in Greenland, as mentioned previously. Impacts on nature will thus have an impact on communities through the use of and access to the natural resources. Social Impacts related to individual projects are depended on activities planned. Factors of significance include the location (proximity to settlements), type (open pit, offshore, underground), size (area and required workforce etc.), timing (extent and process) and content of projects (related infrastructure, handling offshore/onshore, processing, local content, rehabilitation etc.). Impacts can be reversible or irreversible, they can be short or long term and even permanent, and they can vary in nature. Whether the potential impacts will be experienced in Greenland will depend on the situation in the communities and the management of potential changes, the early identification of the potential impacts, mitigation of negative impacts and enhancement of desired impacts. This is further described in the next section on Management of Social Change.

There are different types of projects within mineral extraction and oil extraction. But for all projects the same general maturation stages applies. However the content and length of each maturation step differs. The maturation steps are called 'phases' in the rest of this paper. The first phase is the exploration of geological features related to evaluation of potentials for mineral ore or hydrocarbon prospects. The last is a post-closure period. After each phase, companies or authorities might cancel operations if the project is considered non feasible or if requirements are not met by other parties. Each phase is associated with different sets of impacts, which can be divided into the categories direct, indirect and cumulative impacts. There is also a decision-making phase (which can be long and include several steps from basic geological mapping to decision on licencing) prior to the project phase, which can be characterised as a preparation phase for the local authorities and the public. Similarly, there is a life after project disclosure by the companies where long-term impacts might still have influence and require that monitoring continues to take place. These two phases are also included in the following description as community impacts are also expected in these phases. The phases are illustrated in Table 2 and 3.

The impacts potentially caused on the social environment and communities can be conceptualised by different impact categories. Depending on the scope of a project, and the context in which it is implemented, the social impacts will vary. For example between onshore mining and offshore hydrocarbon projects, which are very different in scope. The Impact categories are illustrated in Table 1.

Impacts can be on (Vanclay 2003):	Examples from the SIA conducted for an Iron mine in Greenland (London mining 2012)
Culture: shared beliefs, customs, values and language or dialect Community – its stability, character, services and facilities Political systems – the extent to which people are able to participate in decisions that affect their lives. Environment – the quality of air and water people use. The availability and quality of the food; Level of hazard or risk, dust and noise they are exposed to; Adequacy of sanitation, their physical safety, and their access to and control over resources; Health and wellbeing – health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity; Personal and property rights – particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties; Fears and aspirations – locals' perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.	Competition for qualified workers, including risks of attracting the most qualified and experienced people from the public sector, leaving a vacuum during the time that will take for the new generation to upgrade their capacity and gain experience The skills developed during the engagement of the project will be relevant beyond the lifetime of the project, as well as the positive impacts of administrative focus on specific education and local employment opportunities. Increased work for the Police of Greenland, including custom control of the international workforce travelling in and out of Greenland, other police tasks such as investigations and task in relation to rescue activities. Social conflicts can potentially be associated with a foreign workforce. Indirect negative impacts may occur in regards to children in vulnerable families, should the most well-functioning parent take employment at the ISUA project and be absent from day to day life during the 3 weeks at site as per rotation schemes. One of the positive social impacts of the ISUA project is expected to be a decrease in emigration rates and the potential return of a number of newly graduated students to Greenland, due to improved employment opportunities created by the project.

Table 1. Impact categories and examples.

People in nearby settlements in general experience impacts differently than people at a greater distance and the adaptation and tolerance varies over time during the different phases. In early phases, locals are in general more willingly to tolerate negative impacts 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 the potential negative impacts. But 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 of greater importance than the impacts locally. This has not been subject to research in Greenland before, but there are on-going studies being conducted with regard to community sensitivity, resilience and tolerance (Bjørst 2013).

There are so far only few projects implemented in Greenland and the experiences are limited. Therefore experiences from other countries are used here to illustrate how new industries might impact on the ways of living in the different project phases in Greenland in the future. An overview of potential impacts in relation to mining and hydrocarbon exploration is provided in Table 2.

Phases	Preparation	Exploration License	Exploration	Production license	Development and Production	Closure	Post closure
Related company activities			Transit of foreign workers through Greenland to onshore or offshore locations Exploration activities including drilling.		Establishment of facilities including housing, infrastructure and processing facilities. Production and processing. Use of foreign and migrant workers. Transit of workers Use of local workforce. Handling of waste.		Rehabilitation Monitoring
Potential impacts	Access to and control over resources Aspirations and fears towards potential development Perceived political and administrative control. Tensions.		Local and National Economy Community – its stability, character, services and facilities Level of hazard or risk, dust and noise they are exposed to. Health and wellbeing including livelihood. Personal and property rights Fears and aspirations Environment – the quality of air and water people use, the animals hunted.		Local and National Economy Community – its stability, character, services and facilities Level of hazard or risk, dust and noise they are exposed to. Health and wellbeing including livelihood Personal and property rights Fears and aspirations Environment – the quality of air and water people use, the animals hunted. The availability and quality of the food.		Local and National Economy Community – its stability, character, services and facilities Health and wellbeing including livelihood Abandonment of settlements increased urbanisation and unemployment. Leading to further negative indirect social and health impacts
Accumulating indirect impacts	If many projects are started but are not implemented, a public fatigue can occur. If many projects are implemented then it can cause a dependency on the flow of money related to activities to uphold ways of living. Identity, Shared beliefs, customs, values and language or dialect. Aspirations fears hopes anxiety – perceptions about the future of the community Community character Political system Contamination Painful adjustments to new reality after closure if other sources of revenue into the communities are low.						

Table 2 Illustration of project phases and examples of potential social impacts in different stages of a project.

In the following activities, which potentially can lead to significant impacts, based on experiences from similar projects, activities related to industrial projects are described.

Human displacement and resettlement

According to the International Institute for Environment and Development, displacement of settled communities in relation to implementation of large-scale industry projects cause significant impacts including disruption of community institutions and power relations, leading to resentment and conflict. Displacement can be voluntarily of one's own choosing due to unacceptable changes in the community caused by industry projects. But forced resettlement has also occurred. This is experienced to be particularly disastrous for communities who have strong cultural and spiritual ties to the land (IIED 2002).

Displacement has formerly been an issue in Greenland as it is emphasised in another paper for the committee (Sejersen 2014). This has also caused a focus on the potential impact on inhabitants of

settlements in close proximity to potential mine sites. Latest in relation to the potential rare earth metal and uranium mine in Narsaq, South Greenland, where the question of whether the company considered moving people if environmental problems occurred has been raised during public meetings. However, another important issue to address in relation to displacement of humans is actually the potential voluntarily move of locals and to address the consequences for the smaller Greenlandic settlements, when residents and families move for new jobs in other settlements. There is hence a need for a discussion in Greenland around under which circumstances settlements shall continue their existence. What is it that locals want to protect when is it wanted to keep and uphold the life in the settlements? The discussion is needed to establish a vision or development policy and then identify the tools that can be used to realise it.

Migration

Another carrier of potential significant impacts of extractive industries is the migration of people into an area, particularly in remote parts where a single project represents the single most important economic activity. The influx of newcomers can have profound impact on the original inhabitants and disputes may arise over land and the way benefits are shared. Migration in relation to mining projects has further been experienced to indirectly cause increased crime and health problems. Even if migrant workers are kept apart from the locals, problems of sanitation, waste disposal and other issues are experienced to cause disputes. Migration effects may extend far beyond the immediate vicinity of the project's improved infrastructure, which might also bring an influx of settlers (IIED 2002).

Areas subject to influx or the transit of foreign workers during exploration and later development and production can be directly impacted as transport facilities and housing facilities will experience extra pressure. Income due to the accommodation of project workforce will restrict the housing available for locals. Indirect impacts can be increased accommodation facilities being established, but also less availability for locals which will create frustrations. It is therefore important to address if the workforce will be local or not and if they will be accommodated on a permanent or temporary basis. In other words to distinguish between mine camps and mine-societies.

One of the main concerns addressed by stakeholders in Greenland is the handling of migrant workers and their potential impact on society (Hansen and Larsen 2013).

Politics, control and administration

Communities can experience that individuals feel particularly vulnerable when linkages with authorities and other sectors of the economy are weak, or when impacts affect the subsistence and livelihood of local people (IIED 2002).

In Greenland in general there are aspirations for a positive future but also fears about the unknown and uncertain aspects, due to the lack of experience with these types of projects. There also seems to be a lack of trust that the government body is actually protecting the interests of the locals, and there are worries that the government don't have the necessary resources to be a strong counterpart to the power and influence of the private companies. Even though in the past in Greenland, the public sector has been strong and dominant compared to the private sector, there also seems to be a fear that the private sector will set the agenda, not protect the local values, and not secure positive development (Hansen and Larsen 2013). Anders Meilvang, the head of Transparency Greenland expressed his concerns this way: *"In Greenland the robustness against corruption is limited. This is a challenge in relation to the new industries. There is a need for structures to be strengthened in*

order to secure transparency and avoid corruption. The Mineral Resources Act provides a broad frame, which privileges the administration and makes room for interpretation and hence a lack of transparency".

The lack of transparency has, according to the locals, also led to a lack of trust to the authorities. The size and potential lack of competences within the government administration are issues that are stressed as important and worrying. The director of Greenland Employers Association, Brian Buus, expressed his concern during an 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 quality and competence in the administration of the mineral resources".*

4. Social impact management in Greenland

In section 3 (above), it was described how communities in Greenland potentially become significantly affected by the implementation of extractive industries. Whether benefits derived from activities justify acceptance/tolerance of foreseeable and undesirable effects is an issue for the potentially impacted society to debate and judge. In this section, the governance and management of social change in Greenland is presented. Further examples are presented of voluntary activities undertaken by local stakeholders in relation to improve the public debate regarding the potential development.

Experienced impacts on communities from extractive activities have on the international scene led to development of different tools to improve projects and inform decision-making. In Greenland, Social Impact Assessment (SIA) is a legal requirement for companies to carry out during their planning process and the single formal tool to inform decision-makers about potential social changes. SIA is generally acknowledged internationally as a management tool, first as a significant component of EIAs, and today sometimes as in Greenland as an independent activity (Gibson 2000). In this section, the frames for managing social change are described. It is however important to be aware that the legislation in Greenland is focused on managing change at the individual project level rather than at a strategic level. The strategic level of change management is on the governmental level, both in administration and by politicians and the decisions made here are criticised for not being transparent and inclusive of the locals. Focus is in general on the project level in relation to change management. This can be due to the challenge of handling uncertainty as early management in a complex world makes the future hard to predict and planning difficult.

The central Act regulating offshore exploitation activity is the *Mineral Resource Act* from 2009 with later amendments (Greenland Parliament Act no.7 of December 7, 2009). The Mineral Resources Act lays down the main principles for the administration of extraction activities. It sets out the role and responsibility of the government, for including the authorization to lay down provisions in executive orders and standard and specific licence terms. According to the Bureau of Minerals and Petroleum (BMP), 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*".

An amendment to the Mineral Resources Act of 2009 took effect in January 2013 (Hansen 2013). The amendment changes the structure of the Ministry of Industry, Mineral Resources and Labour and divides responsibilities for mineral resources activities between two distinct agencies; The Environmental Protection Agency, which will be in charge of all matters relating to the environment, and the BMP, which will be in charge of licenses and the monitoring of licenced activities. Administration of SIA is now situated in Department of Business and Labour; it is however still governed by BMP. The SIA guidelines (BMP Guidelines for mining SIAs) have been used to guide SIAs for mining and hydrocarbon projects. They provide details on how the SIA process should be conducted, what content should be included and other general requirements for the SIA. BMP is planning to revise the guidelines in the near future to better fit the needs of hydrocarbon projects.

Social Impact Assessment

Impact assessment tools, at the international level, are developed aiming at in a structured and systematic way to identify as in predict statistical trends in relation to issues like environment, climate change, health etc. A challenge is to scope and assess in order to capture what really matters.

"Social Impact Assessment includes 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" (Vanclay 2003).

The purpose is for impact assessment to secure inclusion of knowledge in decision-making processes when policies, plans, programmes or projects can cause potential significant impacts.

SIA aims at creating a base for understanding communities including peoples' way of life and culture, their health and wellbeing, their personal and property rights and their fears and aspirations for the future. But also at securing local benefits of projects and protect local values (Vanclay 2003). In Greenland there is a legal requirement for companies to undertake social impact assessments and environmental impact assessments as a part of their application material when they apply for production permission and/or in the oil sector for exploration drilling (Bureau of Minerals and Petroleum 2011). The timelines require the companies to start the work even though decisions have not been taken. A key part of the SIA process is the social baseline study (SBS), which provides reference points against which potential socio-economic changes can be measured. Further key indicators for the assessment are identified in the SBS. SIA in general has an effect not only through implementing mitigation measures and the promotion of activities to secure local benefits but also in particular through the process of interaction between the company, the local authority and the public.

	Preparation	Exploration License	Exploration	Production license	Development and Production	Closure	Post closure
Decisions made	If activities can take place? What activity can take place? How much activity can take place? Which companies can operate?		If activities can take place? Where activities can take place? When the activity can take place? How the project is designed including closure and monitoring?		If activities are carried out according to agreements and can continue.		
Government	Decision on strategy. Bid rounds. Decision on number and type of exploration licences.		Decision on requirements. Decision regarding rehabilitation		Monitoring and securing that requirement are met.		
Operator	Early evaluation of potentials. Decision on application for exclusive or non exclusive exploration license.		Exclusive or nonexclusive license Project design		Monitoring securing that development follows expected track		Monitoring Rehabilitation
Public	No formal inclusion.		Involved when EIA and/or SIA is made		Involved when EIA and/or SIA is made		

Table 3. Decisions made by Government and Industry at different phases of project activity and public involvement.

As mentioned in the previous section, impacts can be divided into impact categories such as direct impacts, indirect impacts, cumulative impacts and synergies. Impacts can vary in type and nature; the size of the impacted area can differ and they can be relevant on short term, long term and be reversible or irreversible. Impacts can be assessed as being significant or not significant.

Due to having only little infrastructure and a high concentration of services, settlements are likely to be directly affected by onshore activities related to exploration and exploitation of Greenland's resources and indirectly by offshore activities. Onshore activities will cause an impact due to potential human resettlement, migration and changes in relation to access to land. Offshore due to the settlements' use of the sea for fishing and (some) harvesting of marine mammals for subsistence in the summer, there is a potential for them to be affected by activities, especially transportation between sites and logistical harbours. Residents of settlements could also be affected in that environmental risk related to spills, even just perceived risk, could alter behaviour. Fear of contamination of fish and marine resources could result in avoidance of harvesting and fishing in particular areas or at particular times of the year. Changes in harvesting activity can have far reaching effects on culture, diet and food security, whether real or perceived.

Impact Benefit Agreements

An Impact Benefit Agreement (IBA) is a formal contract outlining the impacts of the project, the commitment and responsibilities of both parties, and how the associated local community will share in benefits of the operation through employment and economic development.

As a part of the SIA process in Greenland, according to the BMP guideline, an IBA is to be negotiated between mining companies, the government and the municipality in which the project is located. For oil and gas projects, a SIA and therefore also an IBA has to be prepared in relation to application for exploration drilling and again in relation to application for production. For a mine SIA and IBA has to be carried out in relation to the application for a production license. In 2011, an IBA for exploration drilling by Cairn Energy was negotiated. The total value of the IBA was around 800 million DKK in 2011 and included amongst other tax income to Government of Greenland, commitments related to training and use of local workforce, contribution to an education fund for Greenlandic workforce competence development and to a community development fund (Cairn 2011).

As it is the case for SIA's also the IBA's in Greenland are negotiated and the content decided on a case-by-case basis. Potential strategic goals related to establishment of educational funds and a development funds has been debated by politicians and in the media. However no formal objectives, policy or strategy for strategic use of IBA's have been presented in the public. IBA's have been widely used in relation to extractive industry projects in Canada. However based on critique of the principle behind IBA's being locals or, in the Canadian case, indigenous peoples receiving benefits through the agreement rather than becoming partners in the development. In Greenland the indigenous (Inuit) are differently from in Canada in Government However the experiences from Canada could inform a debate around the objectives by IBA. Is IBA a tool to secure 'local acceptance' to achieve 'social license to operate' or to rather empower the locals to take part in the development process?

Public participation

The concept of Public Participation (PP) is subject to a range of definitions in Impact Assessment (IA) literature (Bisset 2000; Bishop & Davis 2002; André et al. 2006; O'Faircheallaigh 2009). PP may be seen as a systematic means to inform and/or involve communities potentially affected by a project and promote inclusion of the communities in the decision making process. The road to an effective PP process arguably entails an open exchange between proponents, organizations, agencies and the affected as well as interested public (Burdge and Robertson 2004). Although many approaches may be applied to gather information, evaluate and acquire information of key SIA variables, PP is emphasized as a vital and integral part of SIA (Burdge & Robertson 2004). PP is argued as being essential for good governance and provides opportunity for empowerment of the potentially affected communities (André et al. 2006).

When preparing an EIA for extractive activities, the Greenlandic authorities require PP in the form of stakeholder consultation, but often it can be done as part of the work with the SIA process. The EIA and SIA reports must be submitted for public review, and relevant stakeholder feedback must be integrated in the report before approval (NERI 2011). Regulation regarding stakeholder consultation is authorized in the Mineral Act (Government of Greenland, 2009) and specified in the BMP Guidelines for Social Impact Assessments (Bureau of Minerals and Petroleum 2011) and Guidelines for Environmental Impact Assessments.

Levels of participation in IA vary, from passive participation - where individuals are mainly receivers of information - to participation through consultation (for instance public hearings and open houses), to interactive participation (workshops, negotiation, mediation and even co-management. Different levels of PP may be relevant to the different phases of an IA process, ranging from an initial community analysis and announcement of the proposed intervention, to decision

making approval, monitoring and follow-up (André et al. 2006, 1). Thus, a good PP strategy is one that is tailored to each particular project as the PP level and the ways of involving people may differ in line with the specific community, situation, culture, values, power relations, socio-economy, political situation and more (Kørnøv 2007).

According to the guidelines of the BMP, the SIA processes in Greenland should be characterized by having a high level of PP; 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 2011). However, the high degree of PP is questionable and at present, much critique is placed on the PP processes in Greenland. The lack of specification arguably poses a barrier towards effective and meaningful PP as it leaves room for various interpretations among the different stakeholders creating diverse expectations of what PP should do and how to do it (Olsen and Hansen 2013).

From a study undertaken in Northwest Greenland in 2012 (Olsen and Hansen 2013), several stakeholders, involved in oil exploration activities in Baffin Bay, were interviewed on their perceived purposes and desired level of PP. The stakeholders included, among others, the BMP, petroleum company representatives and the local communities. In short, the research concluded that the desired level of PP among these three stakeholder groups ranked relatively low. The primary purposes of PP were equally described as mainly to provide information and prepare the local communities for future potential development and changes (Olsen and Hansen 2013).

In general, in the debate within the Greenlandic society, emphasis lies on more transparency in the decision-making processes. Further, a higher level of PP is argued to be essential to guarantee that the interest of the general public is taken into account (Titussen 2011; Aaen 2011; Myrup 2012; Nutall 2012; Hansen 2013; ICC 2013). Especially NGOs and associations in Greenland express concern over the form and content of public consultations and argue that available proper information is lacking. In 2012, the Greenlandic Employers Association issued a report that questions the democratic legitimacy in consultation processes associated with large-scale projects in Greenland (Aaen 2012). The criticism is mainly targeted at the BMP and focuses on shortcomings in the existing consultation processes. Piitannguaq Titussen chair of the NGO Nuuk Fjords Friends expressed: *"The public meetings are conducted in a terrible manner, the quality of the meetings are low. It ruins the interest in being there"*. 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 2012). As a result of the report, the Greenlandic Government has extended the public hearing period from 6 to 8 weeks and has decided to make contingency plans for oil and gas exploration activities available for the public (Government of Greenland 2011).

PP is required according to the regulation of exploration activities in Greenland, but more specific recommendations and reflections on good practice of PP is missing. The shortcoming listed in the before mentioned sections may arguable have been caused by lack of a proper formulated PP guide; a guideline that must be made in dialogue between the different stakeholders in order for the authorities to be able to capture and understand the stakeholders wishes before a decision is made of how to structure the processes.

There are Greenland specific issues which are identified as obstacles to successful PP which can already be addressed, such as language barriers and cultural barriers. The development within PP in

Greenland must be expected to take time as the more specific guidelines tailored to fit the Greenlandic context must be developed through experience. Greenland is highly diverse from North to South, East to West due to its size and wide-scattered and fairly small population. Therefore, best practice of PP may vary even within Greenland as well, and PP will be necessary to adapt PP accordingly.

Voluntary activities

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 in varying degrees and increasingly in the laws of State. 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 principles of FPIC were first formally laid out by 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 must be acquired before indigenous communities are relocated or before development is undertaken on their land. The FPIC concept was strongly reinforced by the 2007 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. The global oil and gas industry association for environmental and social issues, IPIECA is now developing a FPIC guideline/handbook for industry activities. In Greenland the local affiliation of the Inuit organisation Inuit Circumpolar Council (ICC) is also advocating FPIC in Greenland. It is considered provocative by some governmental officials since the Inuit are in government. Still ICC finds that the indigenous values are not taken into consideration to the degree they find necessary in relation to the industrial development. They have therefore initiated a public debate and facilitate meetings voluntarily to secure values and concerns are addressed in a specific area, 'Nordlandet' before oil blocks are announced for bidding. Ababsi Lyberth from ICC explained: *"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 stresses that: *It is important to improve the civil society's possibilities and capacity to enter a qualified dialogue regarding extractive industries before decisions are made.*

Also business managers in Nuuk during a facilitated workshop, met to discuss potential future alternatives (Martin Kviesgaard 2013). Four different scenarios were created illustrating four potential futures for the Greenlandic society depending on the development of the fishing resource and depending on the development of new large-scale industries. The scenario-building and result has served as a facilitator for a value-based debate on the fears and aspirations for a future Greenland.

5. Discussion

The experiences internationally and from Greenland are that mining and hydrocarbon projects might cause significant impacts to society both locally regionally and nationally. Conversations with Greenlandic stakeholders also reveal that a lot is happening already even though only little has been implemented so far. This supports the expectation, that impacts already to a significant degree is taking place prior to specific project planning. However as it is described in section 4, the formal and structured management of social change in Greenland today is primarily left to the companies in the project phases. When important decisions has already been made and company investments has already taken place, which can make it hard for decision makers to change or exclude projects from going into development even if local opposition appear. To secure max benefits for Greenlanders public value debates and potential identification of no-go zones are hence important to capture earlier than it happens today. This is recognised by some stakeholders which is strongly emphasised by stakeholders taken initiative to facilitate the needed debates themselves, as mentioned in section 3 regarding ICC's focus on FPIC and organisation of public value debates prior to development.

Greenland is known to have a high degree of adaptation capacity. However former projects have shown that both Greenlanders and environment can be damaged from exposure to rapid development. Development can in a pace influenced by those potentially impacted be adjusted to the local needs. This requires however early engagement of the locals to secure adaptation. It is similarly experienced that involving the potentially impacted communities in the decisions regarding their own future can have a determining influence on their welfare and self-esteem. It therefore seems that increased benefits can be achieved and trust-building between authorities and public if the authorities are willing to involve the public early and take increased responsibility for creating understanding of the potential development planned. This will also signal a capability to handle the interests of the public and strengthen planning.

There are different ways of facilitating public debates on values and the use of the land. Internationally SEA is in some situations used a tool used for this purpose. SEA is also conducted in Greenland in relation to planning of extractive industries. Experts on behalf of the Government have undertaken the SEA's. However public participation is not an integrated part of the SEA processes and social issues are not addressed. But in many parts of Greenland, particularly in the smaller settlements the locals do not distinguish between livelihood and recreation. Fishing and hunting is not merely the main occupation, it is their way of living. The main concern related to exploration activities is therefore regarding the potential impact on the natural environment including fish stocks and marine mammals. So integrating the social and environmental assessments in SEAs and using it as a tool for public debates could turn SEA into a platform for a mapping of both social and environmental sensitivity and inform decisions regarding where and to which extend extractive industrial development should be pursued.

If the authorities undertake SEAs, then an important part could also be identifying relevant social investments to prioritise in all IBAs as strategic investments related to risks and opportunities are typically identified in a strategic SIA. The IBAs are negotiated between the local authorities, the BMP and the companies, however more strategic investments can be prioritised if the IBAs to a certain degree are feeding into for example education funds, healthcare, production of relevant materials or other social investments with a local focus but managed on the national level to promote certain developments or avoid certain negative impacts/costs.

6. Concluding remarks and recommendations

Extractive industries will potentially influence the Greenlandic society dramatically in the future and decisions regarding the development will form the base from which the future society will be built. It is therefore important to debate if and how the development can be formed to benefit Greenland society more broadly. Decisions about where, when and under what conditions industrial activities are permitted are generally made on a case-by-case basis, without a comprehensive plan and regulatory strategy that identifies scope, intensity and direction and consequences of activities judged appropriate and desirable. There seems to be a need for **comprehensive planning.** A comprehensive framework and plan could be developed so that decisions in relation to extractive industries can be evaluated with respect to their compatibility with overall goals, the likely effect of individual activities on all receptors that might be affected by them, and the likelihood that the activities will result in undesirable effects that are long lasting or difficult to reverse. The plan should include all phases of extractive industry activities from lease sales, to dismantlement and removal of infrastructure, to environmental rehabilitation and restoration. In the Greenland context, it can be hard to separate impacts on nature from impacts on humans. In general, it is important to capture the interdependencies and interrelations between impacts on the natural and human environment and the indirect impacts changes in one might have on the other. It is therefore recommended to make **Integrated and strategic impact assessments as guidance for planning of land use (zoning).**

If this type of framework is developed then **Strategic goals in IBA's** can be promoted to secure that company investments are used to the benefit of the general public through for example **Education and research programmes.**

It is critical that a general policy or vision for Greenland is established to determine how mining and other activities can make that vision a reality. It is also critical that the Greenlandic community and local institutions such as NGO's have capacity to manage and become a part of the development process and properly address issues related to mining that will most certainly arrive such as employment, revenue, dispute resolution, environment, mediation, mining services and other.

Even though Greenland is regulated carefully and requirements regarding management of social change are implemented there is this way still considerations needed and decisions to be made to secure that Mineral resources in Greenland are extracted and revenue used to the maximum benefit of society.

7. References

Aaen S B (2011). Demokratisk legitimitet i høringsprocesser i forbindelse med storskala-projekter i Grønland. Grønlands Arbejdsgiverforening.

André P, B Enserink, D Connor and P Croal 2006. Public Participation International Best Practice Principles. Special Publication Series No. 4. Fargo, USA: International Association for Impact Assessment.

Bishop P and G Davis 2002. Mapping public participation in policy choices. Australian Journal of Public Administration: 61(1):14–29.

Bisset R 2000. Methods of Consultation and Public Participation. In Lee N and C George 2000. Environmental Assessment in Developing and Transitional Countries. John Wiley & Sons Ltd: England.

Bjerregaard P and Dahl-Petersen I (2008) editors. Levevilkår, livsstil og sundhed I Grønland 2005-2007 (Conditions of life, lifestyle and health in Greenland 2005-2007) København: Statens Institut for Folkesundhed; 2008. 174 p.

Burdge R J, and Robertson R A. 2004. Social Impact Assessment and the Public Involvement Process, in Burdge, et al., The concepts, process and methods of social impact assessment. Social Ecology Press: Middleton, Wisconsin, USA.

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.

Cairn Eneregy 2011. Impact Benefit Agreement under licenses 2008/11, 2002/15, 2005/16 and 2011/16 for 2011. June 2011

Freudenburg WR. (1992) Community *Impacts of Technological Change: Toward a Longitudinal Perspective,* Oxford Journals Social Sciences Social Forces, Volume 70, Issue 4 Pp. 937-955

Freudenburg WR. (1986) Social Impact Assessment. *Annual Review of Sociology*, Vol. 12, pp. 451-478

Geisler and Kjeldsen 2013. Interview with young artists: Klaus Geisler and Kimmernaq Kjeldsen, 7. August 2013, Nuuk

Gibson RE. (2000) Favouring the Higher Test: Contribution to sustainability as the central criterion for reviews and decisions under the Canadian Environmental Assessment Act. Journal of Environmental Law and Practice, 10:1, pp. 39-54.

Giddens A. (1984) Constitution of Society: Outline of the Theory of Structuration. Oxford: Polity Press. 1984.

Government of Greenland (2011) Vores velstand og velfærd - kræver handling nu. (Our wealth and welfare – demands action now). Oddi Printing Ltd, Nuuk

Greenland Tourism (2013). How to get around in Greenland. Latest download 26.09.13 from: http://www.greenland.com/en/plan-your-trip/how-to-get-around.aspx

Hansen JL. 2013 Mar 14. Kamp om beskatning i Grønland. Information. [Internet]. Available from: http://www.information.dk/454325 Last viewed: 2013 Sept 26.

Hansen AM and Larsen SV (2013). Use of scenarios and strategic planning to explore an uncertain future in Greenland
in Press, Regional Environmental Change.

ICMM (2012). International Council on Mining and Metals: Human rights, social development and the mining and metals industry. June 2012. London

IPCC (2001) IPCC. Third Assessment Report "Climate Change 2001: The Scientific Basis". Editors: J.T. Haughton et al. Contribution of Working Group I to the Third Assessment Report of the intergovernmental panel on climate change. Published to the web by GRID-Arendal in 2003. Available at: http://www.grida.no/publications/other/ipcc%5Ftar/?src=/climate/ipcc_tar/. Accessed in May 2013.

International Labour Organisation 169: http://www.ilo.org/indigenous/Conventions/no169/lang--en/index.htm

International Association for Impact Assessment Wiki: http://www.iaia.org/iaiawiki/sia.ashx Definition and introduction to Social Impact Assessment

IIED 2002. International Institute for Environment and Development. Breaking new ground: Mining, Minerals and Sustainable development: Chapter 9: Local Communities and Mines. Downloaded from http://www.iied.org/pubs/pdfs/G00901.pdf

Kørnøv L 2007. Public Participation. In Kørnøv L, M Thrane, A Remmen, H Lund 2007. Tools for sustainable development. Aalborg: Aalborg Universitetsforlag; 719-738.

Langhoff R 2013. Med Folkets Mandat? Høringsprocesser og borgerinddragelse på råstofområdet. Inuit Circumpolar Council (ICC) Greenland

London Mining 2012. Social Impact Assessment of ISUA Iron Ore Greenland 2012. Last downloaded Oct. 2nd 2013 from http://naalakkersuisut.gl/~/media/Nanoq/Files/Attached%20Files/Raastof/Hoeringer/ISUA%202012/SIA%20London%20Mining%20final%20march%202013.pdf

Mosbech A (2014). Miljøeffekter af Råstofaktiviteter. Backgroundpaper for the Committee for Greenlandic Mineral Resources to the Benefit of Society. Copenhagen University.

Myrup M 2012 Mar 13. Avataqs høringssvar til "Redegørelse om rammevilkår for realisering af storskalaerhvervsprojekter i Grønland" (2012 Feb). Avataq. [Internet]. Last viewed: 2013 Sept 26. Available from: http://vintage.nanoq.gl/Service/Hoeringsportal/Redegørelser-rapporter/2012/~/media/2012/storskala_hoering/130312_avataq_dk.ashx

Niclasen B and Mulvad G. Health care and health care delivery in Greenland. International Journal of Circumpolar Health 69:5, 2010, pp. 437-447

Nutall M 2012. Imagining and governing the Greenlandic resource frontier. The Polar Journal. 2:1; 113-124.

O'Faircheallaigh C (2009) Effectiveness in social impact assessment: Aboriginal peoples and resource development in Australia. *Impact Assessment and Project Appraisal*, Volume 27, Number 2, pp. 95-110(16)

Olsen AH, and Hansen AM (2013) Stakeholder perceptions of Public Participation in Environmental Impact Assessment: A case study of offshore oil exploration industry in Northwest Greenland. In Print. Impact Assessment and Project Appraisal.

Oxford Dictionary, Oxford University Press. Latest download August 19th 2013 from:
http://oxforddictionaries.com/definition/english/community

Rasmussen RO (2011) More migrant workers in the Arctic. Journal of Nordregio 11(2): 19-20

Sejersen F (2014). Efterforskning og udnyttelse af råstoffer i Grønland i historisk perspektiv.
Backgroundpaper for the Committee for Greenlandic Mineral Resources to the Benefit of
Society. Copenhagen University.

Statistics Greenland, 2013a. Greenland in Figures 2013,10th Revised Edition. Statistics Greenland.
http://www.stat.gl/dialog/main.asp?lang=en&theme=Greenland%20in%20Figures&sc=GF
. Accessed in April 2013.

Statistics Greenland, 2012. Statistics Yearbook 2012. Downloaded at:
http://www.stat.gl/dialog/main.asp?lang=en&version=201203&sc=SA&subthemecode=o2
&colcode=o . Accessed in April 2013.

Titussen P 2011 Aug 30. Ensidigt borgermøde om Isukasia. Sermitsiaq.ag [Internet]. Available
from: http://sermitsiaq.ag/node/106442   Last viewed: 2013 Sept 26.

UNDRIP 2007, United Nations Declaration on the rights of indigenous people:
http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

Vanclay F. (2003) International Principles For Social Impact Assessment. *Impact Assessment and
Project Appraisal*, volume 21, number 1, March 2003, pp. 5–11.

Young TK and Bjerregaard P, editors. Health transitions in Arctic Populations. Toronto: University
of Toronto Press; 2008. 434p.

*A number of conversations took place during an interim meeting in Nuuk. 5-9 August 2013. The
following conversations are referenced in the text:*
Martin Kviesgaard, Director, Grønlandsbanken (The National Bank of Greenland)
Brian Buus, Director, Grønlands Arbejdsgiverforening (Employer Association)
Anders Meilvang, Chairman, Transparency Greenland (NGO)
Ababsi Lyberth, ICC