Perspectives

on skills

- an anthology on informally acquired skills in Greenland –

PERSPECTIVES ON SKILLS

1. INTRODUCTION

Greenland is a unique place that offers a lot of possibilities for sustaining a good life. The Greenland society offers most of the population good lives and the vast majority of Greenlanders self-report leading good lives. However, a large minority is challenged by unemployment and lack of education. Some of this is based in social and health problems, but this group also includes very competent, skillful and well-functioning people. Their problem is, that their skills are acquired in informal ways and for that reason invisible and un-recognized by the job market. The lack of appreciation of the qualifications of this group constitutes a great loss of value to society and to the individual.

The aim of this anthology is to shed light on the phenomenon of informally acquired skills, on ways to document and map these skills within the Greenlandic society, and find means to release this vast potential for the benefit of both the persons involved and the society in general.

It is a collection of articles, perspectives and points of views on the thematics of knowledge-development, education and skills in a Greenlandic context. But it started out as something completely different: As a breakout session on the possibilities for Arctic youth in a globalized world at the Arctic Circle Assembly in Reykjavik in 2015. The goal of the session was to gather participants from all over the Arctic for a discussion on how to approach the fact that many young people in the Arctic do not acquire a formal education. In a world which is characterized by an increasing demand for highly skilled labour and people with formal qualifications this of course poses a problem for the individual as well as for the Arctic societies who have a low degree of formally educated people in their populations.

For the sake of a focused discussion we decided to take our point of departure in Greenland and focus on the Greenlandic population as a case, hoping that the conclusions we would draw from the breakout session would also be relevant to other Arctic nations. In order to feed the discussion and to be able to discuss with a point of

departure in available facts, we decided to make an enlarged fact-sheet describing the current situation in Greenland. We called the small publication "Everybody on board" in order to indicate the individual as well as societal importance of including all competences in Greenland no matter whether they have a formal education or not.

The baseline of the work is that all people have some kind of skills. In Greenland – and in many other Arctic countries – however there is a rather large group of people who do not have a formal education and thus have lesser opportunities in life. But they still have skills: Some are specialists in hunting or fishing, some are skilled handicraft people and some are artists without a formal educational paper to prove it. Some of these people might be perfectly content with their situation. They get by on a subsistence economy, navigating in an informal economy. But some might be interested in having a job on a formal labour market but not be able to market themselves because of their lack of documentation for their skills. They might be further challenged because they do not wish – or are able to – continue in a formal educational system.

This situation made us think about if it would be possible to make better matches and include more people. Many attempts are made in Greenland and other countries in the Arctic in order to amend the lack of education: Incentives for further education are established, internships and vocational training courses are offered etc. But there is still a need to look at how to include people who are outside of these systems. Either because they do not wish to be part of them or because they are not able to.

Would it be possible to set up a system to "capture" the skills that these people posses? What do we actually know about how skills are perceived and used in Greenland? What do we know about the causes leading up to the current situation? Could inspiration be found in other parts of the world?

Method

The present anthology is an attempt to look at these possibilities and challenges from a multidisciplinary angle. 20 company- or organisation representatives and

researchers have agreed to contribute with their specific angle on the matter of informally acquired skills in Greenland. The articles have been peer reviewed within the group of authors.

Some have written their articles from a practical perspective and some from a theoretical perspective. Some have their roots in the Greenlandic society while others have their roots in a research on the matter. All have agreed to participate here with their specific take on the question we asked them: How to investigate the understanding of skills and become better at using and recognizing informally acquired skills in order to maintain a sustainable development and provide opportunities for everyone to pursue their own choices in life.

The perspectives and theoretical standpoints of the authors varies a great deal and it is not possible – nor is it the intention – to derive a single conclusion from the chapters. On the contrary is it our hope that the many different viewpoints can spark fruitful reflections on this important matter.

The different approaches in the articles contain elements and approaches which can be described as puzzle solving, critique, balance and interference (Description borrowed from Ren, Petersen and Dregde in *Valuation Studies 3(2) 2015: 85–96. http://valuationstudies.liu.se*).

Puzzle-solving seeks to find the missing piece in the jigsaw. It asks: What is the missing (technical) fact? Puzzle-solving, does not engage in discussing the values of recognizing informally acquired skills, but is merely concerned with facts: what will this cost, what will we gain, is it worth it—and how to measure all of this in the best possible way?

Another approach, that of critique, is not so interested in the facts. Indeed, facts are taken to be more or less clear. Critique is interested in values. And it states that the present values have gone wrong.

The third approach – balance – deals with how for instance economic and cultural concerns relate. What matters within balance is "the making of balance between

things that won't add up in a nice convergent way, that refuse to be located within a single calculus of *either* facts *or* values".

Finally the approach of interference can also be found in this anthology – and in the synthesis report derived from here: Researchers interact with the subject of research. They recognize that realities are done differently in different practices with an aim of "interfering and making a difference" .

It is our hope that the many insights shared in this anthology will provide inspiration for further work.

A synthesis report with the title "Sitting on gold" interprets the articles in this anthology. The report can – along with this book – be downloaded at www.greenlandperspective.dk.

2. DEFINING SKILLS

A better understanding of how to use and recognize informally acquired skills obviously requires a definition of what they are and why it is relevant to talk about them. The articles in this section provide a framework for talking about skills.

The article "Informally acquired skills – what and why" draws on the other chapters in this anthology in order to establish a definition of the concept of informally acquired skills and why it is important to talk about this type of skills. An important point in this article is the definition of informally acquired skills as something which is learned outside of the formal school setting and can be both modern and traditional. The article is written by Rebekka Knudsen, project manager at the cross-disciplinary initiative *Greenland Perspective* which is the publisher behind this anthology.

The article "Concepts, definitions, challenges" provides an overview of some of the existing definitions that are relevant to the understanding of Recognition of Non-formal and Informal Learning Outcomes (a.k.a. Recognition of Prior Learning, RPL). There is a consensus that human beings learn everywhere and all the time, but the consensus stops there. There is a certain degree of confusion and fuzziness that surrounds the matter of Recognition of Non-formal and Informal Learning Outcomes. The article aims to reach a conceptual clarification for better practical use of Recognition of Non-formal and Informal Learning Outcomes. The article is partly based on previous work, when the author was employed at the OECD. Since Recognition of Non-formal and Informal Learning Outcomes is an evolving field, the terms and concepts presented in the article have been updated whenever necessary to provide the most accurate and modern approach possible.

The article is written by PhD in Economics Patrick Werquin. Patrick Werquin is a Professor at CNAM (*Conservatoire national des arts et métier*, a French Higher Education and Research Institution), Paris; and an international independent consultant based in Saint-Sulpice-sur-Lèze, France.

3.1 INFORMALLY ACQUIRED SKILLS – WHAT AND WHY

By Rebekka Knudsen

There is no one single way to describe the concept of informally acquired skills or how they can be utilized and recognized. Here we use the terminology of informally and non-formally acquired skills to describe the *skills that lie outside of the skills acquired in a formal school setting*. It is important to stress, that it is the context that is informal, not the learning, and even less the learning outcomes – the outcomes of informal learning might just as well be used in a formal setting as a skill acquired in a school setting (for a fuller description see chapters 3.2 and 8.1 by Patrick Werquin in this anthology). A clear difference should also be made between two widely used terms: competence and qualification. A competent person is capable of doing something, and/or knowledgeable within a given field. A qualified person is someone who possesses a document that confirms that s/he is capable of doing something, and/or knows something. A competent person may not be qualified, if s/he has never been assessed. Therefore, a person's competences are not visible which is a major issue when it comes to generating revenue within the labour market as this is heavily structured, at least within the formal economy, and where the highest and the most stable revenues are found along with social protection. A qualification is a pass to employment.

> **Formal learning:**
> Always organised, structured and with explicit objective to gain knowledge/skills.
> **Informal learning:**
> Never organised, has no set objective in terms of learning outcome. Never intentional. "Learning by experience".
> **Non-formal learning:**
> Rather organised and can have learning objectives. Happens as a bi-product of more organised activities

Informal and non-formal learning is often obtained in relation to subsistence-, family- or hobby related activities. In a Greenlandic context it could be through hunting and fishing but also through playing music, computer games, skiing, dogsledding etc.

Often when discussing informally acquired skills in an Arctic context the focus is on local and traditional knowledge and culture. Although this is not the whole truth – especially not for young people in the bigger Greenlandic cities – it is relevant to describe this type of learning more in depth.

Traditional knowledge is informally acquired

Traditional environmental knowledge (TEK), local, -or traditional knowledge (TK) is probably one of the most widely documented and (maybe in consequence) most contested concepts in the study of indigenous peoples' environmental knowledge (based on Hansen et al 2016, chapter 7.1 in this volume).

Definitions of TEK range from 'knowledge about the environment, knowledge about the use of the environment, values about the environment, and the knowledge system itself' to conceptions of local knowledge as 'part of social, cultural and political processes which take place at the local, national and global level'. Although discussions and examples of local or traditional knowledge are occasionally voiced by Greenlanders, for example, when speaking about climatic changes or fisheries and hunting development, formal acceptance and official recognition of traditional knowledge and its use-value is still needed before implementation can be considered. Critics have observed that, by focusing solely on the 'traditional' aspect, it inadvertently freezes local knowledge in time by failing to acknowledge and take into account the dynamic and constantly changing nature of TK. But on the other hand TK has proven successfully engaged, documented and employed in Greenlandic cases where locally based environmental monitoring projects have been tested and acknowledged. It should also be underlined that local knowledge is more than TK since it can be possessed by people who occupy formal functions in a society - local knowledge can thus be a synonym for "key players" in a society (More on local

knowledge and ways of appreciating it in Hendriksen and Hoffmann and Jørgensen and Hoffmann - chapter 7.3 and 4.1 in this volume).

Traditional, or indigenous, knowledge is often passed on by individuals between generations and knowledge sharing is built into traditional customs and facilitated through both training and traditional activities. In Greenland, as elsewhere in the Arctic, a majority of local household economies are often either directly, or indirectly, involved in the harvest of renewable resources and continue to rely on indigenous traditional knowledge. For some this is a choice, for others a matter of lack of possibilities. Research on the topic of TK in Greenland is however limited and it might be of interest to further explore how TK could be used in formal settings.

The relationship between TK and conventional science can be illustrated as seen in figure 1. In some areas there is an overlap and these overlaps constitutes areas where traditional knowledge can be used in a more formal setting.
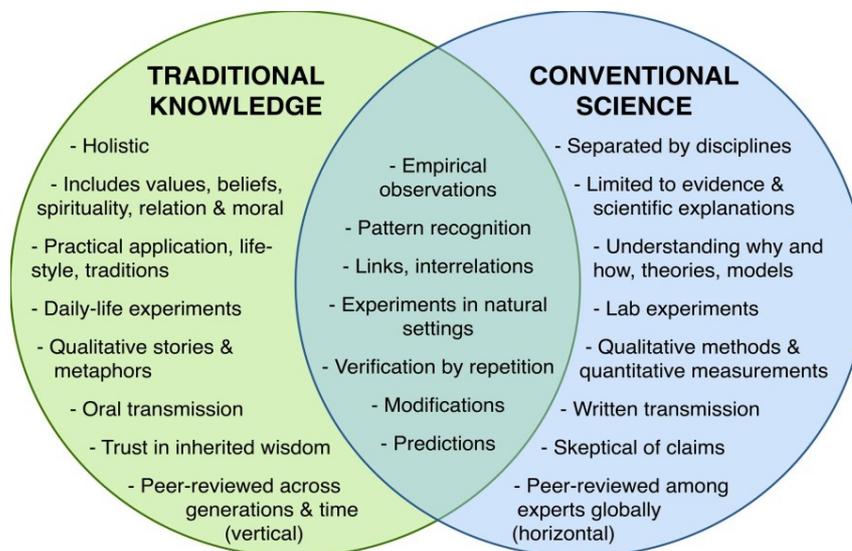
Figure 1: Traditional Knowledge versus Conventional Science: Overview of characteristic similarities and differences between the two knowledge systems (Egede & Hansen 2016)

TK might be useful in the emerging industries be it within tourism, raw material extraction or other types of industries. There are several examples of people using their informally acquired skills such as navigation skills, technical skills or skills that

lies within the area of food or handicrafts to provide services for groups such as researchers, exploration companies and tourists.

An example to illustrate the point is the Mary River iron mine in Baffin Land (more on this is chapter 6.2 in this volume), which is under development. In preparation the local Qikigtani Inuit Association has conducted a labour market survey to map the formally and informally acquired skills of the potential local workforce for the coming mine.

The Survey showed that:
- 64 % had less than high school education
- 18 % lack English fluency
- 69 % may lack computer skills
- 48 % have no experience working two-week rotations
- 41 % do not have a personal bank account

But many had other skills and experiences relevant to jobs at the mine:
- Camp services – 42 %
- Health and safety – 41 %
- Construction – 34 %
- Preparing country food – 85 %
- Hunting/fishing – 83 %
- Navigation 45 %

It remains to be seen whether locals of the area will succeed in being employed at the mine, but this type of mapping might be a way to identify and make skills outside of the formal system visible to future employers.

In a Greenlandic context it might be interesting to investigate further whether and how TK can be used - not necessarily according to a western model of society but rather in a modern Inuit society where activities may be combined without compromising the opportunity to continue the traditional activities of Greenlandic

society (More about this discussion in Hansen et al 2016, chapter 7.1 in this volume). To date there has been no systematic efforts to map people possessing TK and matching them with jobs like it has been done by the Qikigtani Inuit Association. This could be a research project or even a task for stakeholders at the Greenlandic labour market. A mapping could also include "modern" informally acquired skills such as modern hobby related activities in order to obtain a fuller picture of how these skills are distributed and developed, who posses them and even how companies or organizations see the way they could be used in their line of work.

3.2 CONCEPTS, DEFINITIONS, CHALLENGES

By Patrick Werquin

Background

Recognition of Non-formal and Informal Learning Outcomes[1] (RNFILO) is at the top of the policy agenda in many countries, but there remains some confusion, if not misconception, about the concepts in use and their definitions. This chapter aims at clarifying the most important definitions and at discussing some of the least consensual issues in regard to terms and concepts.

The issues as a starting point are based upon the fact that policy makers should agree on the concepts rather than on the words and that definitions evolve over time. This chapter is also based on the fact that there is no such thing as a unique and overall valid definition for all countries that can be set in stone. Entities (countries, regions, companies) should decide on definitions according to their individual needs. An entity which is interested in establishing a system for Validating and Recognising Non-formal and Informal Learning Outcomes should make choices in regard to the definitions they need which should be based on their vision of Non-formal and Informal Learning Outcomes for short and medium-run time spans and should be ready to revise them if needed.

Terms and Concepts

A wish to provide policy pointers in regard to the Recognition of Non-formal and Informal Learning Outcomes, will first of all require a proper understanding of terms and concepts. There exists a growing amount of literature on the Validation and Recognition of Non-formal and Informal Learning Outcomes, but the vocabulary in use remains non-consensual. The complexity is partly accentuated by new players

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[1] The term Recognition of Non-formal and Informal Learning Outcomes is preferred to all the other existing ones, such as Recognition of Prior Learning (RPL), for reasons that will become clear all along this chapter.

who in an effort to sound original introduces new terms. Existing terms used in this paper (validation and recognition) are not perfect, but make sense and these are consistent with the history of the approach. Other terms, such as "valuation" or accreditation[2] will not be used in this context of Recognition of Non-formal and Informal Learning Outcomes. These terms only add uncalled for complexity and are often the result of misconceptions. If the official rhetoric is unclear, as seen in the case of UNESCO (for details on this, refer to Werquin, chapter 8.1 in this volume), for instance, then countries which only have recent experience within the field may feel somewhat confused. The confusion is not conducive to taking the necessary steps to implement a system for the Validation and Recognition of Non-formal and Informal Learning Outcomes.

This chapter does not claim that there should be one term and one definition for each concept. Vocabulary evolves as knowledge grows which is perfectly natural[3]. For instance, terms like Recognition of Prior Learning (RPL)[4] and Recognition of Non-formal and Informal Learning (RNFIL) *peacefully* coexist and carry very similar meaning. Canada, for example, coined its own term: Prior Learning Assessment and Recognition (PLAR) which also makes sense. However, this paper claims that there is only one way of understanding what Validation and Recognition of Non-formal and Informal Learning Outcomes is about, and how it can be a potential solution for several of the issues that different countries are faced with (e.g. unemployment, competences shortages), and will, thus, start with a description of a clear understanding of the key concepts and of the purpose of Recognition of Non-formal and Informal Learning Outcomes.

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[2] Valuation, in the sense of giving value, will not be used. Assessment and currency will be used depending of the context. Accreditation will be reserved to designated institutions and bodies that are officially allowed to award qualifications.

[3] In the early 80s, for example, formal learning was only classroom based learning in a school for children. It is now widely accepted that formal learning can take place pretty much everywhere – at the workplace for example – and for everyone, including adults.

[4] The term Recognition of Prior Learning may sound redundant to a certain extent because no one can in fact say that they can recognise future learning! Nevertheless, it does make sense. It dates back to the time when non-formal and informal learning outcomes were considered for entering a new formal learning programme above the beginner level. *Prior* here means prior to entering the new learning programme.

Competence vs. Qualification: Qualifications to Make Competences Visible

A clear difference[5] should be made between two widely used terms: *competence* and *qualification.* The focus is mainly on "qualification" because the assumption is that any country aims at awarding a full qualification to successful applicants in the Recognition of Non-formal and Informal Learning Outcomes process, but other options exist: credits, exemptions, external application (see Werquin (chapter 8.1, in this volume). A competent person is capable of doing something, and/or knowledgeable within a given field. A qualified person is someone who possesses a document that confirms that s/he is capable of doing something, and/or knows something. A competent person may not be qualified, if s/he has never been assessed. Therefore, a person's competences are not visible which is a major issue when it comes to generating revenue within the labour market as this is heavily structured, at least within the formal economy, and where the highest and the most stable revenues are found along with social protection. A qualification is a pass to employment.

Therefore, a <u>competence</u> is something an individual knows (knowledge), and/or can do (skills) or is capable of comprehending (behaviour). The concept of competence is only valid if a context is provided[6]. The context is essential because it allows for an assessment to take place. Without the context, it is extremely difficult to assess a competence. For the sake of this work, competences are very closely related in essence to learning outcomes. A competence is not necessarily documented. It is only documented when individuals hold a qualification that corresponds to the competence. This is often the case when the investment in the competence is made within the initial formal education and training system. It is, typically, not documented when individuals have acquired a competence through non-formal and informal learning. Therefore, the risk is that there is no significant official return on

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[5] It is important to stress that this use of the vocabulary is probably valid in UK English only. It is different in French, in German and probably in US English too.
[6] Incidentally, all the so-called "key competences" that have flourished in the literature are not competence: "communication" is not a competence; precisely because no elements of context are provided. Is written or oral communication? Is it in one's mother tongue, or in a foreign language? In front of a small group of fans, or a hostile amphitheatre?

the investment in a competence when this competence is acquired outside the formal learning system.

A <u>qualification</u> is a document which is awarded by – or on behalf of – an accredited institution and is in most countries accredited on behalf of the Ministry of Education. A qualification describes what a person knows and/or can do within a specific field and, therefore, renders the competences visible. It is almost always a pass of entry to a regular job and, although, it is not a sufficient condition to get a job, it is certainly a necessary one.

The most efficient way to describe Recognition of Non-formal and Informal Learning Outcomes is to say that it is <u>another</u> <u>route</u> <u>to</u> <u>achieve</u> <u>a</u> <u>qualification</u>; either directly through the awarding of a qualification on the sole basis of an assessment, or indirectly through the awarding of credits, or the facilitation of access to additional education and training through an exemption of academic prerequisite for access and/or an exemption of all or part of a study/training programme. In short, Recognition of Non-formal and Informal Learning Outcomes provides a second chance of gaining a qualification (see later section and Werquin, 2012a). Qualifications are often defined as the outcome of a learning programme. This approach is not conducive to establishing a system for Recognition of Non-formal and Informal Learning Outcomes. A simple change in vocabulary – just as a qualification is the outcome of a learning <u>process</u> – will open many doors and this is particularly true in the context of the preparation of a legislative framework.

Recognition of Learning Outcomes vs. Recognition of Qualifications

The word *recognition* has two meanings. The <u>recognition</u> <u>of</u> <u>learning</u> <u>outcomes</u> is different from the recognition of qualifications. The former takes place when an applicant is successful in meeting predefined [preferably widely agreed] assessment standards. The latter, the <u>recognition</u> <u>of</u> <u>qualifications</u> is a societal issue. In other words, and this is also crucial for practitioners and policy makers, it is not because an assessor (or a group of assessors) has validated the learning outcomes presented by an

applicant that the employers, for instance, and the rest of society at large (e.g. families, peers, university recruiters), will accept this qualification as evidence for competence(s).

Recognition of learning outcomes is the technical part. It is close in essence to the concept of validation where focus is on the assessment. Recognition of qualifications takes a lot of time and effort. Typically, recognition of qualifications requires an early involvement of all relevant stakeholders in order for these to feel a sense of ownership and accept the qualifications as a proof of competences.

Recognition: It is Societal Recognition that Matters

It is of paramount importance – especially for policy makers – to realise that an assessor may well validate the Non-formal and Informal Learning Outcomes of an applicant without society accepting that the corresponding award (e.g. a qualification, or credits) has any value or currency. The concern for applicants is that the afforded award is recognised by the society in which they live, and more importantly, by the key stakeholders and, in particular, by potential employers.

The concept of <u>societal</u> <u>recognition</u> is not specific to the Recognition of Non-formal and Informal Learning Outcomes. The same applies to the formal learning sector: qualifications that are awarded to successful candidates in the formal learning sector (the upper secondary education, the university system or the TVET sector for example) must have currency and be valued by society and by employers in order for these qualifications to be useful to graduates; i.e. to provide a return on investment. The fact is that in the system for Recognition of Non-formal and Informal Learning Outcomes, the <u>input</u> <u>process</u> (How, where, when and with whom one has learnt) <u>is unknown</u> by definition. Therefore, the issue of <u>trust</u> appears sooner or later as it is not known how applicants have acquired their competences. If relevant stakeholders are not involved in the design of the validation/recognition system, then, they may deny the currency of the qualifications (or credits) that are awarded to successful applicants in the Recognition of Non-formal and Informal Learning Outcomes system. Societal recognition must be among the top priorities of any system of Recognising of Non-

formal and Informal Learning Outcomes, otherwise, the entire recognition system could collapse due of a lack of trust by the stakeholders.

Having defined recognition of learning outcomes, the next immediate issue concerns the different learning contexts that may allow for the acquisition of learning outcomes.

Formal, Non-formal and Informal Learning: A Continuum of Learning Contexts

Formal learning is organised (e.g. at school, at university or at the work place). It is therefore always intentional and includes objectives in terms of learning outcomes. Informal learning is experience. It is never intentional and does not have prior outlined learning objectives. It takes place by a mere experience of the world and can happen at home, at the workplace or through the participation in voluntary activities. Non-formal learning is situated between the two and its definition varies according to country and context (see Werquin, 2007, for more details). It is often associated with adult learning (e.g. Africa, Germany and South East Europe), but it can also be a second chance for basic education (Morocco). It could also be a side-lined learning that takes place alongside a formal learning programme. For example, it is well known that in the attending of a formal learning programme or in a validation of non-formal and informal learning programmes, adults learn about themselves and about working in teams, and also about social customs. This learning is in addition to the initial learning objectives. It was not planned, but did occur.

This means that there is a continuum of learning contexts that range from the most formal to the least formal and which is termed *informal* with non-formal learning placed somewhere in between. Only three contexts of learning have been given a name (formal, non-formal and informal), but there is not such a thing as a three-point scale where only three benchmarks are marked in the continuum of learning; and all this varies according to time and space. Any country that aims at addressing the issue of Recognition of Non-formal and Informal Learning Outcomes should decide for

itself which definitions, concepts and shared understanding it needs in the short and the medium term. This is part of a <u>pragmatic</u> <u>policy</u> regardless of international injunctions[7].

Formal, Non-formal and Informal Learning: Avoiding Overlap

When it comes to defining terms which are not consensual, such as the different contexts of learning, what matters is that the definitions are reasonably <u>mutually exclusive</u>. In this sense, a set of definitions that state that formal learning is always intentional, that non-formal learning is intentional and that informal learning can be intentional, is not very useful. Such an approach with fuzzy and overlapping concepts creates blurred boarders which do not help in a situation of analysis or implementation. Policy makers are in need of clear concepts as they need to convey clear messages. If informal learning is incorrectly said to be potentially intentional, for instance, it will inevitably lead to the creation of a fourth category called *random learning* (see the definitions wrongly proposed by UNESCO – UIS, 2011; p. 12 – and used by Eurostat – 2006; p. 12)[8] which brings non-intentional learning on board. It is claimed in this report that informal learning is non-intentional – it is based on experience – and that it has to remain so.

It is also important to realise that definitions are meant to <u>evolve</u> over time and that no definition can be set in stone. As mentioned above, definitions have considerably changed over the last two decades and what matters is that experts and policy makers use the definitions they need, when and where they need them, and that they accept that they may be subject to change. For example, rather out-dated definitions of the different learning contexts include whether formal, non-formal and informal learning [usually] lead to a qualification. As it is clear from the definitions proposed above, this characteristic has not been retained here and should never be retained. If systems are

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[7] The same applies to national qualifications frameworks. The European Qualifications Framework (EQF) was never meant to be a template and countries should decide on their national qualifications framework according to their needs, and then use the EQF as a translation device; and not the other way around.

[8] Even if another European Commission agency, the Cedefop, explicitly makes random/incidental learning a synonymous of informal learning (Cedefop, 2014; p. 111). See Werquin (2016a) for a discussion.

implemented throughout the world for the Validation and Recognition of Non-formal and Informal Learning Outcomes so that they can possibly lead to a qualification, then, this characteristic cannot be included in the definitions. Ideally, any form of learning could lead to a qualification. Therefore, whether the learning context is formal or not, then "leading to a qualification" should not be a distinctive characteristic of any of these concepts.

The last point regarding definitions is that there may not be any need for internationally agreed definitions. What matters is that there is a general understanding of the different concepts and definitions that are used. What is even more important is that definitions are chosen according to local and current needs and objectives. In any case, the distinction between formal learning, non-formal learning and informal learning is only valid for researchers and possibly for decision makers. In reality, no one can clearly state what s/he has formally, non-formally or informally learnt. For example, children can learn a language at school, but also through speaking with their parents and when reading on their own and/or when playing with their friends. No one can clearly identify how their skills of literacy have been acquired. Again, the distinction is only relevant for research and policy making purposes.

Finally, by definition formal learning can also be termed as formal education. However, the debate is still open about non-formal learning which can sometimes be described as non-formal education when it is relatively organised as, for instance, in adult learning programmes. In the case of informal learning, it seems obvious that it cannot be termed informal education. Just as lifelong learning is a widely accepted term, it seems wise to use formal, non-formal and informal learning in all instances.

Validation and Assessment

In this chapter, <u>validation</u> designates the full process by which individuals (applicants) are assessed in order to determine whether they meet any [preferably widely agreed] predefined assessment standards. If a typical applicant meets with the standards then

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s/he can be awarded a partial or full vocational or academic qualification, credits toward a qualification, the right to take an examination in order to be awarded a qualification, the exemption of academic prerequisites to enter the formal learning system (university, for instance) or the exemption of all or part of a *curriculum* in the formal learning system. As is obvious from this list, validation may lead to many outputs. This list is composed by the most often seen outputs in countries that have set validation systems in motion. Needless to say, there are as many systems as there are countries (see Werquin, 2016b, in this opus). What usually makes the differences is:

> - Whether countries accept to validate learning outcomes from the labour market or from private activities, or both.
> - Whether countries may award the full qualification at the end of the validation, or whether it is merely a right to sit for an examination in the formal learning system.
> - Whether what is awarded (qualification, credit or exemption) is fully accepted in society, and first and foremost by employers.

Again, it is societal recognition that matters, over and above validation. This is the reason why the term *validation* is not used within the system; and why it is more appropriate to say Recognition of Non-formal and Informal Learning Outcomes. Validation is merely a technical process by which an assessor or a group of assessors (academics, experts, professionals etc.) decide whether the applicant meets the predefined standards for obtaining credits, exemption of academic prerequisites, partial or full qualification or any other of the many awards that countries deliver at the end of recognition processes to successful applicants.

Formalisation vs. Validation

What makes sense from the point of view of policy making is the fact that the adjective "formal" applies to both the learning context and the validation process. As seen above, learning can take place in more or less formal contexts from the very formal (school and university for example) to the very informal (self-learning and

experience). The same holds for the validation process. It ranges from informal, as when applicants take stock of their prior learning for self-consumption, to extremely formal for qualifications that allow access to regulated occupations, for instance. There is strong evidence for the fact that young retirees often engage in the preparation of a portfolio of competences usually in order to analyse where they stand in terms of learning outcomes. The portfolio can, for instance, work to gain legitimacy when helping grandchild(ren) with their homework.

The level of formalisation of the validation and recognition process should mainly depend on the objectives of the applicants. This is of high relevance for policy making because the cost of the validation/recognition process for each individual applicant depends on the level of formalisation. In short, the preparation of a portfolio of competences, including hours of guidance, costs less than a quality assured formal validation process with the awarding of a qualification that can lead to a regulated occupation; for example, for an assistant nurse that would like to become a qualified nurse, or for a tourist guide who needs to be trained in safety issues. An example is the case of Namibia (Werquin, 2011. *Recognition of Prior Learning within the Vocational Education and Training System: A Policy and Strategy for Namibia* (unpublished NTA document – Namibian Training Authority). There are also examples of Tourist Guide preparing a portfolio of competences in Saskatchewan, Canada.

Recognition of Non-formal and Informal Learning Outcomes: The best Possible term

As has become clear by now, the term Recognition of Non-formal and Informal Learning Outcomes is the most appropriate term as it states what it does and because it reflects the actual idea of the approach.

The term Recognition of Non-formal and Informal Learning (RNFIL) is often used as well - i.e in Mexico and Latin America in general (Spanish translation of the term coined in Werquin (2010a). However, in this term "outcomes" is missing. It is clearly necessary to add the term because from a technical point of view, it is the learning outcomes that are assessed during the assessment/validation process. Indeed,

it would be rather unfair to award qualifications on the sole basis of a duration of learning: learning could take place without learning outcomes being developed and policy makers should be aware of this. Other terms, such as Prior Learning Assessment and Recognition (PLAR, only in Canada), Accreditation of Prior Learning (APL, mainly in the UK), Validation of Experiential Learning Outcomes (VAE[9], only in France and some French-speaking countries mimicking the French rather pioneering approach) and Recognition of Learning Outcomes (RLO, European Commission) all have advantages, but also several drawbacks.

In short, most of these terms do not signal whether a) what is potentially validated and then recognised as the outcomes of learning, not the learning itself and b) what matters is the part of recognition.

Key Challenges

Non-formal and informal learning – and its sibling concepts such as formal learning – are not new concepts and have over the last decades received considerable attention. This trend has been reinforced, in particular, by the need for measuring participation in education and for classifying educational/learning activities, and by the development of approaches that confer currency – in the labour market and in the formal education and training system – to all learning outcomes regardless of the learning context which might be formal or not. The possibility of competences that are acquired throughout life regardless of attendance in the formal education and training system, are given value and has generated huge interest in many countries. Most of the actual work for classifying education activities and their outcomes and the defining of concepts that are necessary for elaborating guidelines for making this learning useful through validation of its outcomes and recognition of the corresponding awards: i.e. full or partial qualification, credit(s), exemption(s) among others (Werquin, 2008 or 2010a) has been left to international organisations, such as the European Commission (EC), the Organisation for Economic Cooperation and Development (OECD), the United Nation Education Science and Culture

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[9] *Validation des acquis de l'expérience*

Organisation (UNESCO) and the World Bank[10]; often in the context of the lifelong learning approach (See Coles and Werquin (2007) or Werquin (2007) for a survey of mechanisms potentially promoting lifelong learning). The recent push for a renewed attention paid to informal and non-formal learning has mainly come from national policy makers – with the questionable belief that validation of such learning outcomes is free. It is in fact cheaper than full-blown training, but it is not free (Werquin, 2007) – but most countries have jumped directly into the validation and recognition process with little or no attention paid to defining the concepts; hence, the appearance of some rather surprising expression have emerged such as "informal education", "informal competences" or "informal qualifications" which are all wrong in essence[11]. There is nothing more formal than a qualification.

The next section aims at amplifying some of the discussions initiated above in order to address the traditional issues that policy makers and end users have with the understanding of what Recognition of Non-formal and Informal Learning Outcomes is about.

Understanding the Key Issues Regarding the Terms and Concepts

For the Recognition of Non-formal and Informal Learning Outcomes approach to be fully understood, it is necessary to realise that:

- It is the context that is informal, not the learning, and even less the learning outcomes.
- All qualifications awarded in the context of the Recognition of Non-formal and Informal Learning Outcomes approach are formal by definition of what a qualification is; and applicants must be assessed against recognised standards, whether existing standards (from the Ministry of Education typically) or created on purpose (usually with a strong input from labour market stakeholders).

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[10] See also the work of the European Training Foundation (ETF) and the International Labour Organisation (ILO).
[11] Meaning respectively: informal learning, competences acquired in informal learning settings, qualifications awarded after validation of non-formal and informal learning outcomes.

- The issue of the assessment <u>procedures</u> (how applicants are assessed in practice) is different from the standard one. There could be several assessment procedures with one set of standards. (see Werquin, 2016b, in this opus)

- Assessment is at the core of any Recognition of Non-formal and Informal Learning Outcomes approach. Since, the input process is unknown, what matters is whether applicants are competent and only a thorough assessment process may establish that.

- Any Recognition of Non-formal and Informal Learning Outcomes approach aims at targeting the non-qualified, or lowly qualified yet competent individuals; it aims at making visible the learning outcomes that individuals have acquired from any type of activities, including informal ones.

- Recognition of Non-formal and Informal Learning Outcomes is particularly adapted in countries with a large competent but unqualified workforce: the attachment of a name and evidence to competences.

- Generating revenue often depends on owning a qualification for potential employers (for employees) or potential customers (for self-employed); it is a passport for work for both the employed and the self-employed.

- There is a continuum of learning from very formal to completely informal.

- There is a continuum of a light to thorough approach to validating Non-formal and Informal Learning Outcomes with an assurance of quality and the awarding of a qualification (or credits toward a qualification).

A Second Chance of Qualification, Not a Second Chance of Education and Training

The point made above is critical: the natural target group of the Recognition of Non-formal and Informal Learning Outcomes approach is the group of people with competences that are not yet recognised. This is of high relevance to any country that wish to establish a system of recognition. These will first and foremost have to measure the size of the group and identify which prior non-formal and informal learning outcomes they may have (see for example Kleist et al., 2015).

The validation/assessment process is not a training process and the approach may only substantiate the competences that are already present. For individuals without any competences, Recognition of Non-formal and Informal Learning Outcomes is not suitable and the best alternative is education and/or training.

To that extent, Recognition of Non-formal and Informal Learning Outcomes should not be seen as a competitor to education and training. On the contrary, when used appropriately, Recognition of Non-formal and Informal Learning Outcomes is an ally to education and training, since, it will help the positioning of individuals on the scale of competence so that they can be provided with the exact education and training module(s) that they may need.

A Strong Push to Modularise the Provision of Education and Training

Systems of Recognition of Non-formal and Informal Learning Outcomes that have been established around the world are usually quite successful, but the take up remains small. Success stories show the value of the approach, but countries often find it difficult to scale up.

A frequent explanation for the modest success is that most applicants – after the RNFILO-ready applicants have been successfully assessed and qualified – need additional education and training. These applicants see most of their learning outcomes validated, but they do not fully meet the expected standards.

They therefore need additional learning outcomes before they can be fully validated. However, few systems are organised in such a way to offer education and training so that learners can acquired specific learning outcomes. In other words, education and training are not adequately modular for unsuccessful RNFILO applicants to select the education and training that they need in order to achieve just a few learning outcomes.

The future of a general approach to Recognition of Non-formal and Informal Learning Outcomes lies in a revisit of the formal education and training system with the aim of making it more flexible, so that learners may choose precisely what they need to complement their existing competences.

A Promoter of Equity and of Efficiency

This current situation is inequitable in most countries as until recently, the initial formal education and training system was almost the only system that delivered qualifications and only to young people. Statistics show that a large fraction of children do not have access to school, or not access with any regularity, or to quality schooling. As a consequence, many children never meet the assessment standards to achieve a qualification.

Those who have access to school, but did not attend for long enough or did not do well enough to succeed in being awarded a qualification, have no second chance of achieving a qualification. In addition, since most adults who undertake learning activities do not get a qualification, the second chance for qualification is more of a problem than the second chance for education. And, since, it is the qualification that opens the gate for potential work, especially within the formal economy, the situation is inequitable.

This is not a very efficient situation either. If one assumes that the talent of an individual is uniform among all individuals regardless of the opportunities they have had of attending school on a regular basis, but is hidden, then, countries will be deprived of a potentially huge reserve of human capital when this talent goes unrecognised. If the learning that takes place in the informal economy is not recognised, then, the penalty is doubled: individuals do not have a decent job and the investment – in time and money – in learning activities is lost.

The Main Target Group: Addressing the Needs of Poorly Qualified Individuals, such as Early School Leavers

An issue that has unexpectedly proven to be a challenge is the definition of the natural target group for the Recognition of Non-formal and Informal Learning Outcomes. Unlike what would be anticipated, Recognition of Non-formal and Informal Learning Outcomes is not meant for individuals with no competences at all, and there is a need for validating learning outcomes for this group for the approach to be justified.

Nevertheless, international evidence suggests that the population group that are most at risk of unemployment is early school leavers, precisely, because these do not own a qualification of value for the labour market (from the initial education and formal training system). In this context, the RNFILO approach is of high interest to policy makers if they are to implement tools in order to identify young people who have acquired competences in their life outside the education and training system.

Recognition of Non-formal and Informal Learning Outcomes, therefore, represents a paradoxical approach because it is meant, simultaneously, for people with competences (so that validation of learning outcomes is possible) and for people that badly need a qualification to be able to find their place in society. It is only an apparent paradox because Recognition of Non-formal and Informal Learning Outcomes aim at identifying learning outcomes that may have been acquired through hobbies, for instance. From the point of view of policy making, the key issue is therefore to organise the pre-screening process so that young applicant with actual competences are invited to apply for assessment and for validation/recognition. Most countries have opted for a condition of eligibility that demands that applicants must have three years of experience in a field that is relevant to the qualification which is aimed at. This is notoriously insufficient in order to address the needs of early school leavers, for instance, and more individual approaches need to be developed.

This issue is easier to approach in countries with a well-established tradition of career guidance.

Need for a Critical Mass

Another challenge that countries are faced with in practical terms, is the existence of a critical mass of applicants. Ideally, these applicants would be organised by sector, just as some of the assessors have to be professionals within different sectors. The issue of the critical mass is cost related because staff have to be trained – assessors typically – and the assessment process has to be organised. But, there is also the issue of establishing a sustainable system that presupposes that there is a somewhat large number of potential applicants.

In the early days of implementation of a system for Recognising Non-formal and Informal Learning Outcomes, it could, initially, be wise to target only some sectors of the economy along with the correspondingly most frequent qualifications as a sort of real size pilot programme.

Concluding remarks

Recognition of Non-formal and Informal Learning Outcomes is a perfect tool for policy makers, in that, it provides room for flexibility at every step of the process. The awarding of a qualification that has societal recognition in order to make competences visible and to give them currency, is the ultimate objective of the approach, but there are other options too such as the awarding of credits or the facilitating of access to formal studies. The approach is mainly meant to provide equity through the opportunity it offers of being given a second chance at obtaining a qualification, and to make competences visible which provides an entry to employment. Actual implementation demands that the concepts in use are clearly defined at the onset of the process, and that all stakeholders feel a sense of ownership which can lead to societal recognition.

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3. KNOWLEDGE DEVELOPMENT AND EDUCATIONAL RESPONSES

Who defines what kind of knowledge is relevant in a society? How has the Greenlandic way of perceiving education developed? What are the educational responses to different challenges in Greenland? And what is the way forward if Greenland is to create a sustainable future? This section attempts to answer some of these burning questions.

The article "The power of knowledge in the modernization of Greenland" takes the reader through the historical examples which demonstrate that the perceived vulnerabilities and development potentials have changed dramatically during the past 100 years of Greenland's history. While the first explorers were impressed by the Inuit's hunting technologies and practices that enabled them to survive and make a living in the Artic, the local knowledge was gradually pushed aside during the period of colonisation with the change to permanent settlements and fishing as the main occupation. Technocratic attempts to build a welfare society and the urbanisation of the population's life form, has shaped the basis for radical changes in the daily practices and values of Greenland's people. The modern compartmentalised and professionalised society in Greenland displays a growing dependency and vulnerability that stem from the economic processes of globalisation and the international relations that are a threat to Greenland.

The authors of this article are professors Ulrik Jørgensen and Birgitte Hoffmann from the Department of Planning and development at the University of Aalborg.

"The education sector in Greenland" is written by Associate Professor Merete Watt Boolsen from the Department of Political Science at the University of Copenhagen. The overall message from Boolsen's research based evaluation in Greenland touches on both quantitative and qualitative dimensions. The studies show that the 'cultural dimension' is important within educational transition: from home to school (perhaps in another city) to further education (perhaps in another city) and, finally, to the job market (perhaps in another city). If cultural aspects are left as unimportant then a

serious consequence may be that the politics of education will work to underline some of the differences within the Greenlandic population. Differences which they precisely aim at making disappear. There are also problems of a more 'technical' character which are usually relatively easier to solve and, accordingly, are often of a higher priority. The article also suggests that even though qualitative studies often highlight dimensions of norms, preferences (and the opposite) and other cultural factors which make it easier to understand what is actually going on, the cultural perspectives are less likely to be prioritized by the Danish administrators who make the important decisions.

An example of a project including this cultural dimension is The NUIKI project which has been running in Greenland for six years in 14 villages. Approximately 200 young people have been through an academic and a personal development course. The goal is for all the participants to receive a diploma that gives access to basic vocational education in Greenland and, in addition, gain personal experience and acquire new tools to deal with some of life's challenges. The article is written by the founders of NUIKI, Jimmy Hymøller and Palle Lennert who are educated teachers and social workers.

Finally, ph. D Anders Øgaard from Ilisimatusarfik, University of Greenland gives his take on one of the possible solutions to the educational challenges which are often mentioned in the public debate on the subject: E-learning and the possibilities of digitalization. Based on his research about distance teaching in schools in Greenland, Øgaard presents and discuss the possibilities and the opportunities provided by digital communication in relation to teaching and education.

4.1 THE POWER OF KNOWLEDGE IN THE MODERNISATION OF GREENLAND

By Birgitte Hoffmann & Ulrik Jørgensen

Introduction

In economic theory on agency, emphasis is on the distribution of knowledge between economic agents, including the eventual regulators of economic exchanges. While typical ideal neo-classical economic models at large build on the idea of distributed and available knowledge, more sociologically based approaches emphasise the unequal – or asymmetrical – distribution of knowledge that provides the involved economic and regulatory agents with very different capacities to negotiate and intervene.

Hence, the key question of this article asks what constitutes valuable knowledge in a society and how different knowledge regimes identify and magnify vulnerabilities and potentials in Greenland in different ways. The article addresses these issues through an analysis of infrastructure development in Greenland in three historical periods in regard to the different rationales, technological choices and knowledge practices:

1. the last period of the colonial era in Greenland (Kalâtdlit in Greenlandic) that ended shortly after WWII;

2. the modernisation period with the Greenland Technical Organisation (GTO) as the core institution that changed society in the image of Denmark; and

3. the Home Rule period since 1989 with a growing focus on self-governance and nation building.

Central complexities within the infrastructure in Greenland are analysed in relation to perspectives of vulnerability and possible responses. The focus is on three sets of inter-dependencies: (1) relations between diseases, health and technical infrastructure; (2) urbanisation, mobility and industrial development; and (3) language, knowledge regimes and education. This underlines how different knowledge regimes have been instrumental in defining the most important challenges for Greenland's development

and, consequently, the types of changes that should be favoured and realised. Based on the need to escape such determined pathways, we will discuss how different interpretations of contemporary challenges lead to different actions and attempts to reach a sustainable and locally rooted approach to knowledge in Greenland.

What is at stake for Greenland is not only the problem of economic dependency through subsidies, but also the dependency on immigrant workers and knowledge regimes that are not well adapted to the arctic condition and which does not take local, varied and informal knowledge into account.

Constructions of vulnerabilities and potentials

A society's vulnerability and potential for development is not just well-defined objective threats, capabilities or unquestionable facts that are produced by anticipated outside factors. The understanding of challenges and potentials is co-constituted with the type of policy focus that is developed together with paths of development which in turn is constructed by professions and followed by society. From this position, vulnerabilities mirror the construction and articulation of existing societal arrangements (Douglas 1985). Institutional change as a result of measures of policy and market pressure is extremely important and cannot be distinguished from the impact of nature and technology. Building a modern society is a reconstruction of living spaces that is based on anticipated human interests and needs, and includes the production of new types of vulnerabilities and potentials along with ways of unfolding policies for societal sustainability (Lupton 1979).

In this perspective, the problem is less a question of the potential collapse of health issues, living conditions or infrastructure, as it is a question of possible malfunctions, problems of implementation, and the unexpected consequences that are created by the professional institutions who define the problems and can influence the agenda for policy making and the challenges at hand.

The analysis of socio-technical infrastructures in selected historical periods display the different regimes and rationales that have been imposed and deal with the challenges of the arctic community. These challenges include health problems, economic

underdevelopment, changing climatic conditions for the fishing and hunting industry, policy dependency and lack of education, etc. At the same time, the different rationales have the power to shape the perception of desirable developments and, hence, the promoted actions.

The disciplinary constitution of challenges mirrors the socio-technical systems that are to be constructed and holds the key to how professions shape these understandings. The knowledge base that represents a power structure of its own, does not by any means identify with the problems and the ways of other societal groups that are seen as the most important (Green 1997:139). Building on the theories of discourse and the role of scientific disciplines, vulnerabilities as well as actions are part of the construction of expert knowledge systems that is supported by institutions and organisations which develop and implement practises related to the specific regime of knowledge (Foucault, 1982).

Colonial governance of the Kalâdtlit hunter society

Historically, settlement in Greenland has always been near impossible and the past 4,500 years have witnessed several different migrations to Greenland. One by one, these migrations, with the exception of the last, the Thule culture, have succumbed to the climate and the harsh whims of nature. At the time of the Danish colonisation of Greenland in 1721, the population of Greenland totalled a few thousand who were spread out across large parts of the Greenlandic coastline.

Colonial rule treated Greenland as a reservation in where the Inuit people continued to live their traditional lives which included the hunting of seals. However, they were enlightened by Christian missionaries and the enlightenment included the construction of a written language that was based on the spoken language of Kalâtdlit. The growing influence of the Danish missionaries and not least of the German Herrnhut mission in Greenland, contributed to the idea of combining religion and basic education as a means of 'enlightening' the Inuit people (Lidegaard 1991).

The Danish government used the Royal Greenland Trading Company to build a network of colonies which included the building of churches and schools. The

essential criteria for the location of a colony was the proximity of a reasonably safe harbour for sailing ships. This was also the centre for a suitable number of smaller trading stations which supplied good first sales of blubber, skin and tusk. With few exceptions, the old colonies are the origins of the current towns in Greenland.

Traditional seal hunting practices depended greatly on seasonal mobility in order to maintain a community's subsistence and to ensure survival. Due to changes in climate and the permanence of the colonial settlements along the coastline, seasonal mobility was gradually reduced. A growing part of the population settled around the towns and in smaller settlements along the coast. The reduction in mobility was also spurred on by the role of the missions as providers of not only religious practises, but also of schools and language training. By supporting the creation of a Kalâdtlit identity and by providing a unified written language based on the spoken language of the people in Southern Greenland, the missions provided in effect the first step towards the demand for self-governance and independence (Bærenholdt 1999:196, Olsen 1999:254).

While the missions thus initiated long-term changes that eventually would end the traditional way of life, the changes contrasted the protectionist policies of the Royal Greenland Trading Company who attempted to maintain supplies from the traditional seal hunters in support of their subsistence-based life form.

Traditional turf summer dwellings were transformed into all-year houses by covering the turf with wooden inner-walls. The removal of the roofs every winter which had supported a natural cycle of rebuilding and reconstruction was abandoned along with the shifting between winter and summer dwellings. The new standard included living in permanent town houses. However, these houses soon became humid and eventually unhealthy for the inhabitants.

What had worked well based on informally acquired skills in the practices of changing shelter and place and the continuous rebuilding of houses and summer camps with tents, was over time lost with the presence of permanent settlements. These took outset in a very different lifestyle as well as in new trading and house construction practices and, eventually, dismantled the historically established norms and experiences.

Decolonization after WWII

During World War II, the United States ensured Greenland necessary supplies and defence against the German occupation (Grønlandskommissionen 1950; Heinrich 2010). By the end of WWII, Greenland was still a traditional and rather isolated Inuit society (Bjerregaard & Curtis 2002). The war had also worsened the living conditions in Greenland which resulted in a spread of diseases. In order for Denmark to maintain Greenland's status as part of the Danish nation as well as for internal socio-political reasons, there was an obvious need for action. The end of the war marked a turning point for Danish policy in Greenland and in the following decades, a relatively well-planned and very rapid modernisation took place.

The changing living conditions that began before WWII which saw a change from nomadic life forms to more permanent settlement living, created a new vulnerability by concentrating the population in towns. The new standard of all-year houses allowed diseases to spread faster among native Greenlanders. Especially before and during the war, tuberculosis became a general health problem that claimed many lives. This led the Danish government to send a medical expedition to Greenland in 1947 who were to map out the scale of the problem and identify the causes.

Tuberculosis was definitely a serious challenge for the Greenland population. It became the primary matter of concern and was closely related to the underlying policy of equalising Greenland with Denmark in a strategy of nation building. As this disease had been almost eliminated half a century earlier in Denmark, its appearance was seen as unacceptable and therefore categorized as Greenland's primary vulnerability.

In order to enable modernisation, the Danish administration even sought to gather the people in fewer and more permanent settlements (Grønlandskommissionen 1950; Boserup 1953; Grønlandsudvalget 1964). The motive was to ensure better housing and health conditions for the population as many still lived in turf houses. Another motive was to provide a basis for new forms of production by the gathering of people close to the best fishing places, and by setting up fish processing plants with the intention of Greenland becoming financially self-sustaining, primarily through cod fishing.

Almost in complete alignment with Danish policies of reducing wartime control mechanisms on imports and trade, the idea was to let private initiative gradually

overtake greater parts of Greenland's production and trade. The potential for growing fish exports was seen as a primary incentive for private investors.

The result of this economic policy in Greenland was rather disappointing as no private investors emerged (Winther 1999:154). This led to the next phase of economic policies in Greenland which build on an idea of a government-driven economic expansion. This policy had a positive impact on economic growth, although, it maintained monopolies in most sectors of the economy, since it was dependent on both a central planning of the infrastructure as well as on the rather concentrated export-oriented industries.

While poverty was reduced in Greenland, the costs for Denmark in maintaining basis infrastructure in Greenland increased along with economic dependency (Winther 1999:165). This left the traditional fish processing industries in the dominant role in Greenland's economy. However, they were also left with different challenges as the access to export markets and knowledge of the demands from these are dependent on the continued interaction between these markets. To find ways of combining the local knowledge of fishing with types of product- and process-knowledge that relates to the markets has been difficult to handle in Greenland.

GTO and the modernisation and urbanisation of Greenland

The modernisation of Greenland also created new dependencies on foreign knowledge regimes. Massive investments were made in the further development of the educational system as the lack of basic knowledge from school had to be improved as a precondition for further development. In the absence of Greenlanders with extensive formal schooling, Danish teachers were called in who had completely different cultural frames of reference and experiences. The teaching in schools was predominantly based on the Danish language, rendering Greenlandic in second place. Likewise, it was primarily engineers and craftsmen from Denmark who were responsible for planning and the construction of homes and infrastructure, and Danish health care professionals staffed hospitals and the smaller settlement's nursing stations.

An engineered development programme based on rather technocratic and rational planning methods became the most important agents of change in the years to come. Following traditional colonial-style planning procedures and introducing technical improvements in infrastructure development and housing as developed in Denmark, it became an engineering task of 20 years to bring the Inuit population from its traditional living and housing conditions into a modern society. The vulnerability was again considered to be a lack of proper housing as measured by the standards in Denmark; a social-democratic ruled country where proper standard housing was seen as fundamental.

To fulfil this task, a new agency was founded – the Greenland Technical Organisation (GTO) – which was based mainly on Danish architectural and engineering competences and which imported Danish craftsmen who would carry out the task of adapting Danish building schedules and construction technologies to the arctic seasonal and climatic conditions.

Although, people from Greenland were given vocational training, the modernisation phase was defined by skilled construction practices that were transferred from Denmark together with trained craftsmen of which some would settled in Greenland. Others only stayed for shorter periods of time with the intension of working long days and weeks in order to earn as much as possible in a short amount of time. While the traditional hunters and their families were used to build and maintain their houses, tents, hunting gear, kayaks and transport boats, their skills were of little use for the new construction companies. During the following generations, the non-continuity of the traditional hunting practices was therefore lost. Even worse was the effect of the influx of craftsmen and administrators who substituted the Greenlanders and whose skills was used in place of integrating the existing informally acquired skills of the locals.

There was little debate about the course of development of infrastructure and society in Greenland. In 1953, the colonial status ended and Greenland came under the Danish Constitution with a status of a country on equal footing with the other Danish countries. This signalled that the development of Greenland should resemble the rest of Denmark – with its underlying ethnocentric dominance where the process was

about 'normalizing the abnormal'. This framework for development was fulfilled by the GTO – even the name underlines a focus on the technical regime.

GTO constructed 14,000 houses and apartments during this period (Rosendahl 1989). The functionalistic plans of the time left little consideration for regional differences (ibid.) and by no means did they adapt to the social situation in Greenland. With their technical infrastructure – central heating, hot and cold water, bath and toilet facilities– the new dwellings offered good sanitary living conditions (Rosendahl 1989:29).

Greenland experienced increased prosperity and population numbers were doubled within a few generations while the number of permanent settlements was cut in half (Hendriksen 2013). The centralisation of the population was a prerequisite for the Danish government's intention of industrialising Greenland. The post-war period demand for canned and later frozen food demanded larger industrial plants. Gradually, cod fishery was supplemented by fishing for shrimp which during the first decades took place from smaller boats and which, therefore, assumed that there were major industrial facilities on land that could handle boiling, shelling and preservation or the freezing of shrimp, and which like the fish and shrimp factories were located in the larger cities.

The move to major cities and the work on fish and shrimp factories in many ways changed the living conditions of the population. As a logical consequence of industrialisation, fixed working hours and shift work during the peak period of summer were introduced which collided with the traditional way of life and sense of time. Traditionally, you went to catch your fish when the weather permitted it when the catch was nearby. (Dybbroe and Møller 1991) This clash of industrial productivity versus the culturally conditioned flexibility in terms of time, weather and climate, inevitably led to many clashes between the Danish managers and the population of Greenland. The Danish managers often tended to characterise the Greenland labour force as lazy and unstable and argued that there had to be an import of labour to the factories from e.g. Denmark and the Faroe Islands. Instead of adapting to local practices and experiences which recognises the need to follow nature and animals and which is reflected in the local informally acquired skills, the industrial organisation

was set up as the dominant measure of practise.

Additionally, the apartment buildings in several of the towns in Greenland did not allow residents to store fishing gear or hang meat, fish and fur out to dry. Thus, housing structures enforced an undermining of the abilities of the population of those who moved to the cities who wished to continue traditional hunting practices. This added to the problem that several of the larger cities were poorly localised in terms of catchment and hunting.

During a development that resembled a typical story of modern superciliousness with its neglect of other traditional ethnic or socio-political rationales, the ground was laid for the production of new forms of vulnerability.

The problems that gradually arose were articulated as e.g. alienation, social problems and economic dependency as well as a criticism of the Danish strategy that ignored the Greenlandic context which included the values and practices of the indigenous inhabitants and their traditional subsistence-based lifestyle.

Demands for political autonomy

Gradually, a critique developed about the way the colonial regime had steamrolled the Greenlandic population with elements of both Danish culture and technology.

Still, the traditional culture of consensus and the limited amount of confrontation as a result of the small and isolated settlements and their need for maintaining a state of cooperation and peace, was prevalent in debates even in the period of growing critique. The Inuit culture and its tradition of consensus and exchange of views did not – and still does not – provide well for discussions of futures and visions for societal change beyond the existing experiences.

From the late 1960s, an intellectual Greenlandic opposition gradually emerged to counter what was seen as a Danish-led development, and the opposition gained inspiration partly from western world student and youth rebellion groups and the American Civil Rights Movement, and partly from international trends that sought to dismantle the last colonies and provide indigenous peoples with more rights.

The closing of the coal mining town Qullissat in 1972 with more than 800 inhabitants, started a political process both in Greenland and in Denmark which in 1979 led to the introduction of Greenland's Home Rule. This fostered a Greenlandic parliament with decision-making capabilities on a wide range of internal areas with an associated administration in Greenland's capital Nuuk (Bro 1993).

By the introduction of Home Rule, the Greenlandic population had grown to 50,000 people spread over 18 cities and about 75 settlements.

In 2009, the Self Government constitution resulted from further negotiations with the Danish government which gave Greenland major political and administrative powers over Greenlandic affairs. The aim was a gradual overtaking of foreign policy and legal and judiciary powers from the Danish realm. Part of the process included the overtaking of the rights to Greenland's minerals and the exploitation of these, and was considered a major step further in developments as this was one of the disappointments with the Home Rule conditions as set by Denmark.

Economic developments and globalisation

In the decade following the introduction of Home Rule, focus was on 'Greenlandization' and the Greenlandic language was promoted as the main administrative and educational language. Decentralisation to support 'traditional' styles meant that the first years' investments were made in first sales facilities in a wide range of small settlements.

However, from the late 1980s, a large part of the codfish disappeared from Greenlandic waters which resulted in a loss of an essential part of the Home Rule economic foundation along with a gradual increase in loss on the Greenlandic trade balance.

In the same period, the only operating mine Maarmorilik closed, whereby the limited revenues from raw material extraction disappeared and, although, the fishing of shrimp and halibut intensified, it never compensated for the former loss of cod fishing (Figure 1).
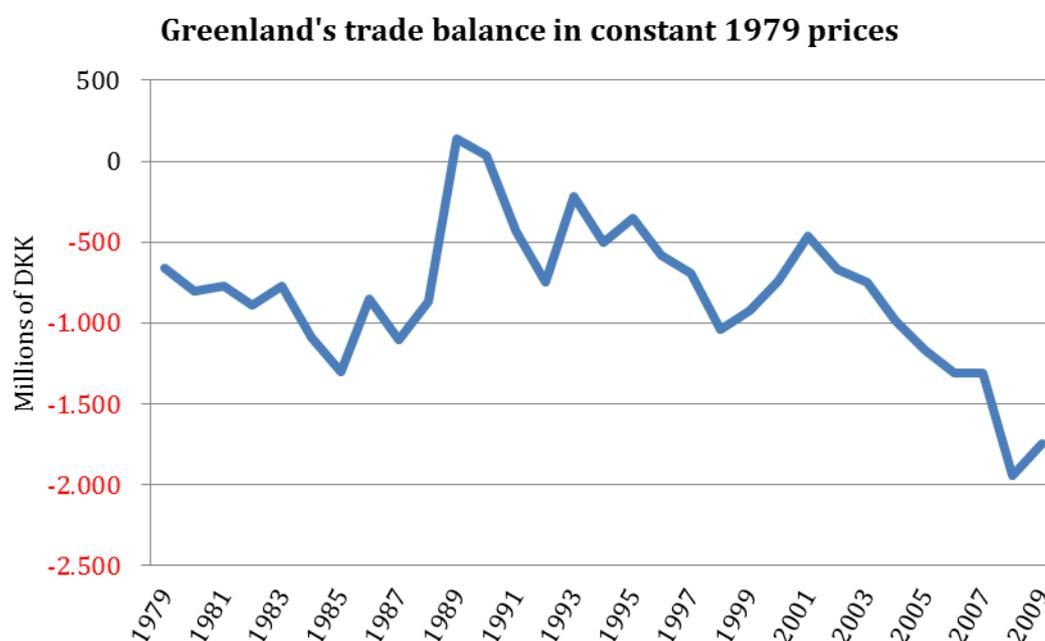
Figure 1: Greenland's trade at constant 1979 prices from 1979 to 2009. As can be seen, Greenland has had a significant trade deficit throughout the Home Rule period, except in 1989 and 1990 when there was a very modest surplus. (Based on data from Statistics Greenland date)

The collapse of cod fishery meant that a number of big and small first sale facilities and factories were closed, and in an attempt to reduce public expenditure in the following year several settlements were closed. At the same time, there was a shift in economic policy which meant a greater reliance on market economic governance mechanisms than had been the case in the Home Rule's first decade. P

ublic nationwide institutions like KGH and GTO that operated across sectors were divided and function instead as independent companies where the government is the sole or co-owner. Some of the companies have since been sold to private investors abroad. The period coincides with the neo-liberal political dominance that exists in a number of Western democracies and, again, the political ideologies were fostered under quite different conditions than those found in Greenland. These set the stage for policy debates and intervention in Greenland and were partly based on the government staffs' training and world views that were developed in countries like

Denmark but who had faced different challenges.

Similar to the dominant ideas of the 1950s, the vision of private initiative and entrepreneurship became in the late 1980s and 1990s again the main economic model that was discussed in Greenland. The interesting thing about this renewed, but also well-known type of argumentation, is its abstract model and its dependency on concepts developed in regions of economic prosperity and intensity that do not resemble the economic business conditions in Greenland.

In the few areas where private initiative was developed in Greenland, the traditional dependency on Danish (foreign) investments and knowledge demonstrate the difficulties of providing needed knowledge and entrepreneurship and the corresponding lack of relevant competencies among Greenland's local population. Thus, the privatisation discourse that prevails in Greenland paradoxically results in a return of power from the Home Rule government to professionals from Denmark and to foreign businesses. The geographic and economic centralisation has not reduced Greenland's almost mono-product economic dependency on exports of fish and shellfish (Figure 2), and the value of exports has gradually decreased while imports have increased.

Export goods from 1982 to2010 in constant 1979 prices
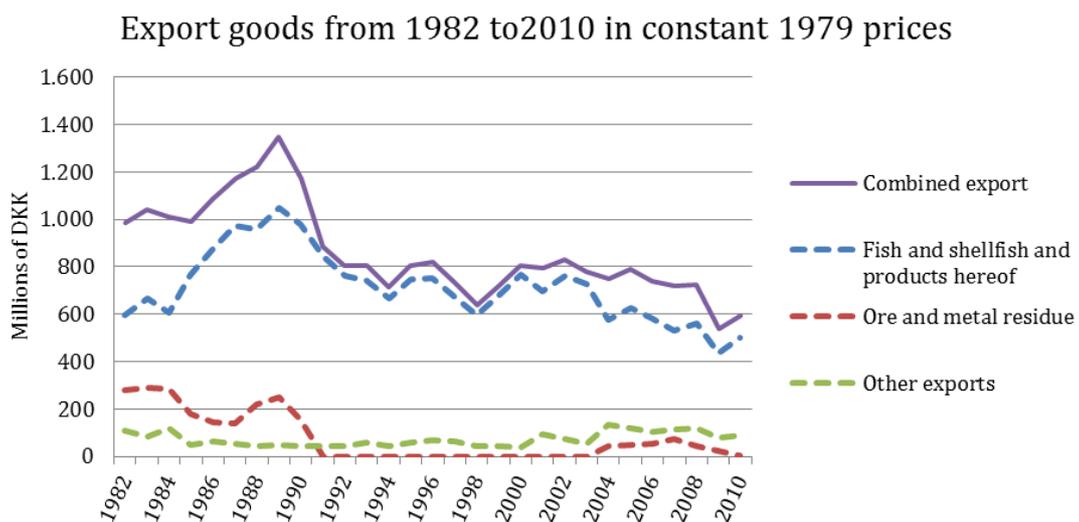
Figure 2: The key export product groups from 1982 to 2010 at constant 1979 prices. The only significant exports for the period, in addition to seafood, are lead and zinc ore from the mine in Maarmorilik, which closed in 1990.

In an attempt to maximize the income from fishing, there has been two converging trends. First, a greater proportion of ocean fishing has passed to factory trawlers which can perform processing on board, for which, it is most profitable to sell directly in Europe without seeking port in Greenland. Second, a larger proportion of seafood is exported unprocessed for processing in low-wage countries such as Thailand and Poland. The volume of unprocessed export varies, but has for years been approximately 60-70% for shrimp and up to 85% for halibut which constitute the two main exports. The overall development has meant that many of the towns and villages are now left without any real business or livelihood besides the maintaining of the settlement's operation (Hendriksen 2013).

The imbalance between exports and imports has halted the creation of a self-sustaining economy in Greenland and has left Denmark with funding half of public spending through transfer payments (Figure 3).

Distribution of public financing 2012 (1000 DKK.)

821.768 792.361

3.653.461

4.418.303

312.498   985.480

- Production and import taxes
- Continuous income- and capital gains taxes
- Other income
- EU institutions
- Block grant and other subsidies from the Danish Government
- Direct Danish operating costs
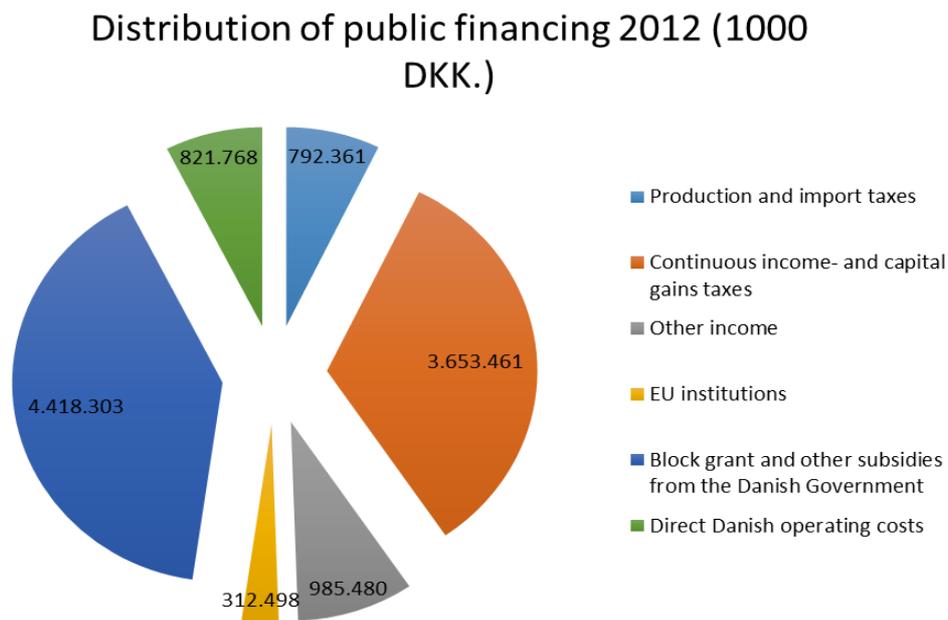
Figure 3: Distribution of the main sources of funding for the public economy of Greenland, which includes self-government, municipal and state government spending for 2012. As shown, Denmark, and to a lesser extent the EU, finances half of public spending. (Source Statistics Greenland)

Contemporary challenges in need of adequate knowledge

The following sections will identify some of the current challenges concerning the lack of infrastructure, reduced mobility, inflexibility and lack of education in Greenland. In addition, it will be discussed which perspectives and which types of knowledge are needed in order to cope with these challenges, both in relation to how the vulnerabilities are characterized and which policy measures that are suggested.

A micro-state of island economies

As can be read in chapter** on settlement patterns (Hendriksen & Hoffmann, this volume), Greenland can be regarded as a micro-state that is based on a dispersed set of small island economies. This related to the dependency of imports, the mono-product based export and the modest trade of goods beyond subsistence catchment between the settlements. The dispersed settlements, together with the lack of a fast and stable connection service between them, demand investments in infrastructure, but few of the settlements have enough volume to enable competitive prices for most goods and services due to transaction costs.

So far, infrastructure development has been very costly, e.g. the building of a large number of airports in Greenland. A large share of the block grant from Denmark and special project funding (also from Denmark) have been channelled into the improvement of air transportation instead of into less costly sea transportation, thus, underlining how transportation involves both concepts of distance and time. Even in very remote and small towns, large airports have been built with huge expenses for site development and maintenance – only to service a few weekly departures. The discussion never seems to revolve around 'who' or 'what' should be transported in and out of Greenland. Flyvbjerg *et al.* (ibid.) points to the dream of infrastructural mega-projects for which society pays, but without reaping the promised benefits, and that the dream is deliberately exploited to promote the projects of entrepreneurs.

Jæger-Hansen (2004) confronts the focus on transportation costs as a problematic turn in the market economic rhetoric. The use of such common market terms that characterize industrial politics to discuss industrial development in Greenland, is an

intellectual and political import of knowledge from Denmark and other western countries where the context for industrial development is distinctly different. The imported knowledge mismatches the economic and societal realities of Greenland and marginalise the experiences of local entrepreneurs.

The urban structures and infrastructure services are at the core of these debates. The number of settlements has decreased during the last 50 years from about 200 in 1960 to 60 at present. The settlements are caught in between different visions of Greenland's sustainable development.

In the commercial development discourse, the decrease in number of settlements – and even towns – is emphasised as they are seen as too expensive for society to sustain, and hence hamper the development of the rest of society. In the nationalistic discourse that has developed as part of the process of detachment from the Danish colonial regime, settlements are seen as a symbol of Greenland's original culture. This discourse is to a great extent based on an idealisation of the former 'hunter' society, without an articulated vision for their sustainability.

The concept of sustainability names a third discourse that is currently emerging and based on the integration of economic, social and environmental sustainability (Holm & Rasmussen 2000). Following this perspective, distributed settlements are not a hindrance for development, but a way to utilize the informally acquired skills closely connected to the fishing and hunting areas that are still the dominant backbone of both the subsistence and export economy of Greenland.

This perspective attaches different values to local knowledge and counters the stylised economic reasoning that has dominated policies of centralisation. Sustainable development should be regarded as the 'third way' – that transforms the experiences and relations from traditional society and the understanding related to global, industrial developments which includes a new understanding of the interplay between man and nature (Holm & Rasmussen 2000). It also emphasises the need for the population to become involved in articulating and developing a sustainable policy for institutions and infrastructures through participatory processes. (Hersoug 1999)

Urbanization, mobility and development

The use of resources in traditional Inuit societies is based on a high degree of mobility and a wide ranging use of local resources. Although, mobility within Greenland is still quite high, the basic condition of living has changed into families having their homes located permanently in settlements or cities, thus, articulating another dimension of societal vulnerability in relation to economic visions for the future.

Today, Greenland society suffers from being stigmatized as 'bad business', which is closely related to the assumption that labour and resources have to be mobile in relation to job opportunities. Mobility is a mantra in the prevailing perception of development in a global and marked oriented society. The dream of the '*zero-friction society*' (Flyvbjert et al. 2003:2) supports a change in the perception of infrastructure and also from being a simple precondition for production to becoming the very core of these activities with just-in-time delivery as seen in the example: *Today infrastructure plays a key role in nothing less than the creation of what many see as the new world order where people, goods, energy, information and money move about with unprecedented ease* (ibid.:2).

This focus on – and specific understanding of – mobility is being transferred to the Arctic, thus, characterising the economic development discourse in Greenland. Here, a dominant understanding is that the cost of transportation of both people and goods in this enormous and remote society is a major barrier to mobility and hence economic development. Thus, the term of mobility coin vulnerability in relation to industrial development and, hence, economic sustainability due to the basic large scale economic concept that they are based on.

The result of the process in Greenland during the last 50 years can be seen as a reduction of mobility rather than the opposite. Thus, Jæger-Hansen (2004) formulates a need for a new form of mobility that contrasts 'welfare Greenland': *This should not be understood in the way that welfare in itself is the problem, but that it has been connected with the creation of settled urban environments, where development was aimed at paid work in factories and at stationary service businesses.* (Jæger-Hansen 2004:28). Thus, in order to exceed this 'mobility perception', Greenland has to develop rather different strategies based on the local context and on other visions for

the development of Greenland than the more traditional industrial strategies.

The construction of social problems, diseases and health

In recent decades, the economic and social inequality in Greenland has increased markedly and Greenland has gradually developed a level of inequality that is higher than in the U.S., the UK and in Italy, as measured by the GINI coefficient (Jensen 2008). While a societal elite has adapted to the neo-liberal economic regime and has become rich due to e.g. investments in construction companies or fishing trawlers, others still dispose of limited economic resources and face unemployment.

Today's social problems often relate to alcohol and drug abuse, although, the average consumption of alcohol during the last decade has decreased below the Danish level. A frighteningly high number of girls and young women as well as boys and young men are subject to sexual abuse, and the rate of abortions is very high. Greenland also has a very high suicide rate with some districts' rates among the highest in the world (Bjerregaard et. al. 1999; Bjerregaard and Curtis 2002).

While tuberculosis after WWII was an argument for radical changes, the new social and health problems that has develop since the 1980s, have been articulated as cultural alienation in response to the suppressing processes of modernisation, including alcohol problems, suicide and abuse, and are currently not in the same way related to societal malfunctions and the need for radical changes. (Bjerregaard 2001) Instead, they are to a large extend articulated as individual or family related issues and, correspondingly, the strategies employed are not addressing the basic economic structures and priorities, but mainly appropriate behaviours.

Education, language and knowledge regimes

The educational level in Greenland is generally lower than the Nordic countries (Denmark, Norway, Sweden, Finland and Iceland). While 65% of the population of Denmark aged 15 to 69 has a higher education than primary school, the same only applies to 36% of the Greenlandic population (Statistics Denmark 2015; Statistics Greenland 2014). This means that Greenland in a number of areas cannot adequately

supply a skilled workforce and professionals with higher education. The dependency on external, and primarily Danish, labour within all areas that require training is still rather obvious. (Hendriksen and Christensen 2014)

After a period of Danish language dominancy in the modernisation phase, Greenlandic was promoted as the preferred language in elementary school, but without an appropriate inclusion of the experience and the local knowledge of Greenlandic people. The re-introduced focus on traditional identities in the Home Rule period has helped the Kalaallit population to develop their identity and has provided it with significant status in the arctic circumpolar. However, it has also limited the access to the new knowledge and attitudes that is necessary to build a Greenland that is capable of coping with the challenges of technology and globalisation. (Bærenholdt 199:202; Olsen 1999:257) The mismatch between the educational system and the workforce that is needed in Greenland has contributed to the alienation of the indigenous part of the population, and has left some generations of Greenlanders without adequate language tools for taking over their own societal (and technological) development.

This has prolonged the dependency of professional expertise from outside who enters with a different cultural horizon and knowledge base, and beside the implicit power of economic and administrative discourses, this also results in a repeated lack of continuity in the municipal – and other – administrations. Typically, the staff from Denmark stay for 2-3 years, thus, causing regular 'breaks' in the attempt to build up context-bound knowledge and experiences in administration. Thus, a main challenge expressed in official Self rule documents as well as in other international analyses of Greenland (e.g. by OECD), is the need for further education of the population. What is at stake is not only the issue of economic dependency through subsidies, but the dependency of immigrant workers and knowledge regimes that are not adapted to the arctic condition as argued above. This is most often identified as the need to build on 'indigenous' or 'traditional' knowledge in support of local informal knowledge and of the paying of respect to the people and their history. (Sejersen 2002:1) The challenge goes beyond this position and requires a transformation of this knowledge in order to cope with the fast changing economic and social conditions of Greenland.

Lessons learnt – perspectives for Greenland

The historical examples demonstrate that the perceived vulnerabilities and development potentials have changed dramatically during the past 100 years of Greenland's history. While the first explorers were impressed by the Inuit's hunting technologies and practices that enabled them to survive and make a living in the Artic (Sejersen 2002:6), the local knowledge was gradually pushed aside during the period of colonisation with the change to permanent settlements and fishing as the main occupation. The rather technocratic attempts to build a welfare society and the urbanisation of the population's life form, has shaped the basis for radical changes in the daily practices and values of Greenland's people. The modern compartmentalised and professionalised society in Greenland – even though self-rule should have countered this – displays a growing dependency and vulnerability that stem from the economic processes of globalisation and the international relations that are a threat to Greenland.

During the historic analysis of Greenlandic development, the multiplicity of societal vulnerability is clearly displayed. It is clear how a focus on specific problems – and especially strategies – contributes to alter the profiles of vulnerability during societal development. A brief glance at history shows a change from rather mobile settlements sustained by the hunting of whales and seals to the more permanent settlements which are based on the influx and dependency on goods from outside sources, and the turning of traditional winter turf houses into permanent habitats. Thus, paradoxically, Greenland's development towards a 'modern society' has decreased human mobility and even flexibility to meet changes in order to sustain a basis of living. Further, while health conditions in relation to traditional diseases improved dramatically because of the development of technical infrastructure, new social and health problems have arisen from the new life form.

The specific perception of development that emphasise the (western) industrialised countries' ways of production and lifestyle, has placed Greenland as a dependent and economically inefficient and non-competitive, though modern, society. Thus, the intended 'preparedness' to cope with modern development has also shaped the

specific new forms of vulnerabilities.

The dominant expert regime of the GTO period was based on the perceived vision that societal vulnerabilities could be objectively assessed and handled through technical means. Today, the situation is characterised by the lack in vision of planning and strategies for further development of the infrastructure and technologies. Since the GTO period ended, a neo-liberal planning strategy has taken over that emphasises that local initiative should take over while maintaining legitimacy of the political elite.

Greenland's self-rule is in international settings most often presented as an exemplary example of indigenous self-government. However, others argue that Greenland lags behind Canada in terms of elaboration of decentralised management regimes (Sejersen 2002). Sejersen indicates that the nation building of the self-rule has taken on a very centralistic approach. Government decision making in the nation-building process overshadows local communities' involvement and rights: *Greenlanders manage their extensive rights to self-government under home rule in a very centralised fashion giving little space for regional input and responses, while native people in Canada and Alaska manage their restricted rights in a decentralised fashion giving more space for different regional (and ethnic) input.* (ibid. 2002:8)

The building of new types of expert regimes with their dependency on problem perception and disciplinary approaches that are developed in very different locales and settings than the ones relevant to Greenland, seem to create the most important form of vulnerability to contemporary policies in Greenland. The gaps in performed language, the context of understanding and the background of experts' articulation of policies seem to be the most important challenges to the independency and policy development in Greenland, although, the 'official' interpretation of actual and relevant vulnerabilities focusses on a lack of entrepreneurship and on the economic dependency of Denmark.

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4.2 THE EDUCATIONAL SECTOR IN GREENLAND

- a quest for a respectful rebellion

By Merete Watt Boolsen

PROLOGUE

What is education to the modern Greenlander? What are the challenges? What are the barriers? What can the political system do to change the educational picture in accordance with the proposed purpose and goals of the educational reforms?

In an interview (Boolsen 2009) with a young Greenlander (who had finished his academic education), the response to the question: "*How were your expectations around education fulfilled*?" was quite thought provoking: "*You have got it all wrong; I failed the Greenlandic school system, because I wasn't a successful hunter. The consequence was that I had to get an exam in the established educational system in order to get to do some of the things that I want to do.*" The answer directs our attention to the perspective and understanding of the specific context when qualitative questions are raised.

The overall message from Boolsen's research based evaluation in Greenland touches on both quantitative and qualitative dimensions (Boolsen, 2008, *2009,2010, 2012, 2013*). The studies show that the 'cultural dimension' is important within educational transition: from home to school (perhaps in another city) to further education (perhaps in another city) and, finally, to the job market (perhaps in another city).

If cultural aspects are left as unimportant then a serious consequence may be that the politics of education will work to underline some of the differences within the Greenlandic population. Differences which they precisely aim at making disappear. There are also problems of a more 'technical' character which are usually relatively easier to solve and, accordingly, are often of a higher priority.

Qualitative studies often highlight dimensions of norms, preferences (and the opposite) and other cultural factors which make it easier to understand what is actually going on. However, the cultural perspectives are less likely to be prioritized by the Danish administrators who make the important decisions.

For Greenlandic students, the important dimensions can be characterized as processual and therefore not easily measured in traditional evaluation models; e.g. the notions of being homesick, missing the family, having difficulty in finding out what is going on in new educational surroundings, how to act in the role of a student and how to make friends with other students, and not least how to work with other students around mutual academic projects. In addition, the students also face difficulties in finding adequate housing, making money 'stretch' for a whole month, finding out where to wash clothes, etc. However, they all have very simple and practical problems which do not solved themselves and thus they need information and a more in-depth understanding of the life-around-being-a-student (Lotte Bøgh Andersen and Merete Watt Boolsen, "Hypotesetest". In *Videnskabsteori*, edited by Michael Hviid Jacobsen, Kasper Lippert-Rasmussen and Peter Nedergaard (København: Hans Reitzels Forlag, 2015), 37-68).

Often young Greenlanders have to leave home when they are about 15 years old because their further education takes place in another city – their own city is often too small to hold larger schools. When they arrive, they can experience what may be characterized as a 'cultural shock'; no one will wake them up in the morning, no one will tell them to do their homework, no adult is around to do the practical housework like shopping, washing of clothes, cooking, etc. and no loving arms to hold them when the going gets tough. All of this has nothing to do with the ability to study, with intelligence or with paying attention in school. It is merely concerned with the political and the personal structures that are involved in the individual students' lives.

In many instances, the young students leave a society that is small and safe and where everyone has a certain role to fulfill. The students arrive at a larger society/city where the educational system is unfamiliar and where they also have to learn how to conduct

themselves within new friendships and educational groups. Their new surroundings (in terms of relationships, housing, etc.) cannot deliver the 'safeness' which they have left behind, including parental care. However, the influence of the parents excludes in most cases an 'educational factor'. In Qaqortoq in Southern Greenland, a 'morning-wake-up-service' was introduced at secondary school for all the students that were living in the student colleges. The result of this was higher rates of attendance, improved performance and better grades[12].

Sociological Perspectives and Politics of Education

The role of education in society is unquestionable (see chapter 5.1 in this anthology). The purpose of studying education is partly to understand the important mechanisms at work in the context, partly to control them – and most significantly to change them. Different sociological models of the effects of education, of how education works and what the problems are, aim to explain why education is a battleground of potential social and political conflict.

Education is complex; it consists of problems that are influenced by many different factors at the same time. Furthermore, we do not know the effects of what we are doing. One student said in a paper "*Education in Greenland is like a newborn child*" meaning that the child is curious and that the world is full of possibilities. At the same time, the child is completely dependent upon its surroundings.

Education is 'political'; it is not a private matter. The educational sector is constantly the object of politics and political action with many agendas and is strongly under the influence of financial recession. Education is expensive – but poor educational decisions are even more expensive. In the office of an academic counsellor in Greenland there is an (anonymous) poster that states: "*If you think education is expensive – try not having one*!" - Consequences have consequences, but which consequences do we prefer?

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[12] Communication with eskimologist Eleonora Johansen, director of the museum in Qaqortoq, 2015.

During the past decades, the sociology of education has been under growing pressure from the 'cultural' perspective which is expressed within post-structuralism and postmodernism (Lauder et al., *Education, Globalization and Social Change.*13). Some researchers find "… *that security in one's heritage and identity are crucial to educational success, [and] this constitutes a major omission in Marxist thought. …*" (Lauder et al., *Education, Globalization and Social Change.* 64). Foucault's contribution to the sociology of education lies in his work and analysis of discourse and the hidden techniques of governance. He invented the concept of 'governmentality' which describes a certain way of controlling and exercising power that is characteristic of modern society (Steen Nepper Larsen and Inge Kryger Pedersen, *Sociologisk leksikon*. (København: Hans Reitzels Forlag, 2011), 219). In a very interesting article, he discusses the different processes and raises important questions about how power is exercised in different situations and under different circumstances (M. Foucault, *Beyond Structuralism and Hermeneutics*. (Chicago: University of Chicago Press, 1982), 208-226.).

Here, I will discuss elements from all three approaches: (1) What characterizes the educational picture? What do the facts and figures tell us about the educational institution in Greenland? (2) How does Robert K. Merton's sociological theory of deviance help us to understand the educational polyphony in Greenland? (3) What are the barriers of the cultural perspective?

What characterizes the educational picture?

The educational sector in brief: In 1953, Greenland adopted an educational system similar to the Danish system. Changes during the past decades within the country's primary sectors – fishing and hunting – mean that necessary changes have to take place in order to compete on a global level. Urbanization and thus housing is another specific example of where Greenland has difficulty in keeping up with the increase of demand. Education is seen as a means to achieve better welfare, improvement of health and (political) power – also on a global level (see Landsstyret's Educational Proposal which is discussed in the following paragraph).

In 2005, the Greenlandic Parliament launched its first joint plan for education called "The Governments' Educational Proposal" (Landsstyrets uddannelsesplan, 2005, The government of Greenland, accessed October 30, 2015. www.naalakkersuisut.gl). It was an ambitious plan – and very much a reform of education. The purpose was to strengthen the educational efforts both quantitatively and qualitatively. The situation in 2005 showed a comparatively low level of educated individuals in the country (compared to Europe). Only one third of the population in the labour market held an education with competences higher than elementary level. The goal was to increase the figure to two thirds by 2020, and the reform targeted two groups: (1) young students leaving elementary school, and (2) unskilled workers under the age of 50 years.

The purpose of the evaluation of The Governments' Educational Proposal was to identify key aspects of the educational picture that could be controlled, changed, modified or developed in order to reach its goals.

The means of the reform was first and foremost financial; economic thinking and economic models are applied. Small experiments in connection with courses that can prepare students for further education are suggested and carried out. One important educational institution aimed at the second target group. The institution is called Piareersarfiit and here, education, career-advice and consultations concerning the transitions in life are combined (from home to educational institution, in-between educations and from education to job, etc.).

The idea behind the reform of education can be expressed through the consensus approach outlined above; education is seen as 'necessary' and "*status quo is not an option*" (a famous quote by the then Premier Kupiik Kleist in 2009). Greenland is facing huge challenges and education is thus regarded as a means to a better handling of the changes that occur on both national and international levels. Organizational development, educational development and development of the educational system in support of civil society (including poverty reduction), and the participation in both local and global developmental processes, are part of the whole venture.

The reform and evaluations did not produce the desired results and a second educational reform took place in 2012 – midway through the evaluation period of the 2005-reform. The title was Education for the Future - Education for all (Uddannelse for alle, 2012. The government of Greenland, accessed October 30, 2015. www.naalakkersuisut.gl). The title is 'political' because it does not reflect the facts of the situation. Perhaps the title reflects a political vision of education being majority and not minority behavior? In any case, the goal of the second plan is less ambitious than the first. The 2012-goal for more and better education and strategies are suggested, but the transition from education to the workforce is not touched upon. Instead, focus is on the period before school (pre-school institutions) and thus the transition *into* the school system.

The means for the reform are financial. The administration's thought process behind the reform is characterized by static economic evaluation-models. Piareersarfiit, however, has currently developed into a respectable and 'recognized' institution with many students of little or no educational background. It seems to be successful as the drop-out rate is relatively low compared to other educational institutions.

One might argue that the second educational reform generally focuses on how to get more students into the educational sector, but it does not pay attention to the transition from education to the job-market. The exception is Piareersarfiit (which is discussed in more detail below).

In 2014, the third educational reform was proposed: Equal Educational Opportunities for All (Lige uddannelsesmuligheder for alle, 2014. The government of Greenland, accessed October 30, 2015. www.naalakkersuisut.gl). In context, it was another couple of years with very little success in the educational arena; further education is still related to minority behavior when we look at education above elementary level. Again, the difference between the 'political' title of the reform and the reality of the situation is recognizable.

The goal of the 2014-reform means further reductions and less ambition; the focus has moved away from what-happens-after-education (transition from education to employment) to what-happens-before-you-start-going-to-school (transition into education).

All three reforms focus on the drop-out situation which is important and 'serious' because the educational sector produces more drop-outs in comparison to students who finish their education. But, the explanations for the situation and the necessary consequences vary with each reform.

In 2005, the drop-out figures are explained by sociological and demographic variables; change will be produced (a) through more qualified student-counselling and (b) through more financial help during the period of education to those that are geographically located far from schools and other educational institutions. In 2012, student drop-out figures are explained as individual problems, and the means for reducing drop-out rates are consequently put onto the individual. This produces the idea that children must be screened before they enter the educational system. In 2012, it is recommended that children enter pre-school institutions where screening processes will take place.

In 2014, the tendency to explain the drop-out figures as individual problems continues. It is suggested that the need for possible individual psychological help must be revealed through screening in pre-school institutions.

In other words, the focus changes from structural demographic factors, qualified teachers, qualified student/academic counselling and the transition from education to the labour market to individual, psychological factors and transition into pre-school activities where individual screening processes can take place. The changes correspond to other differences in the educational sector. For instance, in the 2005-reform there is a discussion on how to develop 'talent' in Greenland. It is, among other things, argued that at university-level the classes are relatively small and an increase in the number of students at university would not therefore increase costs for

the university, as it would be relatively inexpensive to produce candidates. With the underlying understanding: let's do it! Whereas in 2012 and onwards, it is argued that education is expensive and since there are so few students at the university, the underlying understanding is: why not close the university – or at least some of the departments? It will give us the opportunity to allocate funds into pre-school activities.

Both ways of thinking about education lie within the **consensus approach** according to Lauder et al. (2006): "*What is central to the consensus view is that the state assumes the role of the bastion of efficiency and fairness. It does not serve special interests but represents a triumph of social democracy where all are equal before the law. … Along with the problem of socialization, the education system also takes increasing responsibility for what is assumed to be the selection of the most able individuals to ensure economic efficiency and social justice. …*"(Lauder et al., *Education, globalization and social change*.8-9.).

The important difference lies with the latter part of the last sentence. The goal of the state to secure educational institutions has (since 2010) been transferred to the individual person with the recommendation that they be screened by psychologists and others in pre-school institutions due to the 'problems in their lives'. The research question has changed from the societal macro-level to the psychological micro-level. In 2014, a new centre for guidance, counselling and psychological help to students started in the capital of Nuuk.

Quantitative data from the Educational Field

A statistical snapshot of the education career for a young person leaving elementary school in 2010 shows a probability of continued education being less than 50 pct. (Before 2010, the pupils were even more likely to discontinue their education).

If the young Greenlander embarks upon an educational career after elementary education, he or she is relatively more likely to drop-out of the system and relatively

less likely to complete the education (Merete Watt Boolsen, "Evaluating Education in Greenland. How is Power Exercised through Evaluation Models?" In *Scandinavian Journal of Public Administration*. (2013): 45-61). In 2014, the following statistical figures (see table 1) were obtained from the Greenland Statistical bank[13].

Table 1: Education in Greenland. Information Greenland Statistics, 2014.

No. of students in		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Vocational education and training		1258	1057	1084	1246	1311	1412	1386	1379	1422	1343
Upper Secondary level		675	682	776	799	833	929	1048	1222	1240	1319
Short-cycle higher education		589	480	420	489	497	520	505	564	647	683
Medium + long-cycle high.edu.		315	297	323	351	364	373	420	459	487	483
Active students - total		**2837**	**2516**	**2603**	**2885**	**3005**	**3234**	**3359**	**3624**	**3796**	**3828**
Completed education and training		**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Vocational education		373	278	246	265	295	309	332	319	406	434
Upper secondary education		158	153	146	183	199	206	204	236	276	314
Short-cycle higher education		161	155	103	86	110	117	115	123	135	136
Medium + long-cycle high.edu.		33	45	61	49	60	45	73	78	48	76
Completed education - total		**725**	**631**	**556**	**583**	**664**	**677**	**724**	**756**	**865**	**960**
Drop-out figures		**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Vocational education and training		435	444	307	322	326	337	413	462	402	476
Upper Secondary level		189	183	164	214	180	235	240	246	245	258
Short-cycle higher education		113	131	115	129	121	128	110	120	114	135
Medium + long-cycle high.edu.		62	66	60	53	88	79	73	92	95	129
Drop-out - total		**799**	**824**	**646**	**718**	**715**	**779**	**836**	**920**	**856**	**998**
Drop-out relative to											
active students in %		28,2	32,8	24,8	24,9	23,8	24,1	24,9	25,4	22,6	26,1
Completed education											
relative to active students in %		25,6	25,1	21,4	20,2	22,1	20,9	21,6	20,9	22,8	25,1

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[13] Communication with Greenland Statistics for a specific update of the figures, 2014.

The figures provide information about educational volume over time; more students are entering the educational sector, more students drop out and more students graduate. In terms of completion-figures more education is produced, but also more drop-outs. From the perspective of the reforms, it is highly problematic that the completion-figures are smaller than the drop-out figures during the whole period of observation. Since the relationship between the individual factors (completion and drop-out) are relatively stable during the period of observation, it is concluded that the education sector has increased without becoming more 'efficient'. In spite of a number of evaluations, including the developmental evaluations along the lines of M.Q. Patton, the educational sector has not been able to learn from the evaluations and change the way it works (Michael Quinn Patton, *Essentials of Utilization-Focused Evaluation.* Los Angeles: Sage 2012). A small unpublished questionnaire completed by the administration in 2011 revealed that 'lack of time for implementation' was the major reason for not paying attention to the evaluations.

Merton's theory of deviance and different educational approaches

Different institutions and/or 'experiments' have been set up as supplement to the ordinary school system since the first reform in 2005. They have been recommended (for various reasons), carried out (under different circumstances), evaluated (under various political perspectives) and some have been implemented for a limited period. All experiments, however, argue that they will increase the level of education for the participants.

What do the experiments have in common? How can we understand the way they work and are organized? What lessons can be learned for future activities in the field of education?

The American sociologist Robert K. Merton (1910-2003) focuses on functions, goals and purposes in terms of their consequences (Merton 1968). It was mainstream sociology in the mid-20th-century to study societal institutions through their function,

goal, purpose, etc. Merton framed the term 'unintended consequences' and developed a theory on deviance that analysed the relationship between culture, structure and anomie. Merton defines culture as an "*organized set of normative values governing behavior which is common to members of a designated society or group*". Social structures are the "*organized set of social relationships in which members of the society or group are variously implicated*". Anomie, the state of normlessness, arises when there is "*an acute disjunction between the cultural norms and goals and the socially structured capacities of members of the group to act in accord with them*" (George Ritzer, *Sociological Theory* (7 ed.). New York: McGraw-Hill, 2007).

The term anomie was originally put forward in 1897 by the French sociologist Émile Durkheim (Durkheim, Emile, *A study in sociology*. New York: Free Press of Glencoe, 1951); Merton links anomie with deviance and argues the discontinuity between culture and structure i.e. between cultural goals and the legitimate means available for reaching them (Robert Merton, "Social Structure and Anomie". In *American Sociological Review* 3 (5) (1938): 672–682).

For the present purpose, Merton's theory is suggested because it provides an opportunity to look at behavior within the educational sector from a point of view that stresses the relationship between the cultural goals and the institutionalized means that develop into different modes of adaptation, and which is defined in the following way:

If the attaining of societal goals takes place by socially accepted means, the mode of adaptation is called **conformity**. If the attaining of societal goals takes place in unaccepted ways (i.e. is rejected), the mode of adaptation is called **innovation**. Innovators find other ways to get what they want and in most cases their behavior is considered to be socially unaccepted and deviant. If the attaining of goals is rejected and the means are accepted, the mode of adaptation is called **ritualism**. Ritualists are not considered to be deviant by Merton, but it is important that he regards both innovation and ritualism as cases of anomie because there is a disagreement between goals and means.

If both goals and means are rejected, the mode of adaptation is called **retreatism**. People under this heading want to find ways to escape from everything and therefore reject both means and goals; they are also seen as deviant by Merton. Finally, we find a mode of adaptation where a combination of rejection and substitution takes place. It is called **rebellion**. Both societal goals and means of the educational institution are rejected, but are substituted by other goals and other means (see fig. 1).

Figure 1: Merton's theory of deviance
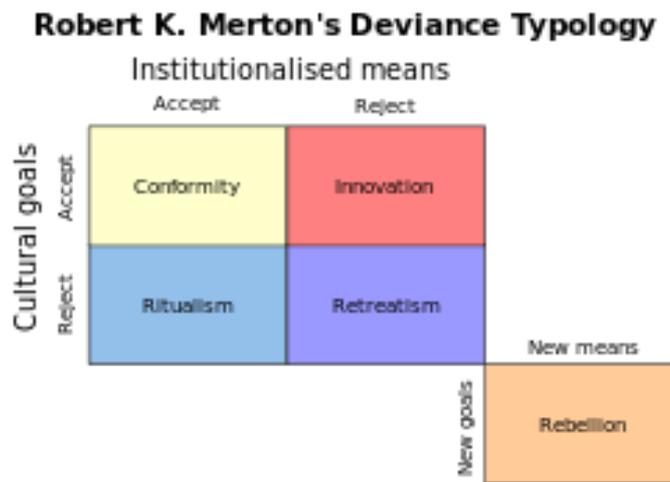
Merton's Paradigm of Deviant Behaviour (L. Tepperman, L. and J. Curtis, *Principles of Sociology: Canadian Perspectives.* (Canada: Oxford University Press, 2006), 117).

Who defines 'deviance'?

We shall briefly touch upon Merton's concept of deviance. When he discusses societal goals and means, he defines the concepts in terms of majority goals and majority means. Deviance means to deviate from the norms of society, which also explains why his theory is widely used in the field of criminology. In the case of Greenland, you will find a situation where a majority culture – Inuits - will be classified as 'deviants' as they deviate from the norms of a minority culture that mainly consists of non-Greenlanders (Danes in most cases). The minority has had the power to define the educational goals and means. This minority does things on their own terms and not on the local cultural terms. Merton would most likely classify some of the

observations mentioned in the present article as 'unintended consequences'. Attained an education in Greenland above secondary level is minority behavior – and Merton would classify it as 'deviant behavior'. "…*to look at functions, goals and purposes through their consequences*" (Merton, "Social Structure and Anomie") is a very central sociological perspective; institutions are not only defined through variables such as goals and purpose because they are qualified through their consequences which are time-, place- and person-specific. In other words, when we argue that the educational sector in Greenland is not working according to the intentions of the education reforms - 2005, 2012 and 2014 - Merton would supplement his argument and introduce an explanation of a cultural nature, because the attitudes to goals and means of those who are using the educational sector (i.e. students and teachers) are in disagreement with those who planned it.

Empirical Cases

Based on Merton's theory and paradigm, the educational palette in Greenland offers cases that belong in the five possibilities as described in figure 2.

Figure 2: Merton's Paradigm of Deviant Behaviour applied to the educational palette in Greenland 2005-2014.

Attitude to Goals	Attitude to Means	Modes of adaptation	Educational examples in Greenland
accept	accept	Conformity	Most of the educational system from elementary school and all the way to university
accept	reject	Innovation	Timi Asimi and BootCamp
reject	accept	Ritualism	Most of the educational system from elementary school and all the way to university
reject	reject	Retreatism	Sapiik
reject/accept	reject/accept	Rebellion	Piareersarfiit

Conformity and ritualism

Both categories characterise the educational system from the level of elementary school and all the way to university level. From a descriptive point of view, the public educational systems qualify in the 'conformity-mode-of-adaptation' where the attitude to both goals and means are accepted. At the same time, it can be argued that ritualism is taking place as the educational institutions are not able to produce students with degrees – see table 1. The politically accepted goals and means are 'producing' deviants because the students are not able to graduate.

Innovation

Two of the projects that I have studied – Timiasimi (Timi Asimi, 2013. Accessed October 30, 2015 http://www.timiasimi.gl/) and BootCamp (BootCamp, 2011-2013. Information from the department of education. No publication)– may be classified in the innovation-category; they accept the cultural goals for education of young children, but they do not accept the institutionalized means. The children in the projects have very little or no prior education because of the failure of the established educational system; the educational idea is to create a platform that will introduce them to an education and motivate them to continue with their education. The projects are vulnerable because project success or project failure may depend on a single teacher or on a single student. So far, the projects have been difficult to evaluate, difficult to learn from and very expensive.

BootCamp is a project for young people in the age bracket 15 - 18 years. They do not participate in other educational activities and are judged as not ready for education. The aim of the project is to develop their competences, self-confidence etc. and to stimulate their hunger for learning. The ultimate aim is that the youngsters will continue in the ordinary educational system after completion.

As pointed out by some critical Greenlanders: you institutionalise a certain 'educational experiment' for young people who have experienced nothing but failures

in the established educational system; why would their attitudes, energy, interests etc. suddenly change, just because classes have a different content?

Retreatism

The purpose of the Sapiik-project (Saapiik, 2013. http://www.fgb.dk/sapiik/ Accessed October 30, 2015 http://www.fgb.dk/sapiik/) is to motivate children in the elementary school system to continue with education once elementary school is over. The means to obtain the goal consist in employing other/older Greenlandic children as mentors and role models for the younger children. In terms of Merton's theory both the existing goals and institutionalised means are rejected; the children are spending time with the mentors/other children – telling ghost-stories (important cultural dimension), drinking coffee and visiting places. There is no way of knowing if this helps the project or how it helps. The project activities are financed by Foreningen af Grønlandske Børn. They had the project evaluated around 2010 and were interested in having it re-evaluated at Greenland's University – Ilisimatusarfik. The project was found difficult/impossible to evaluate given the information and circumstances – some of which are mentioned above in connection with the 'innovation'-category. The conclusions have not (yet) been published since the requesting organization did not like them.

Rebellion

We find both rejection and substitution in this category; societal goals and means are both rejected – but substituted by other goals and means. The empirical case is Piareersarfiit which was created in 2007. The students belong to the second target group mentioned in the Educational Proposal from 2005: unskilled workers under the age of 50 years.

Piareersarfiit's platform has elements from the employment sector, the educational sector and the counselling sector. The purpose is to "*… deal with areas such as employment, counselling about education and jobs, development of competences, qualification and re-schooling/-educating the workforce … with the aim of getting an education or getting a job …*" (From § 1, Homerule act no. 17, dated October 16, 2007 about *evaluation of Piareersarfiit centers*. The translation into English is mine.)

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Today – in 2016 – it is the largest educational institution (apart from elementary school) measured in terms of people/students who seek education, information, counselling and advice on the transition from education to work.

In 2012, the Piareersarfiit centres (Merete Watt Boolsen, *Piareersarfiit i krydsfeltet mellem arbejdsmarkedspolitik, uddannelsespolitik og vejledning*. 2012. Accessed October 30, 2015 http://piareersarfik.gl/da/Om-Piareersarfik/Publikationer) were evaluated. Primarily, the evaluation showed the combination of educational policy and employment- and labour market policy as mutually beneficial. This is due to the fact that students' transitions from one area to another are handled in the same place/same office by people who are familiar with and have respect for the culture of the students. A small unpublished investigation (within the Department of Industry and Minerals Resources, 2011) shows that the students are very satisfied with the educational possibilities that are offered in combination with counselling on other aspects of their lives. The statistical data from the Ministry of Industry and Minerals Resources (Information supplied by the Department of Industry and Mineral Resources, 2014.) show that the percentage of students that graduate lies between 83-87 % during the period from 2011-2013. In 2015, a similar picture was conveyed by the CEO of the biggest Piarersarfik in the country (situated in the capital of Nuuk).

In other words: we see a big contrast to figures from other educational institutions in the country. From an evaluative point of view, the educational set-up in Piareersarfiit works and accomplishes its goals.

Why does the less prestigious Piareersarfiit organization produce better results – in terms of exam grades and the completion of educational programmes - than any other educational institution? The costs are less; the resources of the students are fewer etc., AND the input of the local Greenlandic or Inuit culture is far greater than in any of the other institutions. The answer also focuses on the administration of Merton's rebellion-factor. The law at Piareersarfiit states that any transition between important sectors must be taken care of for those students who are accepted at Piareersarfiit. To be in charge of any of the 16 centres in the country requires flexibility, imagination,

knowledge and empathy. To administer the centres requires a readiness to listen to local problems, issues and suggestions – to be aware of the different situations that exist for each and every student, and to have knowledge about the *processes* that develop around students' lives and the interaction between education and work. Because of the differences between one part of the county and another, the context of each centre is also different (geography, demography etc.).

The cultural goals in the rebellion-category are constantly replaced with new goals, and institutionalised means are constantly replaced by new means. Both goals and means have been rejected to a degree, but the governmental authorities and the local institutions' staff have been able to negotiate and accept change. This important detail is evident in many areas and in many ways. It is a process where the communication between relevant parties have found a way to function in a satisfactory way. However, a popular way to demonstrate success in educational institutions is through the exam-results that the students produce.

The institutional setup, local negotiations and nationwide negotiations show that Piareersarfit is an 'arena' with constant movement, change and development. The bottom line is that it works; the students get help, guidance (personal and academic), education and are able to move into jobs or advance within their present organization. In Merton's perspective, they are deviant, but 'constructive' deviants. The winner of the many discussions in the 'arena' is the cultural factor. Merton might point to 'unintended consequences' as a discursive explanation. Organisational sociology might introduce the bottom-up perspective in their explanation - important (educational) processes that take place on an everyday basis, but the atmosphere in the Piareersarfiit institutions is different in comparison to the 'ordinary' educational institutions in Greenland.

The present analysis puts forward the following hypothesis: (1) the educational situation in Greenland would benefit from inclusion of 'the cultural factor', (2) the educational situation in Greenland would benefit from paying more attention to the processes around students' lives (inside and outside the educational institutions) – for

instance, through working with a developmental evaluation perspective, (3) the educational situation in Greenland would benefit from more rebellion on the part of the institutions and from more respect from the political and administrative levels (because, in general, the knowledge about the students and their lives is present on the organizational/Piareersarfiit-level. On the departmental level, knowledge is present regarding the national, international and global demands, policies, battles, etc.).

Suggestions and Recommendations for Respectful Rebellion in the Educational Sector

Education produces fantastic ideas and complicated scientific ideas work in many (technical) respects. For instance, when we want to put a man on the moon, to find gold in the mountains and oil under the sea. So why is it difficult and problematic to change the educational sector in order to produce increasingly more qualified students faster? What are we missing when we pose research questions? If and when we leave out the cultural factor, the point of the present paper is that we are missing out in the educational sector.

The analysis and argumentation suggest that we pose a different question when studying the educational sector in Greenland. In some areas we see failure and in others success. The successful projects integrate the cultural factor in their educational work, whereas the unsuccessful projects do not. It is time to pose more qualified questions where the cultural factor in education is highlighted. It is time to let the Inuit culture play a major role in the architecture of the educational sector. Merton's rebellion-paradigm has been used to demonstrate a point – viz. that goals and means from the political and administrative majority culture should be debated, rejected and substituted by other goals and means – AND in combination with respect for the cultural dimensions. We can see the present failure of the educational 'arena' in Greenland because the attitudes to goals and means of those who are using the educational sector (i.e. students and teachers) are in disagreement with those who plan it.

A process-perspective where changes are substituted by constant development. Complexity theory is recommended (For further discussion, see e.g. Greenland Economic Council and Andersen (2015a).

A number of recommendations emphasising both improvement and development are suggested in continuation of research in the educational sector:

(1) If the goals of the education reforms are to be met, the cultural dimension must be given a higher priority on all levels in the educational system. Today, the policy of education is 'strategy before culture'. But 'culture before strategy' is recommended as a more powerful and also more respectful strategy.

(2) Students must be students which means that they must be made aware of their rights and obligations.

(3) Teachers must be teachers which means that they must be able to know and to separate the different roles and functions of teaching.

(4) Supervisors and counsellors must be supervisors and counsellors and be able to differentiate between the different problems of 'being a student' – such as academic problems and problems to do with living away from family and friends in surroundings of new and relatively unknown challenges. The education of supervisors and counsellors is recommended as a priority.

(5) Differentiation is a key factor with regard to educations. Depending on the context, some educations should have higher priorities than others.

(6) The Greenlandic language is important. I suggest that teachers with two languages (Greenlandic being one) are prioritized in special areas – accompanied by educational material.

(7) More intensive work regarding drop-out rates is recommended.

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(8) More intensive work regarding the completion of individual education programmes is recommended. It is cheaper to help students that are already part of the studying process complete their education – compared to introducing new students into the system and helping them to complete their education.

(9) More focus on the transition period from finishing an education to the joining of the work force.

(10) More focus on student counselling during the transition period where students are vulnerable and at high risk of leaving the educational sector: before, during and after an education.

(11) More focus on other major transitions in student lives – such as leaving small towns for bigger town or another country in order to continue their education. Finally, in a perspective of globalisation - Greenland is in many ways (also) dependent upon what is going on in the rest of the world, but has a habit of being a 'globalisation-taker'. In the present article, my focus has been on areas where Greenland could be a 'globalization-maker' – for instance, if respectful rebellion is added as a development factor.

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4.3 THE NUIKI PROJECT
- Educational improvements in Greenlandic villages.

By Jimmy Hymøller and Palle Lennert

The NUIKI project has been running in Greenland for six years in 14 villages and approximately 200 young people have been through an academic and a personal development course. The goal is for all the participants to receive a diploma that gives access to basic vocational education in Greenland and, in addition, gain personal experience and acquire new tools to deal with some of life's challenges.

The programme takes place in the individual villages and involves teachers from the local public schools. The municipalities provide financial support to the planning and the execution of the self-help courses, courses in parenting and family folk high schools. In August 2010, the Greenlandic Self Rule began a NUIKI pilot project in the village of Itilleq. The aim of the project was to lift a target group of young people's level of education who had either finished elementary school with unsuccessful examination results, or for other reasons did not continue their education. A large group of these young people end up as unemployed or with unstable, unskilled jobs. During the 10 months' programme, the students were taught Greenlandic, Danish, English and mathematics, all of which courses were completed with a test. If the tests were passed, the respective student received a diploma which gave admission to a basic vocational training course. The pilot project in Itilleq was completed in July 2011.

Apart from having a positive impact on the participants (who all passed the final tests), the project also had a positive influence upon the village community as a whole. The community has been affected by prevalent alcohol and substance abuse for decades, and this situation has led to extensive social problems that have rarely been addressed by the municipality or the Self Rule, except by a number of random and

unorganized attempts by the social services.

Challenges

The project has forced several of the participants to engage with their personal problems; many of which have never been addressed before, due to the continuing failure of the state and the municipal social system. The NUIKI project has thus introduced a new sense of community based on education, personal development and openness. Personal development training has especially been an eye-opener for the youths and their families. By being open and true to themselves and others, the participants were able to take a backward view and confront some of the challenges that used to hamper their learning and development. The young people were thus able to acknowledge their problems and challenges, and were hence able to deal with these issues instead of suppressing them which used to be a common strategy among the participants. The project's motto was that "It is alright to have problems, no one can avoid that, but it is not acceptable not to do something about them". A combination of academic challenges and personal support which has been adjusted throughout the academic year, has been the key to unlock the students' motivation and to plan for the future.

The project has not only motivated the students to realise their dreams, it has also provided hope for others in the community, and some of the young people have made the independent choice to leave the village. No one has been forced to do so, but many have found the motivation to enjoy personal development. At the beginning of the project, it was clearly stated that in order for a wish for education to be realised, the participants would need to move to bigger towns with educational institutions. In these instances, it is essential that the receiving community is prepared to embrace and support the student when he/she arrives. The participants still face numerous difficulties along their path and these can often be hard to handle. Therefore, the young people need continuous support.

To be able to embrace the multiple options which the students face, the project has made an effort to heighten the young people's self-esteem by teaching them to be

punctual, aspirational and to take responsibility for their own decisions. These capabilities will be useful for them for the rest of their lives. An additional goal of the project has been to teach the local inhabitants how to find solutions to social and parental challenges. Through agreements made with municipal family centres, the project has run parental education programmes and family folk high schools, and has, in extension, offered follow-up consultancy to the families who need it. Furthermore, a deal concerning an upgrade of the area's internet-connection supply has been made with Tele Greenland, along with a sponsorship for free Wi-Fi which has been arranged through the schools in the villages.

Prospects

In most of the villages very few inhabitants have a secondary education and several have not even completed elementary school. Furthermore, all secondary education in Greenland have admission requirements, especially in Danish and in English, which are the courses in which the young people from the villages usually achieve poor results/grades. Therefore, they do not meet the admission requirements and cannot be admitted for secondary education. This means that the need to expand the project in Itilleq to other villages is urgent. In the beginning, the educational system did not have the financial resources at its disposal to finance the project, and NUIKI, therefore, received financial support from the Villum Fund during its first five years. From the end of 2016, the Self Rule will continue the project without external funding. At the midway evaluation of the NUIKI project in 2014, 80% of the participants were either part of an educational programme or employed at work.

Context

If the participants choose to move to other towns because of educational purposes or training opportunities, it can be viewed as part of a more general development of society. The goal is for as many people as possible to acquire the tools they need in order to make informed decisions regarding their own future. If a participant chooses to remain in the village after completing the course, one can only hope that the project has helped to ensure that it is somehow an informed choice, and that the participant does not just remain in the village due of the lack of alternative options. Children who

move to bigger towns with their families is an expected consequence of the project, and one which will lead to the children being offered more options regarding education and training. Another expected consequence is a general change of attitude towards education, and which, hopefully, will lead to more people feeling encouraged to enter further education, despite the fact that they must leave the village in order to do so.

Success criteria

The group of young people who need educational support is often burdened with "heavy baggage" and/or has no or poor experience with education:

4. They require extra attention and support to succeed in developing further
5. External influences are necessary to kick-start personal development

NUIKI's criteria for success is:

1. High academic standard and highly qualified teachers

    Teachers who possess commitment, engagement and a sense of ownership

2. Individual personal interviews → Preparatory interviews 3 months prior to the start of study
3. Study counselling and individual trainee period / apprenticeship / placement
4. Offer of personal and family development courses
5. An alternative culture and new communities to overcome isolation and entrenched behavioral patterns

Interdisciplinary integration

1. Implementation of an interdisciplinary collaboration in relation to local educational projects
2. The effort takes place on an interdisciplinary level and has the following resources available:
1. Teaching that takes place with the help from teachers employed at the schools in the villages and who are trained in the examination subjects: Greenlandic, Danish, English and mathematics; equivalent to "AEU" (Piareersarfiit context)
2. Personal development as a scheduled subject; but not a subject of examination

3. Personal development course that will make use of local resources or with the closest next of kin outside the village. Collaboration between the board committee of the village, the school board and the prevention committee in order to coordinate social activities in the villages

4. Social effort coordinated with the school, project consultants and the municipalities

5. Study trip to Denmark to discover educational and study exchange opportunities

6. In 2011, 2800 individuals applied for vocational training; only 350 were accepted (INN 2012)

Local ownership

1. The project takes place in the school's classrooms during the afternoon with trained teachers → smart use of existing facilities

2. No need for new recruitments and no expenses/costs due to location (rent) etc.

3. In the village, the Piareersarfiit-idea has benefited the local life of the whole community since many young people have gained confidence in the future and in that of a meaningful life

At the same time, the project opens up for the possibility of an integrated end-to-end solution to remedy existing social problems

4.4 Educational possibilities in digital communication and infrastructure

By Anders Øgaard

Demands are changing for keeping pace with developments within the use of information and communication technology (ICT) and online access is pivotal in order to gain from the possibilities offered within ICT. In many western countries, the use of ICT relies on instant and omnipresent access to the internet, but despite the political attention and high priority status given to the issue, implementation of access to the internet is gravely lacking behind in Greenland. Access to the internet is only provided in the capital of Nuuk where the population are able to take part in the development.

The challenging situation in Greenland is connected to issues of infrastructure, economics and geography and in particular to a general lack of understanding of perspectives that can be traced back to the school system. Consequence of which are likely to further educational stagnation which will leave Greenland with a population without the necessary knowledge and skills for moving onward towards a state of sustainability and independence. Based on my research into distance teaching in schools in Greenland, I will present and discuss the possibilities and the opportunities that are in a state of jeopardy. My focus will be on digital communication and its connection to teaching and education.

The ambitious school act of 2002 has not rendered schooling in Greenland with better results as were anticipated. One third or half of the pupils fail or barely pass their final exams. In terms of the Greenlandic language, the results are slightly better than before, but the level at the end of ten years of schooling is alarmingly low in every other subject (Inerisaavik: Karakterdatabasen). The Danish Evaluation Institute EVAs comprehensive evaluation from 2015 of the Greenlandic schools, concludes that school children do not experience the progressive pedagogy which was intented with the school act (Brochmann 2015, p. 8). Pupils rarely meet with a teacher who will

develop plans which consider the children's individual perspective and needs, and elaborated and professional differentiated teaching has not become a part of the school programme. Inertia in teaching methods and a lack of responsibility for implementing change, is reflected in the fact that almost half of the teachers reveal that they hold the children responsible for problematic behaviour and also for their school attendance habits (Brochmann 2015, p. 8). Certain pupil roles and teacher driven ways of teaching are still prevalent norms in schools.

An important part of the development within ICT is the use of cloud computing which has existed for about ten years. It is an online service that is provided by different companies. Google apps (Google docs, drive, maps etc.) is an example of an online programme for private or professional use. Cloud computing defines a change in the way we use computers in our everyday lives and in society at large. Online operations have taken centre stage while leaving expensive and ever changing hardware options behind. Laptops, tablets and smartphones consist of files and programmes along with a processor that finds and uses programmes or creates files. When we write a document, shoot and edit a photo or a film clip, it is the programmes that process the files on our device.

The price tag on devices used to be connected to how much data, how many files and how many gigabyte of memory it could hold. With cloud computing, the files and programmes are removed from the device and are instead stored on huge computers located in convenient places around the world. What one is left with is a very fast-working device with a microphone, a speaker, a camera and a screen. The requirement for using cloud computing do not include expensive and large personal computers, but an easy, fast and reliable internet connection service. Access to the internet and the use of powerful devices can be provided inexpensively by way of centralising the hardware and the internet service. The terms in use for this principle are "utility computing" or "on demand computing" (Thomas 2011). Through the facility of cloud computing, ICT can become a part of the infrastructure of society (Thomas 2011). Just as we do not need to have our own private generator to produce electricity or our own well to draw water from, neither do we need our own big

computer with a lot of space for storage. In democratic welfare states, an argument would be that the responsibility for implementing this infrastructure should be seized by politicians and provided by official administration, and the state would then provide an inexpensive and omnipresent internet connection service. This would secure a distribution in accordance with logistic and economic conditions. Another gain to be made from a central administration would be that the challenges that are connected to policies of privacy and the protection of data etc. would be controlled through the political system.

In Greenland, the process of implementing ICT infrastructure has been halted in order to encourage the liberalisation of free market forces (Dollerup- Scheibel, 2015). This appears to be a line of thinking by the private sector and a privileged consideration of the market forces, but a large part of the infrastructure needs to be taken care of by the state, especially in consideration of the geographical and demographical conditions in Greenland. In this respect, ICT should be considered, as exemplified by the notion of cloud computing, and internet services should be provided by the state in line with water, electricity and roads facilities etc.

An example of this kind of approach is the ATTAT network as provided by the department of education in Greenland in 2002 during the same year of implementation of the new school act. ATTAT has provided a platform of communication and collaboration for and amongst teachers and for administrative purposes within the Greenlandic school system. This solution was tailor made to the conditions and demands in Greenland, and ATTAT has served as an entry point for the use of the internet in many schools. Despite restrictions of a limited and expensive internet connection, it was possible to integrate the use of the internet into the pupils' everyday lives.

The ATTAT internet solution seems, however, to have outlived its relevance and use. The ability to use the internet is now facing new challenges, especially, with the donation of a free iPad to every school child in two of Greenland's four communes. The iPads are designed for cloud computing and the device is built to record, move and combine files in collaboration with other computers, and is a workstation that is

made to combine with powerful computers in the cloud. Storage can be held and advanced programmes can be utilised from the cloud as well. Through their iPads, the pupils can work with large amounts of data and with advanced software options in order to create their own interpretation of a subject. The work facilitated by the personalised iPads can also help to support customised training of skills in line with every child's personal level and individual progress. IPads and cloud computing are designed for an environment of learning where pupils can work on their own or in collaboration with others.

In Denmark, research has been done in relation to children's and teacher's reactions to a school situation where computers and internet connection facilities play a key role (Sørensen, B.H.; Audon, L.; Levinsen, K. 2010), (Sørensen, B.H. & Levinsen, K. 2014). The situation of a school day was placed in a home setting instead of in a classroom and activities were organised around a flexible time structure. The pupils were working alone or together on assignments and were giving and receiving feedback. The computers served to establish social rallying-points or gatherings and worked to frame pupil collaboration. Spontanuous situations would appear as a result which created a lot of interest. The teachers followed the pupils' progress and participated intermittently or interrupted where appropriate in order to improvise support or to keep the pupils on track. The pupils exhibited acts of autonomy, responsibility and engagement.

The researchers found that working with computers as early as in the first grade can support children in being self-reliant, responsible, helpful and co-operative (Sørensen, B.H. & Levinsen, K. 2014) and can provide a working environment that allows for a broad platform of entry to the curriculum. The children's reading and writing skills were supported by working with the editing of pictures or movie clips, or by reading or listening to texts and so forth. According to the researchers, the use of computers almost instantly differentiated ways of teaching and the development of the pupils' abilities to learn was found to evolve when situated around flexible structures that were shaped according to their individual pace of learning.

The results from the flexible computer-based classroom environment proved overwhelming as the facility of computers with internet connection that served as robot teachers under the command of the children worked well. Pupils across different ages and grades were able to collaborate with each other and showed to gain knowledge and develop skills ahead of the current curriculum.

An important aspect of the use of ICT within teaching is the possibility of performing online evaluations together with the pupils and cloud computing would allow for this option. Evaluations can take place as formative diary writing on a shared platform or as summary-based homemade questionnaires that can be customised in online programmes by the teacher or by the pupils. The shared use of online programmes will enable access to ongoing reflection and transparency in regard to the pupils' state of progress and learning. Working and networking through the use of computers can serve to make learning and progress more transparent even for small school children, and introducing formative and summary-based evaluation activities will involve pupils in their own process of learning. Sørensen & Levinsen (2014) found that children understand the need for evaluation and can handle the responsibility even at entry level, and were seen to display engagement by giving constructive feedback and to enhance their own skills and competencies and to improve in their work at school. ICT can be applied to teaching methods in order to support pupils as didactical designers (Gynther, K. & Christiansen, R. B. 2010). This term points toward a new role for pupils where responsibility, self-reliance, collaboration, activity and creativity is at the heart of school objectives. This is a far cry from earlier methods of teaching which follow a strict curriculum and rules of teaching, including aspects of teachers' wishes and ambitions that are made on behalf of the pupils. As shown with the research mentioned above, the pandering to the teacher by pupils and illegitimate copy-behaviour is replaced by an urge to collaborate, share and engage in mutually supportive ways.

Traditionally, schools are settings for formal learning, but non-formal learning can also take place. What children gain in the long term from their time in school are less visible and hard-to-measure factors and hence more difficult to evaluate than are

knowledge and skills in reading, writing, math and language. Valuable working habits are gained and developed over time, but are also difficult to measure. Through the complex processes of imitating parents, teachers and other pupils and the adherence to afforded learning materials, timeframes, schedules and the architecture connected to school settings, children adopt patterns of behaviour and interests that shape their partaking in society. What is pivotal and makes a defining difference with cloud computing, is the possibilities that are offered for sharing and collaborating in new ways and cloud computing could be regarded as a prerequisite for relevant informal learning processes in schools.

As part of my Ph.D., I have looked into distance teaching in small schools in South Greenland where cloud computing was implemented and tried out. Part of the assignment that was given to the pupils was to work together across the schools and this was initiated through a shared Google document. Pupils and teachers all had iPads and the schools were connected to the internet. The teachers were all well-trained and inspired to use the iPads in their teaching, but everyone experienced that methods of teaching did not operate smoothly. It was difficult to experience the potential of cloud computing and the impact of this for teaching and for collaborative and creative learning. We did see pupils getting inspired by the possibility of collaborating with fellow pupils at a distance through the internet, and some took initiative to communicate with others, but the communication died partly due to an unstable and ineffective internet connection.

Cloud computing did not develop working habits and did not become a part of their daily activities in school. From time to time, the school was closed due to snowfall or storms. During times of bad weather, the pupils and the teachers were not seen to go on the internet in order to continue teaching activities or to engage in communication or to give and receive feedback and guidance. The use of computers and cloud computing did not overcome the weather conditions, although, weather conditions should not play a role for cyberspace activity. On the contrary, it can be said that bad weather would encourage time spent in front of computers. With school attendance being vulnerable to weather conditions, school work could be inspired to take place

through online collaboration between classmates who are working on assignments or tasks whilst being supervised by teachers. However, this concept of schooling did not transpire.

So far, I have seen that Greenlandic children feel inspired when presented with the possibility of communicating with fellow school children through the use of the internet across distances. Especially, the notion of live camera synchronic communication has shown to fuel inspiration and engagement and encourage acts of collaboration between pupils. In addition, synchronic communication through a shared document in Google docs also generated a lot of interest. However, the evidence produced from my research is not compelling. The teaching methods and the pupil's reactions that transpired from working with computers and cloud computing are far from convincing, and I have not yet seen the use of iPads or cloud computing convincingly pave the way forward for progressive development within teaching for neither Greenlandic teachers or school children.

A precondition for this kind of schooling demands active participation and engagement of pupils. An important question to ask is whether Greenlandic children who receive modest stimulation at home would show the necessary level of competency when presented with teaching activities that demand responsibility and initiatives of part-taking. To what extent are Greenlandic children ready for the role as didactical designers? The question remains open for research.

In Greenland, cloud computing was also tried out during the winter of 2015 at Nuuk International Private School (NIF) (Madsen A. M. 2015). The project was initiated by The Greenlandic Agency for Digitisation and facilitated by Anja Emilie Madsen from consult.dk. Pupils in seventh grade used Chromebooks and Google apps for their projects and during a period of one week, they produced and shared their school work in an online environment. The use of Google for educational purposes seemed to engage the children and they spent time online outside the school setting on school activities and produced products with academic substance. The pupils' engagement in producing and communication online also provided useful access for the teacher to

follow and support their work and development.

However, this was in Nuuk. The case of distance teaching in South Greenland showed that there were difficulties in establishing relevant habits in the pupils. The iPad worked well as an individual instrument for training formal proficiency in reading, writing and mathematics, but when it was used as a digitally isolated classroom, the iPad was soon filled with other stuff and teachers and pupils experienced that their iPads clogged up. Some schools experienced that they had to send the iPads to the central administration for maintenance where it was cleaned and emptied of the pupils' work and only returned after several weeks. This arrangement contradicts the defining condition of an iPad as it very quickly becomes a personalised device that stores work, passwords, gaming levels, habits of internet use, connections to networks and so on. IPads will generally stop functioning at a certain point when handled as personal computers that only have limited access to the internet and will never work as intended when subjected to the policy of being reset intermittently. Developing skills in regard to a smooth, flexible and creative part-taking of networks and collaborations are not easily becoming a part of a digital literacy in Greenlandic schools.

Informal learning takes place among teachers and substitute teachers when they enter and become part of a schools' everyday life. Specific roles, responsibilities, relations and so on are passed on through adult learning. In connection with distance teaching, I have seen the outline of a distinct new teacher role. A local teacher often takes part when distance teaching is enacted and supports the activities that the distance teacher plans and it seems that this function works well for some teachers. The local teacher is not primarily concerned with the academic substance or standards. This teacher is committed to the practical tasks and supports the school children in different school situations, including the alternative way of taking part as a learner. Children need guidance in terms of who is teaching them, where to direct their attention, what to do and what is expected of them when they are part of distance teaching and the self-management that it entails.

The responsibility of subjects and of academic standards do not lie with the local teacher, but with the distance teacher who has the relevant education and competencies. This seems to strengthen the position of the local teacher who then finds herself/himself in a manageable and confident situation. The role as a local teacher within distance teaching has the potential to develop and cultivate resources of teaching among those teachers who do not have the educational background that is relevant for certain subjects and objectives within the curriculum. One teacher alone cannot teach everything, but the use of cloud computing can provide access to necessary resources and to a collaboration among teachers and among teachers and pupils. This can bring many matters, skills and subjects into the classroom despite their remote location. A prerequisite is that a relevant infrastructure must be in place along with a broad understanding of the didactical and pedagogical evolution at hand. In terms of handling digital literacy, EVA has found that around fifty percent of teachers in Greenland use computers once or less than once a month in their classes, but 93% state that they would like to use ICT even more. Roughly half of the teachers point out the lack of internet connection facilities on their schools as a condition for doing their work (Brochmann 2015, p. 129). However, there seems to be a general interest among teachers for using computers even more, but there also seem to be a general lack of competencies and of possibilities within the schools to enable this option.

The educational perspectives mentioned with cloud computing stress the attention that should be given of supplying uncomplicated and omnipresent internet connection to the schools. Just as important is the matter of attention that must be paid to the teachers' understanding of new teaching roles within cloud computing, and how it can provide more progressive ways of teaching in line with the objectives that are put forward in the school act. The iPads that were donated will soon be outdated. However, one can only hope that these managed to provide new skills, new visions and some change to the way teachers confront their assignments.

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5. Financial effects

The article in this section focuses on the need to ensure that the economic development process is inclusive across the whole population – the economic perspective of "getting everybody on board". The outset of the article is that it is imperative for Greenland to reach the twin key objectives of improving general standards of living and making the economy self-sustaining. However, it is also vital to ensure an acceptable distributional profile. Focus is on the distributional aspect related to an inclusive development process. The article begins by discussing the role that social cohesion can hold for economic development, and thus look at why there are direct economic implications for the perspective of "getting everybody on board". The article also treats the important nexus between employment and the financial viability of welfare arrangements and the role education holds for ensuring not only high levels of employment, but also the equal access to jobs for all.

The author of this article, Torben M. Andersen, is a professor of economy at Aarhus University, Denmark. Professor, Department of Economics and Business Economics, Aarhus University. He is former Head Chairman of the Danish Economic Councils and Chair of the Danish Welfare Commission and has for many years been the chair person of Greenland's Economic Council.

5. Financial effects

5.1 THE ECONOMIC PERSPECTIVE OF GETTING EVERYBODY ON BOARD

By Torben M. Andersen

Introduction

The economic challenges facing Greenland are multifaceted. Economic development is needed in order to improve standards of living and to make the economy self-sustaining. The development should also be consistent with distributional goals which has two crucial dimensions: equal opportunities for all individuals to develop and pursue abilities, interests etc., and a reasonable equal distribution of standards of living (i.e. income). In addition, there is a need to address the problem of current welfare arrangements that are not financially viable due to underlying structural problems and an ageing population-.

There are multiple ways in which society can be formed and structured which gives rise to fundamental political questions. The following issue will not be part of the further discussion but is based on the premise that the political goal is that of a welfare state which is characterized by high standards of living. This includes an equal distribution of standards along with a social safety net that protects the individual against the various hazards that can occur through life.

Given the geography and the location of the country, the economic development has to rely on the country's comparative advantages as in its natural resources. This has also been the case historically, where the harvesting of renewable resources in fisheries have formed the backbone of economic activity (including transfers from abroad, in particular, the block grant from Denmark). While renewable resources remain important, there is currently a need to develop a broader diversified economic base which involves non-renewable resources (primarily mining). Tourism also holds a potential as a factor of contribution where nature will figure as an important input.

Economic development is a gradual process, but it is beyond the scope of this chapter to enter into a detailed discussion hereof. However, it is important to stress that a prerequisite for a successful development process will entail not only an increase in average incomes, but also that everyone is encompassed and provided with opportunities in order to become self-supporting. While there are resource-rents to be harvested (and it is important to ensure that this happens), it is not realistic to suggest that these will generate income equivalent to a "block grant" of sufficient size to finance the political ambitions (Udvalget for samfundsgavnlig udnyttelse af Grønlands naturressourcer (2014), Grønlands Økonomiske Råd (2014)).

The main value to society of exploiting natural resources is dependent on the translation of the value-added process into jobs and thus provide an income for the total population. Unless ensured, the exploitation of natural resources will not contribute to reach the overarching goals for society. It should be added, though, that the block grant from the Danish state is currently very important, but its relative importance will decline in line with economic development. This further stresses the need to ensure that the process translates into employment and income for the population.

This chapter will focus on the need to ensure that the economic development process is inclusive across the whole population – the economic perspective of "getting everybody on board". It is imperative that the country reaches the twin key objectives of improving general standards of living and making the economy self-sustaining. However, it is also vital to ensure an acceptable distributional profile. As it falls outside the scope of this chapter to discuss policies to initiate or strengthen a development process, focus is on the distributional aspect related to an inclusive development process. Section 2 will begin by discussing the role that social cohesion can hold for economic development, and thus look at why there are direct economic implications for the perspective of "getting everybody on board". Section 3 will turn to look at the important nexus between employment and the financial viability of welfare arrangements while Section 4 will look at the role education holds for ensuring not only high levels of employment, but also the equal access to jobs for all. Finally, Section 5 will offer some policy options.

Social cohesion and economic development

Equal opportunities and egalitarian outcomes/insurances are generic values in most societies. The interpretation and the relative weighting of these values will differ across countries and are surely open for political debate. The interesting question, however, is whether they should be considered only as objectives in themselves, or whether they may have an impact on the scope for making the economy more self-sustaining and robust. Is there a strict economic argument for the importance of "getting everybody on board"?

Much research has been undertaken on the relationship between inequality and economic development growth (see e.g. Ostroy et al. (2014)). The general discovery is that inequality may hamper growth, thus pointing to the importance of equality or, more broadly, to social cohesion as an important factor for economic development. This does not imply that any policy initiative which in the short run may reduce e.g. income inequality is necessarily conducive for growth. The point is that some mechanisms that are at work at the root of inequality may also be impediments to economic development. One crucial channel is that of qualifications – formally or informally acquired - and the possibility of ensuring that the human capital potential in the entire population is released. It is well documented that human capital is crucial for economic growth, and that any barrier for its acquisition, and its use there off, is hampering to growth. It is equally well documented that education is important at the level of the individual.

Inequality may hamper human capital accumulation through two key routes. The first is financially concerned. It is more difficult for low-income families to afford education either due to the explicit costs of education (fees etc.) or due to the implicit costs that provide opportunities for education in terms of foregone earnings. In Greenland – as in e.g. the Nordic welfare states - education is largely provided free of charge by the state, but the individual will still have a lower income whilst under education. The latter may, in particular, be a constraining factor in terms of education in lower-income families. The second concerns the importance of the individual's social background in terms of up-bringing, development of talent and the motivation

to pursue education. There is overwhelming evidence that shows a strong social gradient in education (see e.g. OECD (2014)) which implies that children with educated parents have a higher probability of starting, completing and advancing within the educational system. Evidence is also very strong of the crucial role that early childhood holds for the development of individual capabilities. (see e.g. Heckman and Mosso (2014)).

Recent research points out the important distinction between passive and active (re)distribution policies; for a discussion see Andersen (2015b). The former is the traditional form of redistribution policies which via taxes and social transfer attempt to repair on the distribution of market incomes. Active redistribution policies refer to policies that aim at bringing most people into a position where they can find jobs that will generate sufficient income, and even make people self-supporting at a level of an acceptable standard of living. The active policies comprise education, active labour market policies etc. The importance of this distinction is clearly seen for the Nordic countries. As is well documented, these have a very low level of income inequality in a comparative perspective, which, in part, can be attributed to the redistribution via taxes and the social safety-net system. However, it is equally important that the Nordic countries have a near equal distribution of market incomes; i.e. before the passive redistribution, the income distribution is rather equal. This can to a large extent be attributed to the fact that the Nordic countries have both a high level and a relatively equal distribution of education, and thus qualifications, which imply that a high employment level can be sustained whilst also allowing for relatively high wages (no working poor).

The bottom line is that inequality and a lack of social cohesion may impair not only on equal opportunities at the level of the individual, but can also have large costs at the level of society. To this, it may be added that a lack of social cohesion tends to lead to a more segregated society in which policies tend to become partisan. This makes it more difficult to reach compromises and consensus which in turn can be a further barrier to economic development as it can block economic reforms and policies conducive for economic development.

At the outset, inequality is widespread in Greenland. Income inequality measured by

the so-called Gini-coefficient- is about 35 (and rising), while in the Nordic countries it is about 25. About 15% of the population live in relatively poor families-, 10% in poor families and 5% in very poor families (Statistics Greenland (2014)). Even among those in work about 40% have an annual income below the SIK minimum wage (Skatte- og Velfærdskommissionen (2011)). Social problems for children and youths are well documented and point to both the role of social factors and to the severe barriers of equal opportunities; see e.g. Christensen (2013).

Employment and public finances

Considering the financial base of the welfare state brings forth an important duality. On the one hand, it is a primary objective of the welfare state to provide income support to those who are unable to support themselves due to unemployment, sickness, loss of work capability etc. On the other hand, the financial viability of this model relies on a high employment rate in the private sector. The reason is basic and simple. If taxes to finance the welfare state are high and social benefits are relatively generous to ensure that those without a job have a decent standard of living, it follows that a variation in private employment has a large budget effect. A reduction in private employment will lower tax revenue and increase social expenditure. Variations in private employment thus have a double effect on the public budget. The further extended the welfare arrangement (higher taxes and/or generous transfers); the stronger the effect.

It follows that the financial viability of an extended welfare state relies critically on ensuring that a high share of the population is in employment. It is no coincidence that the Nordic countries with their large public sectors stand out in international comparisons by having a high employment rate (for both men and women); see Andersen (2015b). This is further support for the focus on "getting all on board", since it has huge implications for the financial viability of the welfare state, in addition, to the individual and the associated social values.

The above mentioned budget mechanism is also crucial for Greenland, although, the

welfare state is not quite as extended as for the Nordic countries (importantly, income taxes are not as high as in the large Nordic countries). Table 1 below illustrates the order of magnitude by showing the direct budget effect when one person in one year is in employment rather than unemployed and receiving either disability pension or social assistance (offentlig hjælp). Social transfers depend on a number of factors and the specific effects will depend on the family situation (as social transfers depend on the family situation).

The effect of transitions between transfers and employment are rather large, cf. Table 1, especially taking into account the fact that the person in question is assumed to be in a job that pays the SIK minimum wage (in 2013 about DKK 180,000). Clearly, the higher the income when employed, the larger the budget effect due to the higher tax payments. For persons receiving disability pensions, the one-year budget effect of a transition into a job is about DKK 150,000 and slightly less for persons on social assistance. These estimates only show the direct effect and not the indirect effect via e.g. taxes levied on consumption and, as such, they are lower bound estimates of the budget effects.

Table 1: Effect on public finances of transition between social transfers and employment – annual effect for one person, 2013

DKK	Change in public finances		
	Income	Expenses	Net-effect
Recipient of disability pension transiting into work			
Wage earner (SIK minimum wage)			
Single	30,684	-123,400	154,084
Single with one child	25,764	-141,186	166,950
Couple with one child	36,629	-99,356	135,985
Couple with two children	31,709	-109,943	141,652
Recipient of social assistance transiting into work			
Wage earner (SIK minimum wage)			
Single	50,364	-60,960	111,324
Single with one child	50,364	-88,976	139,340
Couple with one child	50,364	-57,858	108,222
Couple with two children	50,364	-67,580	117,944

Note: The effects depend critically on a number of assumptions concerning housing, the family situation etc. See source for a detailed account of the assumptions underlying the computations reported in the table. Source: Greenland Economic Council (2013).

The importance of the numbers reported above can be seen by considering e.g. an increase in the private employment of, for instance, 100 persons in one year (say 50 on disability pensions and 50 on social assistance). This will improve public finances by about DKK 13 mill. Total employment is about 30,000 persons – hence a 1% increase in employment will improve the budget by about DKK 35-40 mill. This is a significant effect underlining the importance of "getting all on board".

The above perspective reflects the effect on the public budget. From an individual perspective there is, of course, an increase in income by finding a job. In the cases considered above, a single shift from social assistance to employment will show an increase in disposable income of about DKK 50,000, and in the case of a shift from disability pension, the gain is about DKK 15,000. The higher the social transfer, the lower the individual gain from finding employment. This also points out a dilemma in policy: The larger transfers are to serve social objectives and ensure proper living standards; the less is the individual gain from becoming employed and the effect on public finances!

Policies leading to higher employment in the private sector thus meet several goals by improving the situation for the individual. This leads to higher income in society and potentially lower inequality and also to the improvement of public finances. An active focus to improve employment prospects for all is thus at the epicentre of all the objectives related to economic development.

Employment and qualifications[14]

There exists a large empirical literature that points to the importance of education for labour market performances. It shows how further education in general is associated not only with higher wages, more stable jobs, later retirement etc., but also with improved health, participation in social activities, political activism and so forth.; see e.g. OECD (2014). In short, there are substantial gains to be made from the effects of education both for the individual and for society as a whole.

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[14] For further discussion, see e.g. Greenland Economic Council and Andersen (2015a).

It is also a noteworthy trend that the labour market attaches more importance to formally acquired qualifications. This does not deny the importance of informally acquired skills or on job-training programmes etc., but it is a fact that more jobs increasingly require formally acquired qualifications.

These facts are also evident in Greenland; cf. Figure 1. Labour force participation and employment clearly increase in line with the education of individuals. Low-educated individuals are increasingly positioned outside the labour force market or are unemployed, and are less often in employment than those with greater education. This clearly points to the lack of education as a barrier to employment for many, and it is one of the main reasons for why it is difficult to increase levels of employment at society level. As argued above, these are constraints that have significant implications for the distribution of income and for public finances (via less expenditures on social transfers and higher tax revenue).

Figure 1: Labour market status and education, 2013
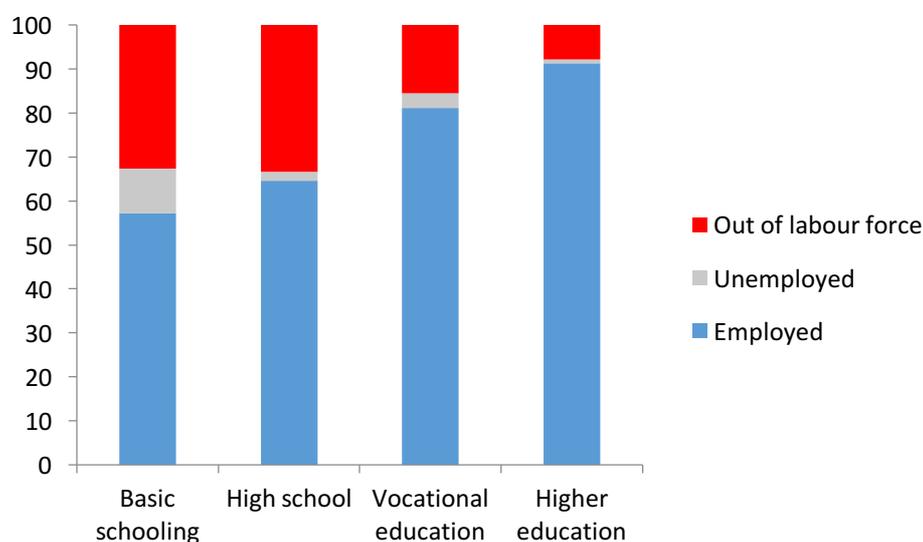
Source: Statistics Greenland

The pattern shown in Figure 1 is very similar to the one found e.g. for most OECD countries. Differences in eemployment rates for different OECD countries are mainly explained by the difference in the share of the population that are educated, while

employment rates for the same level of education are relatively similar across the various countries. This highlights the negative effect of the generally low educational achievements of the population. Figure 2 provides a snapshot of the highest level of education achieved by the population group aged 30 in 2013. While some may still be under education, the numbers illustrate the situation. A large share (57% for men and 42% for women) has not achieved any education beyond basic schooling. While this share has declined somewhat in recent years, there is a considerable educational gap where many leave public schooling with insufficient skills and a low motivation for further education.

Highest level of education achieved
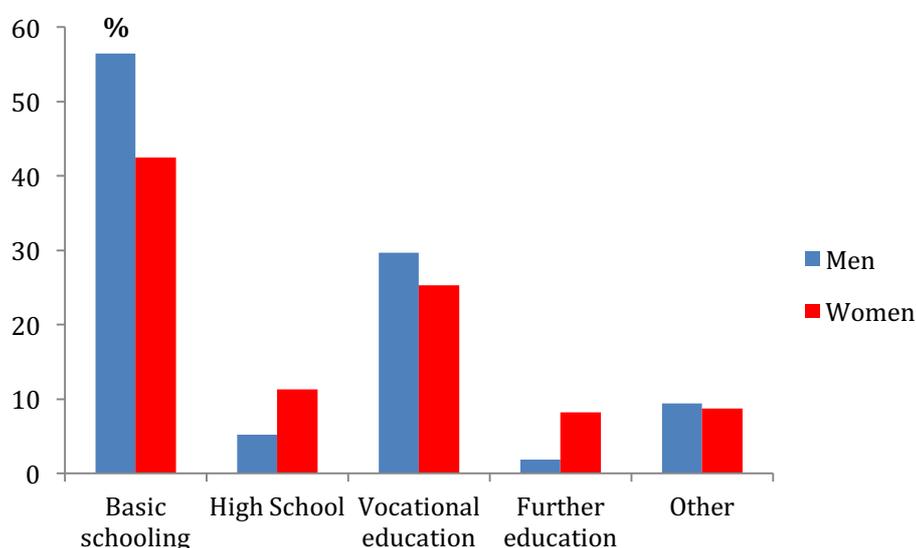
Figure 2: Groupings are according to the highest achieved level of education for the age group 30 in 2013. Source: Statistics Greenland

A large share of each cohort leave school either without graduating or with such a poor result that they do not have the skills or the proficiencies needed to progress within the educational system. There is also a gender difference to be noted which reveal that more boys than girls leave school with a poor educational background.

There are very high drop-out rates at all levels of education and the number of "retakers" are also considerably high. This implies a large turnover within the educational system which is cost-inefficient. There are no systematic analyses for the

reasons behind this situation, but poor proficiency in reading, mathematics and language are among the likely causes. Moreover, getting an education involves for many a move from a smaller community to a larger town which can prove difficult. Access to housing (dormitories) is also a constraint.

There is a significant difference in the educational achievements between youths growing up in settlements and in towns. Grønlands Økonomiske Råd (2010) has considered a number of cohorts who were born between 1971-77 and their educational achievement at the time when they reached the age bracket of 30-35. The study finds that 39% of those enrolled in a public school in a town obtained a vocational education, while the share was only 27.5% for those from a settlement. Among those attending public school in the towns, 10% obtained a short-term higher education, while only 3.5% obtained such that grew up in settlements. Hardly any persons from the settlements undertake a long-term higher education, but the fraction is similarly small for those growing up in towns who undertake a long-term higher education (1-2%).

There has been an increase in entry in recent years into the various forms of education. The number of commenced education programmes are significantly higher today than just 10 years ago. However, there is also an increase in drop-outs and therefore the increase in completed education programmes are more moderate. However, it is too early at this stage to conclude whether there is a clear break in trend concerning the completion of the various levels of education.

For vocational educations a shortage of "traineeships" and student housing are serious constraints which means that not all qualified applicants gain admission.

In many OECD countries, there is a tendency that education is both commenced and completed later in life. The average age for commencement of a labour market relevant education is 25 years and 30 years for completed educations; cf. Skatte- og Velfærdskommissionen (2011). In terms of vocational education, women start and finish later than men, while the opposite is true for short and long term higher education. Equally from an individual and a societal perspective both aspects are problematic, for the obvious reason that the value of education is greater the more it is put to use.

To explain the developments in the area of education many factors are of importance, including cultural, geographical and organisational aspects. It falls outside the scope of this chapter to discuss these aspects, but in a forward-looking perspective, it is important that they are taken into account. An improvement of the educational level of the labour force is a major challenge and a necessary step to ensure a more self-sustaining economy.

Policy perspectives

There are a multitude of objectives which should be met by the future economic development. The economy needs to be more robust and be able to sustain a high level of living standards along with an equal distribution of these. This is a challenging task, but these objectives are not necessarily mutually incompatible. Creating the foundations for higher levels of employment in the private sector has the potential to improve on all three scores.

The prerequisite for this to happen is to "get everybody on board", which in turn requires a number of policy changes that will affect the entire educational system. There are both quantitative and qualitative requirements concerning the latter point. More people should complete a relevant labour market education and the quality of such education should meet international standards.

The use of informally acquired skills is also a crucial factor. The metrics, however, on the formal levels of education do obviously not capture such skills. Since such skills by nature are more difficult to document, there is a tendency to "undervalue" these during the process of hiring which leave individuals with such skills in a more vulnerable position. This barrier can be muted by a "job-test" implemented on a temporary hiring basis. The qualifications possessed by the individual can then be clarified on the work-site before an employer considers an option of permanent hiring.

The above discussion has mainly focused on the "supply side"; that is, the importance of the workforce possessing the adequate and required qualifications. There is also a "demand side" related to development and growth in the private sector in order to

create more economic activity and thus jobs. It is beyond this chapter to discuss the latter, but it is worth stressing that the most binding constraint at present is not a shortage of jobs, but a shortage of qualifications. Jobs are available as seen from the need to recruit workers from outside Greenland. There is no problem in the recruitment of labour from the outside of Greenland as such. This element will still be needed in any realistic scenario for economic development as it is also part of the international "division of labour" scheme. The problem at present, however, is that the potential human capital and the working capabilities of the population are not well put to use. In the intermediate stage, the demand side is also an important consideration and needs to be developed to meet ambitions. Policies leading to a change in the level and distribution of human capital have a long gestation period and really there is no reason to wait with the enforcement of these.

The preceding issues have focused on human capital as an essential factor for economic development. For the sake of completeness, it is worth stressing that other aspects are important too. This imply, in general, that labour market policies are supportive in active job searches and in the matching of employees with employers. This is applicable as well for the incentive structure that underlie any job search.

There is also a geographical challenge to be addressed. Any realistic scenario of development implies that there is a need for relocation to ensure that the workforce is located close to the jobs; it is not possible to solve the problem by making the jobs move near to where people are living. This problem raises many issues that have to be addressed, but which will not disappear by shedding the discussion. As clearly documented in e.g. Grønlands Økonomiske Råd (2015), the so-called agglomeration process has been undergoing for years and is not a unique phenomenon in Greenland.

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6. INDUSTRY AND CASES

This section provides a number of examples of how industry perceives, acknowledge and work with informally acquired skills.

The article "Private sector responses and cases in written by consultant Anne Mette Christiansen from the organization CSR Greenland. The organization was created in 2010 and its vision is to play a role in creating a social, economic and environmentally sustainable development in Greenland through a focus on the social responsibilities of companies and through innovative partnerships between the public and private sectors and civil society.

The article "A stakeholder perspective on sectors with potential" provides reflections on the future possibilities for sustainable development and recruitment by representatives from three different sectors, deemed to hold a large potential for the future growth of the Greenlandic economy: Mining, fishing and tourism. The article is written by Kuupik Vandersee Kleist, consultant at Tanbreez who holds a degree in Social Work from the University of Roskilde, Denmark, Ilja Leo Lang, who is an Office Manager with the Association of Arctic Expedition Cruise Operators (AECO) and Nikoline Ziemer, Development Manager at Royal Greenland, one of Greenland's largest companies. Royal Greenland owns and operates more than 40 landing and processing facilities throughout the North Atlantic.

6.1 PRIVATE SECTOR RESPONSES AND CASES

By Anne Mette Christiansen, advisor to CSR Greenland/ Responsible Business Collective

Introduction

Corporate Social Responsibility (CSR) is both new and not new in Greenland. (Christiansen, 2011; CSR Greenland 2015 and 2011).

The strategic approach to CSR is fairly new as exemplified by the emergence of the first corporate CSR strategies in companies such as Air Greenland, Royal Arctic Line, Brugseni, the Bank of Greenland along with the establishment of CSR Greenland in 2010 (Christiansen, 2011). The strategic approach focuses on finding the most relevant and material issues for companies in order to create value for the company and its stakeholders and for the wider society. The approach has quickly spread to most of the larger Greenlandic companies as part of their policies, projects and initiatives as well as CSR reporting which has followed in recent years (Christiansen, 2015).

However, Greenlandic companies have worked with CSR initiatives for a long time, and in that sense, the ideas incorporated in CSR are certainly not new (CSR Greenland, 2011). Many business leaders have argued that it is simply impossible to do business in Greenland without engaging closely with stakeholders and involve oneself in the local communities in which the company is operating. It is necessary for society to be on the right track for a business to grow and be successful. Or, to put it in the words of the World Business Council for Sustainable Development (WBCSD): "business can't succeed in societies that fail" (CSR Greenland, 2011). It should be noted that the Greenlandic CSR network and CSR Greenland has from the beginning of 2010 promoted the ten principles of the UN Global Compact with a focus on human rights, labour rights, the environment and anti-corruption. This approach has ensured a strong link to international principles for CSR and has also been a key to

identifying the issues that companies should focus on. Today, almost ten Greenlandic organizations have signed the UN Global Compact.

According to the common definition used by the EU Commission (2011), CSR can be seen as "the responsibility of enterprises for their impacts on society". The definition stems from the 2011 strategy on CSR that was developed by the EU Commission and which aimed at "creating conditions favourable to sustainable growth and for the employment generation in the medium and long term" and can be seen as a response to the financial crisis (EU Commission, 2011). A similar understanding also certainly make sense in Greenland, as it calls for companies to responsibly manage both positive and negative impacts on society to ensure sustainable development (CSR Greenland, 2015).

Many Greenlandic companies have adopted the strategic approach to CSR as promoted by Michael Porter and Mark Kramer (2011) which focuses on "creating shared value" for the company and for society. Basically, the idea is to look at areas, where for companies it makes sense in terms of business, to engage in CSR activities that will benefit society as a whole or benefit specific group of stakeholders.

The idea of CSR is to create shared value that can also be used to put an emphasis on partnerships between companies, organizations of the public sector and to some extent the NGO with the aim of these to be able to solve specific challenges together within areas such as environmental protection, education, health etc. Partnerships are a typical feature of CSR initiatives and is particularly widespread in Greenland (Christiansen, 2013, Ethical Corporation, 2012).

CSR strategies and initiatives in Greenlandic companies tend to focus on six overall issues:

1. Inclusion in the work place with reference to policies and initiatives that aim at including people with disabilities or special needs, or those who just need an additional chance to get a foothold in the labour market

2. Education and training that includes policies and initiatives to educate apprentices and trainees within companies. Initiatives to further education more broadly through role models. Active engagement with local schools and educational institutions as well as the development of employees through on-the-job training, courses and longer educational programs

3. Employee well-being, health and development typically covered by company policies, including initiatives relating to health and safety, physical, social and mental well-being as well as personal development

4. Community engagement which often includes partnerships with civil society organisations to develop and help local communities through active engagement, sponsorships or other programs

5. Environmental issues that cover a wide range of elements such as climate change (emissions), water pollution, waste etc.

6. Anticorruption and business ethics which covers strategies of good governance, including policies and initiatives on preventing bribery and corruption.

The focus of this article will be on the approaches of companies to include people with informally acquired skills or special needs in the work force. Unless otherwise stated, all case studies and quotes derive from interviews conducted between December 2015 – January 2016.

Informally acquired competences and Greenlandic companies

It is given that companies need a stable and competent workforce in order to be successful and to grow. Companies must have a focus on both recruitment and the retention of people to enable them to function efficiently. However, for many Greenlandic companies, it is a challenge to maintain a stable and competent workforce which includes both skilled and non-skilled labour (CSR Greenland, 2011).

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The challenges mentioned above are often related to basic skills such as time-keeping and consistently showing up for work. Basic skills need to be in place to develop skills and competence in a job and to ensure a continuation of employment (workshop, CSR Greenland 2014).

Most companies in Greenland employ people with informally acquired skills as well as people with special needs. This practice is needed in order for companies to find sufficient workers to fill the relevant positions, and most companies prefer to hire locally rather than from the outside – and would rather employ a less skilled local worker than someone from Denmark, for instance.

Case: Royal Greenland – focus on training

Royal Greenland is Greenland's largest company with around 1200 employees. It is one of the largest employers of people with no formal skills. The company places significant emphasis on the employees' personal skills. New employees are commonly locally trained by managers as well as by other employees as an introduction to the work and as part of a continuous development plan. In addition, Royal Greenland runs the 'Royal Greenland Academy' that is based in the Royal Greenland HR department where training programmes are held for employees within areas of personal development, team collaboration and first-aid.

As it is a part of everyday business to hire people with no formal skills, it has not been relevant to include the issue in the company's CSR policy. Rather, the policy focuses on the training and the development of employees.

Royal Greenland does not have a formal policy for people with special needs. The company has at times had people working for them with disabilities, but the company's efforts are not guided by a specific policy or initiative. Rather, it is common practice that if the employee is capable of doing the relevant work, then there is clearly a space available for them.

Royal Greenland is currently involved in two new projects that focus on the work environment in the Greenlandic fishing industry and on the work culture in their production facilities. Both projects might inspire new approaches.

However, the need companies have for people with informally acquired skills vary a great deal – companies such as Air Greenland and the Bank of Greenland typically have specific technical and educational requirements for most positions within the companies, and fewer positions that might be filled by persons with informally acquired skills. Other companies such as the retail companies (i.e. Brugseni, Pisiffik and KNI) and service providers such as ISS and Usisaat, are better positioned to absorb workers with informally acquired skills due to the nature of the work that they require.

Case: The Bank of Greenland – finding space for inclusion

The Bank of Greenland has a strong profile on CSR and has worked for many years on training and educating people in the organisation. Unlike most Danish financial institutions, the bank will often hire people with short administrative training and will in turn support their education to reach positions of specialists.

However, it is a challenge for Greenland's largest financial company, the Bank of Greenland, to hire people with informally acquired skills as the vast majority of the bank's functions require specialised training or education. Nevertheless, it is important for the bank to make an effort in the area of inclusion based on the company's strong commitment to CSR. Therefore, the Bank of Greenland will in 2016 begin to collaborate with Sermersooq municipality and offer positions to individuals with disabilities in order for these to gain entry into the labour market. They will offer a training position to a young person with difficulties and a position to a person with an administrative background who has special needs (i.e. reduced work ability).

But, are Greenlandic companies actively addressing the need to get everybody on board – and if so, how?

Company cases and insights

CSR Greenland has worked with inclusion since 2010 and made the area a strategic priority in 2014. Member companies have held meetings to discuss the issue and have engaged in focus groups, discussions and large scale conferences.

For the purpose of this report, CSR Greenland has asked a number of predominantly larger member companies to share their policies, initiatives and potential barriers to the inclusion of more workers with informally acquired skills in their workforce. This in order to add to the information that has been gathered over the past years when engaging with member companies.

12 larger companies have been contacted and asked four questions that focus on 1) company policies for inclusion, 2) company practice, 3) actual examples and 4) potential challenges and barriers. Companies have been selected among CSR Greenland members with the focus of selecting larger companies who are likely to engage and work actively with the issue.

The outcome has revealed an overall pattern in the response of the companies as well as a number of case examples. These will be explored in the following section.

A. Companies understand the importance of including people with informally acquired skills or special needs

A common concern of Greenland's business leaders is the skills shortage among the workforce (Ethical Corporation, 2012). Based on this fact, there is a general notion that companies need to actively engage in supporting education, development of employees and work with the inclusion in the workplace of both employees with no formal skills and of people with special needs to ensure that everyone is on board. From a CSR perspective, it is a question of creating shared value – it is essential for

companies to have access to a qualified workforce, and if such is not available, then companies need to contribute to the creation of such a force through inclusion, training and development. For the benefit of society, the efforts of the companies will help to lift people out of unemployment. They will also provide much needed skills to people in an environment that is more suited to those who does not fit into the formal education systems.

Companies often look specifically at personal and informally acquired competences rather than at formal competences. Brugseni notes that: "We focus a lot on the personal competences when we recruit and that goes for all levels of the organization. If the personal competences and the will to work is there, then we see it as our role to train and ensure the formal skills. We have sales managers who do not have a formal education, but who are able to cope with the responsibility of the job through their experience and personal competences" (interview Brugseni, December 2015).

Case: Arctic Umiaq Line - findings ways to work with informally acquired skills
For Jette Larsen, CEO at Arctic Umiaq Line, the need for inclusion of people with no formal skills is well-known. Most of the service personal on board the coastal ship Sarfaq Ittuk has only informally acquired skills and no formal education.

Customers of Sarfaq Ittuks coastal journeys includes locals who use the ship for transportation between towns, and tourists who use it as a combination of sightseeing and transportation. Arctic Umiaq Line has worked consistently over the past years to find ways of creating unique customer experiences to make their product more attractive, and for Jette Larsen, one of the key aspects of this has been to train and develop the service personal.

Employees have therefore been trained in language skills in order to improve communication on board with foreign guests, service training (front line) and conflict solutions. Courses are often offered during the winter season when Sarfaq Ittuk sails less frequently.

However, upgrading the skills of the service personal is not sufficient. Arctic Umiaq Line has also put great efforts into training managers on board to improve management practices and leadership functions and to ensure a good working environment. It has been a priority to let the service personal participate in decision making processes that has direct relevance to their day-to-day work. In addition, the company has worked to make the tasks for the service personal clearer and simpler.

The work with the service personal has helped Arctic Umiaq Line to expand its base of recruitment by making the work at the company more attractive. It has also reduced turnover levels of personal by ensuring that employees stay on for longer periods of time. This has reduced training costs, improved efficiency and helped to improve the experience of the customer.

B. For some companies, inclusion is either part of an overall CSR policy or a broader part of a HR policy while others do not have their commitment formalized at all in a policy.

Few CSR strategies or HR strategies mention inclusion specifically. Often, the company will have a policy on diversity (typically integrated in the HR policy), but this is typically with a focus on gender and nationality.

Often company CSR policies will include a commitment to education, training and development of employees which is relevant in respect to the hiring of people with informally acquired skills. With this, companies commit to add formal skills to the informally acquired skills that the employee already possesses. An example hereof, is Usisaat who has developed a dedicated "moving-education" of five days which allows for unskilled labour to learn enough about the trade to perform the job (Usisaat company profile, 2015).

This type of initiative represents a rapid way of training new employees in basic skills

while, at the same time, introducing workers to how the company works.

However, it is only in a few cases that the aspect of including people with informally acquired skills or special needs is addressed specifically.

C. Several companies express doubt and uncertainty in respect of how to better handle the inclusion of people with informally acquired skills or special needs and of how to increase the number of these

While, it is accepted that companies should play an active role in getting everybody on board through hiring practices, inclusion and development, but few has actively formed a commitment of this as a formal CSR or HR policy. In terms of everyday practice, all companies have experience with the inclusion of people with informally acquired skills or special needs. However, depending on the individual unit or section, initiatives and practice are often seen to be implemented locally or at random.

A lot of companies are uncertain of how to proceed and of how to be more structured and systematic within the field. There seems to be a need for evaluating the current experiences of companies along with the sharing of ideas among these to form more overall strategic approaches.

D. Many companies experience challenges or barriers in their efforts to include more workers with informally acquired skills.

A challenge mentioned by several companies relate to the collaboration with the municipalities. Companies generally experience a varying degree of quality in the assessment of potential employees and their capabilities which, in effect, results in a lot of time wasted for all the involved parties. Many companies also mention that administration and approval processes take a long time at the municipalities which makes it difficult to move forward - an element that appears to be connected to the rapid turnover of employees at the municipalities. However, there is a willingness on behalf of the companies to work closer with the municipalities in order to improve the process, and to establish a more effective line of communication that will enable the process to move faster and help to place more people in a job.

Case: Royal Arctic Line – a one-way dialogue

Royal Arctic Line: Inclusion is on the agenda – but the dialogue is one-way

Royal Arctic Line operates shipping and harbour services in Greenland and was one of the founding members of CSR Greenland. The company has a CSR policy, but which has no specific mentioning of inclusion. Nevertheless, the practice of the company is clear – it positively considers a co-responsibility for integrating people with informally acquired skills or special needs.

However, so far the experiences of Royal Arctic Line have been fairly negative due to the lack of professionalism on behalf of the municipalities. Several meetings have taken place over the years and Royal Arctic Line has clearly displayed an interest in accepting unemployed people with special needs or those in need of being given a new chance. The actual experiences with certain young people who have started to work for the company, has unfortunately not been positive due to a lack of commitment by the young people. There has not been the right balance of expectations between the young persons, the municipalities and Royal Arctic Line. In contrast, Royal Arctic Line is, however, successfully managing 10 different educations for young people who are ready to participate in an education programme.

In an attempt to push things forward and in corporation with the 'Unemployment office', Royal Arctic Line interviewed 20 unemployed people as part of an effort of inclusion (predominantly with people with informally acquired skills who are referred by the municipalities) in order to give them a chance to work in the company, but only one person is so far still employed in the company. Royal Arctic Line finds that this is primarily attributed to a lack of sufficient visitation by the municipality – the unemployed people were not ready to join the workforce.

Thus, for Royal Arctic Line, there is a will to collaborate, but the efforts need to be mirrored by the municipalities.

Another challenge cited by the companies concerns preparation. The management of an organisation must be prepared in order to handle inclusion and to ensure that local managers have the sufficient time, skills and, not least, will to manage efforts of inclusion. When a team receives a new member of staff with special needs, a mentee or a new employee with little previous knowledge or training, it will require time and resources for both colleagues and managers in their daily work routine to handle the situation which is often stressful and for everyone.

Companies are generally aware of the need to create a culture of inclusivity and to ensure that there are resources and time available to integrate a new employee. But, efforts will not be successful if the nearest manager to an employee, is not willing or trained to work with the inclusion of people with special needs in a team. Respondents mention that this is very much a question of personal skills to be able to include someone with special needs, and it is not uncommon to see managers that have several employees to manage be able to focus on the issue, while others are less successful. To counter this challenge, the attention of top management is required to ensure clear policy lines and effortless communication to the organisation as a whole about how the company wants to work with inclusion, and also of how they will provide support for the local managers who work closely with the relevant employees. It is also central that there are resources available in the organisation. INI explains that "The company used to have a strong practice for hiring people with special needs, but significant cutbacks in 2014 meant that there simply have not been the extra resources available in the organization to continue the good work. It is our ambition to take up the practice again as soon as the organisation can find the resources" (interview, December 2015).

Other respondents point to the fact that they might be willing to work more with the inclusion of people with informally acquired skills or special needs, but find it difficult due to the type of the work that the company is engaged in. Air Greenland stresses, for instance, that "many of our functions are regulated by strict regulation requiring

specialised training, making it hard for us to work on inclusion on a greater scale"
(interview Air Greenland, December 2015). Also, the Bank of Greenland simply has
few relevant positions to be filled by people with no formal skills, but is working to
find ways of working with inclusion in a relevant way (see case study).

Finally, some companies point to the challenge of how to retain employees over time.
Often employees with informally acquired skills will stay for only a short time before
moving on to another job or leave the company for other reasons. It is often
mentioned that there is a need for addressing elements of basic skills such as the skills
of showing up on time for work and avoiding too much absence.

Case: Brugseni – inclusion of people with special needs makes sense

Brugseni is one of the largest retailers in Greenland with supermarkets in seven towns.
The company employs approximately 550 people with the vast majority of the
workers positioned in the stores. Many of the employees are people with
predominantly informally acquired skills. Brugseni motivates employees to engage in
education, for instance, as adult apprentices and support employees who want to
pursue training or education.

Brugseni is well known for its elaborate CSR efforts and engagement in local
communities. It is a core element in Brugseni's CSR efforts to work with inclusiveness
and diversity in the workforce. Previously, the work with inclusion has not been
structured or measured, but since 2014, Brugseni has had an added focus on inclusion
and has motivated store managers to employ people with special needs.

Over the past five years, Brugseni has employed 25 people with special needs (mainly
persons with disabilities or reduced work ability). In some of the stores, the company
has had disabled employees for more than ten years who have become an integrated
part of the teams. Brugseni quotes a number of benefits of working with the inclusion
of people with special needs. These include general employee satisfaction, positive
reactions from the local community and the fact that people with special needs are

often very stable and reliable employees. And, for the actual employees, having a job might make all the difference to their daily lives (Brugseni, 2014).

E. There is an untapped potential for ensuring that more people with informally acquired skills are employed through a much closer partnership between companies and the public sector

Companies acknowledge that there is a significant untapped potential to include people with informally acquired skills and special needs.

The key element is that companies need to have more focus on inclusion and to work more structured and systematic with the issue. This means, initially, that management discussions must take place and decisions must be made for whether the organisation is willing to use the necessary resources that are required. They must also agree on how ambitious the efforts should be. It is equally important that decisions are made in terms of where in the organization the effort is relevant and for which positions. Then, they must dedicate resources to these areas, rather than end up with a general unclear commitment to efforts of inclusion. Secondly, it requires that the organisation is prepared. Local managers who are going to work closely with new employees, and their colleagues as well, must be well prepared to ensure that there is a good basis for inclusion and integration in the workplace.

In addition, the efforts need to be evaluated by old and new employees and managers alike in order to improve performance and as a follow up procedure. This is also linked to performance management – if companies only track efficiency numbers, then local managers will have little room to work with inclusion and the taking on of people outside the typical core group. It is also clear that negative experiences that are not effectively evaluated, end up lingering within the company for an extended period which can lead to conclusions like "it doesn't work with inclusion", or other negative approaches when individual cases have not been evaluated. Therefore, it is critical to conduct evaluation and follow up on events to ensure that the effort is not abandoned

for the wrong reasons.

Another element that is mentioned by many companies is the need for a closer collaboration and a much better dialogue with municipalities to ensure that assessments reflect reality. This includes finding the best possible process and way of working together, including the testing out of new ideas and approaches.

Finally, Brugseni points out that "There is a lot of potential to be found if we look for it and make sure that we use the good stories as role models for others in the organisation" (interview, December 2015). Companies are simply not communicating their stories, even though, there are many good examples. This might be a reflection of the lack of strategic focus in the field, but certainly, a higher visibility would also move the issue up the agenda for other companies.

Case: Pisiffik - Inclusion is (also) hard work

Pisiffik is Greenland's largest privately owned retail chain with more than 40 stores in six towns. Stores include the supermarkets Pisiffik and Spar along with the concept stores Jysk, Pisattat, Elgiganten, NotaBene and Torrak Fashion. KK Wholesale is also a part of the Pisiffik chain which in total employs 675 people.

At Pisiffik, it is normal to have colleagues with special needs (i.e. a disability) or colleagues with no formal education. In all six towns where Pisiffik is present, there are staff members who have special arrangements of work, including light duties, reduced time or similar arrangements that helps them to maintain a job.

Pisiffik employs people with a wide range of disabilities. These include hearing impairment, autism and mental disabilities, and people who after an illness or injury are capable of only working in a job with light duties.

The company has a well-established collaboration with the municipalities. The collaboration works both ways – the municipality will often contact Pisiffik to explore

the possibilities of placing a person within the company, as well as, Pisiffik proactively contacting the municipality when there is an opening for a job with light duties.

Pisiffik also offer mentorships for youth with no education. These are focused on giving young persons a new chance, show them the benefits of working and having colleagues, and not least, how to improve their self-confidence. Many young people in Greenland do not finish their education for different reasons. In some cases, what they need is a solid daily structure and support to build up their self-confidence.

For Pisiffik, there are clear benefits of working with inclusion as it adds to elements of diversity and well-being in the company. It might be that not everyone is equally effective, but employees with special needs contribute with other perspectives and, generally, there is a strong willingness to help colleagues in getting another chance and to help them develop.

However, it is also hard work for everyone involved. When the company employs a new person with special needs, it is central to spend the necessary time to assess the person's abilities and to ensure that there is a good dialogue in place. It requires that there is a period of introduction in order to get tasks, responsibility and work load in place for the individual person - something the municipality often is a key partner in assessing, along with the need of providing additional support. This process takes up significant management resources and support from colleagues in a busy schedule, and, in particular, in smaller stores, this can be a challenge. Therefore, it is central that the individual store manager is committed to the idea and to the work of inclusion.

For the new employee, it might be quite stressful and strenuous to start in a new job, particularly, if the employee has been away from the labour market for a long time or has had previous negative experiences. Starting to work in a busy environment can be hard, and it usually takes time to adjust and to understand that the job can be adjusted to fit different capabilities.

Conclusion

Greenlandic companies generally understand the importance of including people with informally acquired skills or special needs, and the idea often appeals to business leaders. For some companies, inclusion is either part of their overall CSR policy or a broader HR policy while others do not have their commitment formalised in a policy at all. This can in some cases lead to a lack of focus and result in a lack of structured and systematic approaches. This is also seen in the fact that several companies express doubt and uncertainty in respect of how better to handle the inclusion of people with informally acquired skills or special needs, and how to increase the number of these within their companies.

Indeed, companies experience challenges or barriers in their efforts to include more workers with informally acquired skills. Most often quoted are the challenges in respect to working with municipalities on the issue, as well as ensuring that the organisation has the time, resources and commitment in place to actually handle efforts of inclusion.

Based on the interviews with different companies, there is an untapped potential for ensuring more people with informally acquired skills are employed through much closer partnerships between companies and the public sector. However, this demands a more systematic and structured approach to inclusion.

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6.2 A STAKEHOLDER PERSPECTIVE ON SECTORS WITH POTENTIAL

It is commonly agreed upon that the sectors of raw material extraction and tourism as emerging industries in Greenland and fisheries as the predominant existing industry are the sectors which will carry and be able to develop the Greenlandic economy in the future - and thus the sectors which will be able to create the highest number of jobs. The fishing sector already employs a large number of people without a formal education and it estimated that both the raw material sector and the tourism sector will be able to create both skilled and unskilled jobs.

In the following chapter, a representative from the raw material sector, the tourism sector and the fishing sector give their remarks on how they see the opportunities for people with informally acquired skills in their sector and how they work with the issue of societal sustainability in the broadest sense of the word.

Mineral resources

By Kuupik Vandersee Kleist

Great expectations have over several decades been attached to the possibility of exploiting the more or less well documented riches of minerals and other non-living resources in Greenland. Deposits have been explored all over the coastline of the vast island. The aim and the hope is that revenue from oil, gas and minerals, not only could equal the annual block grant from Denmark (App. 3,7 billion danish kroner in 2016), but also provide the much needed elevation of the general living standards not least for the low income group.

Hence the current situation and the dominating tendencies, declining economy, high unemployment rates, low degree of formal education and a declining population,

there is an urgent need for advancing economic activities and trades focused on production of commodities for export. The Greenland economy based almost solely on harvesting of living resources and export of fish is no longer sufficient to support a sustainable development of the Greenlandic society; costs have risen dramatically and the incomes have stagnated, at the best.

The overall political and societal goals, should a mining industry be developed, must be to provide jobs and empowerment, a stable economy and a greater welfare for all Greenlandic citizens. It should also lift some pressure off the fisheries and hunting, by providing other sources of income.

One major challenge is to secure the active involvement of the local workforce on all levels of both management and production. The issues to be dealt with in order to meet the challenge range from being a small population to issues related to the low degree of formal education, a declining potential workforce and devastating rates of abuse in many forms.

It all calls for a specific focus on the significant part of the potential workforce with no or limited education, especially among youth. Should Greenland harvest "a fair share" of mining activities, a main gain would be to secure the long term benefits such as employment, education and active involvement of the local communities and workforce.

Mining and indigenous peoples

It is a well documented fact that mining in less developed countries and extraction of natural riches in indigenous lands often leave the inhabitants with limited outcome of those activities. In most cases the reasons have to be sought in areas of non-sufficient administrative powers and expertise, lack of qualified work force and/or non-efficient legislation.

When it comes to countries or nations highly dependent on living resources, there is an additional the risk that the living resources harvested by the indigenous peoples be it on land, in the sea or in the air, could be subject to pollution or at worse extinction.

Historically mining in indigenous lands have been connected to significant influxes of foreign labour, brought in by the mining companies, bringing with them abuse of alcohol, drugs and women. Africa and South America are well known examples of how devastating mining activities can be, if not the country itself, its political and administrative systems or the labour force are prepared for the dramatic consequences such activities brings with it.

On that background we see a gradually growing awareness, not least in the homelands of indigenous peoples, which bears with it a certain degree of scepticism of the purpose and the methods of mining companiess. In Greenland the attempts to build up a mining sector has been followed by the emergence of Greenlandic NGO's sceptical towards the development.

Mining in the Arctic

The most famous mining activity in the arctic is probably The Klondike Gold Rush which took place in the Klondike region of the Yukon in north-western Canada between 1896 and 1899. The Gold Rush was a migration by an estimated 100,000 prospectors. Next big gold rush was in Nome, Alaska during the years 1899 – 1909. During this peropd mining for gold was mainly conducted by individuals or small groups striving to fulfil their dreams of unlimited wealth.

Later in the century and with the introduction of mass produced consumer commodities mining activities transformed into industrialised extraction and production of metals utilized for both civilian as well as military purposes.

Mining has in many Arctic communities had significant and determining impact on every aspect of society.

Mining in Greenland

Mining in Greenland dates back to 1721 and actually mining was introduced at the same time as Christianity. Until the 1940's most of the mining activities taking place

in Greenland can best be described as small scale mining. Several projects were initiated after the arrival of the missionary Hans Egede in Greenland. Only few developed into commercially feasible mines and it was only due to the Second World War and the need for aluminium in the air plane industry, that i.e. the cryolite mine became a mine of some significance.

Other known mining activities in the past include the Marmorilik "Black Angel" mine (lead/zink), Qullissat (Coal) and more recently the goldmine "Nalunaq" and the olivine mine "Seqinnersuusaaq".

The Black Angel Mine (1938 – 1990) and the coal mine in Qullissat (1924 – 1972) were the first mines of significant size in Greenland and they employed people from all over the country including foreigners from Scandinavia, England and North America. Qullissat grew to be the first industrial town in Greenland based on export of coal. Due to the low market prices on oil the Danish Parliament decided in 1968 - after hearing the advisory body "Greenland's National Council"- to close down the mine. The remaining population were relocated to other towns in Greenland in 1972.

The future potentials

According to the Oil and Mineral Strategy of the Greenland Government, 2014 – 2018 the expected number of mines to be either under construction or to be in the proces of extracting minerals is 6 mines extracting different minerals ranging from Rare Earth Elements, Rubies and Sapphires to Iron, Zinc, Led, Uranium and Anorthosite. Until today (May 2016), 2 of the above mentioned projects have commenced constructing the mining sites.

The need for labour in the mining industry

The Oil and Mineral Strategy describes the anticipated need for labour in a future Greenlandic mining industry.

Labour need in the construction phase

If it is assumed, by way of example, that if three mining projects (one large-scale project and two small ones) start up at the same time only a few years apart, the labour need in the construction phase could be more than 3,400 jobs annually (According to *Oil and Mineral Strategy 2014 – 2018, Greenland Government)*. It is clear that even with massive efforts being applied to adapt the Greenlandic labour force to jobs in the mineral resources industry, Greenland will not be able to fully meet the needs of the mineral resources sector in terms of local labour. Foreign labour will thus be needed which can play a part in creating the basis for a mining industry with jobs of a long-term character.

Labour need in the operating phase

How much Greenland will benefit from the mineral resources sector will be determined by the extent to which labour demand in the operating phase is covered by Greenland labour to the furthest possible extent.

In the operating phase, three simultaneous projects would generate around 1,300 jobs, distributed in the following categories of skill-level:

- Around 60% of the jobs are expected to be filled by unskilled workers with quasi-specialist worker courses.
- Around 30% of the jobs are expected to be filled by skilled workers.
- Around 10% of the jobs are expected to be filled by workers with further education.
- In the operating years, the number of applications concerning residence and work permits ending positively should come out at around a minimum of 400 annually 5, i.e. the number of reviews has more than doubled compared to current figures.

Skills and educations in demand

Issues related to employment of the local work force are normally regulated under the framework of the so-called Impact Benefit Agreements (IBA). Mining companies applying for exploitation licenses are obliged to estimate their take of local work force and negotiate to which degree they can meet the demands of both local and national authorities. Other issues under the IBA-umbrella can be agreements on educational programs or support of local initiatives.

The estimated need for workers according to The Oil and mineral Strategy 2014 - 2018:

The available work force

Out of total population of approximately 56000, the available work force counts approximately 38000 individuals over the age of 17. Predictions for the next decades – based on today's figures – shows a declining workforce (fig.1).
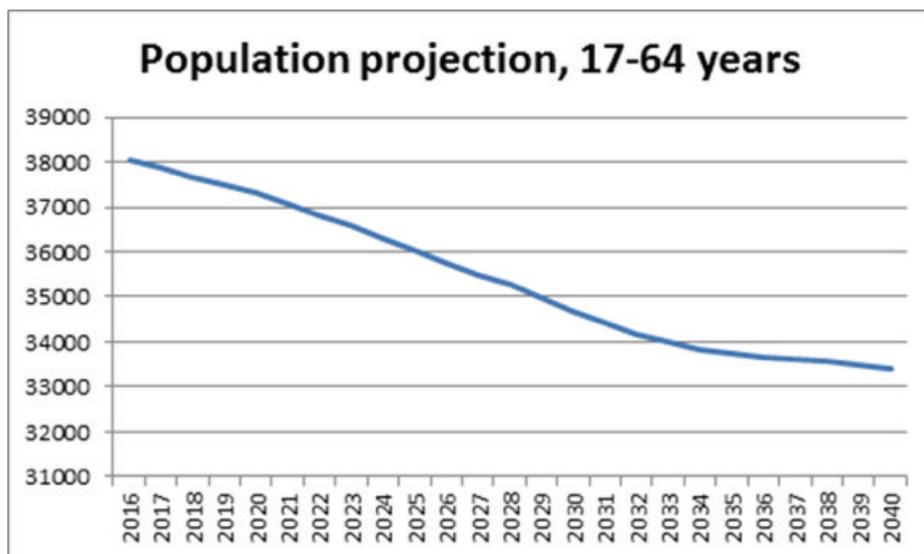
Figure 1: Population projection. Source: Statistics Greenland

At the same time, it is clear that the educational level of the group of unemployed people in Greenland has a tendency to be significantly lower than the rest of the workforce. As shown in figure 2 a large majority of the uemployed only have a primary school education and no further education. This means that it must be assumed that many of the competences in the potential work force are informally acquired and this makes it interesting to look at, how many jobs matching this type of skill could be created in the raw material sector.
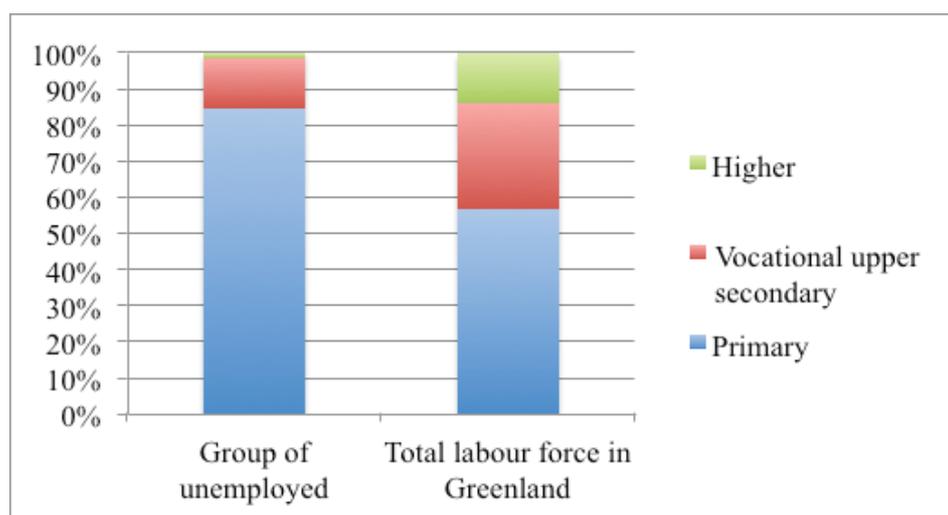
Figure 2: Unemployed Greenlanders' highest level of completed education compared to level of total labour force. Source: Statistics Greenland (2013)

Other numbers of interest when assessing the potential workforce is the fact that many young people are not enrolled in education or employment.

According to estimates (Kleist, Ministry of Industry, Labour and Trade) there is a rather large group of young people under the age of 18 years who do no register in the formal system because they usually do not have access to social welfare. These young are often referred to as the residual group (fig. 3).

An anthology on informally acquired skills in Greenland_____
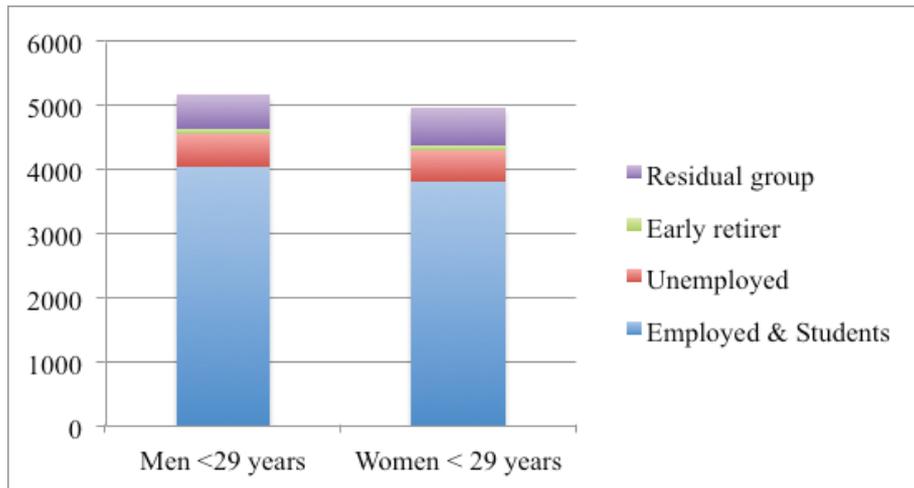
Figure 3 Categorization of men and women under 29 years. Source: Presentation by J.C Kleist, June 2015

It can thus be concluded that there is a rather large group of unemployed - many of them young people - who might fall under the category of people possessing informally acquired skills and who might be an interesting human resource to match with an emerging mining industry, provided that their skills are deeemed to be relevant.

Experiences world wide

The issue of a low degree of education, unemployment especially amongst youth and "youth under the radar" is not a specific Greenlandic phenomenon. Thus it is of interest to take a look at some examples from mining countries who might serve as an inspiration for Greenland.

"The Canadian example" Mining and Indigenous Peoples in the Baffin region

The Greenland situation is neither unusual nor special when it comes to awareness of the challenges and the ways that relevant authorities attempt to best involve the local work force with the mining activities.

The Mary River iron mine in Baffin Land is under development. In preparation the local Qikigtani Inuit Association has conducted a labour market survey to map the formal and informally acquired skills of the potential local workforce for the coming mine.

Survey of the potential work force, Mary River iron mine:

64 % had less than high school education

18 % may lack the English fluency necessary for certain jobs

69 % may lack the computer skills necessary for certain jobs

48 % have no experience working two-week rotations

41 % do not have a personal bank account

The survey also covered other skills and experiences relevant to jobs at the mine:

42 % had experience in camp services/operations

41 % had experience in health and safety

34 % had experience in construction labour

Participants in the survey also indicated intermediate or advanced certain employment-equivalent skills, including preparing Country Food (85 %), hunting/fishing (83 %) and navigation (45 %).

Fortescue Metals Group, Australia

The program conducted by Fortescue Metals Group is one example of how a private company in close cooperation with public entities has succeeded in employing and empowering indigenous individuals. The main reason for the success of the Fortescue program is the holistic approach laid as a fundamental prerequisite. The holistic approach entails that every single individual recruited for a job is to be examined/interviewed to map his/hers whole situation; which include prior working experiences, if any, the family situation, needs for rehabilitation for any forms of abuse, needs for qualifying courses or other needs, like drivers licenses for cars, trucks etc..

Another aspect of paramount importance is that the individual recruited for a job under the program, accepts during time to follow a program agreed upon between him/her and the supervisor/mentor. Once the agreement has been established he/she will be guaranteed a job under normal conditions once he or she has gone through the program. The job guarantee has shown to be a major driver for success.

The VTEC programme described

"The vision for Fortescue's Vocational Training and Employment Centre (VTEC) is to change lives through employment.

We believe this approach will contribute to the overall social and economic wellbeing of the communities in which we operate. Since commencing in 2006, VTEC has helped more than 1000 Aboriginal people through training, support and employment.

VTEC's unique philosophy is based on providing training for guaranteed employment, which has resulted in hundreds of new career opportunities for Aboriginal people.

Our commitment to delivering real outcomes for Aboriginal people is underpinned by strong relationships with the native title groups on whose traditional country we operate.

VTEC participants do not require any prior training or knowledge before starting a program. Training sessions can be as short as one week or as long as a year, depending on the existing skills and education of the candidate. "

More information at *http://fmgl.com.au/people-and-careers/vtec/*

Recommendations

The following recommendations will all be aiming at greater involvement and providing opportunities to get a job for the significant group of people with no or limited formal education in Greenland. Furthermore; in order to counter the negative tendencies with regards to the steadily growing group of "youth under the radar", a strong and specific focus on especially youth is urgent.

For an effective effort a close cooperation between the municipalities, the government departments and the private companies is an absolute necessity.

Due to the multi-faceted challenges that many young people are facing, a holistic approach needs to be set as a basic principle. It is not enough to simply offer a job, training, education or alike. There is a need for guidance on a daily basis. Every individual should be subject to a personal plan for education, capacity building and for overcoming personal issues. Every individual leaving the elementary school before graduation should be followed and at no time be left on her/his own.

With regards to the mandatory Impact Benefit Agreements it must be secured that long term benefits like jobs, education, training and carriers are specifically addressed. Career plans should include positions on all levels of a given project.

Aspects of tourism

By Ilja Leo Lang

This input is written from the perspective of the majority of Expedition Cruise operators, operating in Greenland. That is members of AECO or the Association of Arctic Expedition Cruise Operators (www.aeco.no).

Expedition cruising defined

An expedition cruise operation (a little simplified) is a vessel based operation, with a small passenger vessel. The size of the vessel may vary and full AECO-member-vessels currently carry between 4 (small yacht) and approximately 250 passengers (the largest full AECO-member vessel MV Fram owned by Hurtigruten). AECO also have a members operating a 450 passenger vessel, but their operations are considered to be more conventional than expedition like. Where conventional cruise-vessels (the large vessels one normally think of when hearing the term 'cruise') normally depend on land-based infrastructure, an expedition cruise vessel is carrying landing crafts (often zodiacs for 6-12 passengers) which makes it possible to land passengers pretty much everywhere where the conditions, weather and ice permits.

Expedition cruise operations often involve dividing passengers in small groups accompanied by guides and specialists. Off vessel activities such as shore landings involving nature-, cultural, and historical experiences are a national part of expedition cruise operations. The shore excursion focus is on history, society, wildlife, geography, geology, ice etc. More demanding activities such as scuba-diving, kayaking, glacier walking and climbing may also be a part of the operation. Spending time onboard an expedition cruise vessel often involves numerous lectures on subjects related to the visited area including its nature-, wildlife-, culture and history.

Sustainable Arctic Cruise Operations

For responsible expedition cruise operators' sustainability-measures, such as cultural and environmental considerations go hand in hand with the operators' commercial activities.

To protect the local cultures, cultural remains and the Arctic environment, is also to protect commercial interests and important premises for expedition cruise operations. In other words: without a healthy environment, flora and fauna, well preserved and looked after cultural remains and a good relationship to both local authorities and the local population, the premises for expedition cruise operations are not in place.

'Ecosystem services'

Regarding environment, flora and fauna the term ecosystem services is normally used to describe the benefits, which the tourism-industry (and society as a whole, through tourism) obtain from nature. This is especially relevant when it comes to non-disturbance of animals and birds and non-material benefits such as the aesthetic value of a pristine/undisturbed Arctic environment.

'Cultural services'

Regarding cultural remains and local populations a parallel term to Ecosystem Services could be 'cultural services' (a term coined by me for this article). By 'cultural services' I mean the benefits, which the tourism-industry receive from well preserved

and looked after cultural remains, and a good relationship with the local population and authorities. The Arctic Expedition Cruise industry only thrive in an environment with the necessary 'cultural services'. This is also the reason why the industry has a great interest in investing and building capacity within this area.

Association of Arctic Expedition Cruise Operators

The Association of Arctic Expedition Cruise Operators (AECO) is an international organization for the expedition cruise industry, dedicated to manage responsible, environmentally friendly and safe tourism in the Arctic. AECO has a comprehensive set of guidelines for operators in the Arctic that, since the very beginning, have been known to employ practices and procedures that are substantially more protective of the environment, local cultures and cultural remains than the current requirements by local, national and international regulations. AECO's members coordinate and implement innovative technologies and measures to reduce the environmental impact and operate in a culturally sensitive way.

Examples of 'cultural service' and capacity building

AECO's operational guidelines sets industry standards in regard to sustainable behavior in order to build capacity within the 'cultural area'. An example of this is AECO's measures to educate tourists about how to behave in the Arctic. These educational measures can be viewed in AECO's guidelines which are mandatory for operators as well as guests.

In these it is stressed that:
- Operators and guests should work to ensure local benefits
- Use local guides, whenever possible
- Visitors should be encouraged to buy sustainable local souvenirs (specifically visitors are asked to look for the CITES certificate)
- Visitors should ask before taking photos of locals and take other similar common sense measures (see AECO's visitor's guidelines and AECO's animated movie on www.aeco.no/guidelines/ for more information about this)

- Operators, visitors and guides work against a prejudiced attitude and stay open towards other ways of doing things

Creating Arctic Ambassadors

AECO's task is to promote responsible, environmentally friendly and safe tourism in the Arctic by communicating the importance of protecting the Arctic and behave responsible to visitors in order to 'create Arctic Ambassadors'. As the above examples show, AECO members work with visitors to benefit local communities, which involves making expedition cruise guests adhere not only to cultural standards for operations in the Arctic, but also a number of other standards regarding the environment, flora and fauna and safety at sea. AECO visitors are for example also asked not to pick flowers, take stones or build cairns.

A necessary code of conduct

According to AECO's Executive Director, Frigg Jørgensen, *"Good methods to provide guests with the correct code of conduct is vital for the success in small communities. AECO's Animated Guidelines, which educate visitors to the Arctic about safe, environmentally-friendly and considerate behavior, is a valuable tool in this respect"*. AECO's guideline animation, which is available in 14 different subtitle languages, is shown to all passengers onboard "AECO-vessels".

Cruise-operator measures to protect the Arctic

For expedition cruise operators in AECO, measures to protect the Arctic goes hand in hand with communication and research. One example of a long-term positive contribution by AECO members is their involvement with the Clean-Up Svalbard Campaign through which cruise tourists in Svalbard over more than a decade has contributed by cleaning tons of sea-transported garbage from beaches around the Svalbard-archipelago. Another example is the ongoing collaboration between AECO and the Norwegian Polar Institute related to the sighting and reporting of Arctic marine mammals. Among AECO's many self-imposed mandatory industry guidelines is a biosecurity guideline, which describes measures such as cleaning of clothes and washing of boots in order to prevent seeds and alien species from spreading

throughout the Arctic.

Cruise-operator-measures to build capacity in Greenland

AECO-members are involved in measures which aim to improve the cultural capital in Greenland. Some operators have intern-programs where young Greenlandic students are taken on board a vessel to learn about the operations and interact with everybody onboard.

Via Field Staff Conferences AECO furthermore works to increase the awareness of the special conditions in local communities (for example in Greenland) to expedition leaders and guides and improve the local community's understanding of how the expedition cruise operators operate and point to unused possibilities. Other ways of building capacity which are often used by operators is to donate money – for example to the association for Greenlandic Kids or to local schools. Last but not least, some operators have been very successful with creating fruitful arrangements when going ashore in local communities. Soccer-matches where tourists play against a local community and/or coffee-invitations by the locals, have been among the best practice examples in this regard.

Still huge unutilized potential

There are many individuals, governments, private companies and organizations that share the common goal of making sure the Arctic is used in a sustainable way. All want to protect this pristine area from negative impact and preserve it for the future. The Arctic expedition cruise industry through AECO work closely together in this regard.

Arctic cruise tourism can be a driver for a better Arctic environment – if the individual operators work together and cooperate with other sectors to raise the bar in regard to sustainability, voluntary guidelines and the implementation of ambitious best practices. Because the awareness of the industry's ability to help protect ecosystem services is not yet so widespread, there is still a large unutilized potential. If the tourism industry as a stakeholder is involved in closer dialogue and cooperation

there is a large potential for reducing the environmental impact of human activities in the Arctic even further.

Fisheries

By Nikoline Ziemer

The Greenlandic fishery plays a very important role in Greenlandic society. Today the fisheries contribute to jobs on land, on sea and are an important factor for education programs for people in all sorts of layers in educational systems, that be administration, HR, production, and engineering, maintenance and seamanship.

The educational level in Greenland is not very high; it is barely 50% of the inhabitants with an education above elementary school. Thereto there is a regional distortion as well where the region with least formal educational level is the rural areas in northern municipality. But the people in these municipalities is at the same time the people responsible for the annual fishing of both the most important species in fisheries; Greenland halibut and northern shrimp, and these people are highly skilled in all aspects regarding fisheries. They have to be, because of living in rural areas means that there is not always help nearby to wait for, if the engine goes out, or if the fishing gear is broke, so they are pretty much on their own out there. But also altering existing fishing methods in order to gain better outcome and to repair fishing gear are skills of these fishermen.

The Greenlandic legislation on fisheries has in one of its first paragraphs the following sentence;

> "§ 2. The law aims to ensure appropriate and biologically sound exploitation of fish stocks."

This paragraph is inspired by FAO, where sustainable harvest is imperative and management plans for several species have been implemented, but goes beyond as well, as the bycatch protocol is quite restrictive and can lead to closure of whole areas if the authorities find it necessary in order to preserve certain species from being overexploited. There has been obtained MSC certificates for following species in

Greenland; lumpfish roe, northern shrimp, and work is being done to achieve MSC certificates on Greenland halibut and for cod. Royal Greenland has fisheries in other oceans as well, and has MSC certificates for Barents sea cod, haddock and Pollock.

There has been increasing focus on finding new species to harvest and to increase production on land. These subjects will be dealt with later in this chapter.

Greenland halibut and northern shrimp

Greenland halibut has been fished commercially since the 1960'ies and have mostly been fished from ice, from traditional hunters, where the transportation was with dog sledge. This kind of fisheries still goes on today, although most fisheries today is being done with modern gear and with transportation of catch done use of snow mobiles. The fisheries for greenland halibut has been stable.

The fisheries for the pink northern shrimp have been declining the last 7 years, but the marked demand has increased almost inverse of the decline in shrimp biomass and thus has the prices kept the share of national export of shrimps stable.

The number of jobs in the fishery sector in Greenland has been declining the last few years, but in Royal Greenland A/S the number of jobs has actually increased the last five years.

Royal Greenland A/S is a company 100 % owned by the Greenlandic Government. This company plays an important role especially in rural areas of Greenland. The strategy of Royal Greenland is to have the strongest market position and strongest market presence in all global markets that have long-term potential for our products. It is already a global supplier of Greenland Halibut and cold-water prawns. An important part of the strategy is to use the resources sustainably without endangering the stock, in order to secure future harvest of these species. From that point of view Royal Greenland A/S has often when consulted from the government opposed if the political suggestions were deviating from the biological advice.

Although the shrimp stock has been declining the past years there has been a growth of employment in Royal Greenland A/S from 826 in 2010 to 1202 employed in 2015. There is a clear policy on CSR in relation to the overall development of the company in 3 interrelated and interdependent dimensions: financial, environmental and social development. It is part of the sustainable approach that investments in the environment and social structures in the company and societies shall strengthen the company.

Growth potentials in processing and new species

The Greenlandic water contains resources which are not harvested today and which potentially could be fished and marketed on both core and non-core markets. New Resource expansion is necessary in order to find supplements for the traditional fished species.

Department of Business Development was established in November 2013 and the purpose was to ensure that new species and fishing methods urgently evolve from ideas into profitable products. Royal Greenland A / S has chosen to strategically strengthen the development of new species in the palette of products that Royal Greenland A / S offers. Efforts must be increased to find alternative marine resources, which are currently not used. The task is to manage projects under the Business Development Greenland in all sub-phases and to ensure that projects are carried evaluated and implemented if the individual projects have proven to be profitable. In an attempt to achieve these goals a Greenlandic marine biologist was hired.

One project is Green sea urchin. Sea urchin roe is a delicacy especially in Japan but Asia overall. The sea urchin is to be found from below the surface down to 300 m depth and is a species not utilized today in Greenland, neither by locals or commercially, although some fishermen occationally get a hold on it and eat it. Thus it was not known how to fish for the sea urchin, which gear to use, and in which depths to fish and how the state of the stock is. Royal Greenland A/S began some trial fishery for Green Sea Urchins and has established that there are Sea Urchins in West Greenland, by Maniitsoq and also in Godthåbsfjorden in Nuuk area. The sea Urchins

has been fished by using a bottom dredge, after a model from Iceland. Royal Greenland A/S had cooperation with an Islandic company called Thorisholmir, and this company has good experience whit fishing and how to handle it. The fishery ground is much different in Greenlandic shore than in Iceland, and the gear was thus modified in Maniitsoq. The trial fishery was done with a small ship that sailed 7 knots and was quite old, which is not unusual in Greenland. The equipment was old onboard. The crew was two fishermen from a small village in North Greenland. The one had an education as a catechist and the other one had no education. But they both knew how to sail the ship and to navigate and knew how repair the ship when something was wrong. And their skills were required when we were out sailing, where we once hit some rocks by archipelago and also when the engine died out and needed to be fixed. At one point it unfixable and we were tugged home again.

The sea urchins were monitored over a year, in order to understand the biology of this animal. When do the sea urchins spawn, when is it appropriate to fish for this species and is it possible to estimate the biomass, in order to know what could be a possible total allowable catch in Greenland? How do we get the sea urchins to the market? These were some of the questions to be answered.

Royal Greenland A/S have conducted some transport simulations on the Sea Urchins in Maniitsoq, for transport of live sea urchins in tanks in 40 foot Reefer container. The simulations went well and it was decided to send a sample to Denmark. Unfortunately, the transport did not go well, because of technical difficulties. The results are preliminary and it is too early to say if this is a suitable solution for cheaper transport to the market. So ongoing investigations are done on Air freight with whole fresh sea urchins, but also by Ship freight; Frozen sea urchin roe.

In order to gain knowledge on how to produce on the sea urchins and how to get the product to the market I went to Japan to visit Royal Greenland A/S, Japan. I came with a product of Individual Quick Frozen (IQF) sea urchin roe, which I hoped could be accepted as a useful product, easy to take some few and keep the rest in freezer, when ever needed. The conclusions of the visit to Tokyo were that there are possibilities for the Greenlandic sea urchin roe, regarding the taste and color. Regarding form, there must be put more effort into a better shape of the roe, because

it was deform and too wet, compared to known products. The taste of the Greenlandic product was all right, and could become even better by different treatment. The shape is well known for that species of sea urchin and is accepted by the market. The color of the sea urchin is well known and accepted by the market.

I visited a Sea Urchin factory in China, Dalian Zhangzidao, in order to see how the production was. The production site was impressive. It was a factory with 80 employed in peak season. I had planned 25 workers in my setup, so it was important to hear if they knew of ways to limit the workingforce. In Greenland the population is scarce and labour costs are high. There is always a risk for labour shortage, so when thinking innovation, it is imperative to take in consideration that production in Greenland should have production setup that requires minimal manual work.

I ended up with a business case where the outcome could be negative if the roe percentage fell just 1% of the content of the sea urchin. So now the focus is to look into solutions to make sure that this could be a positive new next fishery adventure in Greenland. But the possibility is there if only there could be found a solution to the very expensive logistic challenges to the product to the market.

Processing on land

Shrimp and Greenland halibut plays a crucial role for the Greenland national economy. This is likely to be the case for several years ahead at least in the mineral and oil investigations found to result in significant revenue. Traditionally, shrimp alone exports for about 50 % of the total export value. Direct employment in the fisheries sector is traditionally of about 3,500 people, equivalent to almost 15% of the total workforce. In addition, there are an unidentified number of jobs in the fishing industry and related businesses as well as a large part of the service. The three recent years there has been an increasing amount of cod in West Greenlandic waters, and the fishery for cod has increased to approximately 60% of the historic high levels in the 60'ies.

Innovation in the cod fisheries and product innovation has been imperative, since the

prices for the cod has been historical low, so a refining of the product in order to get better product has been necessary for the new coming fishery for cod.

Thus development of fishery methods, cages for cod (so called "cod hotels") and refined methods for transport and ways to improve cod meat quality have been necessary steps for cod fishery. These efforts have resulted in a very fine cod product called "Nutaaq*cod". A very positive side effect is that a much higher percentage of the cod is utilized today compared to before.

This refinement has resulted in more jobs on land – and has also improved the qualifications for the factory worker.

7. A WHOLE NEW PERSPECTIVE

This section explores new ways of looking at skills. While international inspiration is highly interesting to look at, it is equally interesting to explore the answers to be found within the country's own context. In public debates and discussion, the special Arctic or Greenlandic conditions are often mentioned as something which might bring about new ways of organizing society and perceiving knowledge. The articles in this section investigates the possibilities in using these specific conditions in new ways. It could be by combining modernity and tradition, it could be through a more holistic way of regarding sustainable development or it could be through activating skills in new ways through voluntary work.

The article "Traditional knowledge and industrial development" is written by Professor Anne Merrild Hansen from the Department of and head of the Arctic Oil and Gas Research Center at Ilisimatusarfik, University of Greenland, Assistant Professor Pelle Tejsner from the Department of Anthropology and Arctic Research Center at the University of Aarhus and Parnuna Egede, Advisor on Environmental Issues at Inuit Circumpolar Council (ICC)

The article sets out to explore the perspectives for using traditional knowledge for future employment of local Greenlanders in relation to new industries. The article explores how the use of traditional knowledge may potentially open up for various new ways to provide local services and solutions. This implies a new range of potential competencies which can be accessed through combining traditional knowledge with knowledge about the relevant industry and by making traditional knowledge more easily recognisable and thus acknowledged in relation to recruitment.

Frank Sejersen is an Associate Professor at the Department of Cross-Cultural and Regional Studies at the University of Copenhagen.

The purpose of the chapter "Large scale mining and social innovation" is to critically link concrete historical and contemporary anticipated large-scale mining activities in

Greenland with the issue of social innovation. The aim is to draw up the contours of future possibilities for increased enskilment of Greenlanders. In order to prompt this reflection, the chapter analytically approaches relations between extractive industries and the Greenlandic population as *contact zones*. Approached as such, the relationship becomes more than economic, legal and technical in nature. It becomes a zone where self-perception, ideas of personhood and everyday life are and can be challenged and transformed. In addition, it can be seen as a zone where the question of qualifications and skills are negotiated as expectations and potentialities are not uniform and predictable.

The article "Settlement patterns" draws on an ongoing research project in Qaanaq, carried out by Professors Kaare Henriksen from the Technical University of Denmark and Birgitte Hoffmann from Aalborg University. The article investigates the concept of sectorization and how to counter it and how key local skills can be put into play along with formal skills to create more diverse and flexible skill profiles. The article points to examples where a number of local informally acquired skills among hunters and fishermen contribute to Greenland's economy. Tourism is an example of a sector holding a potential and which depends on local knowledge and traditional skills. The article also discuss how more diverse forms of knowledge and education profiles can be developed, and what it takes to bring these skills into play for the benefit of a sustainable industrial development in Greenland with a relatively scattered settlement.

Carina Ren og Lill Rasted Bjørst are both Associate Professors at the Department of Culture and Global Studies at the University of Aalborg. Their article "Situated capacities" explores how competencies are understood and assessed in relation to business development and investments in Greenland, and how this understanding is used to the work around upskilling as it was undertaken in preparation for the Arctic Winter Games 2016 (AWG2016) in Nuuk. With a specific focus on volunteers, the article discuss if and how upskilling initiatives through language, service and project management courses may work to benefit individuals and society at large. Lastly, the article provide a number of concrete examples on how skills and experiences from AWG2016 might be harvested and put to work through the approach of situated capacities in order to benefit collaborating individuals, companies and society as a

whole.

Finally, the article "Building international economies" draws on the continuing research by Rasmus Gjedssø Bertelsen, University of Tromsø-The Arctic University of Norway/Aalborg University, Jens Christian Svabo Justinussen, University of the Faroe Islands and Coco Smits, Wageningen University and Research Centre/Royal Haskoning DHV. The research explores the connection between human capital and natural resources for local benefits and comprehensively sustainable development in Greenland, the Faroes Islands and Iceland. Bertelsen, Justinussen and Smits have found in this research that Iceland and the Faroe Islands have been able to derive substantial local benefits and comprehensive sustainable development from natural resources in hydropower, geothermal power and offshore oil and gas exploration because of strong local human capital. In contrast, Greenland faces severe challenges in terms of local human capital for deriving local benefits and comprehensive sustainable development from its natural resources in the fields of mining and offshore oil and gas exploration.

7.1 TRADITIONAL KNOWLEDGE AND INDUSTRIAL DEVELOPMENT

- On the potential use of indigenous and local knowledge as a resource to assess competencies in Greenland

By Anne Merrild Hansen, Pelle Tejsner & Parnuna Egede

Introduction

There is currently a growing interest in industrial initiatives and development in the general Greenlandic population. Numerous scenarios for the establishment of industries that are based on natural resources such as minerals, fish and oil are pursued in this regard. In considering the growing activities in the area of industrial development, existing informal knowledge in Greenland may become a useful human resource and a societal institution in the gradual process of transition from traditional to modern industries. This chapter acknowledges and examines the potential benefits of informal knowledge in relation to capacity building, sustainable development and employment opportunities within industry in Greenland. In acknowledging such potential, we will discuss if possessing traditional knowledge (also called local knowledge and here from referred to as TK), can be viewed as complementary qualifications and useful competences when it comes to proposed industrial development in Greenland. The chapter will focus on how TK can be used to access relevant competences in the development and ongoing transitions that are taking place in Greenlandic society today, by emphasising the possibility of either promoting local content or securing local benefits through derived opportunities. We perceive these transitions - not necessarily according to a western model of society – but, rather as a unique course towards a modern Inuit society where activities may be combined without compromising the opportunity to continue traditional activities.

The chapter is dedicated to the assumption that TK represents a potential resource. In this respect, we intend to discuss how TK can be used to the immediate benefit of local communities, rather than discussing if TK is always relevant, valuable and/or accessible in relation to new or developing industry. The chapter reviews and synthesises existing findings on the topic, to serve as a point of departure for discussing opportunities for using TK as local qualifications for the future employment of Greenlanders in industries such as oil, mining and tourism. We will begin by outlining the concept of TK and some of the challenges associated with its implementation, through a review of experiences that are based on other cases from the Arctic region. We will then review examples of how TK is used in Arctic communities and how TK has been applied in modern development projects. Finally, we will discuss opportunities and perspectives that are based on our own experiences and supported by the reviewed cases, while considering some of the preconditions for using TK as a competence with a set of recommendations for society and further relevant areas of inquiry.

The concept and status of 'knowledge' in the Arctic

People who share a history of living off the land and the sea (as hunters, fishermen, farmers etc.), are highly dependent on interpreting the signs of the surrounding environment through the in-situ everyday observations of flora and fauna in the natural world. To insure a continuation of this way of life, it is essential for these people, and for the communities in which they reside, to learn and to pass on their experiences as these relate to the co-habitation with their environment (Ingold 2000: 195). These people are known for possessing in-depth ecological knowledge, an understanding of, and an appreciation for environmental variations and seasonal changes and how these influence, for example, the harvest of local marine mammals upon which local subsistence continues to be sustained (Berkes 2000, Huntington 1998). Traditional knowledge also draws on the experience made across the changing arctic seasons which also reflects the passage of time, through both contemporary and intergenerational transmission of experiences made with the immediate environment (Duerden 2004, Ingold 2000).

> **TK is knowledge about:**
>
> Nature, animals and climate
> History of people and landscapes
> Existing and former culture – values and beliefs
> Traditional activities
> Country foods

Traditional, or indigenous, knowledge is more than just the 'everyday knowledge' held by any person. TK is often knowledge that is needed to subsist in a given environment. It is passed on from individual to individual between generations, and the sharing of knowledge is built into traditional customs and facilitated through both training and practices of communal traditional activities. In larger parts of the Arctic, a majority of local household economies are known to be either directly, or indirectly, involved in the harvest of renewable resources and thus continue to rely on indigenous traditional knowledge. Based on our experience from living and conducting research along with informants in Greenland, we assume that this is also the case here, although, research on the topic of TK in Greenland is limited at best. Moreover, in Arctic indigenous communities, these traditional systems of knowledge have been described as having evolved through adaptive processes across several generations (Nordic Council of Ministers 2015). In terms of intergenerational transmission, it has recently been found that 'elders' or 'older people' (the definitions vary from Canada to Greenland) often complain about the younger generation's lack of education of the land or the appreciation for traditional country foods. However, in other parts of the Arctic, traditional knowledge is integrated as part of educational initiatives as the Inuit youth are taught about traditional knowledge, worldview and the practical skills related to subsistence practices by the older generation (Barnhardt 2005).

TK, also referred to as TEK (i.e. Traditional Ecological knowledge), local, -or TK is probably one of the most widely documented and, maybe in consequence, contested

concepts in the study of indigenous peoples' environmental knowledge, not only in the global south, but also in the arctic hemisphere. Definitions of TK, for example, range from 'knowledge about the environment, knowledge about the use of the environment, values about the environment, and the knowledge system itself' (Usher 2000: 183) to conceptions of local knowledge as 'part of social, cultural and political processes which take place at the local, national and global level' (Sejersen 1998: 171). A general policy requirement that concerns the implementation of TK is available in Canada when compared to Greenland, although, its wording in a Canadian context, as Usher suggests, 'is neither clear nor consistent' and, more importantly, 'there is virtually no guidance on how to implement it in the public arenas where knowledge claims must be tested' (Usher 2000: 184). Although, discussions and examples of local or traditional knowledge are occasionally voiced by Greenlanders in national media outlets, for example, when speaking about climatic changes or fisheries and hunting regulations, formal acceptance and official recognition by the authorities in Greenland (as elsewhere) of traditional knowledge, its use-value and competencies in relation to industry, is still warranted prior to any considerations of potential implementation.

Current critiques of the knowledge concept

A critical appraisal of the literature suggests that there are two issues commonly associated with the implementation of TK in managerial frameworks. Firstly, some would argue that a sole focus on TK inevitably isolates said knowledge from its context of generation, that is, from the lived engagement of people with their environment. In this regard, it has frequently been observed that whatever acronym or term we use to describe indigenous people's knowledge, it often serves exclusively as a 'label' for managerial expedience (Laidler 2006: 411). The problem, here, revolves around the notion of 'traditional' and is based on the kind of thinking where 'tradition', as a body of transmissible information, can simply be downloaded from one generation to the next, independently of the processes which gave rise to it in the first place. Critics have observed that the end result of this process is that local knowledge 'can be codified in writing and thus taken away, removed, or separated from the cultural context in which it operates' (Usher 2000: 191, Nadasdy 2004).

Secondly, Pierotti and Wildcat (2000: 1335) have argued that where the strength of TK remains a multidisciplinary appeal i.e. by overriding the boundaries between history, biology, philosophy and anthropology on a mostly academic map of native worldviews, is also the source of its weakness. Finally, the division, which TK may inadvertently impose, between ecological and social domains, remains problematic because such a division is not easily recognized among local indigenous knowledge holders who commonly consider the environment – and their relations with it – as more or less indivisible from the onset.

Based on our own experiences of living in Greenland and working on the topic of everyday local knowledge alongside contacts and informants in towns and settlements in Greenland, we suggest that 'tradition' is not something which exist in a readily downloadable format, but is instead continually generated and regenerated in the everyday performance of subsistence practices. The selective use of TK is not only an issue in the design of policies for the Arctic, but it also reflects a general trend in conflicts of interest between indigenous people and, to name but one example, state-sponsored scientific management of renewable resources worldwide (Agrawal 1995, Blaser *et al*. 2004). Other critics have observed that by focusing solely on the 'traditional' aspect, it inadvertently freezes local knowledge in time by failing to acknowledge and take into account the dynamic and constantly changing nature of TK (Huntington 2005). But on the other hand, as we should also like to point out, TK has proven successfully engaged, documented and employed in Greenlandic cases where locally based environmental monitoring projects have been tested and subsequently acknowledged by the scientific community (see below).

In 1998, a Nunavut working group formulated an Inuit complement to indigenous people's knowledge dubbed *Inuit Qaujimajatuqangit*, which translates roughly as 'that which has long been known to Inuit' (Stuckenberger 2009: 383). One of the central tenets behind the formulation of Inuit Qaujimajatuqangit (or simply IQ) was to overcome what had previously been perceived as the restriction of TK to specific aspects of knowledge such as outlined in the previous section. Comparing IQ and TEK, Wenzel (2004) has argued that IQ appears more inclusive by encompassing and

recognizing the social value of everyday and embodied aspects of indigenous knowledge. In relation to the so called embodied aspect of traditional knowledge, one of the guiding precepts of IQ relates to the principle of *Pilimmaksarniq*, which refers to the acquisition of knowledge and skills and the improvement of skill through practice (*ibid* 2004: 241). This aspect of IQ, raised by Wenzel, points to the general problem of divorcing knowledge from whatever social context or process of learning it originally emerged from and how, if at all, it is possible to 'label' what is often, for example, a dynamic and flexible subsistence practice. But as Wenzel also (ibid: 248) suggests, 'the fact that IQ is often equated with TK [...] diminishes the depth of socio-cultural content (and importance)'. At the time of writing, it still remains unclear whether the implementation of IQ, as outlined by the Nunavut authorities, has been successfully translated into job qualifications for employment in industry.

Integrating traditional knowledge in Greenland

Moving beyond the issues of implementation as outlined above, we often find it to be the case that TK in Greenland has found amicable application when it comes to, for example, environmental monitoring programs designed to document and observe local environmental change and monitoring of pollution (Danielsen *et al.* 2014). The study examined the outcomes of introducing a field-based system for monitoring and managing resources specifically developed for fishermen and hunters in Greenland. The purpose was to document trends, and track relevant conditions of living resources while, finally, proposing management decisions for the resource in question. The system was based on TK practices such as existing, but informal methods of observation, and was received with significant interest among traditional knowledge holders (Danielsen et al. 2014: 69).

Although, there are still many uncertainties about how exactly to translate environmental knowledge into decision-making and action (Mooney and Mace 2009), it has recently been found that the involvement of local stakeholders (in this case hunters in Greenland and their families) in monitoring programs enhances management response at local levels, and increases the speed of decision-making for tackling environmental challenges at the executive level of resource management

(Danielsen et al. 2010: 1166). Results from these and related projects, where local communities are increasingly engaged with, responsible for, and included in monitoring and documenting environmental changes, suggests that community-based participatory monitoring could represent an important first step in translating and integrating traditional knowledge with relevant areas that range from scientific monitoring and research to recruitment by the industrial sector.

Finally, as we have recently found (see e.g. Hansen *et al.* 2015 and Tejsner 2016) i.e. that development does not always benefit local communities even when both governments and operating companies have the best intentions of achieving exactly this. The primary initiatives to secure benefits in Greenland when implementing new projects are related to training and employment of locals in industries, and thereby to the inclusion of what is often referred to as 'local content'. However, focusing solely on the concept of local content appears insufficient when it comes to securing local benefits. International experience and research have shown that parameters such as interests, willingness to engage and the educational level of local Inuit residents, stand to influence project success of engaging locals and thereby securing benefits (Hansen and Tejsner 2016). It is further found that promoting training and jobs without understanding the contextual factors in individual communities, can be an obstacle for achieving local content in industry. In Greenland, we have similarly identified both formal and informal structural barriers to the inclusion of local content in the oil sector (Hansen & Tejsner 2016). However, further concomitant research on these issues is simultaneously recommended.

Commercialisation of TK in Greenland

Presently, there are three main industries that are promoted in Greenland as the primary pillars of development. These are tourism, mining and fisheries. In the following paragraphs, we will speculate, and exemplify, how TK can serve as a resource in relation to the three industries, either directly in the industry for locals who possess the relevant knowledge to be employed in the industries, or indirectly in service related businesses that work or supply the industry.

An area where local or traditional knowledge is relevant, and might be applied, is in relation to Greenlandic archaeological heritage sites where previous and contemporary archeological research has involved TK. The involvement has consisted in research collaboration, but has also proven valuable in terms of outreach and awareness among visitors with an interest in arctic and Greenlandic history (Stewart *et al.* 2004). Tourism in Greenland is an expanding industry, which is moreover, dependent upon land usage, local environmental knowledge and values in the course of international visits during both the summer and winter seasons. In relation to tourism and cultural heritage, TK can be expected to feed into processes of site identification and can motivate definitions of heritage sites, cultural trails, geo parks etc., and can also contribute to tourist activities such as storytelling about local traditional use, history and culture of the land that surrounds relevant heritage sites. It can also be about identifying potential hiking trails, nature excursions and animal watch sites. Skills related to traditional arts and crafts can similarly contribute to tourist activities, pedagogical workshops (such as sewing or weaving) and the production of traditional crafts that are of potential interest to visitors and tourists. The work of cultural centres where themes and activities are based upon traditional knowledge practices have already gained widespread popularity among both visitors and arctic residents elsewhere in the region (see, for example, www.makahmuseum.com and www.umista.com)

In relation to extractive industries, TK may, as suggested previously, be relevant to access during environmental monitoring programs or as part of environmental and social assessment. This is most often a mandatory and inherent part of the public participation processes of the assessments, which are based on voluntary participation by locals and can therefore not be viewed as potential job opportunities. Occasionally, however, baseline studies need to be conducted in relation to assessment procedures, where local hunters and fishermen may be relevant to include when, for example, identifying sites of ecological importance in an area and/or be helpful in the identification of solutions for the industry in relation to, for instance, potential and appropriate locations for tailings or waste rock.

Fishermen and hunters in Greenland are generally independent and self-sufficient

except in the periods when fishing and hunting are not possible. Then they rely on subsidies from the municipalities. Their approach to life may be possible to build upon in order to promote potential innovation within their field based on their understanding of the environment in developing e.g. businesses related to Aquacultures. Other industries where TK may be a valuable resource, includes businesses that are related to arts and crafts and the production of everyday products like soap, pottery, foods and other. Medicine agriculture, herbal industry; its appeal ranging from pharmaceuticals, nutraceuticals and health foods to cosmetics, toiletries and ethnic products, can use the traditional knowledge base of local communities.

Although, TK as stipulated, may represent valuable competences that could be useful in relation to development, TK is not necessarily easy to assess and document and due consideration must be observed in relation to, for example, local customs and traditional land tenure systems and the wider intellectual property rights of indigenous communities in the Arctic (UNDRIP, see also Hansen and Bankes 2013: 301). A significant proportion of the literature on TK in an Arctic context, as discussed here, concerns the implications of framing local knowledge for managerial purposes. Further fieldwork-based research should be able to map the main reservations together with possible suggestions on how to integrate TK in a Greenlandic context.

Proposals for areas of attention and further research

In the discussion about whether TK is a relevant resource in relation to industrial development in Greenland, further debate and research is needed if we are to find ways to foster the TK-Industry interface. At this point, it is not possible to define specific recommendations for policy-making in Greenland. However, there are three important questions that we would like to pose and discuss in order to generate attention to the topic and to support further research. The three questions are:

> 1) What do we need to know about TK in Greenland to be able to unambiguously conclude that TK is relevant and assessable?

2) If TK is indeed relevant and assessable, then how can it be recognised and documented?

3) Is it even desired to commercialise TK and if it is, then what should the involved actors be aware of to build respectful partnerships around the concept of traditional knowledge?

In relation to the first question about the level of TK in Greenland today, it is clear, as described in the former sections of this chapter, that TK has not been subject to extensive research in Greenland, which is also why there are still many unanswered questions in this regard. Identifying TK-related competences therefore requires TK to be subject to a more in-depth delineation in Greenland in order to learn: whether TK is generally present; who the knowledge holders and users of TK are; and how its geographical distribution is composed.

If existing TK is considered to be valuable, then relevant frameworks need to be established to ensure that TK is passed on to future generations. We need to identify, map and further document TK in order to better understand how it can be useful and mapped in relation to the above suggestions, i.e. in community-based monitoring of local environments, tourism and so on. Local meetings and workshops involving stakeholders according to section 4 need to be held if an initial investigation of TK to understand the competences, potentials and opportunities is to take place.

Even if studies as proposed above are conducted to identify TK competences, then we still need to think about how to identify and recognise TK. The second question about relevance and accessibility of TK relates to documentation of the relevant skills. We think that there is a need to consider the potential for certification of TK. For example, different competences could lead to different badges and a number of consecutive badges could lead to a diploma of certification. Since many of the expected TK-holders, and those considered potential workers in new industries, may live in settlements that do not have any educational institutions, such certification may require a travelling team of specialists to visit communities and 'test' interested people.

A third important area of attention that emerges out of the above evaluation, and

which we should like to stress in relation to the discussion about TK, relates to ethics and cooperation when seeking to integrate TK further. A part of the discussion with locals, while delineating its potential, will be to understand if it is even desired to commercialise TK. There is also an ethical dimension to the question of using TK in modern industries, when considering if it can become a way for companies in e.g. extractive industries to legitimize an implementation at the expense of losing out on traditional activities and cultural legacy. Or could it actually represent a way to secure that TK is not lost? What should the involved actors be aware of in order to build respectful partnerships? It is therefore important to discuss how and under which circumstances TK should be commercialised. Debates and studies are hence needed to secure that civil society, including local and indigenous communities and the private sector, get a better understanding of how to structure and sustain productive partnerships.

Conclusions

This chapter set out to explore the perspectives for using TK for future employment of local Greenlanders in relation to new industries. Based on the discussion of implications that are related to accessing and using TK, we have speculated and found that the use of TK may potentially open up for various new possibilities for creating new types of services, and for developing new ways to provide local services and solutions. This implies a new range of potential competencies which can be accessed through combining traditional knowledge with knowledge about the relevant industry. Here, however, we should underline that capacity building in the area of transferring traditional knowledge into service industries is not primarily a technical or scientific challenge – although, there is much to be learned about how ecosystems work and respond to human activity. Nor is the challenge merely to manage natural resources more effectively. Rather, it is about dealing with people and their diverse cultures, interests, visions, priorities and needs and about how more informal competencies, such as in this case TK, may become more easily recognisable and thus acknowledged in relation to recruitment.

We have highlighted three themes which we recommend to be subject to further

studies prior to the application of TK-based skills in industry. These are the delineation of TK in Greenland, the consideration of opportunities for certification of knowledge and, finally, the ethical dimension of turning an informal knowledge system, based on prevailing cultural values, into something commercial and more manageable and thereby accessible to others and open to interpretation.

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7.2 LARGE-SCALE MINING AND SOCIAL INNOVATION

– possible future avenues for enskilment

By Frank Sejersen

The purpose of this chapter is to critically link concrete historical and contemporary anticipated large-scale mining activities in Greenland with the issue of social innovation. The aim is to draw up the contours of future possibilities for increased enskilment of Greenlanders. In order to prompt this reflection, the chapter analytically approaches relations between extractive industries and the Greenlandic population as *contact zones*, as defined by Pratt (1992). Approached as such, the relationship becomes more than economic, legal and technical in nature. It becomes a zone where self-perception, ideas of personhood and everyday life are and can be challenged and transformed. In addition, it can be seen as a zone where the question of qualifications and skills are negotiated as expectations and potentialities are not uniform and predictable. In some cases, formally acquired skills do not give access to jobs, and in other cases, the (emergent) job market may be quite open toward skills acquired in informal ways. With the task to produce suggestions for ways in which to create job opportunities for persons with skills that are acquired outside the formal educational sector, the chapter approaches enskilment as the emergence and recognition of skills that are made possible to grow through practice and training in an inclusive and appreciative environment. With departure taken in Tim Ingold's take on skill and enskilment, the chapter views skills, not as something which is transmitted technically from generation to generation, but as something that grows in each person, incorporated into the *modus operandi* of the developing human organism through training and experience in the performance of particular tasks (2000: 5). Thus, our attention to enskilment demands a perspective which situates the person, right from the start, in the context of an active engagement with the constituents of the person's surroundings. Enskilment in a context of large-scale mining consequently implies that the zone of contact must be approached in such a

way that it encourages and facilitates engagement, and that it is actively appreciative towards the exposure of persons (considered unskilled) to the dynamics of the system under development. Enskilment – with this focus - is seen as a process that is driven by social relationships rather than by the transmission of instructions. Thus, this social dimension of enskilment calls for social innovation.

I want to combine the idea of the contact zone with Hall's understanding of subject position and their dynamic character (Hall 1996). Basically, this means that the relationship between identity positions, possibilities, skills and extractive industries is not fixed. According to Hall, we have to maintain an analytical attention to how people (and industries) "…fashion, stylize, produce and 'perform' these positions, and why they never do so completely, for once and all time, and some never do, or are in a constant, agonistic process of struggling with, resisting, negotiating and accommodating the normative or regulative rules with which they confront and regulate themselves" (Hall 1996, pp. 13-14). One might say that Greenlanders are grabbling with how to understand the extractive industry itself and how to relate to it. Moreover, the relations to extractive industries have also made Greenlanders grabble with who they are, with what their relationship is to the rest of the world and who to become. The combination of Pratt's concept of the contact zone, Ingold's enskilment concept and Hall's dynamic understanding of subject position, establishes an analytical perspective which sees the relationship as a *transformative space*. The relations with extractive industries can be approached as a space of transformative energy (Sejersen 2015), where individuals and institutions in Greenland have to understand and meet external competitive requirements and expectations with respect to skills and qualifications. Consequently, the understanding of what constitutes skills is to be revisited continuously. Furthermore, the ideas of 'skills' and 'enskilment' have to be interpreted in relation to the broader concept of 'qualifications'. A person may, for example, have the required skills (e.g. be able to speak English), but still be considered unqualified or unsuited for a job (e.g. if one has the wrong gender seen from the company's point of view).

If we approach the dynamic relationships that emerge out of resource extractive

activities, it also becomes apparent that the composition of the local community in the context of a broader industrial (national) community is in no way predictable. Ballard and Banks (2003, p. 297) underline that "[p]articular, contingent histories of engagement around mining projects yield specific forms of local community, which are themselves subject to continuous processes of transformation over the life of a mining project". Furthermore, the concept of transformative space encourages us to address the question of social innovation as a creative practice. In this chapter, social innovation is understood as activities that may be social in their ends and/or in their means in order to create and foster societal value.

Theoretically, the paradigm linked to the idea of innovation and entrepreneurship has been challenged, among others, by Dana, who introduces the concept of *indigenous entrepreneurship*. He poses the following question "Why do people from different cultures react in unlike ways, even when exposed to similar stimuli? Individuals from different ethno-cultural backgrounds do not become self-employed for the same reason, nor should they be expected to respond in the same way to any stimulus. The perception of opportunity is culturally influenced […], as is the measurement of success" (Dana 2015, p. 259). He points out the attention to the diversity of values that may drive innovation and entrepreneurial culture. He argues that innovation and entrepreneurship in indigenous societies may not to the same extent impart value on individual maximisation of profits, but instead be oriented towards non-economic values and other kinds of enskilment. Thus, community (and household) needs and objectives that are not directly linked to the creation of economic value, may be the focused goal of innovation. With a similar perspective, Lindsay argues that "…the indigenous 'team' involved in new venture creation and development may involve not only the entrepreneur and the business' entrepreneurial team but also the entrepreneur's family, extended family, and/or the community. Thus, in indigenous businesses, there are more stakeholders involved than with non-indigenous businesses" (2005, p. 2).

The point here is not to appropriate the perspective proposed by Dana and Lindsay, but to diversify our understanding of value and how it is continuously culturally

negotiated and contested through scaling and contextualisation. In this chapter, the use of the concept of 'social innovation' is linked not only to the creation of value by the means of social organisation (among other means), but also to the social organisation of the discussion of value (including enskilment) itself.

In order to initiate an exploration of how social innovation can be linked to extractive industries in Greenland, the chapter introduces four historical mining cases, each illustrating how social value and skills have been understood and controlled in quite different ways. The ability to control and influence the discussion and implementation of value is pivotal for Northern communities due to the historical colonial experience throughout the Arctic.

In 1992, the Inuit Circumpolar Council clearly underlined that if "…the Arctic regions are to contribute to strengthening the economies of the respective states, a new consciousness must evolve which includes Inuit as full and active partners in northern development matters" (ICC 1992, p. 121). Since this declaration, we have witnessed a rapid development of institutions supporting increased self-determination of Inuit and, thus, an increased possibility to determine and influence Northern development. This process can, in itself, be seen as social innovation. In a historical perspective, mining activities in Greenland may cast light on the shifting and dynamic relations between large-scale mining activities and Inuit communities (for a full overview of the history of mining in Greenland consult Secher (2004, 2008) and Sejersen (2014, 2015)).

The chapter will introduce four of the largest mining projects to date with a particular focus on the different relations that emerged from these. These relations will be used to address the questions of social innovation, enskilment and its potential.

- Ivittuut (1853-1987): cryolite
- Qullissat (1939-1972): coal
- Marmorilik (1973-1990): lead, zinc and silver
- Isua project (2013-): iron

Ivittuut (1853-1987): cryolite

Ivittuut stands out as a profitable mining adventure for Danish companies and the Danish state. Although, Greenlanders were employed as miners and for logistic purposes in the beginning, they were later not allowed to enter the mining site as they were expected to maintain a living as hunters in order to provide enough seal skins for the Danish company 'Royal Greenlandic Trade' (KGH). Thus, Greenlanders were not allowed to partake in the mining industry as it would reduce the profits of the KGH. In fact, because there were no Greenlanders in the mining area, Ivittuut was administratively not considered a part of Greenland. In the Danish accounts for Greenland, the profit from the mine was an important income in the running of Greenland as a colony.

However, during the Second World War, the mine itself became important for Greenlanders when all contact to Denmark was cut off due to the German occupation. During this period, the administration and the running of the mine were taken care of by Danish administrators in Greenland. As a consequence, the large profits from the mine remained in Greenland and were used to pay for the importation of foreign goods from the USA. This new foreign relationship had an impact on how Greenlanders saw themselves in relation to Denmark. A new thought emerged: Greenland could to a far larger extent obtain a more independent economic relation to Denmark. Seen from this point of view, the mine stands as a *monument* of Danish colonial and frontier practices, where the riches of the land in the periphery are taken to the centre, not for the benefit of the Greenlandic population, even though Greenlanders considered it appropriate, and as an opportunity to establish new relations to other countries. Indeed, Ivittuut was strategically isolated from the Greenlanders. Even though it would have been possible to employ Greenlanders in the mine and to enskill them, it was not considered economically appropriate to the larger colonial project. *Thus, one can say that social innovative initiatives to encourage enskilment are relative to the perspective and to a larger political-economic project.*

Qullissat (1939-1972): coal

The mining of coal in Qullissat was primarily pursued by skilled Greenlandic miners overseen by Danish technicians. The coal was for national use, primarily. In 1950, the

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mine had 30 full- time miners and 150-200 part-time miners. With its more than 900 inhabitants in 1950, the mining town of Qullissat was one of the biggest towns in Greenland and it grew steadily to 1,400 in 1965. It was considered a rich, proud and socio-culturally dynamic town where many families thrived. The town gave birth to a strong music scene and to a more organized political culture. Due to the growing political activism in Qullissat, the town also became the centre for the first organised protest by Greenlandic workers who complained about their salary and working conditions.

In the 1950s, the Danish authorities argued in favour of closing Qullissat apparently due to falling prizes on coal, the coal's poor quality compared to other types of coal and to a decrease in production. In 1972, the town was closed and people were relocated to other cities where many of them ended up at the bottom of the social ladder and faced severe problems – a process seen in many places in the world in the aftermath of the closure of large projects. In the following decades - and even today - Qullissat represents for many Greenlanders 1) Danish remote and colonial control, 2) a devaluation of human life and a strong self-conscious Greenlandic community, 3) the increasingly forced urbanization policy pursued by the Danish authorities, 4) a Danish utilitarian and developmental approach to Greenland and 5) a devaluation of skilled individuals. For many Greenlanders, then and now, Qullissat was a living and vibrant community of skilled miners not to be reduced to a production site with a cluster of houses for the workers. *Thus, one can say that skills and the continuous encouragement of enskilment are temporal, and that the motivation for enskilment is linked to positive community dynamics and the sense of future potentialities.*

Marmorilik (1973-1990): lead, zinc & silver

In 1973, the Canadian-Danish company Greenex established a mining camp in Marmorilik where the labour force was made up by both Danish and Greenlandic men. The mining camp was in the vicinity of the Greenlandic town of Uummannaq and the village of Ukkusisaat. Over the years, the relations to these communities changed and, increasingly, interaction was not allowed. Social life in the mining camp was organized and controlled by Greenex - thus the social rhythms of the camp were not in accordance with the rest of society, and the camp can be considered socially isolated and outside the social

control of the Greenlandic society. Even though Marmorilik can be termed an enclave (Dahl & Berg 1997), Uummannaq municipality received considerable tax revenues and was able to implement new community programs. Furthermore, some Greenlandic miners were able to use the income from the mine to invest in fishing vessels which seemed to be the primary purpose of going to Marmorilik.

The mining activities caused several confrontations with the local population and were the cause of frustration for many. Furthermore, both the Greenlandic and Danish authorities were puzzled by the fact that the company only employed very few Greenlanders, even though, it was agreed that Greenlanders were to be employed to the largest extent possible. Despite the fact that highly skilled Greenlandic miners from Qullissat applied for the jobs, the company only employed 15% of its workforce from Greenland.

Marmorilik represents a mining experience where promises were broken and where the mine as an enclave was able to isolate and distance itself. *Thus, one can say that what constitutes skills and a qualified workforce is to be determined primarily by the employer in a competitive environment. This may not necessarily benefit skilled Greenlanders and may in fact lead to the dis-encouragement of continuous enskilment. The mine's lack of interaction with society did not create an environment to foster social innovation. However, the experience also shows that tax revenues and personal income from the mine fostered increased innovative activities to the benefit of society and families* outside *the mining sphere. Thus, social innovation and activities of enskilment need not be linked to the sphere of extractive industry directly.*

Isua (2013 -): iron

When the Greenlandic government in 2013 signed the contract with London Mining, which gave the company a 30-year exploration license to iron, Greenlandic expectations were high. Greenland had spent substantial resources to attract extractive industries in the hope that this could boost the country's economy and create new jobs. This ambition has been considered a high priority of the Greenlandic government, and the non-renewable riches of Greenland are continuously pointed out as the best way to solve financial issues and to gain more self-determination. In order to attract foreign companies and investors,

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the Greenlandic parliament passed a special legislation in 2012 in an effort to open up for the use of foreign labour in the construction phase of large-scale industries. This legislation (*Storskalaloven*, in Danish) changed the social values and rights linked to the labour market. Furthermore, it challenges the qualitative focus on skills as well as the potential inclusion of skilled Greenlanders in the construction of large- scale projects. The head of the Greenlandic Government (2013-2014) Aleqa Hammond used the extractive industries extensively in her political campaign, and argued that these industries would make Greenland's wish to gain independence come through. She wanted *royalties* in order to establish the best economic conditions for independence as quickly as possible, whereas the former head of government (2009-2013) Kuupik Kleist pushed for *company taxes* and *employment of Greenlanders*. Aleqa argued that Kuupik was *selling out* to foreign companies when he did not consider royalties. Both politicians were trying to navigate in a global capitalistic economy where the national resources emerged in two different ways: for Hammond the 'resource' was constituted by what was *in the ground* (thinking in royalties thus makes sense), and for Kuupik the 'resource' was constituted by the workforce and the market value, thus the value was in getting the resource *out of the ground* (thinking in employment and taxes thus makes sense). However, in 2014, London Mining went bankrupt due to the Ebola crisis in Africa where the company also had mining activities. Presently, there are no large-scale mining or oil activities taking place in Greenland. *Thus, one can say that enskilment and the social innovation to foster it are linked to anticipation, and can be seen as something that has to be released by the means of a particular understanding of the 'resource'.*

The above mentioned cases are examples of four quite different historical experiences with the mining industry and four different kinds of positions for Greenlanders. The cases can also be seen as four different contact zones where skills were given different conditions to grow under due to the different nature of interaction made possible. The existence of extractive industries (or the anticipated existence) is neither a guarantee for inclusion of Greenlanders (no matter their skills) nor does it automatically open up for a nourishing environment for enskilment.

The four cases (and especially the Isua-mine plans) also indicate that mining

constructions are to be understood as being deeply entangled in anticipatory engagement that lies far beyond the concrete challenges (Sejersen 2015, p. 195). One of these could be how the mining activities would be linked to aspirations of increased self-determination and economic independence. One important point that emerges from the four mining cases, is the significance placed on the capacity to engage actively in the future-making of creative subjects, and the possibility to be responsible for own-visions of the good life and thus the direction of development to the largest extent possible. In this line of thinking, social innovation has to focus on the capacity a) to engage creatively with the realities of the global mining industry, b) to approach the diversity of Greenlandic citizens' possibilities to participate in the workforce and c) to enable enskilment of people who are to work directly in the extractive industries in related businesses, or in businesses that emerge elsewhere in Greenland due to changes in the composition of the labour force.

Future-making and social innovation

It may be in people's capacity as *future-makers* (Sejersen 2015) that their livelihoods are given direction and potentiality. If we approach human beings as future-makers, their horizon of orientation becomes broader and more inclusive than if their actions, capacities, skills, resources, concerns, conflicts and problems are to be framed more specifically and narrowly in the light of industrial extractive activities.

The concept of future-making points our attention to how people attend to immediate concerns and opportunities *and* simultaneously draw trajectories into the future, and, thus, to how they not only orientate themselves toward a horizon of potentialities, but also actively make choices, imagine and envision trajectories and create futures. This is more than inviting in adaptation to or coping with industries. To get involved in new activities like large-scale mining, Greenlanders not only integrate a new economic activity in their national port-folio, but actively *move* Greenland in new directions and draw up new *horizons* of possibilities. A creative, innovative and active engagement in the setup and dynamics of the emergent zone of contact is thus an investment with both short and long term potentialities.

In Maniitsoq, this challenge of future-making was taken up-front, when the municipality was elected as a site for a large-scale aluminium smelter in 2008. The project was anticipated to double the number of inhabitants in the town and to increase job opportunities. As an act of social innovation, the municipality authorities set up a number of citizen groups, each to give creative feed-back to the authorities concerning ideas of how the good town life could be organised. The municipal authorities supported and stimulated the work of the citizen groups by inviting in experts who specialised in linking ideas about present and future value-systems in a more transparent way. By doing so, the industrial activity to come was not (only) forecasted in terms of employment, tax revenues, entrepreneurial opportunities and technical/infrastructural challenges. It was embedded in people's visions of a better life and in innovative ways of carving out a local arena for improved daily interaction (see Sejersen 2015 for a description and discussion of these initiatives). The co-existence of work life and family life was explored by these groups in an act of social innovation. Social innovation can be pursued in facilitating, mobilising and qualifying ideas of the good life and the values attached to it. It is an organisational challenge that lies outside the formalised assessment structures, discourses and its knowledge regime.

The focus on future-making as an active process also points at one of the central questions that emerge when engaging in new large-scale mining activities: Who to become? This question can be scaled in different directions and thus be related to the national, the communal and the individual level. Merrild (see, for example, Merrild 2011 and Merrild & Larsen 2014) has proposed that strategic assessments could be used to further a more overall discussion of the direction and speed of industrial activities, of how they are to be controlled and how to (re)distribute the benefits. Such a process entails the inclusion of civil society, local communities, private and public businesses and the political parties. However, it requires a rethinking of how the public dialogue is organised.

The focus on social innovation is an invitation to experiment in these matters in a more focussed and committed way whilst knowing that there cannot be an end goal.

Such a discussion also relates directly to how enskilment and the good life are connected and nourished – not for the few, but for all.

Mining assessments and social innovation

All large-scale mining projects have to go through a number of standardised assessments in order to map out the environmental, social, economic and cultural impact of the proposed project. Bearing in mind the historical mining experiences, the assessment processes may directly address questions of control, integration and enskilment as well as the barriers for pursuing these. Thus, assessments have the potential to become *catalysts* for social innovation within the field of institution-building and further exploration of possible *assemblages* of the often compartmentalised results put forward in assessments. These results are often organised in demarcated domains (e.g. environment, social, economic) linked to specialised fields of knowledge. The process of interpreting these assessments in relation to a more coherent and future oriented way of life and the immanent social values, is indeed a process of cultural translation that may require social innovation within the field of dialogue space that lies outside the normal spaces of information meetings, community/public hearings and feed-back mechanisms. Social innovation within this field requires that new meeting grounds are developed between industry and communities. Prno & Slocombe (2012) point out that there is a need for mineral developers to gain additional 'social license to operate' (the so-called SLO).

Gaining a SLO – understood in the broadest way and not as a concrete document/license - as part of the assessment process, may push the industry to meet societal expectations and to avoid activities that societies deem unacceptable whether or not those expectations are embodied in law (Gunningham et al. 2004, p. 307).

However, entering into the dialogue of a SLO requires social innovation from all involved, and Thompson and Boutilier (2011) underline that communities that want mining have to develop the social organisation that makes them capable of 'issuing' a legitimate, credible and trustworthy SLO. In the optic of social innovation, this also implies that the long-term view as well as the changing needs and perspectives

throughout the project's life-cycle, has to be integrated in the social organisation of the SLO. A constructive SLO may also address the needs and avenues for inclusion of skilled and unskilled local individuals and ideas for continuous enskilment. Additionally, discussions structured around a SLO may be organised in such a way that people are able to see a more holistic picture of future life. One thing is to understand the industry's requirements to skills and qualifications; another is to be able to understand the life that lies beyond job functions.

Benefit and Impact Agreements and social innovation

Benefit and Impact Agreements (BIA) open up a space of value discussion and a possibility to address ideas about the future good life related to mining activities more directly. BIAs may function as vehicles of cultural translation of abstract goals and values pursued under the SLO into concrete binding initiatives and agreements. BIA can, if wisely formulated, encourage and support local, regional and national Greenlandic economic ventures. In many cases, the BIA may include partnership possibilities, educational initiatives, programmes for enskilment, economic support and the development of new markets for Greenlandic businesses. A BIA can be seen as an important contact zone where mutual expectations are formulated and negotiated. Consequently, BIAs are central arenas to integrate perspectives of social innovation that links directly to enskilment.

Capacity building, partnerships and social innovation

Extractive mining industries create job opportunities both within the sector itself, in related businesses and also in businesses elsewhere. In 2011, the Inuit Circumpolar Council stressed that "[p]artnerships must draw upon the growing capacity and aspirations of Inuit businesses and enterprises through use of vehicles such as joint ventures, commercial mechanisms for facilitating equity participation, and the issuance of land and resource rights through licences, leases and similar instruments" (ICC 2011).

The historic mining cases indicate that the social organisation of effective broker

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institutions to mediate and facilitate partnership between small and big businesses, between employers and employees and between "skilled" and "unskilled" individuals, could be of paramount importance if the goal is to have local people and businesses prosper from the emergent market. These broker institutions may also function as capacity builders. With respect to social innovation, the establishment of broker institutions may be dependent upon new partnerships between businesses, NGOs and government. Social organisations of such a hybrid character can work as recruiters, facilitators, capacity builders, mediators and innovators and thus help fertilise an environment for enskilment. In order to navigate in a new job market and business landscape, local entrepreneurs and the workforce in general often need to see the new horizon of expectations and possibilities in more detail in order to take those first steps into a potential new arena. Experiences from Sulisa A/S and Greenland Holding A/S (Sejersen 2007) which were put in place to support innovation and business start-up, can be applied to a new context of large-scale industrial activities.

For many, the increased job opportunities are not an option either due to lack of skills, location or other reasons. In the white paper on aluminium smelter in Maniitsoq to the Parliament (Naalakkersuisut 2010), this issue was clearly fleshed out. The government warned that it should "…be taken into account that those moving to Maniitsoq from other parts of the country will, to a large extent, be socio-economically advantaged people. This means that some towns and settlements should expect to do without those people who they rely on in the local community and who may have been particularly enterprising or supportive in society" (Naalakkersuisut 2010, p. 21). It indeed marked a change in focus from the more national (its importance for the national economy) to the potential uneven regional development, as well as to a focus on how industrial projects may accelerate already existing regional problems and inequalities. The challenges of uneven development may be approached with the optic of social innovation. Small communities being marginalised by the centripetal powers of extractive industries may thus experience emerging socio-economic problems which have to be dealt with in new ways as the structure, organisation, position and quality of these communities are changed radically. Social innovation may also include the enskilment of individuals in these communities.

CSR and social innovation

Increasingly, CSR is finding ground in the Greenlandic business environment. This means that the social goals of economic businesses will become more transparent and institutionalised. In relation to large-scale mining, the business community may find new issues and fields within CSR to focus on, and may enter into new innovative partnerships with other stakeholders in order to pursue their CSR activities. The field of CSR can emerge as a growing platform for social interaction and dialogue and foster the development of new social enterprises with both economic and social goals in mind. Social enterprises (Gomez and Helmsing, 2010) can be seen as social innovation as they emerge at the crossroads between civil society, the state institutions and the markets. Such enterprises may function as mechanisms of enskilment.

Suggestion 1

Social License to Operate (SLO) should be used as a leverage to explore and discuss future avenues for the good life and to create ideas for how to approach societal transformations. The creation of more tangible ideas about how the future family life is interwoven with the work life related to large scale industrial activities, can be a decisive and creative mover for enskilment and engagement.

Suggestion 2

Benefit and Impact Agreements (BIA) should be used actively and strategically to secure inclusion and enskilment and encourage social innovation. BIAs should also take into account the negatively impacted communities not directly benefitting from the extractive industries.

Suggestion 3

Corporate Social Responsibility (CSR) can be used actively to boost enskilment and inclusion. With respect to social innovation, CSR may offer possibilities to establish new partnerships where shared corporate values and community values can meet and be developed.

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7.3 SETTLEMENT PATTERNS

By Kåre Hendriksen & Birgitte Hoffmann

Introduction

In recent years, there has been a growing recognition that sustainable development in Greenland requires a diversification of the exploitation of Greenland's diverse resources. This is especially concluded in 'To the benefit of Greenland' (2014). This applies to the resources that we now know to be used better and more creatively, and it applies to future undiscovered resources and opportunities. From this starting point, we will in this article discuss the correlations between settlement patterns, economic development and the need for skills with a special focus on local knowledge and traditional skills.

Development of the exploitation of hunting and fishing, tourism potential and mineral resources, and also Greenland's geopolitical situation, points to a relatively scattered settlement as vital for a stronger and more creative use of Greenland's many resources. It does not mean that all existing settlements will have to maintained, just like new ones will arise from new opportunities for resource exploitation and industrial development. In contrast, a centralisation of the population in relatively few settlements will run a number of risks, in that Greenland's many different resources cannot be exploited in a sustainable, diversified and robust business development.

This development of Greenlandic business has the notion of island operation as a special challenge. In the article, we raise the question of what this challenge means for the need and the perception of knowledge, skills and skill development. The discussion in the article suggests that there may be a need for broader and more flexible skill profiles than those we focus on today in the formal system. Centrally, this includes utilizing local knowledge and skills to exploit local resources.

Due to this, it is worrying that our research shows how an increased sectorization increasingly creates significant problems for local business, as the different sectors and

organizations' resources and skills are not coordinated and used effectively. Based on selected examples, we will discuss how this creates a further need to organise and develop knowledge and skills that can work together across sectorial and geographical boundaries.

There are already many key local skills that can be put into play along with formal skills to create more diverse and flexible skill profiles. The article points to examples where a number of local informally acquired skills among hunters and fishermen contribute to Greenland's economy. Tourism is another example where potential is far from being exploited and which depends on local knowledge and traditional skills. Among others, the article draws on examples from Qaanaaq and southern Greenland.

Based on these points, we will finally discuss how more diverse forms of knowledge and education profiles can be developed, and what it takes to get these skills into play for the benefit of a sustainable industrial development in Greenland with a relatively scattered settlement.

Increased focus on a differentiated business development

In recent years, the recognition has set in that it will not be mining projects, oil exploration or large- scale industry that alone will ensure the economic foundation of Greenland. Living marine resources, mainly shrimp and halibut, still represent today 90% of export earnings, and in the foreseeable future mining etc. can at best provide a necessary supplement. This important recognition was helped along by the report 'To the benefit of Greenland'. (The Committee for beneficial utilization of Greenland's natural resources 2014)

Since the Second World War and the modernisation that came with decolonisation, Greenland has struggled to fund ever increasing imports which today are more than twice as large as the total exports. (Statistics Greenland 2016) This gives a deficit on the trade balance as well as on the overall national economic balance, which is primarily funded by the Danish government through total transfers of just over DKK 4 bill. per year, while total exports are just short of DKK 2 bill. (Statistics Greenland 2016)

From a historical perspective, the new recognition of the need to create a diversified business development in Greenland is crucial. Ever since the G-50 plan, it has been the expectation and intention that Greenland over a relatively short number of years was to become economically self-sustaining based on the combination of fishing and mineral extraction. G-50 aimed at reaching this goal within a ten-year horizon (Greenland Commission 1948), but as we now know, the raw material extraction never had the expected economic impact, and the fishing has never been able to supplant the Danish transfers.

The recognition entails not only that it is necessary to analyse how Greenland through a more diversified and sustainable use of marine living resources can provide increased value to the country. For example, currently about 70% of halibut is exported untreated, whereby a substantial part of the value of the raw material goes to other countries, including Denmark. (Statistics Greenland 2016) It also implies an encouragement of a more innovative use of the country's other resource base, including, the creation of new forms of earnings like tourism, thus ensuring a significantly greater diversity in the Greenlandic business- and income structure.

On that basis, in this article, we ask two key questions. After many decades of centralisation, Greenland still has a large number of settlements. Whether this structure still can and must be maintained remains a great discussion in Greenland and entails many complex aspects. (NORDREGIO 2010; Poppel 2007; Thomsen 2009) In this article, we contribute to this discussion by raising the question of how a more diversified business development can be realized and organized, in relation to the existing Greenlandic settlement pattern with many small communities scattered across the vast country? By extension, we address the question of what this means for the use and the development of knowledge and skills?

To enable an innovative and sustainable development, it is crucial to base this within Greenland's special characteristics and challenges. Therefore, before we focus on opportunities in a local anchoring of the exploitation of the resource base, in the following sections, we will highlight a number of important dynamics in the relationship between settlement patterns and business development that are key for Greenland.

The Greenlandic island economies

Although, Greenland is the largest island in the world, the country should be viewed as a micro-state. (Nielsen 2000) In addition, the fact that Greenland is not one, but essentially an association of 75 small or small island economies, is a central challenge.

In an international perspective, most micro-states are characterized by a large volume of imports and simultaneously by mono-base export or revenue. Their export often consists largely of unprocessed raw materials, or the earnings are based on 'seaside tourism'. At the same time, micro-states often rely on external professional labour in a number of vital and subject-specific areas. (Ibid) For island operation societies, it is also the case that it is difficult to commute on a daily basis, and that each island operation society must have its own infrastructure of supply.

Greenland and each Greenlandic settlement match these characteristics. Virtually all trade currently takes place directly between the individual settlement and Denmark via the Greenland Port in Aalborg. Exports are relatively unprocessed fish and shellfish, dependence on external labour is seen throughout the country and nowhere is it possible to commute on a daily basis. At the same time, Greenland faces the challenge of a costly and complex infrastructure of supply. Each settlement produces its own supply of electricity, and a backup supply, because if the power supply fails for just a slightly prolonged period during the winter, all plumbing and fixtures are destroyed and the settlement has to be evacuated. Transport infrastructure is enormously costly. In areas that are closed by the winter sea-ice, storage capacity and supplies for longer periods are needed, just as the capacity for freezing the catch is crucial until the first ship arrives. (Hendriksen 2013)

Thus, it is not possible to compare Greenland to Iceland, northern Norway or the Faroe Islands as is often done. The simple reason is that these areas' geography means that each settlement is part of a more coherent electricity supply network, and that they have road and/or ferry connections to the outside world which enables continuous supplies, exports and even commuting.

Thus, the nature of Greenland as a micro-state combined with island operation

provides unique conditions for the development and organisation of a sustainable industrial base and skills.

Dynamics of the relationship between settlement patterns, industrial base and skills

In this section, we will discuss how settlement patterns, business development and skills are linked in a historical perspective and we will point to a number of dynamics. The connection is far from clear and changing approaches to business development in Greenland has created different perspectives on settlement patterns and skills, including, the valuation of local knowledge and skills.

When each settlement represents its own island operation society, the local resource base and the capacity to exploit it becomes crucial for the settlement's development. While this was previously essential for the survival of each settlement, modernisation has offset this balance, so that today there is a very complex relationship between what can be seen as local resources and a settlement's development.

Historically, Greenland has been characterized by a dynamic settlement pattern. People settled in places where there was a good resource base of mostly marine mammals and later of fish. If this foundation disappeared, they attempted to adapt by exploiting other options or they moved somewhere else.

The establishment of towns occurred predominantly with the development of the Danish colonies. The towns were not necessarily placed from a regard of good access to the living resources, but were largely based on the requirement of a good harbour for ships and a surrounding area of settlements that could deliver blubber, tusk and skins for the colony. Also, at that time, the perspectives on settlement patterns were diverging. While the Danish colonial trade focused on spreading the people in the district and exploiting traditional hunting skills, the church was preoccupied with gathering the Greenlandic population and developing new skills for the benefit of the mission such as reading and going to church.

The development has, especially since World War II, in two key areas, led to a further

complexity in the relationship between settlement patterns and business development. Thus, more Greenlandic settlements are today increasingly uncoupled from utilising their local resources, while others utilise resources over ever greater distances.

One important area is that many investments in infrastructure such as buildings, airports, seaports and energy and water supply anchor the Greenlandic settlement patterns around established towns and settlements. The established settlements are maintained not only because of the difficulty of enforcing enormous 'write-offs' of the investments at a given place, but also because it requires new huge investments in housing and other infrastructure at the places where people would move to. Even though the population of Greenland still has a high mobility (Mobility Steering Group 2010, NOREGIO 2010), there is the basic challenge that at present there is nowhere the residents could move in order to contribute to Greenland's export, because all of the Greenland island operation societies face similar challenges. Finally, the population is also maintained by what one with a broad approach might call 'local knowledge' that maintains local practices and relationships to a given place and its history.

Another area is that first sales have been centralized to fewer cities. Where, for example, in 1996, there were 14 shrimp factories, currently only four remain. This means that a number of the existing settlements with the current mono-based business structure do not have a socio-economically viable commercial basis. The Home Rule's attempt in the 1980s to develop decentralised first sales and factories failed for several reasons. Investments were made in a large number of factories for cod fishing, and when the cod disappeared during this period, the investments were not diverted to support the use of other resources. Alone, this would hardly have solved the general problem of a huge over-investment, but a targeted conversion of some first sale facilities could have reduced the extent of the problem. Already at that time, there was an international demand for e.g. seaweed and an increasing demand for high quality products that are branded with location of origin. Therefore, it is an important conclusion that skills were not sufficiently developed to exploit and convert these investments in relation to the dynamics of the living resources.

How to evaluate these dynamics between settlement and industry depends on

different perspectives, of which we will give some examples.

The current centralisation of seafood trading and processing does not necessarily mean that there are no local resources that can be sold near the other settlements. When shrimp is not landed in Qeqertarsuaq today, it is not because there is no more shrimp on the banks of Disko, but because the political priority has been to gather first sales in Aasiaat. From a narrow business economic perspective such a centralisation and streamlining may be appropriate, but we would like to raise the question of what the centralization means for Greenland's total capacity for utilising local resources and for a sustainable development overall?

Using the same business economic logic, it could be argued that for shrimp fishery it is often true that it makes no sense to sell first in Greenland when landing and reloading adds an additional and costly stop to the exports of the raw materials that are processed on trawlers. (Lund 2003) If we accelerate this economic argument, we may end up with a conclusion that the entirety of Greenland is, and may stay, economically unsustainable. This suggests that there is a need for more comprehensive assessments.

In other words, a first sales- and thus business structure has been developed which involves that a wide range of settlements' resource base does not come into play locally. This matters to individual families who lose their opportunity to have an income and support themselves. It also means that public spending increases. The Greenlandic history features many examples of vast human, cultural and social consequences of the impact of this. (Bjerregaard and Dahl-Petersen 2008; Bjerregaard and Aidt 2010; Christensen et.al. 2008; Dahl 2000; Sørensen 2010) That Aasiaat island does not have enough water, while good quality water in large quantities are tumbling down the mountain in Qeqertarsuaq, further challenges the decision on the plant's location from an environmental and economic perspective.

Thus, there are a number of complex dynamics in the relationship between human settlement, industrial development and skills that must be included in the discussion of a sustainable development in Greenland. Recent years' strategies for settlement and investments that focus on a centralisation of the Greenlandic population in much fewer settlements, is as mentioned based on the idea that Greenland's economy can

only be carried by fishing and the extraction of raw materials. During the last decades, this has been linked to a narrow business-oriented economic thinking that does not involve a number of socio-economic consequences of the population moving to fewer cities. The point of this article is not to devise and produce an 'optimal' model for residential and commercial development, but rather to point out that the need to strengthen a future diversified industrial base provides for new perspectives on the Greenlandic settlement patterns and how this can be a resource for the development. In the next section, we will therefore look at how each settlement's potential and developed infrastructure can be used to benefit the local settlement and the overall development in Greenland.

The utilization of local resources

In order to discuss a positive development dynamic in the different settlements, we will start with the following model which suggests that a settlement's development potential depends not only on local livelihoods in the form of the natural resources, but also of human resources and the framework conditions created by society. (Hendriksen 2013).

In the model, the institutional framework conditions, in addition to infrastructure in the broad sense of power and water supply, retail, transport, health, school and first sales, also covers the administrative and regulatory framework.

The model which is based on empirical research from more than half of Greenland's 56 smaller settlements, shows that each island operation society can only achieve a positive development dynamic, if there is a positive interaction between the three factors; resource base, human resources and institutional framework conditions.
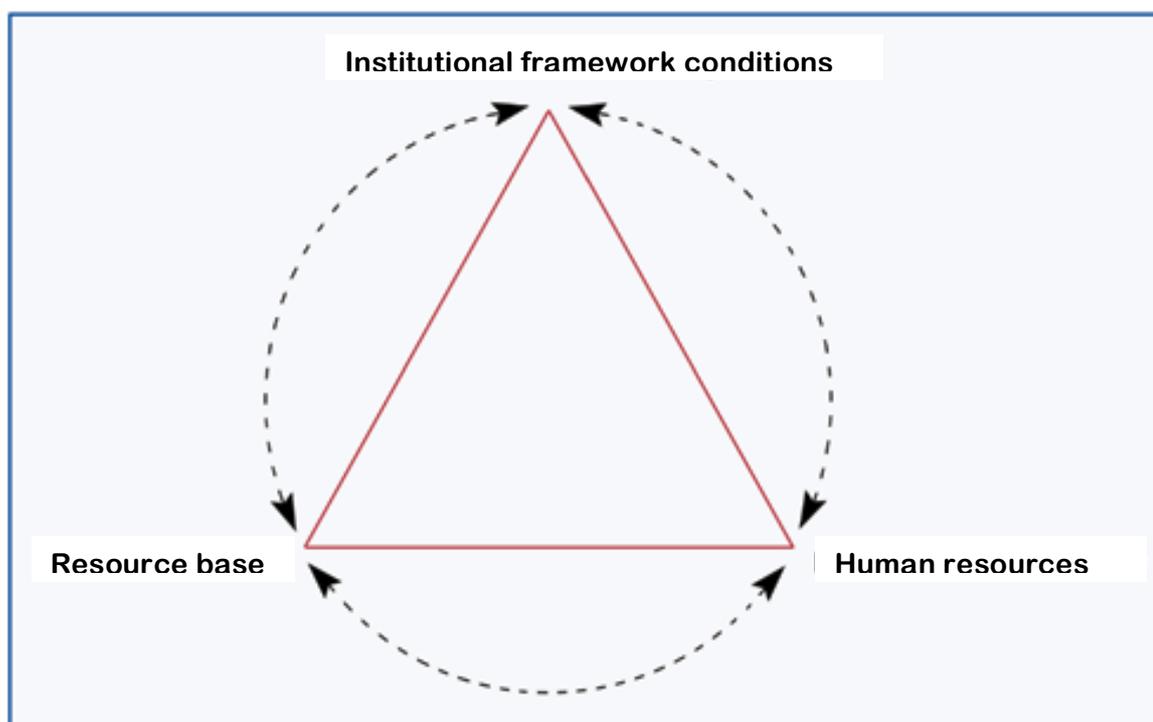
Figure 1. A settlement's development potential is linked to local resources, human resources and the framework conditions created by society. (Hendriksen 2013)

As the level of investment in infrastructure in the broadest sense is increased, the institutional framework conditions become increasingly decisive for the individual settlement's development dynamics. For example, it is now difficult to imagine a functioning settlement without proper access to the internet. But, the prerequisite for an overall positive development dynamic demands that the settlement has a sufficient resource base and that the institutional framework supports sustainable exploitation. And just as important that the population has the ability to exploit the resources as well as the ability to handle the institutional framework.

The Greenlandic history shows that local livelihoods are far from static and that it is crucial to be able to adapt. When it is difficult to move directly after the catch today, as they did in the past, it becomes essential to develop an innovative and dynamic approach to utilising local resources. The fact that all settlements in Greenland are island operations and that their development dynamics are controlled by the interaction between livelihoods, human resources and the institutional framework

means that in the future, there will also be settlements that will disappear, while others will be created, for example, around mining.

There are settlements in Greenland today that have a very limited livelihood such as Paamiut, Narsaq, Nanortalik and a part of the South Greenland settlements. But, the resource base is not static. While the cod adventure in the 1960s until the early 1980s created a booming economy in some parts of South Greenland, it was the Danish Greenland administration's intention to move the majority of the population from the district of Upernavik south to cod towns. But, then came the halibut fishery in Upernavik and the settlements contribute today 9% of the total export income, even though the district only contains 5% of the total population. (Calculated on the basis of Statistics Greenland 2016) At the same time, the cod has disappeared and South Greenland is left with a very limited export and high unemployment.

However, there are in South Greenland some key resources that could be the impetus for an innovative development of e.g. sheep farming and, in the context of Greenland, a remarkably coherent infrastructure. Finally, climate change can contribute by opening up for new potentials for the growing of food. There is an excellent opportunity to respond to the global demand for geographically designated food in line with the French AOC and the Italian DOC. There is also an opportunity to combine tourism and the local diverse hunting and fishing practises for new revenue-generating forms of food tourism. For example, packages where tourists, guided by locals, hunt their own catch and cook it while participating in courses with talented Greenlandic and foreign chefs. This will help to brand Greenlandic food and provide greater benefits both locally and for Greenland as a whole than the cruise-tourism does. (Karlsdottir and Hendriksen 2006)

To strengthen Greenland's economic and social development, it is crucial that the known resources and their diversity are exploited much better, while new resources are exposed. This means, for example, that the halibut and other stock in the fjord systems in northern Greenland or along the east coast should be brought into play. This would allow for new settlements where subsistence and resource base allows for a sustainable and socio-economically sound basis.

A central tenet of the model is, however, that the livelihood is developed in

conjunction with the other elements. It will be crucial for a sustainable industrial base to strengthen the human resources, so that they can use the local livelihoods and develop new opportunities when these change. Similarly, it would be necessary to change the institutional framework from focusing on centralised industrial production to support a locally based and diversified business development. In the next section, we will point to a central challenge herein.

Sectorization and its impact on business development and skills

The complex interplay between human settlement, industrial development and skills that the island operation issue causes, is further challenged by the increased level of sectorization of the infrastructure that has characterized the development of Greenland since the late 1980s. This issue is analysed to uncover potentials and barriers for increased local and diversified exploitation of resources.

The neo-liberal approach that has characterized the global development since the 80s has also found its way to Greenland. But, because of the island operation conditions, with very small and relatively independent markets, Greenland cannot be understood in relation to market economy approaches, which means that these strategies have caused further problems.

A key example is Greenland's infrastructure which was built during GTO and Nunatek (The Greenland Technical Organisation, which was developed to support the modernisation, and was during the Home Rule renamed Nunatek), and which in recent decades in a broad sense has been divided into a number of limited companies, wholly or partially owned by the Government of Greenland as well as a few 'net managed' companies owned by the Government of Greenland. The aim was that each company should optimize its services within their own core business and thus achieve greater efficiency and consequently savings. This development is linked to a general desire for so-called cost-oriented prices, in place of the former one-price system, which for the retail trade was partly abolished in 1994, and for electricity and water in 2005.

The owner of these companies, usually the Self Rule, has a natural expectation that the

individual company should generate a profit and thus returns. The challenge, however, is that with this sectorization and desire that each company generates a profit, follows a natural sub-optimisation, where each company focuses on its core business and cuts functions that are not essential for this operation. From a business economic point of view, this strategy makes good sense, but looking at it from a societal perspective this approach weakens a holistic use of resources. We can also see that this fractional system does not succeed to any significant degree in collecting and developing knowledge of the local systems and their contexts. (Hendriksen and Hoffmann 2015)

Especially in an island operation perspective, this sectorization and the associated sub-optimisation leads to a number of challenges. There will inevitably be a number of tasks that naturally fall outside the individual enterprise's core tasks and which for the company will be unprofitable to maintain. Consequently, they shut down these functions based on the philosophy that they could be bought cheaper from other actors - typically from the private sector. But, this logic overlooks the fact that a very large part of the Greenland island operation community, including most of the larger cities, does not have an adequate market for the existence of providers of such services. In addition, the market is often so small that market mechanisms fail to work and a natural private monopoly occurs. The consequence is that a number of social necessary tasks fall outside all infrastructure companies' core areas, and that there is neither a market nor a public structure to pick them up. This has fatal consequences for the individual community – but, also for the individual infrastructure business.

Royal Arctic Line	Mittarfeqarfiit	Air Greenland	Nukissiorfiit	Tele Greenland	Royal Greenland	Pilersuisoq	INI	Qaasuitsup Kommunia
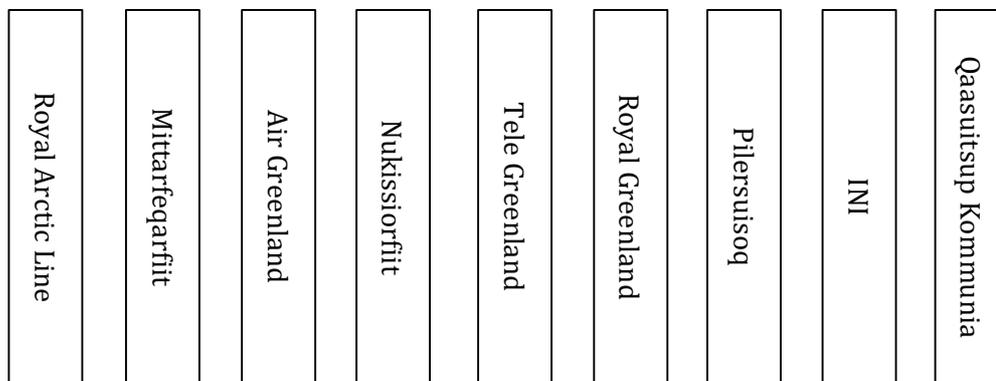
Figure 2. Parts of the sectorized structure in Qaanaaq where a number of socially necessary tasks lands between various organizations at the institutional level.

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A couple of examples of the impact of sectorization:

- In the spring of 2015, the ice stayed longer in the Disko Bay than expected. When Air Greenland's service contract with the Self Rule on helicopter flights in the district ended on May 1, Helicopter services stopped, even though Disko Line passenger ships were unable to dock at the ports. The consequence was that the passengers who were able had to walk out to the ship by the edge of the ice while the rest were cut off from any form of public transport.

- Nukissiorfiit (supply of electricity, water and heat) previously had a car repair shop in Qaanaaq, which because of the district's small population and few cars was unprofitable. As the task is not included as one of Nukissiorfiits core areas, Nukissiorfiit closed the auto repair shop, and in recent years the city has not had a mechanic. In the winter of 2015 Royal Greenland's car stopped working and could not retrieve halibut out on the fjord ice, so the hunters and fishermen ended up on welfare or had to pay to transport the fish to the factory. Royal Greenland requested a mechanic from Ilulissat. Two weeks later, the car worked again and the mechanic went back. Two days later, the ambulance broke down and stood still. Two weeks followed before the health services commissioned a mechanic from Ilulissat who got it repaired. A relatively small repair where after which the mechanic is ineffective until the weekly flight back lands in Qaanaaq.

- In the fall of 2014, we experienced that two different freezing technicians visited Qaanaaq one week apart to serve the city's freezing facilities that are owned by different sectoriarized companies. And in recent years, the city has not had an electrician because Nukissiorfiit has 'privatized' the electrical work, and thus has to commission an electrician from another city for every task. With Air Greenland's rates of fares to Qaanaaq, this becomes very expensive and usually requires a minimum of a week's stay.

Overall, this sectorization results in very high costs for each of the fully or partially self-government owned enterprises. At the same time, the consequence is that a number of social necessary tasks are not resolved, and that each community at times more or less comes to a halt, which triggers a number of secondary social costs and

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pushes toward a more dysfunctional society.

This issue of sectorization is a challenge that decision-makers at the institutional level will have to deal with. Whether coordination is ensured through a far better and more flexible cooperation between both the individual wholly or partly Government owned companies and between companies, municipalities and self-government departments, or whether the sectorized structure is changed is less significant in this context. A key point is, however, that care must be taken to maintain and develop the local and largely silent knowledge of the systems' local roots. For example, we can see how knowledge of the local systems disappears in the organizations which lead to malfunctions, and that expensive sub-systems are replaced because no-one knows the specific local structure or are able to localise a specific installation. Or solutions are transferred directly from Denmark or from another Greenlandic settlement, but are not going to work because no one any longer consider the local context or has the local knowledge of how to make it fit in the local system.

Sustainable business development

In this section, we will proceed with prospects to develop and expand the commercial basis of Greenland and thereby reduce the dependence on the Danish subsidisation. In particular, we will discuss how we must develop perspectives to understand the business potentials in an integrated perspective of sustainable development, which are based on the island operation context of Greenland.

In order to handle the challenge of island operation in the long term, it is a prerequisite that each settlement and district makes far greater use of the diversity of local livelihoods. This will not only reduce the vulnerability of relying on single resources, but will simultaneously utilise the investments tied to individual settlements. At the same time, there are a number of resources which, in a holistic sustainability perspective, are best utilised locally or regionally. A few current examples:

Some of the summer's inshore fishing for halibut in North Greenland could take place as trawler fishing with relatively large vessels., but this is not allowed (the Self Rule

2014) because there are people living in the halibut areas who base their income entirely or partially on fishing or the processing of halibut. If fishing was left to larger trawlers, their livelihood would be undermined. From a strictly business economic perspective, it is possible that trawler fishing would be most profitable. But, in a holistic socio-economic perspective, local long-line fishing makes the most sense as it creates employment in the district, thus reducing social transfers. At the same time, long-line fishing yields a better quality and thus higher prices. (Delaney et.al. 2000) Additionally, because halibut is caught at great depths, there is the environmental argument that trawling can damage the bottom of the ocean, while long-line fishing is much more gentle. Seen in a holistic and sustainable perspective, locally based long-line fishing provides a better resource utilisation in social terms, and it enables a relatively dispersed settlement pattern. In addition, this type of fishing has the potential of developing and branding localised products which the offshore fishing does not allow for.

The same applies to cod fishing which is starting up again along the west coast and especially in districts like Kangaatsiaq, Sisimiut and Maniitsoq. Inshore cod fishery could also be done by trawlers, but is not allowed. (Self Rule 2011) From a holistic perspective of sustainable development, a relatively local utilisation and perhaps even line fishing, which again delivers better quality and higher prices, is more beneficial.

Today, the halibut from Greenland is not diversified and branded in relation to local districts, even though, technically, Royal Greenland can trace the origin of the fish. The interesting history and the traditional Inuit practises of e.g. the district of Qaanaaq where the halibut fishery is being developed, could allow for an increase in revenue of the fish from Qaanaaq in a marked where origin and storytelling is a crucial factor for the price. In such an approach, the traditional and local practises and knowledge that are not currently recognised, and subsequently are under heavy pressure, become very valuable assets. This calls for a diversified approach to the resources to supplement the dominant efficiency approach that focuses mainly on the quantity.

There are a number of living marine resources which are currently not - or not sufficiently - brought into play. For example, relatively large amounts of catfish and

ray are caught as by-catch from the halibut fishing in northern Greenland, but it cannot be landed. First sales of these fish would reduce discard and create jobs and is thus worth prioritising in a perspective of sustainability, even though the business economic benefit may be modest. Here, one of the barriers at the institutional level is that there is not sufficient storage capacity during the period where the ice closes the sea.

As another example, Icelandic and Norwegian fishermen have succeeded in exploiting the landed seafood much better, so what in Greenland are handled as waste are in other regions exploited and capitalised. In many cases, it will be the easiest and the most cost-effective to utilise these potentials associated with the current first sales, while in other cases, it will be more profitable to collect e.g. waste products for further processing elsewhere in the country.

In addition to seafood, there are a number of other potentials such as locally harvested seaweed and enzymes where some processing can take place locally, while other processing requires larger facilities and thus has to take place at a more centralized location.

In relation to the exploitation of living marine resources, Greenland should exploit the international trend towards a demand for products that are proven as sustainable and branded with stories of origin. This does not exclude continued large-scale offshore fishing, like shrimp factory trawlers, as long as it is done sustainably with regards to the environment and the resources. The fishing contributes a very significant export income, but it generates few jobs. It is important that the discussion of the exploitation of living marine resources does not become a discussion for or against the maintenance of a 'historical' structure in the fishing industry, which is not financially viable. But, that it instead becomes a nuanced discussion of how resources are best utilised in a holistic perspective of sustainable development, whilst providing an economic profit. It will inevitably lead to on-going changes and adjustments of the structure, ensuring adaptation to new knowledge about the sustainability of the stocks, technological developments and changing market opportunities.

Tourism is another example where the local connection is crucial. What gives Greenland its appeal as a tourist destination is very much the connection between a

unique nature and a population that has managed to adapt and exploit the potential that nature provides. A local based utilisation of these potentials can generate jobs and a significant socio-economic contribution.

The tourism potentials in Greenland are very diverse and are spread throughout the country with marked geographical differences as potential offerings. It is important to understand and take advantage of this diversity and target marketing to different segments. For example, there are large differences between the people that want expedition sleigh rides combined with trophy hunting in Qaanaaq and Ittoqqortoormiit and that of family tourism at a sheep farm in southern Greenland.

In each case, these remote settlements are an essential part of the attraction. (Nordic Industrial Fund 2003) The combination of resources and the specific location open up for new opportunities. An example could be the aforementioned combination of local natural resources and tourism that exploits an increased global focus on catch-it-yourself and gourmet cooking.

Access barriers for sustainable tourism development are to be found primarily at the institutional level in a number of areas such as transport infrastructure and accommodation. But, there is also a great need for skill development which again points back to the institutional level.

The need for differentiated skills

The Greenlandic settlement pattern with its island operations issues and the increasing focus on differentiated business, requires that skills are understood and managed much more differently than in a Danish or non-island-operation context.

In a community such as Greenland, there is obviously a need for people with the same higher education as, for example, in Denmark or Iceland. But, because the population base is so modest and Greenland, furthermore, has a structure with many small island operation communities, there is an insufficient demand and it is not possible to finance as many specialists. To use our own field of engineering as an example:

In Greenland, there is not a market for specialists in e.g. bridge construction because

very few bridges are built. This means that when building a bridge, you will have to retrieve the expertise from the outside world, and often from Denmark. The same is true for advanced structural engineers to calculate complex building structures, ventilation engineers and many more. It will probably always be required for a modern Greenlandic society to use commissioned expertise. This also means that there is a great need and demand for engineers with broader fields of expertise and a good knowledge of Greenlandic and local conditions, who can ensure that the solutions the external specialists provide are tailored to and work in the Greenlandic context. Island operation issues entail that these 'broader' engineers will be needed in almost all districts to carry out site supervision, continuous monitoring of infrastructure, needs assessments, etc. This is lacking today, and we continuously see a series of grave consequences like errors in construction, lack of operation and maintenance and solutions that are not adapted to local conditions. In the arctic engineering education, it is crucial that the students are trained to put formal and general engineering knowledge into a specific local Greenlandic context in order to develop locally based solutions. Part of this local-rooted knowledge can conversely be an asset in a Greenlandic business that can sell solutions to other Arctic areas.

Similar can be said of many other academic disciplines as in selected medical specialist areas where it will not be possible to maintain the skill set in Greenland, and where patients are flown to the national hospital in Denmark instead or specialists are flown in in shorter periods. Meanwhile, Greenland has a great need for general physicians who can operate creatively within the conditions of the health service in Greenland, and who can understand the social and cultural conditions that are closely connected with illness, healing and health.

For what can be broadly characterized as the vocational sector, there is a corresponding need for specialists and broad capabilities. In Nuuk and in a few of the major cities, there will be a need for real specialists in a number of trades, partly to cover the city's own needs and partly to reduce the need to call in specialists from e.g. Denmark, and who can also travel out to the coast and solve tasks there.

At the same time, the nature of island operations means that there are a number of trades that in some way need to be represented in all districts. And here, it is necessary

to think innovatively and across established sectors and domains of knowledge, because the market in most districts will be too small to employ, for example, a freezing technician. However, with some training, a mechanic or an engineer from the power plant can ensure on-going operations of the city's and the district's freezer, if the plants are serviced by a specialist at regular intervals. This will go a long way to ensure that fish or other products do not spoil and that great values are not lost. It will reduce the cost of the urgent commissioning of a technician, as well as provide social assistance to fishermen and factory workers, while the first sales have stopped. Firstly, it requires both inter-sectoral collaboration in which, for example, the person is employed at the power plant can also solve tasks for other companies or citizens for a fee. Secondly, it requires systematic efforts to upgrade the skills of different professions, so that they can work more across different fields.

A better utilisation of the individual settlement's potential subsistence and commercial basis requires a relatively good understanding of local potentials and innovation. There are a number of resource persons in relation to, for example, the exploitation of living marine resources who know the local conditions and challenges and who also know of the when and how factors. If their knowledge does not come into play, it will be difficult to realise the local potentials whether it comes to the use of other species of fish, seaweed fishing, etc. This does not mean that fishermen and hunters always exploit resources sustainably. Their strategies should continuously be updated and developed.

We also see another type of skills that should be brought into play. Around the towns and settlements are key people who are vital for local development. It may be people with formal qualifications as school teachers or those without formal qualifications, like a local hunter or a hunter's wife. The point is that these people have very important local knowledge and social and networking skills that enable them to spur on initiatives and cooperation.

There is often talk about what is characterized as informally acquired skills, but in the fragmented world of Greenland's island operations, these skills are needed to enable innovation and ensure optimum use of the potentials. Here, an important point is that the local population rarely are able to lift the burden of innovation or

entrepreneurship, including the ensuring of the financial management of a newly created company. Consequently, too many possibilities are never realised.

Therefore, it is essential to ensure cooperation between the locals who have knowledge of local conditions, like experienced fishermen, hunters, sheep farmers, etc., and various forms of 'innovators', who will often have a higher education and come from the outside. Often, there will be local resource persons from other disciplines such as teachers, health professionals, the government owned companies, etc., who could be included as resource persons in a workgroup. Here, too, there is a need for cross-sector cooperation.

A need for development

In this article, we have identified a number of correlations between settlement patterns, business development and knowledge and skills. It is a main point that the need for a more diversified economy requires new perspectives on the Greenlandic settlement pattern and on the island operation issues which cannot be avoided. Where the existing scattered settlements have largely been criticized for being expensive and an obstacle to development in Greenland, the analysis indicates that it may be a good basis for diversified and robust development. Today, there is in Greenland a very large and diversified resource base which can be the impetus for the development of a new and sustainable industrial base.

However, it is not enough to note these opportunities. There is a great need to develop local human resources to cope with these potentials which is far from the case today. At the same time, the state and municipal sector need to be diverted to back up such local and diversified development, just as it needs to be supported by the sectorized infrastructure companies.

In this development, local knowledge and traditional skills will be very central, but not sufficient. Because of Greenland's tiny population, and further due to the issues inherent to island operation, we in Greenland recognize that there is a wide range of specialists which we will not have the opportunity to train at a qualified level, and why we need to leave such training to Danish or other foreign institutions from the

vocational level up to the long-term university programs. Here, an important point is that Greenlandic personal at all levels need to be trained to be able to translate the general skills and solutions to fit the context and to benefit Greenland.

Furthermore, Greenland can focus on building a wider set of skills that our current education system in Greenland does not ensure. Here, there is a great need to think in new ways and think laterally. One option may be to offer more systematically training for craftsmen, engineers, etc. to ensure that they can perform tasks outside their own area of expertise and thus perform tasks that lie in what can be characterized as 'neighbouring subjects'.

Similarly, there is a great need to 're-train' a number of people with 'informal' skills so that they can handle new challenges like exploiting other living resources or fill in the "gaps" that occur when tasks land between different sectorized areas. There is thus every reason to develop different course offerings, so that people with great experience-based knowledge in one area can be trained, for example, to combine hunting and fishing with tourism.

It may be a central strategy to develop a kind of more open modular training at different levels. So, for example, an operator of the power plant, through modules, could be trained to function as a freezing technician and/or as an auto mechanic at a certain level. In that way, we could ensure some necessary, more interdisciplinary skills to the island operation communities that do not have the volume for more specialized skills.

Finally, the central point is that it is probably important, but not sufficient, to develop these programs and other initiatives that focus on so-called informal or local competencies. It will be absolutely essential in this context to develop strategies for how to create a framework and support for local business development. Cooperation and coordination between different sectors and various regional organizations is one of the necessary challenges to be handled. New forms of business and pricing that encourage a decentralized and diversified industrial base is another area which will be necessary to analyse and to develop.

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7.4 SITUATED CAPACITIES

- Exploring Arctic Winter Games 2016 upskilling initiatives

By Carina Ren & Lill Rastad Bjørst

Introduction

This chapter takes its beginning in two different approaches related to what is often identified, also in this present volume, as the much needed upskilling of the Greenlandic workforce. We will identify these two approaches by exploring how competencies are understood and assessed in relation to business development and investments in Greenland, and to the work around upskilling as it is undertaken in preparation for the Arctic Winter Games 2016 (AWG2016) in Nuuk. While the first approach of 'bringing capacities to Greenland' identifies external business and educational competencies as central, the second approach of 'building capacities in Greenland' works more explicitly with activating business and human resources locally. We probe the second approach to capacity building as situated through upskilling initiatives under AWG2016. With a specific focus on volunteers, we will discuss if and how upskilling initiatives through language, service and project management courses may work to benefit individuals and society at large. Lastly, we will provide a number of concrete examples on how skills and experiences from AWG2016 might be harvested and put to work through the approach of situated capacities in order to benefit collaborating individuals, companies and society as a whole.

The insights of this chapter draw on research material collected in relation to two prominent Greenlandic events. The first is the Future Greenland business conference 2015 with the theme "Growth and welfare – scenarios for the development of Greenland" which is hosted by Business Greenland biannually (and for the third time) in Nuuk. Both authors took part as researchers in the Future Greenland 2015 conference in adjoined workshops. Interviews were conducted with politicians and

executives with a particular focus on development and investments in mining and tourism and in the raising of capacity and education primarily in relation to these two areas, which along with fisheries where explicitly identified as crucial areas for future business development.

The second event is the Arctic Winter Games 2016 which are also held in Nuuk and which are hosted, owned and funded by the Government of Greenland, the Municipality of Sermersooq and the business community of Greenland. The material from AWG 2016 is generated from the research and the development collaboration between the first author and the AWG secretariat who are in charge of the planning and the execution of the event. In their collaboration, they have worked explicitly with creating and communicating values and the long-lasting effects in and through the event. In that process, a workshop was held with members of the 63 event committee, sponsors and other partners on value creation in events, interviews with stakeholders have been conducted as have surveys with the aim of monitoring and measuring the valuing and value creation of the event amongst stakeholders (sponsors and partners, participants, residents, Greenlandic citizens and event visitors). Lastly, fieldwork is carried out during and after the event to explore the impacts and lasting effects of the event activities, in particular, with the aim to look at upskilling and capacity building.

Bringing in capacity

Judging from the political debate during the last five years on development in Greenland, there seems to be no plan B for having mineral resources, oil and gas investment and extraction as an important future strategy for economic growth (Bjørst 2015). According to the business communities and the leading political party Siumut, investments from outside of Greenland are needed and inevitable for Greenland to develop as a nation. This understanding was strongly reflected during the Future Greenland 2015 conference. The conference had more than 400 participants – mostly from Greenland and Denmark – and by facilitating a dialogue in Greenlandic, Danish and English, the format of the 2015 conference was open for the participation of international business partners.

One of the dominant themes of the conference was Greenland's severe economic situation. Several speakers offered their interpretations and evaluations of the absence of the expected "mineral adventure", and argued that initiatives to attract investors that have been taken by the current and former government of Greenland had not been sufficiently efficient. Many of the speakers identified outside investments as crucial in order to jumpstart development in Greenland. In his opening address to conference delegates, Brian Buus Pedersen, CEO from Greenland Business in charge of the conference, stated:

> *"The more skill sets and capital we can attract from outside (of Greenland) – the more we can create locally"*
> (Brian Buus Pedersen 2015, translated by authors)

According to Brian Buus Pedersen, the problem was not only the lack of cash-flow created by the absence of foreign investments, but also that Greenland was missing out on the possibility to attract more and stronger competencies to the country. This was crucial as he identifies external skill sets as an engine for local growth. In an interview prior to the conference, chairman of Greenland Business Henrik Leth, agreed to this view by explaining how Greenland is challenged by a lack of skilled workers and specialists, and commented on some of the preconceptions which he saw as embedded in the ongoing discussions about the Greenlandic labour market. As an employer, Henrik Leth has been engaged for many years in the debate about the difficulty of recruitment in Greenland. According to him:

> *"It is necessary to articulate the problems… it is as if one imagines that the jobs need to adapt to what people can handle... No, it is just like anywhere else in the world, the skill sets have to be adapted to what the job requires. Here in Greenland some expect that it is the other way around".*

Leth's statement points to the enduring dependency of the administration and private businesses in Greenland on foreign, mainly Danish, employment. For almost three decades, Greenlandic politicians have been debating on how to change that – but it remains a problem to be solved. Two major identified reasons (out of many) are the limited supply of qualified/educated Greenlandic labour and the relatively poor public

service level (Lang 2008).

In this debate, the 'Greenlandization rate' for the different professions in Greenland has been the subject of constant interest (Marquardt 1996: 95). The term 'Greenlandization' in the context of recruitment, designates the percentage of the overall number of jobs within a certain profession which is held by individuals born in Greenland. Over the years, the debates of Greenlandization have been conjoined with sensitive discussions over language, ethnicity and nationalism – which have made the topic even more controversial (Gad forthcoming). However, recruiting employees from outside of Greenland is extremely expensive and the workforce turnover is substantial. The massive resources that are wasted through constant work enrollment and replacements are some of the economic reasons as to why the inclusion and the upskilling of more people who live in Greenland are of upmost importance.

Reading through the limited academic work on knowledge transfer and capacity building in Greenland, it is striking how these concepts are mostly discussed 1) in the context of traditional ecological knowledge and on how to transfer or integrate traditional ecological knowledge into modern Inuit everyday life, and 2) in reports and papers developed in the planning phase of large-scale mineral, oil and gas projects which are predominantly published by the government of Greenland and the extractive industries. In a newly drafted report Emma Wilson interviewed Greenlandic politicians about the use of the Greenlandic workforce in the new extractive industries. One informant said:

> *"…it is like a hot potato and no-one wants to hold it. It needs to be faced and discussed otherwise international companies will just bring in their own people" (Wilson 2015: 66)*

Leth's response could be understood as a comment to this state of affairs and the seemingly lack of adequate solutions. The response also points to how Greenlandic recruitment policies in Greenland are entangled in a larger discussion of where Greenland is heading as a society and of where to invest time, money and energy for a more viable future. At the conference, however, the dominating discourse was also identifiable in keynotes by managing director of PensionDanmark Torben Möger

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Pedersen, Danish Arctic Ambassador Erik Vilstrup Lorenzen and managing director of the Danish Industry Foundation Mads Lebech, who noted that outside investments and in a broader sense *capacities brought to* Greenland play a primary role as catalyst for growth and development in Greenland.

Building capacity

At the conference, an AWG2016 workshop was facilitated by its general manager, Maliina Abelsen. As Arctic Winter Games 2016 is set to be the largest event of its kind in the history of Greenland (www.awg2016.org), the biannual circumpolar youth sport competition is a huge logistical and project management task for the host city of Nuuk. In order to manage this event and its many volunteers, a secretariat was set up in August 2013 which has since worked to expand its activities in collaboration with sponsors, public and private organizations and citizen volunteers.

During the week-long event in March 2016, an estimated 2200 participants, delegates and press will be inundating the city (of app. 17.000 inhabitants). Around 1700 volunteers are needed for the host society to cater for these guests (more than 10% of the population of Nuuk) along with facilities for sleeping, eating, transportation and recreation. While these logistical tasks are enormous considering the size of the host population, so indeed are the costs that brings the budget to over DKK 60 mill. which is divided between its owners: the municipality of Sermersooq, the Greenlandic Government and the country's business community.

Taking Greenland's difficult economic situation into consideration, the question is what benefits such an expensive investment will bring to society? Or whether it might even be seen as an *investment* and not just as a waste of money on a one-off sporting event? A concern which has already been raised in public debate. The understanding from the AWG secretariat on these matters is clear as specified repeatedly in their strategy, public communications and interviews: AWG is "more than a sporting event" (www.awg2016.org). In fact, as the general manager repeats to the workshop attendees at the conference, AWG is set to be the *largest single project* in Greenland's history. She also claims that this project might prove itself valuable not only for

participants, attendees and the host society, but also for business.

Such claims were probed during the conference workshop. The main assertion was about how skills obtained through the planning and the holding of the event by sponsors, volunteers and other partners could be used to benefit future public and business projects. What the workshop made visible at first was, as argued by Ren, Petersen and Dredge (2016) how AWG "enters everyday life in a number of powerful ways. Not only when the AWG actually takes place but also through the year-long process of planning the event. During that time, connections are forged and requirements are articulated through collaborative efforts of the event actors. Through collaborations with and between civic organizations, educational institutions, the art and music scene and others, new social and public–private configurations are enacted such as citizens-as-volunteers, NGOs-as-partners and companies-as-sponsors" (p.89). In other words, AWG is not just taking place in sport arenas or at the AWG office. It is a radical and protracted intervention into the everyday life of very many public, private and civic actors.

AWG workshop during the Future Greenland conference 2015 in Nuuk. Sitting on a gold mine?

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Secondly, the quote and the workshop challenge a narrow understanding of AWG as something taking place over a mere 10 days in March 2016. AWG was already in the making and had been so for a while – also while some people were sitting and waiting. To capitalize on and to strengthen this ongoing work entailed a realization, Abelsen claimed, of the deep need for and dependency on businesses, volunteers and general involvement and on the collaboration between all stakeholders. It also meant a realisation of how the host society was in fact already *sitting on knowledge*.

At this moment during her presentation, Abelsen kept insisting on how citizens were sitting on a gold mine and at last asked the participants to look under their seats. Taped underneath every seat, the workshop participants found a candy bar that offered much amusement in the crowd. They were really 'sitting on a gold mine'. The metaphor of looking for and finding gold 'at home' illustrates the second, less prevailing understanding present at the Future Greenland conference of capacities as *built in* rather than *brought to* Greenland.

The resources symbolised through the candy bar and more importantly through the work of AWG are different from those that are promised by politicians and the mining industry which hold external skill sets and capital as the catalysts for change. While potential resources are assumed to be present, the capitalising on these requires *activation*. Rather than getting outsiders to do the job or settling with what is already there, it requires – staying with the metaphor - getting up from the chair and to assess the means and resources at hand. And AWG, it was argued at the AWG workshop, is an occasion to do just that.

Situated capacities

While the former debate sketched out in the above is framed around a lower or higher level of Greenlandization in which recruitment is encompassed based on a barometer of higher or lower Greenlandic labor rates, another position exemplified by AWG is not only less language or ethnicity centered, but builds as well on other assumptions

on the concept of capacity. As we will demonstrate through the example of volunteer upskilling, capacities are not either 'outside' or 'inside' Greenland. These are not by definition suited or useless, but *emerge in a context*. According to this approach, capacities are identified as *locally situated*, and AWG is positioned as a catalyst to spark or activate these capacities through various collaboration and upskilling initiatives.

In the work of AWG, this entails the inclusion and the triggering of manpower from within all corners of society from sponsoring business owners, school kids and shop assistants to prison inmates, taxi drivers and university students. However, as we shall see, sparking this new volunteering public into being does not happen instantaneously or automatically, but requires work which according to Maliina Abelsen, herself a former politician, is far more straining than any election campaign.

Unleashing potential

The issue of revisiting and activating local resources was repeated the next day when the general manager and a few other members of the AWG secretariat held one of their countless volunteer recruitment meetings in downtown Nuuk. As explained in Danish and Greenlandic by Maliina Abelsen and assistant manager Arnakkuluk Kleist in their welcoming presentation to the approx. 35 potential volunteers, AWG2016 is only made possible through volunteer participation. Volunteering is therefore not only a way to partake in something very special, but a way to make it possible. For potential volunteers, the joining of the team was explained as an opportunity to develop skills and gain new experience, for instance, through practical experience and by partaking in courses in English, first aid, basic hygiene or project work.

According to the AWG strategy, one of its important aims is to "promote skills development in the general population, giving us the strength and courage to develop and set new goals. Skills development will be rooted in project work, event coordination, language, service and not least the hosting role developed through active participation and courses" (www.awg2016.org). In contrast to the previous statement by Leth, where he argued that "competencies have to be adapted to what the

job requires", the perception of skill development in the AWG strategy is responsive or, as we described earlier, rooted in an understanding of capacities as *situated*.

A way to work with capacities on the ground is through the differentiated upskilling initiatives which offer different levels and content to fit the skills' level, needs and affiliation with AWG 2016 to the people in situ: volunteers, business employees, students and service industry workers.

In the strategy, a number of specific skills development initiatives are listed, including:

- Project work courses for about 300 people
- Service courses for about 150 people
- First-aid courses for about 150 people
- English courses for about 50 people
- Volunteer work courses in five towns (in collaboration with the Greenland Sports Federation)
- Development of a database for volunteers

By the deadline 31 January, the secretariat had managed to attract 1750 volunteers, surpassing the initial goal of 1700. However, getting volunteers through training programs has proved a challenge in itself, for instance, due to participants not showing up for courses. This confirms the general challenge in volunteer management of securing the interest and the motivation of volunteers in order to prevent drop-outs (Wilson 2000). By early January, 84 volunteers have gone through courses or seminars of project work. Five joint seminars for the 63 voluntary committees have been held; four of them for committee chairs and co-chairs and one for all members involved in committee work.

First-aid courses have been conducted with 60 volunteers and English courses with 33. Courses in voluntary work have been held with approximately 200 volunteers in six different towns. Lastly, an initiative has been set up to create a database of volunteers managed by the Municipality that will enable future contact and re-activation of volunteers for other activities that require volunteer help.

In spite of cancellations, the current numbers and activities still display the efforts and

accomplishments made in recruiting and upskilling a large number of volunteers across Greenland.

On their website, AWG reports from the volunteer courses:

> *"The training course has now been held in Qaqortoq and Nuuk. Participants were very interested and avidly involved. We could clearly see that many of them truly are passionate about their voluntary work but lack the tools they need. This tells us that the training courses are valuable to voluntary work and therefore also of value to society. This is indeed a field we should acknowledge much more strongly and continue to develop in (the) future"* (www.awg2016.org).

The account indicates how training courses and other volunteer activities seek to drive the installment of a new culture of voluntary, and again to unlock already existing potential such as interest, involvement and passion through upskilling. Reversely, the interest, involvement and passion sparked by AWG also potentially work as an opportunity to motivate participation in upskilling initiatives. This closely knit relationship becomes of crucial importance when addressing capacities as *situated*, and underlines the current work with volunteer upskilling as it identifies knowledge as locally grounded.

As a project company, the AWG secretariat will be closed down shortly after the event in August 2016. At that moment, the many resources, skills and experiences gathered in the secretariat, the 63 event committees and the 1700 volunteers will be dispersed.

But how to secure that they do not disappear but remain connected to a workforce in need of upskilling? And how to enable knowledge transfer to future projects: in tourism development, in mining, in building a volunteer culture? And lastly, how to start working, already now, with strengthening the legacy and heightening the long-lasting effects of the event? Considering this, the challenges are *first* of how volunteer upskilling work and its outcomes may be collected and evaluated, and *second* of how the impact of current efforts can be broadened and passed on for the benefit of society as a whole. This is examined and discussed in the last part of the chapter.

Documenting, assessing and broadening upskilling initiatives: Examples from AWG

In probing the volunteer upskilling work of AWG, we now highlight three ways by which to explore the upskilling initiatives of AWG and their impact: Firstly, through the *documentation* of individual testimonies of previous and current volunteers and participants which are collected and shared using social media. Secondly, by *assessing* how companies understand and make use of their staff who volunteer in AWG through interviews and surveys. Thirdly, by *broadening* the current upskilling initiatives by exploring current municipal plans to support future volunteering.

Documentation: Testimonies of individuals

A way of collecting and sharing individual outcomes is through testimonies of (current and previous) volunteers and participants. As an example of this, little stories have been posted on the AWG website and, with higher intensity, on the official AWG Facebook profile. Many of the testimonies centre on how the lives of participants were impacted by joining AWG. An example is this short account from a previous AWG participant:

> *"AWG is without doubt more than just a sporting event. I really mean that because I participated 15 years ago in Whitehorse, playing badminton. It was the first time I traveled away from Greenland and I believe it was the reason why I wanted to travel around the world again after I graduated from primary school. And I did – I ended up living abroad for 9 years in total for educational reasons. Participating in an event like AWG can surely create something great in the long term not only in relation to education but also on a personal level."*

Other testimonies are regularly posted on the Facebook site of AWG2016, such as the daily 'Christmas calendar' in December which featured daily posts of volunteers. On December 4, Uiloq says:

"By being a volunteer for AWG2016 I have gained new skills in areas I have not worked with before and my local network has been expanded with cozy and professional people" (www.facebook.com).

What testimonies display is the impact which an event such as AWG may have on individuals. In the testimonies, upskilling is far from always the principal theme. Often issues related to learning and upskilling are entangled with narratives of travelling, seeing things in new ways, socializing, gaining a new perspective on one's own abilities and achieving new things.

What such individual stories show us is how upskilling is not a *singular choice* but a complex and assembled *accomplishment* made possible by coupling an occasion (AWG) and a social setting (participation/volunteering) with local possibilities, opportunities, needs and resources.

Assessing value: how sponsoring companies make the most of their volunteer staff

An area where possible outcomes of ongoing volunteer initiatives could be assessed in more detail is the sponsoring companies which carry an estimated 1/3 of the event costs. In a student project from AAU, Susanne Neander Duus, Sandra Gedvilaite and Jonas Kousholdt (2015) explore the value creation logics of large sponsor companies through interviews with the employee in charge of the AWG sponsorship. One of the areas which sponsors identified as central is the area of volunteering, where staff members are 'bought out' of the company to serve as project team members or managers either during the event or, in some instances, for longer periods of time. In any case, many private employees of sponsoring companies take part in organising the event, typically in their area of expertise such as logistics, IT, communication, catering or other areas.

Some of the outcomes which sponsors, either already identified or expected to see, were the upskilling of individual employees, team building and increased collaboration between company departments and between the company and other areas of society. In a survey conducted in January 2016 in collaboration between

Aalborg University and the University of Queensland, Australia, some of these as well as other areas have been probed to explore how volunteers (and other AWG activities) create value for participating sponsors. By exploring how companies think of their staff, and later make use of, of those who volunteer in AWG, we may see indications of the many ways in which value is created in the private sector through event-driven upskilling initiatives.

Broadening effects in society: towards a volunteer culture

A last example of the values created through AWG volunteer upskilling initiatives is the current municipal initiative of channeling new volunteers from AWG to other public projects. In an interview, Marie Fleischer from Sermersooq municipality argues "we are currently looking at how to make use of these volunteer resources, which is a real strong source of development for our citizens". While Greenland has previously capitalised on volunteers primarily in the area of sports, the goal is now to broaden the scope of volunteering to support strained welfare service resources. Fleischer continues "we have initiated a process where we open up old people's homes, kindergartens etc., informing about the possibility of joining as a visitor or play bingo with the elders on Sunday, distribute food or go for a walk. So it has provided an opportunity to talk more about volunteering."

By using this example, we wish to display how volunteering and the upskilling initiatives which go hand in hand with this development can be broadened beyond the confines of the event proper (which we also got an indication of in the above in the case of the companies). At the municipal level, we see how the engagement of 1750 AWG volunteers has created opportunities to work with a volunteer culture. We see how once again the - at least potential - effects of AWG expand beyond the confines of the event proper by connecting to the core area of care within the welfare system. By exploring how concrete needs from the Greenlandic public administration meet an AWG initiative such as volunteering, we see once again the potential of situated capacity building where local needs, resources and skills relate in new and potentially valuable ways.

The three examples suggest that the volunteer initiatives under AWG may be documented, assessed and broadened beyond the confinement of the event proper by looking further into how new capacities, values and logics are already or potentially enacted into being. These, as we have shown, might include the situated development of capacities and skills, individual aspirations, new ways of collaborating and a new culture of volunteering.

Moving forward – three lessons from AWG

In recapping the insights generated in this article, we will sketch out three lessons from the (ongoing) work of AWG to inform the future discussions and initiatives of informal upskilling under Greenlandic Perspective and the *Everybody on board* initiative (2015).

1. Situated capacities: Arctic competencies revisited

The pronounced lack of research on evaluating temporary projects and the aforementioned rapid workforce transition in Greenland suggests that much work could be done on how to prevent or lower the current high staff turnover that results in a massive and sustained drain of workforce knowledge and experience. Because of this lack of research, no evidence can be offered of whether *bringing* capacities to Greenland (with the concomitant risk of wasting recruitment and retention resources) or *making due* with the current capacities (what Leth refers to as adapting skills to the job) is the most suited strategy for securing the Greenlandic workforce of the future. As a consequence of this, the debate of more or less Greenlandization remains a political as opposed to a knowledge based topic of debate.

In the present chapter, we argue how AWG takes a *situated approach* to capacity building by understanding and working with capacities as skills as an ongoing context-sensitive and collaborative development. We argue that this understanding offers a new approach to discuss recruitment strategies in Greenland in which neither *skills* nor *jobs* take first priority, but are shaped in a mutual relationship and in close connection with the needs and resources on the ground. As described by Maliina

Abelsen "the development is not sustainable if the people (living in Greenland) are not able to take the central jobs which will follow" (interview, 2015). While the outcomes and the long-lasting effects of the massive work initiated through the AWG remains to unfold and be evaluated, its work has already shown an alternative to universal upskilling and recruitment models. Instead, it has offered concrete indications of which situated upskilling initiatives Greenland could look at. Such situated initiatives could be:

- highly collaborative work across sectors; across social, geographically dispersed and ethnic groups

- related to local needs and resources

- focused on creating many different outcomes and values for multiple stakeholders

- supported (or to some extent driven) by the innovative use of digital and social media resources

- to a higher or lesser degree sponsorship based

- to a higher or lesser degree volunteer based

2. Building and securing skills – a constant process

AWG as the biggest event and project in Greenland's history may be seen and understood as an occasion to engage with capacity and skills anew. But the challenge remains of how to secure that it does not disappear again. What the current ongoing work with upskilling initiatives through AWG indicates is that building and securing the skills sparked by the event is not a terminal process. Just as it started many years ago, it may also continue to uphold or build momentum. This, however, requires an understanding of upskilling as a constant process – *not* as a short term project or a terminal goal to be reached.

A continued work could entail as we argue:

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- Retaining and anchoring of upskilling and learning activities in relation to the event

- (Re-) activating skill sets gained and used at AWG2016 by volunteers, sponsors and other partners

- Identifying events in need of volunteers such as Arctic Circle Race in Sisimiut

- Identify areas in need of volunteering e.g. kindergartens, old people's homes, youth clubs etc.

- Develop a (digital) infrastructure to collect and bring together volunteer resources

- Develop a (digital) infrastructure to collect and bring together AWG testimonies, innovation business models and other collaborative efforts

Here, we have already pointed to the municipal ideas of strengthening the culture of volunteering in Nuuk. However, other areas of society and business life such as the tourism sector and other partners such as sponsors could profit from further engaging with and developing the unleashed volunteer capacities.

3. Evaluation as key – but should also be situated

At present, not very many evaluation initiatives have been prepared to assess the outcomes, values and the long-lasting effects of the AWG. The area of volunteer upskilling is no exception. While we have pointed to a few areas where initiatives have been set up to capture and better the understanding of the values of AWG, Maliina Abelsen has pointed to the lack of evaluation at numerous occasions. Not only are evaluations much needed to understand and improve procedures and fundamentally to justify the spending of public money, but also, and preceding this, the owners and partners should be more aware of which goals they would like to be evaluated on. This again points to how an evaluation of AWG should not draw on standardised measuring tools but should rather find ways to understand the particularities of its context. This could entail:

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- Developing clear goals for the continuation or securing of the AWG upskilling initiatives

- Developing proper assessment tools to describe and evaluate long-lasting effects and possible spin-offs of the event

- Identifying comparable best cases (from AWG 2002 cohosted in Nuuk or from other AWG or similar events)

- Engage various public and private AWG partners in (self) evaluation initiatives

- Engage university students in evaluation initiatives

As things go with one-off events, the AWG secretariat will slowly be closed down after the event. In August 2016, no traces will be left in the now so bustling headquarters of the AWG secretariat or its volunteer house in downtown Nuuk. But hopefully, other traces – physical or intangible – will remain not only as a part of a legacy but also as longer lasting effects and outcomes of the work of public administration, sponsoring companies and volunteers. In this chapter, we have described how AWG works with volunteer upskilling based on an approach of situated capacities, where grounded capacities and skill sets are activated in innovative set-ups between AWG, companies, the public and the volunteers and through volunteer courses. By displaying what such set-ups can do, they may pave the way for other ways of understanding and working with capacities, skills and collaboration as complex and situated accomplishments.

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7.5 BUILDING INTERNATIONAL ECONOMIES

By Rasmus Gjedssø Bertelsen, Jens Christian Svabo Justinussen & Coco Smits

Introduction

This chapter will draw on the continuing research by Rasmus Gjedssø Bertelsen, University of Tromsø-The Arctic University of Norway/Aalborg University, Jens Christian Svabo Justinussen, University of the Faroe Islands and Coco Smits, Wageningen University and Research Centre/Royal Haskoning DHV. The research explores the connection between human capital and natural resources for local benefits and comprehensively sustainable development in Greenland, the Faroes Islands and Iceland (Bertelsen, Justinussen & Smits 2015, Smits, Justinussen & Bertelsen 2015, Smits, Bertelsen & Justinussen 2014). Bertelsen, Justinussen and Smits have found in this research that Iceland and the Faroe Islands have been able to derive substantial local benefits and comprehensive sustainable development from natural resources in hydropower, geothermal power and offshore oil and gas exploration because of strong local human capital. In contrast, Greenland faces severe challenges in terms of local human capital for deriving local benefits and comprehensive sustainable development from its natural resources in the fields of mining and offshore oil and gas exploration. The key to strong local Icelandic and Faroese human capital seems to be the prolonged historical path dependencies that have allowed for local primary, secondary, vocational and undergraduate quality education (increasingly graduate) combined with successful brain circulation.

Refocusing the research and the discussion onto the question of applying informally acquired skills in Greenland and lessons to be learnt from Faroese and Icelandic experiences, raises important topics about what constitutes informally acquired skills in such North-Atlantic societies and how they benefit different groups. There is a tendency, when discussing informally acquired skills in an Arctic context, to focus on local and traditional knowledge and culture. In this chapter, we wish to discuss the view of Arctic informally acquired skills under the conditions of the Arctic as increasingly touched by globalization. The focus will be on the interaction between

local and traditional informally acquired skills with global informally acquired skills. This focus is derived from ongoing research and broader research on Arctic societies imparted by globalization (see www.globalarctic.org research network).

Arctic societies and economies have historically been and continue to be natural resource-based, which have integrated these societies in global networks. The integration has, for instance, stemmed from the North-Atlantic stock-fish exports to Catholic Southern Europe since the Middle Ages, North American fur-trapping for purposes of European fashion till today's extensive marine-product exports to southern populations (notably the Barents and Bering Seas to Europe and North America) along with exports of minerals, oil and gas (Heininen, Southcott 2010). New business sectors are emerging such as tourism that rely increasingly on natural and cultural elements. In total, these sectors require the formally and informally acquired skills of Arctic citizens to participate in global networks and transactions. This requirement is also evident from our research, and it is clear that Iceland and the Faroe Islands have benefitted from transnational knowledge connections and brain circulation. This have given many Icelanders and Faroese the formally and informally acquired skills to participate in global transactions concerning marine, hydro, geothermal and oil and gas resources. Again, Greenland is faced with significant challenges.

This chapter will therefore discuss the interface between local, traditional and global informally acquired skills for Faroese, Greenlandic and Icelandic local benefits and comprehensive sustainable development. Iceland and the Faroe Islands have rich experiences in this field, and thus, initially, their experiences will be presented and discussed for their relevance in relation to Greenland. Then, we will discuss the opportunities and requirements for using Greenlandic informally acquired skills from the perspective of international oil and gas companies.

Iceland: global informally acquired skills throughout society

Iceland is – together with the Faroe Islands – a politically, socially and economically

important case to study for the development of Greenlandic society. Wide circles in both the Faroe Islands and Greenland aspire to ever increasing and eventually full independence which is widely dismissed in Danish society as unrealistic. Presently, it is very important for both Danes and Greenlanders to remember the historical experience of Iceland. Iceland was historically an overseas dependency of the Kingdom of Denmark that over the course of events from the 1845 reestablishment of the Althingi, as consultative assembly to the absolutist king of Denmark, through the first Icelandic constitutional law of 1874, home rule in 1904, sovereignty in personal union with Denmark in 1918 and the declaration of the republic in 1944, became an independent state. Around 1900, Iceland was one of the poorest societies in Europe and there was widespread disbelief in Denmark that it could sustain full independence. Iceland's success over the course of the 1900s of creating an independent state and creating a society with one of the world's highest levels of human development, holds important lessons for the future development of the Kingdom of Denmark. A key to Iceland's development has been its ability to derive local benefits and sustainable development from its marine resources and hydro and geothermal power resources. The strength of Icelandic human capital has been key to this development. In the following, we will focus on the interplay between local and global informally acquired skills for this development in the key sectors of fisheries, energy and tourism (Nordal, Kristinsson 1996).

Fisheries around Iceland have been highly internationalized since the Middle Ages when English, Dutch, French, German and other fishermen and whalers challenged the authority and sovereignty of the King of Denmark-Norway over Iceland (Nordal, Kristinsson 1996). However, Iceland itself was a predominantly agricultural society with some winter-fishing from shore-launched rowing boats. The situation changed drastically around 1900 when Icelandic fisheries were mechanized with engine-powered boats and the first trawlers, where the first one, Coot, arrived in 1905 (regarded as the industrial revolution of Iceland). The traditional fisheries had naturally greatly depended on local informally acquired skills which, nevertheless, was a very dangerous activity. The local informally acquired skills continued to be crucial in industrialised fisheries and were supplemented with formalised education in line

with the founding of the Navigation School (Stýrimannaskólinn) in Reykjavik in 1890 (Tækniskólinnnd). Fisheries became the all-dominant currency-earning export of Iceland which is of key national socio-economic importance to a highly trade and import dependent society. Icelanders were and remain therefore dependent on both the formally and informally acquired skills to export fish products abroad.

For fish exports, we argue the value of both formally and informally acquired skills as participating in international economic exchange. The Icelandic primary and secondary school system, including the commercial college (Verzlunarskóli Íslands) of 1905 and the business administration at the University of Iceland of 1938 together with brain circulation, provided the setting for formally acquired skills. We wish to highlight, the informally acquired skills of international exchange in Icelandic society gathered from the interaction with foreigners. This included, historically, predominantly Danish traders in Iceland, but also, for instance, the extensive interaction with French Breton fishing activities in Iceland around 1900. The French fishing activity lead to the creation of – although small – French hospitals for the treatment of sick and injured French sailors on both the east coast of Iceland and in Reykjavik. A town like Ísafjörður in the Westfjords of Northwest Iceland that was exporting fish directly to Southern Europe in the late 1800s, received Norwegian whalers and American and French fishing boats (Ísafjarðarbærnd).

Today, Iceland is particularly well-known for its energy system based on hydro and geothermal power. Fossil fuel is practically solely used in air, land and sea transportation. Over the course of the 1900s, Iceland has managed to harvest hydro and geothermal power resources that supply affordable and renewable electrical and thermal energy which contributes to a high living standard, and which is also the basis of international energy (-intensive) industries. We have put "-intensive" in brackets because we want to highlight that the renewable energy industry in Iceland is both a knowledge-based and an energy-intensive industry (Bertelsen, Justinussen & Smits 2015, Smits, Justinussen & Bertelsen 2015, Smits, Bertelsen & Justinussen 2014, Bertelsen, Hansen 2015). The first domestic and international consideration of hydro-powered intensive nitrogen-based fertilizer industry appeared in the early 1900s.

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What which should be noted in this context, is the importance of transnational informally acquired skills of Icelanders - in addition to transnational formally acquired skills. Presently, we will mention three key Icelanders: Frímann Bjarnason Arngrímsson (1855-1936) who was born in Iceland, but emigrated to Canada, was the first Icelandic university graduate in North America from the University of Manitoba. Frímann was the first advocate of hydro-power technology in Iceland, leveraging his transnational technological skills. The international financier of early Icelandic hydro-power with an interest in investment and exploration, was the Icelandic lawyer, politician and poet Einar Benediktsson (1864-1940) who graduated from the University of Copenhagen. The first man to build a small hydro-power facility in Iceland was the master carpenter Jóhannes Reykdal (b. 1874). He discovered Norwegian hydro-power technology during a visit to his sister in Iceland and built the first hydro-power installation in Hafnarfjörður in 1906 (Ferlir 2007).

The final case that we will briefly look at concerning global informally acquired skills in Iceland, is tourism. Since the early 1950s, Iceland has managed to turn itself into a transatlantic air travel hub through the old US airfield at Keflavík. The role as hub was established through a network that connects the USA (and later Canada) and Europe, and was based on the business of Loftleiðir which in 1953 started flying low cost between the USA and Europe via Keflavík. The business model of using Keflavík as a hub between North American and European cities, even without direct connections or at low fares, helped to build up an international air traffic network for Iceland far beyond what the Icelandic market itself could sustain. The story is relevant for Greenland which suffers gravely from a lack of affordable direct flight connections to both North America and Europe; for purposes of developing research, education, government, business and society. One can only imagine how internationalised Greenlandic society and its economy could become, and how many international tourists there could be in Greenland today, if SAS had chosen a "Loftleiðir" strategy of making Narsarsuaq or Kangerlussuaq its North Atlantic hub connecting Copenhagen, Oslo, Stockholm and perhaps, for instance, Gothenburg and Trondheim with US destinations such as New York, Washington DC, Seattle, etc. through Greenland. The lesson to be learned is to consider the value of formally and informally acquired skills

in international business in North Atlantic societies. The man who secured Icelandic landing rights in the USA in 1948 was Hjálmar Finnsson (1915-2004), a farmer's son from the Westfjords, who studied graduate business administration at the University of Southern California in 1941-1942. Icelandic society possessed the formally and informally acquired skills, formed especially during World War Two, to conduct business and politics in the USA and thus the Loftleiðir strategy was possible. Scandinavians could or would not implement such a strategy for Greenland and Greenland itself, could not and cannot do so today (Loftleidir Icelandic nd, mbl.is 2004).

The 'spirit' of the Faroese economy

In the Faroe Islands, a large part of the informal economy consists of traditional informal subsistence economic activity, such as whaling, fishing, agriculture and sheep farming. However, other informal economic activity also flourishes, such as volunteer work (Salvation Army, Red Cross, and other NGOs) and many forms of unpaid cultural work (music, art, literature, and theatre). Furthermore, religious organizations outside the state church are often run by unpaid volunteers. This includes, the construction of new buildings that are completed by donations and unpaid labour (volunteers). Unfortunately, no statistics adequately capture the extent of the Faroese informal economy and its composition. The informal economy is, alas, informal.

However, the latest population Census (2011) provides some indication of the scope of the informal sector, though by no means a complete picture. Asked if they were doing any unpaid social work, 11% of the population over 15 year of age, answered that they were doing some kind of unpaid social work every week. More precisely, out of a total Faroese population of 37.965 people over the age of 15, 2.300 people reported doing less than five hours of social work per week, 1.100 between 5-14 hours per week and 680 people more than 15 hours per week (Hagstova Føroya 2014a).

Every household was also asked if it had received any 'additional' food (i.e. food given

through the community, not bought) in the last 12 months. The results showed that between 80-90% of all households had received some kind of 'additional food' (Hagstova Føroya 2014b). We can safely assume that most of this food came from the sea (fish, whale, seabirds), but also from agriculture (sheep and potatoes). In other words, 80-90% of the population had received food from the traditional informal sector. To unlock what lies behind these numbers, we have to look at the social organization of this sector.

The traditional informal economy

The traditional informal economy of the Faroe Islands has its roots in the pre-industrial Faroese economy, which was dominated by a subsistence economy based on agriculture, fishing, and pilot whale hunting. The activities were traditionally organized as community-based governance. Each village organised its own activities and sometimes jointly with neighbouring villages. In that sense, it was a decentralised bottom-up system of governance. Furthermore, the fish stocks, the whale population, the seabirds, and partially the sheep population were considered, to various degrees, common property and managed as a joint resource. A large part of the traditional informal economy is still organised according to these principles.

Sheep farming, which dates back to the earliest settlements, involves partially privately owned land within the village border and larger chunks of land in the mountains that is held in common with other landowners. The practical work and management of these sheep stocks are done jointly with the other owners. A part of this could be classified as formal economy (farmers sell meat and pay taxes), but another part consists of informal economic activity, either as a hobby, or as a way to generate the highly esteemed wind-dried lamb meat (*skerpikjøt*) for personal use and as gifts for the extended family.

Traditionally, fishing was also organized as a communal activity based around rowing boats that fished in Faroese waters (*útróður*). The catch was usually divided equally between the participants. However, it was also common to divide the catch between the households in the village (Joensen 1988). These practices were, however, not

transferred to large-scale industrial fishery. In addition, a 'mutation' of this tradition has evolved on modern factory trawlers with an informal system called 'grabbing' (*grams*). This is a practice where fishermen employed on commercial fishing boats are allowed to take fish from the trawlers' catch for their personal use. While at sea, the fish are hung on the deck to produce dry fish (*turran fisk*). The fish is not to be sold, but is only meant for personal use and as gifts. As one fisherman pointed out:

"No, that is, it strongly emphasized, that you don't sell what you grab."
"Ok?"
"No, no, that you give it to somebody else who needs it, that is something different"-
(Hjelm 2013).

Pilot whale hunting, the "enfant terrible" of the Faroe Islands, is also an important contributor of food and has been for hundreds of years. It is also organized as a communal activity where hundreds of people are coordinated in a series of activities, including the hunt, drive, killing, slaughtering and distribution of the meat from schools of pilot whales. The event takes place very fast and no planning of the activity is made ahead of time. Instead, a spontaneous organisation occur with the hunting foreman (*grindaformaður*) who guides the drive and the kill together with the local sheriff (*sýslumaður*) as the main authority in charge of the distribution. Everyone who has participated in the grind, or who lives in the village, receives a share. No whale meat is sold. Although, the hunt is distributed between the people in the village where the killing takes place, it was, and still is, common to share it with others if they ask (Joensen 2009). Thus Rasmussen describes in 1949:

"There were three things that all men (rich and poor) could not resist, and they were: sheep, women, and whales. When several schools of whales had come to one whale bay and not to another, it could happen that men would come in an 8-man boat to ask for some whale meat, and they were never refused." (Rasmussen 1949, in: Joensen 2009: 184).

All these traditional informal economic activities (sheep herding, fishing, pilot whale

hunting) are quite inclusive. They require extensive social cooperation and involve a sharing of resources with others.

This form of social organization which has its roots in the agricultural society that predates the modern capitalistic market economy, comes with a particular mindset and mutual social expectations - a spirit of participation, social cooperation and sharing.

This 'spirit' is mostly reproduced and kept alive in the traditional informal economy and stands in contrast to the modern rational market economic principle of profit maximization. However, this spirit has influenced and to a large extent shaped the particular form of capitalism that has taken root in the Faroes.

For example, when the commercial fishery took off in the early 20th century, the jobs, basing and economic benefits of fishing boats, trawlers, fish factories and, later in the 1980's, aquaculture stations, were deliberately spread to as many islands and villages in the Faroe Islands as possible. This policy was called village development (*bygdamenning*). It might have been more rational, which means that more profit might have been earned, if there were fewer but bigger and more efficient trawlers, one large-scale fish factory instead of 18, fewer roads to the villages and fewer tunnels the connecting communities. However, it is characteristic of the whole Faroese economic development in the 20th century that economic activity had to be spread out to as many villages and cities as possible, so that as many as possible had a chance to participate and get a share of the economic growth (Justinussen 1999).

It is worth noting that the public welfare system as we know it today in most Scandinavian countries, developed much later in the Faroe Islands than in Denmark. For example, unemployment benefit was only introduced in the mid-1990s. Before that, unemployment meant no income, and people would have to survive on traditional informal economic activity and gifts from their family and extended family - or emigrate (Justinussen 1999). Participation, cooperation and sharing were therefore a matter of necessity.

Recent development of the offshore sector

When the Faroe Islands took over the rights to its underground resources from Denmark in 1998, a new hydrocarbon framework had to be redeveloped from scratch. Given the small size of society and lack of formal competences within the industry, one of the main questions was whether there was any realistic chance of developing any hydrocarbon industry in the Faroe Islands at all. There was basically zero experience in this new field in the Faroe Islands at the time. The most logical and rational decision might have been to license the rights to the oil companies in the hope of maximising tax revenues.

Here, the Faroese economic spirit of participation, cooperation and sharing played a formative role in shaping the direction for the development of the hydrocarbon sector. Thus, the opening lines of the report from the Hydrocarbon Commission states that the main goal is to develop business opportunities and jobs *in* the Faroe Islands, while stressing that "*Without these advantages for the Faroese society a carbon industry has no meaning*"(Oljuráðleggingarnevndin 1997) [p.7].

This fundamental principle, or spirit, translated into three pivotal legal principles enacted to guide hydrocarbon development (Smits, Bertelsen & Justinussen 2014, Oljuráðleggingarnevndin 1997). It was legislated that:

- All hydrocarbon offshore activity must pass through a Faroese harbour.
- All contracts must give a fair chance for Faroese participation.
- A competence development fund must be established to build Faroese human capital.

Over time these initiatives led to extensive learning and exploration and, even though no commercially exploitable oil has yet been found in Faroese waters, there are today approximately 915 people directly involved in the offshore industry (Oljuvinnufelagið 2013). Additionally, several spin-off companies have been launched that service the hydrocarbon sector. Thus, a whole new economic sector has emerged in the Faroe Islands (Smits, Bertelsen & Justinussen 2014, Oljuráðleggingarnevndin 1997). In 2013,

the business association of Faroese hydrocarbon industry, *Oljufelagið*, stated that

"Most supplies of goods and services to the oil rig West Hercules come from Faroese businesses. This is the first time that both air and sea transport to the platform is in the hands of Faroese suppliers. Esvagt Don owned by Thor lays at the platform, Sjóborg owned by Skansi Offshore takes care of the sea transport, and Atlantic Airways the air transport. All supplies go through the harbor Atlantic Supply Base in Runavík, which thus works as a logistical center. That most supplies to an oil rig in Faroese area now are in the hands of Faroese businesses, proves that Faroese businesses have the right competences to take on these tasks on a competitive level" (Oljuvinnufelagið 2013) [p.4].

The links between the informal and formal sector

There is no direct transfer of skills and experience from the informal sector to the offshore sector. However, there is an indirect connection. All the owners of the offshore supply service companies, namely, Thor, Skansi and Jacobsen, have a background in the fishing sector prior to their entering of the offshore business. Additionally, they all have their roots in fishing villages, and they have all been involved with the traditional informal sector. Thus one could argue that some of the skills used in the offshore sector are informally acquired.

The role of the traditional informal sector, however, should not be limited to the individual level and to how particular informally acquired skills can be formalised, or to how the informal sector can be incorporated into the formal sector to a greater extent. Rather, one should look at the informal sector as a sphere of society where social networks are created across economic class structures and social status, and where critically important 'weak ties' are formed. In other words, a key role of the traditional informal sector is to produce social capital. This social capital can be transformed into formal economic capital. However, even if it does not, it is valuable in its own terms.

Instead of asking how we can include informal work experience into the formal

economy, we might broaden the question and ask what role the informal sector has in creating stability and security in society as a whole. In the end, the formal economy will only truly thrive if society as a whole flourish as well.

When a Faroese employee suddenly leaves work to participate in a pilot whale hunt (*grind)*, or leaves for the day to go sheep herding (*reka seyð)*-, it provides a reinvigorating breath of fresh air for people who otherwise are stuck in the "iron cage" of the formal economy, to borrow a term from Max Weber. They return, I assume, refreshed, revitalized and reconnected (much more research on this topic is needed). Maybe the best way to draw on the informal sector is to let it flourish on its own terms and to acknowledge its importance as a glue that holds society together.

The lesson is also that one has to look at the specific conditions and the human organisation within the sector before one draws too many conclusions. Its role might be very different depending on the circumstances and the particular context.

In the Faroese case, it is clear that if we look at the traditional informal sector from a broader societal perspective, and in particular from a long-term perspective, the spirit of participation, cooperation and sharing, has been reproduced over time in the traditional informal economic sector while spilling over into other sectors and creating a diverse, cohesive and resilient society.

Greenland: The challenge for international companies to use informally acquired skills

When Greenland is looking to develop a new energy sector, and in particular an oil and gas sector, it is important to understand the expectations and the requirements of international companies. The oil and gas industry consists of three sectors: upstream, midstream and downstream. The upstream sector consists of the exploration and production of the oil and gas resources. The midstream sector is mostly concerned with transportation, storage and marketing, whilst in the downstream sector, focus is on the process, the refinement and the retail of the resources (Petroleum Services

Association Canada nd). The following section will elaborate upon the perspective of international oil companies and will highlight the opportunities for cooperation.

In the upstream sector, the demand for workers is highest in the construction phase and which only occurs after an economically viable find has been established. This stage usually represents the high peak of demand, and unless there is another large construction project coming up, the duration of this employment opportunity is relatively short and will only last for a couple of years. After these years, the demand will return to 'normal' and leave many people unemployed again, unless the skills they possess can be used in other sectors where there is also a high demand. In the case of Greenland, it is expected that most of the oil and gas projects will take place offshore, making it even more difficult to involve a local unskilled workforce in the upstream activities. The construction of offshore production facilities (platforms/subsea) is usually conducted by specialised companies and shipyards elsewhere in the world after which they are shipped to their final destination for installation.

Normally, midstream and downstream activities also generate many jobs (Living Earth 2014). It is not very likely that downstream activities are going to take place in Greenland which renders participation of the midstream sector even more important. Transportation to and from a land-based treatment facility usually takes place via pipelines, while transportation from Greenland to elsewhere in the world, will take place via shipping. If gas is found, it will be transformed into Liquefied Natural Gas (LNG) before its transportation via ship (Shell nd). Depending on the method future reserves are developed by, the transportation of oil and/or gas does not have to involve a land-based component. Therefore, the opportunities to work in this sector, especially for unskilled workers, are limited.

Direct job opportunities will relate to exploration, construction of offshore and potentially onshore production and transportation facilities, spill prevention and response, logistics, operations and maintenance activities (Shell nd). Working in the oil and gas industry requires education, albeit not necessarily high-level education. Offshore rigs provide job opportunities for an unskilled or semi-skilled workforce

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(Houston Chronicle 2012), however, even these functions require standard high school education and are therefore difficult to access for people who do not currently have any official education. Moreover, often fluent English proficiency, or in the case of Greenland, Danish proficiency, is required to work in the industry.

On the other hand, there are also many opportunities because the oil and gas industry is an industry where there is a lot of attention on training and capacity building (SPE Research 2012, Figgis, Standen 2005). Moreover, in the future, the industry will be facing a lack of skilled workers (Rigzone 2015, International Labour Organization 20112) and hiring from the local workforce could be a solution. However, this would require the current workforce without any official education to be trained and certified. It is also important to note that it is not only technical skills that are considered essential for a career in the oil and gas industry. Skills such as the ability to learn, teamwork participation and communication are also perceived to be vital skills for success (SPE Research 2012). These skills are not necessarily learned at school.

Another opportunity for informally acquired skills in the oil and gas industry, is the use of understanding the local situation and ecosystem. The use of traditional knowledge, adjacent to scientific knowledge, is gaining ground in environmental studies as a requirement for permission into the field, and is, for example, used by Shell in Alaska (Shell nd). Moreover, there are opportunities during offshore activities such as seismic surveys and the drilling of wells and the serving as marine mammal observer on the operating vessel(s). However, being on an operating vessel also requires an understanding of the safety standards and the ability to communicate with the vessel's personnel.

In addition to the direct jobs that the industry generates, there is also the generation of indirect jobs, including manufacturing and service jobs (Living Earth 2014). However, the number of indirect jobs depends on the way the offshore activities are being developed: If they are developed without any interaction with the communities on land, the number of indirect jobs will be lower compared to a development option where interaction with land-based activities exists. The interaction could, for example,

result from a Greenlandic supply base where offshore activities and onshore services meet.

The opportunities for using informally acquired skills in a future oil and gas industry in Greenland are thus limited. Some degree of training is probably needed, even when traditional knowledge is being used by international companies to create a better understanding of the local ecosystem and to observe the mammals near operating vessels. The involvement of the private sector in defining skill development programmes, is essential to ensure a seamless connection between supply and demand of labour. However, private companies are only to invest in training programmes when there is an economic growth potential and return on investment. Investing in a trained workforce during the (early) exploration phases, can be stimulated by government policy measures, for example, via the Impact Benefit Agreement. Important to note is that the effectiveness of IBAs is (also) dependent on the enforcement of the agreed targets (Fidler, Hitch 2007). Careful attention should be paid to continuity and flexibility of the programme, as the exploration activities might only be of a short duration. In this way, the potentially short term contribution of the oil and gas companies could effectively help to build a resilient society with a sustainable set of skills that could be applied in different industries or locations.

Conclusion: the informally acquired skills' basis of international economies in the North Atlantic

The Arctic has been globalized for a long time, as pointed out by Heininen and Southcott (Heininen, Southcott 2010), and is increasingly affected by globalization, according to the GlobalArctic research network. The social, political and economic development of Greenland is also dependent on Greenland successfully integrating politically, educationally, socially and economically with the world. Iceland and the Faroe Islands have each used international and transnational intellectual, political, social and economic connections very successfully to achieve full independence (in the case of Iceland) and high levels of human development. These achievements have been based on a combination of formally and informally acquired skills and natural

resources. We have elsewhere in our research, as referred to here, focused on the human capital created through formally acquired skills as built through historical legacies of local education and brain circulation. In here, we have turned our attention to informally acquired skills for building international and transnational connections.

Iceland shows how centuries of tradition of interaction with Danish and other foreign traders, fishermen and whalers together with brain circulation can built up a body of international and transnational skills both acquired formally and informally. This body of formally and informally acquired international skills was greatly expanded by the Anglo-American affairs during and after World War Two with the vastly expanded Icelandic-British-US exchange. These formally and informally acquired international skills are reflected in successful Icelandic fisheries, energy and tourism businesses.

The Faroe Islands demonstrate how deeply traditional social and economic activities can merge with the modern high-tech sector of offshore oil and gas exploration. Formally and informally acquired skills from seafaring can lay the foundation for a domestic high-tech offshore sector - something which is a significant challenge for Greenland. One striking thing about the Faroe Islands is how traditional activities of whaling and sheep herding can be highly valued activities in a modern high-tech economy, which are tolerated as a matter of course – and which stands in contrast to indigenous peoples' clashes with industrial work over traditional harvesting.

The point of this report is to get all aboard in the Greenlandic economy and society, including those with few formally acquired skills. To achieve this aim, it is important that Greenlandic labour with informally acquired skills can connect with foreign companies working in Greenland. Foreign companies in Greenland are usually engaging in extractive industries. How companies of international extractive industry view and engage with Greenlandic labour with informally acquired skills, is therefore key to the aim of this report.

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8. AT THE OTHER END OF THE WORLD

This section aims to provide an overview of existing practices in an international context along with the rationale for doing so when implementing Recognition of Non-formal and Informal Learning Outcomes.

Countries are faced with similar issues, such as unemployment, but their policy responses are different even for those that fall under the Recognition of Non-formal and Informal Learning Outcomes approach.

The article is written by PhD in Economics Patrick Werquin. Patrick Werquin is a Professor at CNAM (*Conservatoire national des arts et métier*, a French Higher Education and Research Institution), Paris; and an international independent consultant based in Saint-Sulpice-sur-Lèze, France.

8.1 POLICY LEARNING FROM INTERNATIONAL PRACTICES

Background: Policy Learning from International Practices

Together with Technical Vocational Education and Training (TVET) and [adult] literacy and Qualifications Frameworks (QF), Recognition of Non-formal and Informal Learning Outcomes (RNFILO) is at the top of the education and training agenda in many countries around the globe.

The topics that these entities cover are not divorced from one another and are often addressed at the same time and in the same legislative framework where one exists. Most of these topics usually fall under the lifelong learning (LLL) umbrella – in Slovakia, Norway or Denmark, for instance – and materialised by a lifelong learning strategy or by a legal framework.

Through international cooperation, there is a lot of policy learning taking place within these fields and Recognition of Non-formal and Informal Learning Outcomes is no exception.
It is sometimes organised, for example, under the auspices of the European Commission (see the Inventory: www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory) or the OECD (Werquin, 2010). It is often based on regional or bilateral cooperation.

This chapter is an attempt to summarise the main issues that are discussed in the international context regarding Recognition of Non-formal and Informal Learning Outcomes, and is organised as a sort of checklist for policy makers to best organise the decision making process.

Setting Objectives for the Recognition of Non-formal and Informal Learning Outcomes System

All countries are faced with similar issues and the names of these issues have been known for decades. These are called unemployment, low employability or competence shortages, for instance. It is often thought that Recognition of Non-formal and Informal Learning Outcomes is a possible policy response to most of these issues. This chapter will show that this approach indeed ranks among promising avenues provided that some key questions are addressed.

Any country, including Greenland, at the outset of setting in motion a system for Recognising Non-formal and Informal Learning Outcomes, must note that it is not all countries that respond in the same way to these issues. Countries are faced with the same issues, but their policy responses are different from one another. Recognition of Non-formal and Informal Learning Outcomes is one general approach, but there are several other under the umbrella. This chapter will outline these.

Solutions vary across countries and/or over time. Objectives must be established before a country can make corresponding decisions. As an example, and as a point of departure, the international review below will show the case of Portugal. The Portuguese Recognition, Validation and Certification of Competences (RVCC) system implemented in the 2000s, was designed to provide the participants with a qualification that would correspond to formal academic education. The general objective of improving the overall level of academic qualifications of the population, was absolutely sensible since Portugal was lagging behind European standards in terms of general education[15] (Gomes *et al.*, 2008). RVCC was a great opportunity for many self-learners to have their academic knowledge recognised (Melo *et al.*, 2002). According to the plan, TVET qualifications would have been addressed in a second phase of action, but the RVCC programme was dismantled before it reached this phase. The alleged reason was that participants of the RVCC programme did not systematically find a job after being awarded a general education qualification. The issue, in terms of policy learning, is that the RVCC

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[15] This is also a rationale that may be found in Iceland, where the number of individuals with less than upper secondary education is high too.

programme was never designed to provide participants with a job in the first place.

The case is not that the RVCC did not deliver. It delivered what it was meant to deliver and not what new decision makers hastily decided was of top priority, regardless of other considerations, for example, that the evaluation came too soon after the applicants went through the programme. It is well known that providing low educated individuals with a general education qualification has long term effects, in that, it provides applicants with improved self-esteem and self-confidence and provides as well a stepping stone to further learning; and this is exactly what the RVCC programme was supposed to do (Werquin, 2012).

The lesson is that the objectives of its future Recognition of Non-formal and Informal Learning Outcomes system has to be specifically outlined from the inception.

It is the only way for an evaluation to indicate whether the approach – whether a pilot or a full programme – is or has been successful and for providing feedback on how to improve it. There is no such a thing as a good or a bad Recognition of Non-formal and Informal Learning Outcomes approach. It all depends on the objectives.

Evaluation is by far the main gap in implementing Recognition of Non-formal and Informal Learning Outcomes approaches successfully. It is non-existing and most of the decisions are based on faith; i.e. on the belief of whether the approach is good for people. Few countries have conducted rigorous evaluations or collected microdata for understanding the issues at stake.

France (see Recotillet et Werquin, 2008) and the Government of Madeira, Portugal (see Werquin, 2012), are exceptions.

Rationale: Improving the Qualification Levels of the Population as the Main Objective

It is not always explicit,[16] but most countries in fact aim at improving the qualifications that are distributed among the population, especially for the economically active or potentially active people. As stated in the chapter on concepts and definitions in this anthology, Recognition of Non-formal and Informal Learning Outcomes is first and foremost about awarding qualifications, certificates, credits etc. to individuals who have the corresponding competences, but no certifying documents. This involves making competences visible. It is not about creating competences, not directly at least, but about making competences visible for employers and often to the applicants themselves and even to their acquaintances.

Through the awarding of a qualification, or credits toward a qualification or exemptions to access the formal learning system, Recognition of Non-formal and Informal Learning Outcomes necessarily enhances the employability of successful participants (see the Danish, Belgian or Latvian rationale for instance). A qualification is indeed a reassuring component of a CV for employers in a recruiting situation. Employers are risk averse and competences of applicants are not always obvious. By attaching a name to a competence and by awarding the corresponding qualification to competences, the Recognition of Non-formal and Informal Learning Outcomes system creates a state of confidence between employers and jobseekers.

In closed economies, the overall effect of improving individuals' employability through making competences visible may be a zero sum game[17] in the short run, as it is only the jobseekers who are recruited that change and not the number of individuals that are recruited. In a small open economy as in the Greenlandic (Kleist *et al.*, 2015), an increase in qualification levels has the potential of attracting foreign companies which can have a net positive effect. All studies

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[16] It is explicit in Ireland and South Africa for example. In Switzerland, the approach aims at remedy the lack of specialised workers

[17] Even if providing equal opportunities to all is a reasonable objective, as it is explicitly the case in Switzerland for example.

about business climates show that human capital – effectively measured by qualification levels – is highly sought after by international companies. In addition to making competences visible, Recognition of Non-formal and Informal Learning Outcomes also has the advantage of describing current competences that are immediately available to the labour market without additional training.

Possible Awards: The Continuum from Exemption to Full Qualification

One of the reasons why Recognition of Non-formal and Informal Learning Outcomes is a relatively successful tool for policy making, is because it is extremely flexible from the point of view of what it may award to successful applicants, according to overall objectives. It provides a continuum of options from the most elementary – e.g. granting access to formal studies without the corresponding academic prerequisite – to the most complete – e.g. awarding a full qualification on the sole basis of the assessment of existing individual competences.

Most countries use several of the available options in the existing toolkit which mainly consists of:

- Exemption of academic prerequisite to enter a formal study programme
- Credits, or exemption of all or part of a formal study programme toward a qualification
- Interim or partial qualification (toward a full qualification) for part-time and/or lifelong learners
- Labour market certificate of competences (for applying for a job) and
- Full qualification (see below).

To provide all of the options in a single country requires a lot of preparatory work, but it also provides maximum flexibility. Few countries make use of all of them, and it is for each country to decide which is suitable for the purpose and to consider what its society is ready to accept. In practice, most of these options do

not create difficulties. Only the last option, of awarding a full qualification on the sole basis of an assessment, remains a highly discussed and unsolved matter. Several countries (e.g. Ireland, France, Czech Republic, the UK and most of the SADC (South African Development Community) countries[18]) have made the choice of allowing the successful applicants to be awarded with a full qualification at the end of the validation process (See chapter on definitions in this volume for the distinction between validation and recognition). Others have explicitly decided against this option (e.g. French- and Dutch-speaking Belgium and all the countries in the Balkans).

It is interesting that there is a wide consensus in regard to the fact that human beings learn everywhere and all the time, and that a lot of learning takes place, in particular, in real life situations; at the workplace, during volunteering activities or at home. However, few societies are ready to accept that a qualification may be awarded without a graduate following the corresponding formal study or training programme. In many countries, a cultural shift will have to take place before this is possible. And in the countries where this is possible, a marked preference is witnessed toward qualifications achieved in a formal learning context. A strict communication policy has to be planned together with implementing a Recognition of Non-formal and Informal Learning Outcomes system and will have to stress that qualifications are not awarded when it is not deserved, and that a thorough assessment must be carried out before any qualification can be awarded.

Assessment: At the Heart of the Validation and Recognition Process

Once it is agreed that Recognition of Non-formal and Informal Learning Outcomes is about validating and recognising individuals' competences and learning outcomes, regardless of the way they have been acquired, the input (How, where, when and with whom individuals have learnt) process which is unknown should remain so.

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[18] It is possible in Switzerland in some instances. Albeit somewhat different, the Australian Recognition of Prior Learning (RPL) system is geared toward the awarding of a qualification.

By definition, Recognition of Non-formal and Informal Learning Outcomes assessors should only be interested in verifying whether the applicant has learning outcomes that are not already recognised in a qualification.

It becomes, therefore, clear that it is the quality of the assessment that creates an element of trust in the process and with it a confidence that awards should be delivered to successful applicants.

The assessment is the main component of the validation process and is summarised in Table 1, which represents a comprehensive list of points that are based on observed country practices from which it is possible to select relevant steps.

The question of the assessment is twofold. Deciding on the most appropriate assessment method means deciding on:

- Assessment standards and
- Assessment procedure

The former refers to the reference used in the assessment process in order to decide whether or not the applicant meets the expectations of the assessors and, therefore, of society. The latter refers to the way the applicant is assessed in practice.

Table 1. A Typical Validation Process for the

Recognition of Non-formal and Informal Learning Outcomes

Steps	Purposes
Preliminary Phase	
Elaboration of objectives and selection of trades	Identification of the trade jobs
	Information of the stakeholders
	Elaboration of a partnership framework
Validation of non-formal and informal learning outcomes	
Information, advice and guidance	Welcome
	Information
	Decision of the individual to apply
Administrative registration	Provision of the administrative form
	Guidance 1 (light)
	Handover of the administrative form by the applicant
	Decision to accept the application
Application screening and eligibility	Guidance 2 (intermediate)
	Handover of the eligibility binder
	Eligibility interview
	Decision to send the applicant to the assessment
Assessment	Guidance 3 (comprehensive)
	Handover of the portfolio of [self-analysed] competences
	Analysis of the portfolio
	Convening notice send to applicant
	Supplementary assessment (practical tests, written examinations, on-the-job observation, simulation…)
	Interview with the panel of assessors
Certification	Validation of the learning outcomes
	Making and stamping of the qualification
	Awarding of a qualification to successful applicants

A portfolio of competences is a collection of evidence that is prepared by applicants in support of their claim of having learning outcomes to be assessed.

The nature of evidence that is recommended by various countries and development agencies includes:

- Certificates and awards

- Letters of recommendation

- Samples of work

- Videos and/or photographs of work activities

- Skills logbooks

- Details of formal training, records of seminars, conferences and workshops attended

- Resume and performance appraisals

- Testimonials from current or previous employers and/or

- Past jobs descriptions

A portfolio is used in many countries often as a necessary first step of presentation as it has several merits, including the help it offers applicants to identify their learning outcomes. Learning outcomes are often particularly difficult for applicants from a low educational background to communicate. Portfolios are also useful because they present virtues of the applicants and can establish whether applicants have enrolled for personal or for occupational reasons. Finally, portfolios are useful to assessors as well because they provide evidence of the literacy level of the applicant; a typical issue in many countries as applicants who may have technical skills and know-how, for instance, might not have the necessarily literacy skills.

The assessment procedure is complex as it is directly linked to the objectives of the Recognition of Non-formal and Informal Learning Outcomes system and to the main motivation of the applicants. Applicants enrol into a Recognition of Non-formal and Informal Learning Outcomes programme for different reasons. Some enrol, for example, because they want to take stock of their learning outcomes, but have no vocational objectives, and others enrol because they need a qualification in order to be able to apply for a job where the occupation is regulated. In the former case, it is quite obvious that the assessment could, and

should, be rather light. In the latter case, the assessment should be thorough and quality assured. The matter is critical as the cost of the individual assessments depends on the performed procedure.

Assessment Standards

The assessment step is complex because it entails a choice of assessment standards. This choice is amply driven by the general objectives of the Recognition of Non-formal and Informal Learning Outcomes system. If successful applicants are awarded a qualification that is officially registered in the National Qualifications Framework/Catalogue, then the standards should be the exact same as the standards that are used in the formal learning system. This provides a guarantee that RNFILO applicants are assessed against the same criteria as learners in the formal learning system. The standards are usually provided by the Ministry of Education, but not always. Many countries have several ministries which each deliver qualifications and each ministry therefore uses its own standards.

If the successful applicants are awarded a certificate, i.e. an award that is not registered in the National Qualifications Framework/Catalogue, then specific standards may apply. Awards could even be created specifically, for instance, to meet with certain labour market expectations, when the certificate awarded has no equivalent in the formal learning system (see Austria or Dutch-speaking Belgium for instance) or in the case of competences shortages.

The two approaches both have merits and drawbacks. Awarding a qualification to successful applicants will allow them to apply for a job and also to resume study in a formal study programme. The drawback is that the validation and the assessment, in particular, may be very cumbersome. Awarding a simple certificate may prevent successful applicants in resuming formal studies, although, it gives them an easier path into the labour market. To some extent, this duality also refers to the question of whether the Recognition of Non-formal and Informal Learning Outcomes system focuses on academic knowledge or on

vocational competences. As seen above, Portugal began its RVCC system by focusing on academic experience. Turkey did it in another way and initiated a system whereby only the TVET sector was involved: successful applicants do not gain the right to access the formal education system. Most countries accept all/both types of experience. This is the case in France since 2002 (VAE) even if their 1992 system only accepted occupational experience (VAP). The current system which is based on any kind of experience, is a lot more successful from the point of view of up-take, for instance.

In conclusion, assessment is at the heart of Recognition of Non-formal and Informal Learning Outcomes because it is only the assessment that will reveal whether applicants deserve the award they have received. The standards that Greenland will employ (creation) or choose (selection from existing standards) will be the key. The former is usually done with labour market stakeholders, the latter with education stakeholders.

Case Study: The French Approach vs. the German Approach – Assessment Standards vs. Assessment Procedure

The French case may help to understand the issues at stake in the sections above regarding standards. One of the building blocks of the French approach – and the key point to understand – is that a qualification may be achieved in different ways. Three[19] routes are possible: initial education and training (mainly for young people), continued training (mainly for adults) and Recognition of Non-formal and Informal Learning Outcomes (mainly for adults). The principal element that guarantees equality and parity of esteem in theory, is the use of the same assessment standards whatever the route taken by learners aiming at achieving a qualification.

Even though the standards are the same, the assessment procedures are different. It is the specificity of the French system that causes applicants to be

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[19] Apprenticeship is sometimes counted as a fourth route.

assessed in a different way, although, it is measured against the same standards. Typically, the Recognition of Non-formal and Informal Learning Outcomes system requires the preparation of two portfolios (one for eligibility [right to enter the assessment process] and one for the real assessment), but it may also rely on a practical test. The system never relies on written tests, but assumes that the literacy level of the applicant is acceptable, since writing skills are necessary during the preparation of the assessment and the assessment itself.

In Germany too, the assessment standards and the assessment procedures are the same for all applicants as well, whether they use the formal system or are external applicants (*Externenprüfung*). The role of experience and informal learning is only meant to access the examination process which the students follow in the formal system. In the case of the ProfilPASS, the experience of the learner is documented, but there is no assessment; it is nevertheless an interesting step toward making existing learning outcomes visible.

Using the informal learning outcomes to access the examination of the formal education and training system, is a safe way to protect equality of treatment such as in Germany. The French approach, nevertheless, proves that it is possible to relate informal learning outcomes to the assessment standards of the academic system. France made the choice of assessing informal learning outcomes against the existing standards so that the qualifications awarded have a double currency: successful applicants are awarded the exact same qualification as the successful applicants in the formal education and training system. Therefore, they can use their newly acquired qualification to resume their studies in the formal learning system and/or for entering the labour market.

[Comprehensive] Law [also Addressing the National Qualifications Framework], or Social Consensus

A question that seems to be widely discussed concerns the passing of a law or the creation of a social consensus to set Recognition of Non-formal and Informal

Learning Outcomes in motion. Nordic European countries seem to have a tradition for social consensus, at least, for when stakeholders are involved. Norway insists on the need to obtain the involvement of all stakeholders early in the process[20]. This is extremely relevant for creating a sense of ownership, and for reaching societal recognition of the awards delivered at the end of the Recognition of Non-formal and Informal Learning Outcomes process.

France had reached an inter-sectoral agreement just before passing the 2002 Law of Social Modernisation which contained the articles on Recognition of Non-formal and Informal Learning Outcomes. The law was therefore not needed, but the consensus would have left out individuals that was not directly involved in the labour market (unemployed people, and people out of the labour force). The law gave access to Recognition of Non-formal and Informal Learning Outcomes to all citizens. This is an error that Morocco is about to make as applicants of Recognition of Non-formal and Informal Learning Outcomes ought to be presented by their employers, but this is not the case. This leaves out not only the unemployed and the economically inactive, but also the vast majority of workers since most of the labour force consist of self-employed people within the informal sector of the economy.

If a law on Recognition of Non-formal and Informal Learning Outcomes should be passed, the key questions to be considered could be:

> - For which objectives is the Recognition of Non-formal and Informal Learning Outcomes system meant (access, career guidance, qualification and/or the labour market)? Would it make sense to have a different law for each different objective?
> - What type of preparatory work is required with the key stakeholders? Their involvement before the law is actually drafted would create a sense of ownership.

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[20] Trade unions in Norway also stress the point that it is important that employers have a system to document individuals' experience.

- Should the law on Recognition of Non-formal and Informal Learning Outcomes be part of the law of the National Qualifications Framework? This should be considered a possibility as the underlying concepts and objectives are the same of the two (learning outcomes, visibility of competences, transparency, mobility), but it may prove difficult because the qualifications classified in the Qualifications Framework are outcomes, whereas Recognition of Non-formal and Informal Learning Outcomes is a process. The actors and stakeholders are different. There are commonalities between RPL and the Qualifications Framework, but passing a law that describes both systems may create unnecessary complexities and rigidities.

- Is there a risk that a law might create unnecessary demands for the Recognition of Non-formal and Informal Learning Outcomes system and, therefore, make recognition more expensive for participants and/or for organisations? There is no such evidence as yet, but this means that actual needs and expectations must be clearly outlined in advance.

The third point about the convergence of the Recognition of Non-formal and Informal Learning Outcomes system and the National Qualifications Framework is the most debated in an international context. Countries such as Austria, Dutch-speaking Belgium, Ireland, Norway, Slovenia and the UK have chosen to explicitly link the two approaches. Germany signals that the development of their National Qualifications Framework (DQR) may support the development of Recognition of Non-formal and Informal Learning Outcomes, because it states that it is possible to achieve a qualification without following a formal learning programme. Italy states that the focus on learning outcomes in modern Qualifications Framework facilitates the understanding of what Recognition of Non-formal and Informal Learning Outcomes is about. This last point is rather convincing.

However, Hungary, on the contrary, reports that the lack of culture regarding any learning outcomes approach hinders the development of Recognition of Non-formal and Informal Learning Outcomes. France has argued that their Recognition of Non-formal and Informal Learning Outcomes system has worked

quite well, because it has a tradition of valuing learning outcomes (the first experiment dates back to the 1930s). Rather paradoxically, France has made explicit the link between Recognition of Non-formal and Informal Learning Outcomes and National Qualifications Framework even if its law on Recognition of Non-formal and Informal Learning Outcomes does not address their National Qualifications Framework: offering Recognition of Non-formal and Informal Learning Outcomes is a necessary condition for a qualification to be registered in the National Catalogue of Qualifications (RNCP). Incidentally, this has proven a key step for the promotion of the approach.

Quality Assurance

When applicants presentsa labour market related project, the question of Quality Assurance is often discussed. The most frequently used Quality Assurance mechanisms are:

- Establishing common widely agreed assessment standards
- Ensuring the availability of competent RNFILO practitioners
- Collaborating with employers' and workers' organisations and other relevant stakeholders
- Developing solid assessment tools and methods
- Establishing an accreditation system for RNFILO centres
- Evaluation of RNFILO policies and strategies, including data collection
- Independent auditing of the entire RNFILO process and system, and
- Disseminating results and communicating RNFILO to the wider public

Applications: Recognition of Non-formal and Informal Learning Outcomes in Practice

In summary, the typical applications of Recognition of Non-formal and Informal Learning Outcomes are:

- Awarding second chance school certificates as is the case in the USA with the General Education Diploma (GED), or in Mexico where the *Bachillerato* may be achieved through Recognition of Non-formal and Informal Learning Outcomes. In some countries, the adult education system is referenced to the school system (e.g. Canada, Norway, Chile, or Spain).

- Entry into tertiary education (e.g. Dutch-speaking Belgium, Canada, South Africa, Spain and the UK).

- Exemptions from formal programmes as in modular tertiary education programmes with exemptions available and specific credits, and with university discretion over exemptions. (e.g. Dutch-speaking Belgium, Canada, Chile, Hungary, South Africa and the UK).

- Awarding of a labour competence certificate for direct access to the labour market

These certificates are not registered in the National Qualifications Framework/Catalogue These are exceptional procedures to allow those with established competence to gain a certificate with limited recognition, but recognised by a Branch, an Industry or a Company (e.g. Dutch-speaking Belgium, Chile, Germany, Netherlands and South Africa).

- VET system redesign, with the creation of RNFILO-friendly qualifications; i.e. qualifications that do not demand specific internships or classroom based learning (e.g. Australia, Hungary, Mexico, Spain and the UK)

- Discrete applications, for instance, for language certificates, certificates awarded by professional bodies or even by the European Computer Driving License (e.g. Canada, Greece, Germany and Hungary).

Potential Barriers and Overall Lessons

It is difficult to derive a concise set of lessons from such a long list of practices from different countries. Nevertheless, this last section will attempt to present

general recommendations that are based on research and practical implementation.

First and foremost, it seems clear that successful countries are the ones that have a vision from the outset. Deciding on the objectives and finding the appropriate policy response are the key initial steps. The Recognition of Non-formal and Informal Learning Outcomes system could be designed for many different purposes, and it could be implemented in many different ways.

A wide consultation with key stakeholders will help to determine the approaches that will have the greatest chance of success. These could later in the process be involved in deciding on the assessment standards, or be involved in the assessment itself.

In the case of Greenland, it seems quite obvious that the Recognition of Non-formal and Informal Learning Outcomes system should remain quite open. It should provide for an increase in qualification levels for individuals who wish to stay within the same occupation (for promotion purposes) or for those who wish to change occupation (for mobility). For example, Recognition of Non-formal and Informal Learning Outcomes is not only about validating competences within hunting practises for people who wish to remain hunters, or validating competences within fishing practises for people who wish to remain fishermen. It is also, for instance, for people with hunting or fishing competences who wish to change occupation and for them to see whether they could succeed in a new occupation, in tourism, for example. People with great experience in hunting, for instance, know a great deal about their own country/region/culture in order to become tour-guides, for example; as experiments have shown in Canada, Morocco and Namibia.

Piloting any forthcoming Recognition of Non-formal and Informal Learning Outcomes system will provide key pieces of information for improvement – through Monitoring and Evaluation (M&E).

Whatever the choices, a broad communication will have to be established. All stakeholders, and society at large, usually agree that human beings learn everywhere and all the time, but they do not easily accept that the corresponding learning outcomes deserve awards. It has become increasingly difficult to ascertain that qualifications may be awarded on the sole basis of an assessment. It might be necessary to work at bringing about a cultural shift, along with a changed mind-set coupled with a communication that is based on true stories, for example.

The usual pitfalls are well known, but, nonetheless, difficult to avoid. The most frequently reported issue beyond the psychological barrier mentioned above, is the lack of resources. The lack of money is a pressing issue in the extent that Recognition of Non-formal and Informal Learning Outcomes requires properly trained professionals in the field of guidance and assessment. Most countries use former teachers as assessors, but it has to be made very clear that assessing non-formal and informal learning outcomes is fundamentally different from assessing against a curriculum. In the former case, it is the whole life of the person that is at stake.

Resources also constitute an issue because pioneers and champions have spread the word that Recognition of Non-formal and Informal Learning Outcomes is free. This is not true. Recognition of Non-formal and Informal Learning Outcomes is not free and neither necessarily cheap, but it is a lot cheaper than formal education and training both from the point of view of the system and the individual.

The largest factor of hindrance – despite it being rather unknown or ill comprehended – is the lack of a modular education and provision of training. Evidence suggests that the most eligible applicants will show up first and will be successful. Soon after those RNFILO-ready applicants are awarded a qualification, the system may stall because the next batch of applicants will not meet the pre-established standards. These will need additional education and training. If the provision is not geared for offering short terms courses and

modules in order for applicants to pick the courses they need for the learning outcomes, they will never be able to apply again.

On the positive side, there is now strong evidence that Recognition of Non-formal and Informal Learning Outcomes enhance the self-esteem and self-confidence of successful applicants. It does not mean that the Recognition of Non-formal and Informal Learning Outcomes system should be overly generous and whoever does not meet the standards should not be awarded with a qualification; otherwise a potential negative reputation will annihilate all the initial efforts that were made over the years.

From that point of view, the information, advice and guidance system will have to be established early in the implementation phase, so that applicants – and unsuccessful applicants in particular – are properly guided. For example, Recognition of Non-formal and Informal Learning Outcomes is not a competitor to training and education. Greenland should not make the mistake of thinking that it is a universal solution. Recognition of Non-formal and Informal Learning Outcomes is a response to just one type of problem: undocumented and, therefore, unrecognised competences. For individuals without competences, education and training remains the next best alternative.

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9. ABOUT THE PROJECT

This work took its beginning in the autumn of 2015 when a genereous donation from the Dr Frederik Paulsen foundation allowed us to create a project focusing on better use of informally acquired skills in the Artic with a specific focus on Greenland. We started out by asking how young Greenlanders' informally acquired skills could be activated and acknowledged better than they are today.

The background for out interest was a situation where some Arctic societies have experienced improved living conditions due to increased industrialization but a too large number of people in the Arctic have little or no formal education, decoupling them from development. This is a great loss of value for society and a personal tragedy for the individual. Many people with no formal education do, however, have a high level of skills relevant for new industrial actors on the local level as well as in the regional Arctic context. The ultimate goal from the outset was to generate a comprehensive analysis, to create new partnerships and generate ideas for how the many skills held by those with little or no formal education in Arctic communities can be activated for improving the living conditions and personal well-being of the Arctic populations.

About Greenland Perspective

Greenland Perspective is a multi-disciplinary and multi-national initiative bringing together researchers, civil society, industry and authorities to explore how Greenland's human and natural resources could be used to develop new technologies, business opportunities and societal models. The initiative is started by the University of Copenhagen in collaboration with Ilisimatusarfik, University of Greenland. Polar DTU is a strategic partner focusing on making the research of the initiative available to industry.

The chapters of this anthology have been proofread by Vita Underhill and are edited by Rebekka Knudsen. A full list of authors and their affiliations can be found at www.greenlandperspective.dk

List of authors

- Rasmus Gjedssø Bertelsen. Professor of Northern Studies and Barents Chair in Politics at the University of Tromsø-The Arctic University of Norway
- Coco Smits. Consultant at Royal HaskoningDHV. Wageningen University
- Jens Justinussen. Ass. Professor in Social Sciences, University of the Faroese Islands
- Merete Watt Boolsen, Ass. professor at Dep. of Political Science, Uni. of Copenhagen and Ilisimatusarfik, University of Greenland
- Torben M. Andersen. Professor of Economics at Aarhus University, Denmark and a Fellow of CESifo, Centre for Economic Policy Research and IZA
- Palle Lennert. Social worker and founder of the NUIKI-initiative
- Jimmy Hymøller. Teacher and founder of the NUIKI-intiative
- Patrick Werquin. PhD in Economics and Professor at CNAM (Conservatoire National des Arts et Métiers)
- Frank Sejersen. Ass. Professor at Dep. of Cross-Cultural and Regional Studies, University of Copenhagen
- Kuupik Vandersee Kleist. Social worker, University of Roskilde. Consultant for Tanbreez and Inuit Circumpolar Council (ICC.)
- Ilja Leo Lang. Office Manager with the Association of Arctic Expedition Cruise Operators (AECO)
- Nikoline Ziemer. Development Manager, Royal Greenland
- Anne-Mette Christiansen. Consultant at CSR Greenland
- Ulrik Jørgensen. Professor at Dep. of Development and Planning, Uni. of Aalborg
- Birgitte Hoffmann. Ass. professor at Dep. of Development and Planning, Uni. of Aalborg
- Kåre Hendriksen. Ass. Professor at Dep. of Civil Engineering, Technical University of Denmark
- Anne Merrild Hansen. Professor at Ilisimatusarfik, head of Arctic Oil and Gas research center and Aalborg University
- Pelle Tejsner. Ass. Professor at Dep. of Anthropology and Arctic Research Center, Uni. of Aarhus. Parnuna Egede, Advisor on Environmental Issues at Inuit Circumpolar Council (ICC)
- Carina Ren. Ass. Professor at Dep. of Culture and Global Studies, Uni. of Aalborg
- Lill Rasted Bjørst. Ass. Professor at Dep. of Culture and Global Studies, Uni. of Aalborg
- Anders Øgaard. Ph.D, Ilisimatusarfik, University of Greenland