

Master's thesis



# An Approach Towards Sustainable Coastal Tourism Management: Nature-based Tourism in Nuup Kangerlua, Greenland

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## **Declaration**

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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Hildur Sólveig Elvarsdóttir



# Abstract

This thesis discusses the opportunities and challenges associated with nature-based tourism in Nuup Kangerlua, Greenland. Nuup Kangerlua is a complex fjord system that is home to Nuuk, the capital of Greenland, and Kapisillit, a small village inst in the fjord. The fjord is mostly wilderness where hunting, fishing, recreation activities, tourism, transport, and perhaps soon to be iron ore mining take place. The wilderness offers opportunities for increased tourism development. Such development opportunities can cause both positive and negative impacts on the environment, society and the economy.

Three key concepts introduced in this thesis for sustainable nature-based coastal tourism development in Nuup Kangerlua include sustainable *coastal tourism management*, *nature-based tourism*, and *the Broker-Local-Tourist (BLT) model*. Three assessments were conducted for Nuup Kangerlua and served as the tools needed in order to develop and manage sustainable tourism.

The BLT assessment showed that the actors of the tourism sector in Nuup Kangerlua have a close relationship; most tourists either visit family or are in Nuuk on business. The natural amenity and facility assessment showed that Nuup Kangerlua has many nature-based amenities although the facilities for nature-based tourism activities are modest and should be developed and marketed to meet the tourism needs. The conflict assessment showed that conflicts within the tourism sector, as well as growing conflicts with other coastal sectors, were present.

As a result of the assessments, it is recommended to increase tourism marketing in Nuuk. In order to increase the number of tourism sites visited and increase the number of tourists, it is recommended that recreation areas be identified and labeled. Planning for a marine protected area and biosphere reserve should also be commenced. To reduce conflict within the tourism sector and between coastal sectors, it is recommended that nature guidelines and integrated coastal zone management be introduced for Nuup Kangerlua.

*I want to dedicate this thesis to the little man who makes me strive to be the best I can be.  
Elvar Þór, I thank you.*

*I also want to thank my parents for the endless amount of support, love and motivation that  
they have given me. My dream to move to Greenland could not have been done without  
their love.*

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# Acronyms

BLT: Broker- Local- Tourist  
EIA: Environmental Impact Assessment  
ETC: European Travel Commission  
ICC: Inuit Circumpolar Council  
ICZM: Integrated Coastal Zone Management  
IUCN: World Commission on Protected Areas  
MAB reserve: Man and Biosphere reserve  
MIC: Meetings- Incentives- Conferences  
MPAs: Marine Protected Areas  
NATA: North Atlantic Association  
NGOs: Non-Governmental Organizations  
OECD: Organization for Economic Cooperation and Development  
PK: Peqatigiit Kalaalliit  
RQ: Research Question  
TIES: The International Ecotourism Society  
UNEP: United Nations Environmental Programme  
UNESCO: United Nations Educational, Scientific and Cultural Organization  
UNWTO: United Nations World Tourism Organization  
WTO: World Tourism Organization  
WWF: World Wildlife Fund for Nature

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# **Introduction**

## **The Field of Coastal and Marine Management**

The field of coastal and marine management covers many specialty fields such as navigation and communication, living marine resources, mineral and energy resources, coastal infrastructure development, waste disposal and pollution prevention, ocean and coastal environmental quality protection, recreation and more recently coastal tourism (Cicin-Sain & Knecht, 1998). The coastal zone is home to important human activity and large cities, and serves as the location for the fishing sector and industries (Hall, 2001). Furthermore, delicate ecosystems are located on the coast and serve as a home to a large number of plants and animals, which serve as a means to survival for many societies. The coastal zone also serves as important natural barriers to storms, e.g. dune systems. Due to coastal development, human beings pose as a threat to the natural processes occurring on the coast.

Tourism in the coastal zone is increasing at a fast rate bringing along with it various opportunities and problems for the tourism system. The tourism system includes three categories of actors, brokers – private sector brokers, public sector brokers, and NGOs; locals; and tourists. Tourism is a fun and adventurous activity where the tourist seeks to find a contrast from his or her everyday life (Miller & Ditton, 1986). Tourism development can have both negative and positive impacts on local nature, culture, and economy, although it may not necessarily be sustainable. Ideally, tourism is developed and managed in such a way that the tourism sector works towards sustainability. Sustainable tourism can increase local prosperity, community wellbeing, cultural richness, environmental purity and economic viability (United Nations Environmental Program & World Tourism Organization, 2005).

Negative impacts of tourism include increased tourism development on the coast, which means more people visit a given area. This can create increased stress for areas visited. If stress issues are not dealt with in the correct manner, coastal areas may start to

see signs of conflict posing from too many people being in the same area, such as infrastructure, sewage and waste problems. Negative environmental impacts can be caused by infrastructure development, and by the actions of tourists and tour operators. Conflicts in the tourism sector, e.g. between brokers and locals, can decrease an individual's desire and interest to participate in the tourism sector.

Sustainable coastal tourism management is needed for areas of coastal tourism in order to ensure that coastal amenities will be present in the future. The aim of sustainable development should be incorporated in coastal tourism management in order to ensure the wellbeing of the economy, society and the environment. Due to coastal tourism's reliance on nature, it can be assumed that the tourism sector aspires to have that environment present in the future. Tourism development requires the balancing of sustainable development and tourism development (Miller et al, 2009). Tourism development "results in a change in some components of society and in some elements of natural ecosystems" (Miller et al, 2009). Therefore, it must be realized that in order to develop tourism, some element of nature and society will be affected.

According to Miller, Auyong and Hadley (2002) coastal tourism planning can be put into two categories, depending on whether preservation or development is the motivation for development. The preservation motive is predominant in planning of recreation areas, e.g. marine protected areas, whereas the development motive is predominant in e.g. seaside resorts or amusement parks (Miller et al, 2002). Sustainable development can create jobs, recreation areas for local and tourist use, amusement parks, bike paths and hiking trails. It can also encourage locals to study their surroundings and history; perhaps creating pride in the area that was not there before. Whether tourism development is sustainable, comes with balancing the change on the natural, social, cultural, economic, and political systems of a given area. (Miller et al, 2009).

One form of sustainable tourism is nature-based tourism, where tourists seek to experience and explore nature. It therefore relies on the environment to conduct its activities. Nature-based tourism requires sustainable tourism management because it relies on the nature and environment to conduct its activities. If the environmental standard of a nature-based tourism site decreases, then it can be predicted that the nature-based tourists will go elsewhere to experience nature.



The nature and environment of a new place often offer the tourist a different environment or experience than that which they are used to; they offer contrast. According to Miller and Ditton (1986:11) a tourist's motivation for traveling to a different area "lies in its promise of contrast". For individuals living in cities and greatly populated areas, it can be assumed that e.g. the nature in the Arctic or Amazon would fulfill this promise of contrast. Nature based tourism in these areas is popular. Among the more popular nature-based tourism activities in the world one will find whale watching, hiking, bird watching, camping and beaching. Nature-based tourism is a broad classification of tourism and contains subcategories like eco-tourism, adventure-tourism, wildlife-tourism, rural-tourism (e.g. farmstay), marine tourism, and nature retreats (Sustainable Tourism Online, 2010).

Overall, as new research is conducted and the amount of accessible information on the coastal area increases, coastal managers have a greater possibility to introduce sustainable management strategies beneficial to the coastal sectors and the coast's users. Through discussions and planning with stakeholders and locals, managers have opportunities to create coastal tourism management plans that benefit future generations.

Having laid the ground for the need of sustainable tourism, this thesis will cover a case study on sustainable nature-based coastal tourism in Nuup Kangerlua, Greenland. Nuup Kangerlua is a large fjord system of approximately 186 km in length and covers 2,000 km<sup>2</sup> (Sermersooq, nd). Nuuk, the capital of Greenland, is located on the tip of the fjord and is the largest town in Greenland. The small village of Kapisillit is located inst in the fjord. Nuuk and Kapisillit are a part of Sermersooq Municipality. The case study will cover the entire fjord system of Nuup Kangerlua and include areas of both land and sea.

## **Thesis Objectives and Research Questions**

Coastal tourism in Greenland is almost entirely built on the natural environment and the extremities that the Arctic brings. Along with the oldest rock formations in the world, Greenland is home to the Greenland ice sheet. Icebergs, whales and aurora borealis are common tourism attractions in Greenland. Nature may be subject to degradation with increased coastal and tourism development that is not managed sustainably. This can cause difficulties for the tourism sector in the future.

Tourism studies in Greenland are modest and no published research on nature-based coastal tourism in Nuup Kangerlua is available. A possible reason for this could be because Nuuk is a modern town and lacks a certain charm since it is not a Greenlandic village reliant on dog sleds and subsistence hunters. Another reason for this could be increased interest in other coastal sectors and research topics, like natural sciences and mining. Tourism, like other sectors in Greenland, is growing and attention should be brought to the fact that the national and Sermersooq Municipal tourism strategies hardly mention sustainability, creating opportunities for unsustainable development.

Negative impacts of coastal tourism are abundant and Hall (2001) especially expresses the negative impacts that tourism can have on the environment of the coast and on the locals. Examples of poorly managed coastal tourism areas are in abundance around the world, and doubt of whether sustainable tourism is in reality sustainable has arisen amongst scholars. It should be pointed out that sustainability is a dynamic goal that society moves towards but never fully reaches. Working towards sustainability is an ongoing process, and good coastal tourism management is needed in order to achieve sustainability in the tourism sector.

The purpose of this thesis is to develop management tools for sustainable nature-based coastal tourism in Nuup Kangerlua. An assessment of the sociological dynamics of the tourism system in Nuup Kangerlua will be conducted to identify the tourism actors including the mapping of the tourism activities of the boat tour operators. A natural amenity and tourism facility assessment will be conducted in order to assess Nuuk's ability to sustainably develop tourism. Finally a conflict assessment will be conducted to identify the conflicts facing the tourism sector and what conflicts might hinder nature-based tourism development.

This thesis is organized to answer four research questions (RQs). The *overarching research question* is:

RQ1: *What coastal management strategies and tools can be introduced to Nuup Kangerlua in order to aid in sustainable nature-based coastal tourism development?*

Three supporting research questions are:

RQ2: *Who are the tourism actors (brokers-locals-tourists) in Nuup Kangerlua?*

*RQ3: Based on current natural amenities and tourism facilities in Nuup Kangerlua, Greenland, what are the main areas for responsible growth in nature-based coastal tourism?*

*RQ4: What current and future conflicts are occurring or may occur a) within the tourism sector in Nuup Kangerlua, Greenland, and b) between the tourism sector and other sectors in the area, according to selected tourism actors?*

This thesis is built on a review of secondary resources and interviews with six boat tour operators, one public sector broker and one local. The aim of this study is to provide the community of Nuuk and Kapisillit with information and management recommendations that promote the development of a sustainable economic sector: nature-based tourism. The outcome of this research includes tourism management recommendations for policy makers on the development of sustainable nature-based coastal tourism in Nuup Kangerlua. The outcomes include the introduction of protected areas and environmental planning. Recommendations are introduced for nature-guidelines and for conflict management on coastal utilization a) within the nature-based coastal tourism sector and b) between the nature-based coastal tourism sector and other actors in Nuup Kangerlua.

## **Thesis Organization**

This thesis is divided into two parts. Part one consists of two chapters. Chapter one is a theoretical overview that includes a) concepts and definitions and b) literature review. Chapter two is a research methods chapter and introduces the study area, data collection, and the assessments developed for this thesis. Part two deals with the case study and consists of five chapters. The study area is introduced in chapter three with a background and context chapter. Chapter four presents the results and findings of the research questions posed in the thesis. Chapter five consists of the case study discussion. Chapter six introduces management recommendations for sustainable nature-based coastal tourism in Nuup Kangerlua. Conclusions on the case study are drawn in chapter seven. Finally, the thesis concludes with a general discussion and the applicability of the thesis approach to other areas.



# **PART 1: THEORETICAL OVERVIEW AND METHODS**

## **1 Theoretical Overview**

### **1.1 Introduction**

This chapter does two things. First, it begins with general concepts of overarching ideas and principals that guide tourism studies around the world and will be used for this thesis. This chapter reviews three core concepts that are helpful for developing sustainable tourism in Nuup Kangerlua. The first of these concepts is sustainable coastal tourism management. The discussion concerns strategies and policies, and three tools of management. The second concept concerns nature-based tourism. The third concept concerns the Broker-Local-Tourist (BLT) model. Secondly, this chapter concludes with a short discussion on the modest literature review for nature-based tourism studies in Nuup Kangerlua, Greenland.

### **1.2 Sustainable Coastal Tourism Management**

Sustainable coastal tourism management is the fusion of the following terms: sustainable tourism, coastal tourism, and coastal tourism management. To get a greater understanding of sustainable coastal tourism management, these three terms will be defined and discussed below.

**Sustainable tourism:** It can be summarized that sustainable tourism is tourism that takes the good of the community and the environment into account while conducting the business of tourism. According to the United Nations World Tourism Organization (UNWTO,nd), sustainable tourism is “[t]ourism that takes full account of its current and

future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities.” The host community and environment is also included in the Organization for Economic Cooperation and Development's (1994:33) (OECD) description of sustainable tourism: “[...] a system of long term tourism planning which is friendly towards the long term well-being of communities and habitats, the visitor, and the tourist industry.”

Increased talk about sustainable tourism has increased the popularity of ecotourism, which The International Ecotourism Society (TIES) defined as being “responsible travel to natural areas that conserves the environment and sustains the well-being of local people” (The International Ecotourism Society, 2012). Sustainable tourism can be of interest to those who want to view and experience wildlife, nature, adventure and leisure. It includes actions like sustainable fishing and hunting, wandering, hiking, snorkeling, scuba diving, and sailing.

**Coastal tourism:** The coast is a vibrant area whose definition should not be defined limitedly. Hall (2001:602) concludes that coastal tourism “[...] embraces the full range of tourism, leisure, and recreationally oriented activities that take place in the coastal zone and the offshore coastal waters.” Coastal tourism includes coastal tourism development (hotels, restaurants, cabins), infrastructure supporting coastal development (retail businesses, marinas, tour operators), and tourism activities (ecotourism, cruises, recreational fishing) (Hall, 2001).

According to the UNWTO (nd), sustainable tourism should:

1. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity
2. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance
3. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation (United Nations Environmental Program & World Tourism Organization, 2005: 11).

A simpler definition of sustainable tourism can be “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of

visitors, the industry, the environment and host communities” (United Nations Environmental Program & World Tourism Organization, 2005:12).

Marine tourism is a form of tourism that includes coastal tourism, but unlike coastal tourism it includes ocean-based activities. Orams' (1999:9) definition of marine tourism includes the definition of the coastal zone. He defines marine tourism as “those recreational activities that involve travel away from one’s place of residence and which have as their host or focus the marine environment (where the marine environment is defined as those waters which are saline and tide-affected)” (Orams, 1999:9). Coastal tourism activities include e.g. shore-based whale watching, reef walking, fishing, surfing, kayaking, wildlife and nature viewing.

**Coastal tourism management:** Coastal tourism management can be conducted in various ways. Ultimately, preservation and conservation actions done to protect the environment from degradation can have positive impacts on tourism, especially nature-based tourism. In the coastal area, several management schemes have proven positive for the environment and tourism. Marine Protected Areas (MPAs), biosphere reserves and Integrated Coastal Zone Management (ICZM) are some of the management tools used to establish sustainable coastal tourism.

According to Orams (1999, 72-82), there are four principal strategies of marine tourism management: 1. Regulatory management strategies, 2. Physical management strategies, 3. Economic management strategies, and 4. Educational management strategies.

*Regulatory management* strategies are the traditional method for tourism management. It includes rules, regulation, legislation, permits and the sort to limit, prohibit and manage tourism activity. Enforcement may be in the form of warnings, escorting off premises, fines and jail time. *Physical management* strategies are just that, physical ways of controlling tourism by using infrastructure like paths, boardwalks, barriers and tourism facility location to control the flow and actions of tourists. *Economic management* strategies include charging for the use of tourism amenities or facilities. *Educational management* uses educational means of informing the public on nature and the human impact on nature; they are often experienced first hand. Hands on experiences can leave the tourist with a greater understanding of why certain actions are allowed and

why others are not allowed, and allow the individual to take these experiences and incorporate them elsewhere in the world (Orams, 1999).

### 1.2.1 Tourism Policies and Strategies

Tourism strategies are plans that assess tourism assets, weaknesses and environmental carrying capacities (Organization for Economic Cooperation and Development, 1994). They take areas, communities, and ecosystems and look at how these areas can best be developed and managed. According to the Organization for Economic Cooperation and Development (1994) (OECD), tourism strategy plans discuss infrastructure requirements, traffic management plans, business development and tourism business training and marketing.

Tourism strategies provide decision-making bodies with a plan to follow in order to help achieve ideal tourism sector standards. Good strategies help decision makers comply with what has already been decided, and helps them resist pressure from lobbyists or pressure groups competing for the same resources (Hall, 1995; Hall, 2001). In order to implement detailed tourism strategy plans there needs to be knowledge on areas like “[...] visitor management schemes, heritage interpretations, ways of encouraging new entrants to tourism, the validity of co-operative marketing schemes, rural public transport schemes, historic building conservation and ways of successfully integrating nature conservation and tourism” (Organization for Economic Cooperation and Development, 1994).

Good tourism strategies should not only focus on the economic point of view of tourism, but also the social and environmental point of views by containing visions, missions and goals to promote sustainable development in the tourism sector. The United Nations Environmental Program and World Tourism Organization (2005) (UNEP and WTO) identify two elements of sustainable tourism: 1) the ability of tourism to continue as an activity in the future, ensuring that the conditions are right for this, and 2) the ability of society and the environment to absorb and benefit from the impacts of tourism in a sustainable way.

They also identify 12 aims that governments can use in the future for strategy planning and policy making that address the economic, social and environmental impacts of sustainable tourism. Table 1 shows UNEP and WTO’s 12 aims along with a description



and Figure 1 shows how the 12 aims relate to the factors of sustainability (economic, social and environmental).

*Table 1. UNEP and WTO's 12 aims for making tourism more sustainable (United Nations Environmental Program & World Tourism Organization, 2005: 18-19).*

Economic viability	To ensure the viability and competitiveness of tourism destinations and enterprises so that they are able to continue to prosper and deliver benefits in the long term.
Local Prosperity	To maximize the contribution of tourism to the economic prosperity of the host destination, including the proportion of visitor spending that is retained locally.
Employment Quality	To strengthen the number and quality of local jobs created and supported by tourism, including the level of pay, conditions of service and availability to all without discrimination by gender, race, disability or in other ways.
Social Equity	To seek a widespread and fair distribution of economic and social benefits from tourism throughout the recipient community, including improving opportunities, income and services available to the poor.
Visitor Fulfillment	To provide a safe, satisfying and fulfilling experience for visitors, available to all without discrimination by gender, race, disability or in other ways.
Local Control	To engage and empower local communities in planning and decision making about the management and future development of tourism in their area, in consultation with other stakeholders.
Community Wellbeing	To maintain and strengthen the quality of life in local communities, including social structures and access to resources, amenities and life support systems, avoiding any form of social degradation or exploitation.
Cultural Richness	To respect and enhance the historic heritage, authentic culture, traditions and distinctiveness of host communities.
Physical Integrity	To maintain and enhance the quality of landscapes, both urban and rural, and avoid the physical and visual degradation of the environment.
Biological Diversity	To support the conservation of natural areas, habitats and wildlife, and minimize damage to them.
Resource Efficiency	To minimize the use of scarce and non-renewable resources in the development and operation of tourism facilities and services.
Environmental Purity	To minimize the pollution of air, water and land and the generation of waste by tourism enterprises and visitors.

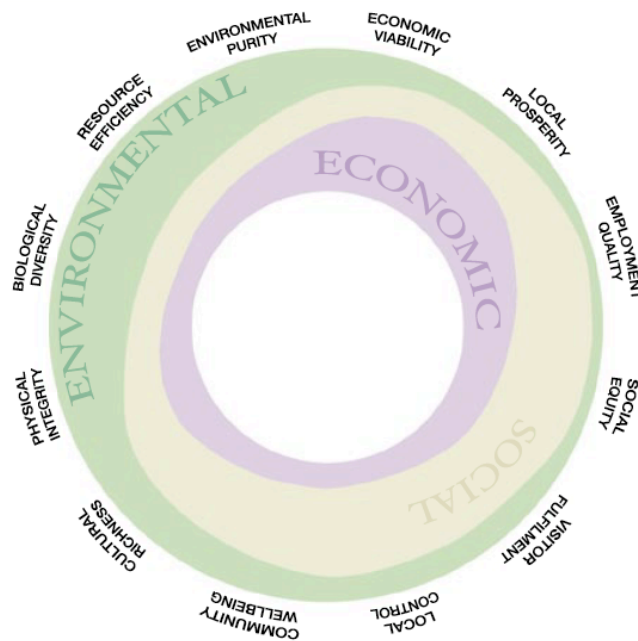


Figure 1. Relationship between the 12 aims and the pillars of sustainability (United Nations Environmental Program & World Tourism Organization, 2005: 20).

Policies are statements by governments or stakeholders that state a position and aim about a certain issue (United Nations Environmental Program & World Tourism Organization, 2005). Sustainable tourism policies are achieved and implemented by various governance bodies at different governance levels, internationally, regionally, nationally and locally. Examples of three governance levels and the governance bodies that apply tourism policies can be seen in Table 2. Sustainable tourism policies should be the result of comprehensive sustainable tourism strategies (United Nations Environmental Program & World Tourism Organization, 2005) and can offer guidance and guidelines, serve as the base of legislation and development plans, and/or can promote conservation (Kuenzi & McNeely, 2008).

Table 2. Governance levels and examples of governance bodies that apply tourism policies (adapted from Kuenzy & McNeely, 2008).

International Level	World Tourism Organization (UNWTO), World Commission on Protected Areas (IUCN), World Wildlife Fund for Nature (WWF), United Nations Environment Programme (UNEP), Inuit Circumpolar Council (ICC)
Regional Level	European Travel Commission (ETC), North Atlantic

	Tourism Association (NATA)
National and Local Level	Government of Greenland, Sermerssoq Municipality

Upon making a sustainable tourism strategy using the 12 aims provided by UNEP, governments can use the 12 aims to make policies on future development, carrying capacity, environmental guidelines or codes, infrastructure, protected areas and species, research and education, sustainability indicators, and they can call for laws (United Nations Environmental Program & World Tourism Organization, 2005). Examples of government action and the use of sustainable tourism tools include Malta – carrying capacity indicator, Vietnam- legislation, and the Maldives- regulations. These examples will be discussed below. The different concepts of government action are the focus of these examples. The examples of government action are relevant to the Arctic because they give management examples.

Due to the mass tourism in Malta, the Maltese government used the carrying capacity indicator to assess how many tourists could be in the area. The outcome of this assessment currently directs tourism policy in Malta. In 2003 Vietnam instigated their tourism law reformation to modernize their law. By underpinning sustainability, their draft law places focus on stakeholder responsibility to protect the environment, research and conservation, and the socio-economic influences of tourism. Development regulations in the Maldives called for sensitively planned and designed development due to the fragile environment. The government of the Maldives believes strict regulation to have played a big role in increased tourism (United Nations Environmental Program & World Tourism Organization, 2005).

### 1.2.2 Three Tourism Management Tools

Sustainable coastal tourism management can be informed and borrow tools and ideas from other fields in the coastal zone. A better concept of how to conduct and plan sustainable coastal tourism can be achieved if one knows about the following three coastal management tools: 1) Integrated Coastal Zone Management (ICZM), 2) biosphere reserves like those in the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Man and Biosphere (MAB) Program, and 3) Marine Protected Areas (MPAs).

Tourism is the largest economic sector in the world and if managed correctly, can become more ecologically sustainable than other economic sectors (Hall, 2001). ICZM can be incorporated into an area to assist the tourism sector as a whole by planning where tourism activities take place. It also determines how sustainable growth alongside other coastal sectors, is to be managed. MPAs and MAB biosphere reserves can create areas where sustainability, tourism and the environment can develop together (Hall, 2001; UNESCO, nd).

Lack of coordination between those who market tourism and those who manage the coastal and marine areas causes misunderstandings between the tourism sector and environmental and planning agencies (Hall, 2001). In the future, in order to achieve a sustainable coast, great effort will have to be put into integrating tourism development with coastal management (Hall, 2001). Three coastal management tools applicable to coastal tourism management, ICZM, biosphere reserves and MPAs, will be discussed and defined below.

### Integrated Coastal Zone Management (ICZM)

ICZM addresses the complex interactions between humans and the coastal zone. Natural resources are found on the coast and humans have relied on the coast for its resources for survival since time immemorial. Coastal activities like mining, fishing, tourism, sewage disposal, fish farms, and development can bring about various conflicts in the coastal community, especially between the coastal sectors. ICZM offers a sustainable form of coastal development with a focus on conflict resolution (Cicin-Sain & Knecht, 1998). ICZM can address UNEP'S 12 aims that are listed in section 1.2.1.

ICZM offers a sustainable way of managing the coast. UNEP (1995: 16) identifies ICZM as “a continuous, proactive and adaptive process of resource management for sustainable development in coastal areas.” ICZM breaks down the walls separating the coastal sectors and by focusing on area planning, the promotion of economic development, conflict resolution, the protection of public safety and proprietorship of public submerged lands and waters (Cicin-Sain & Knecht, 1998).

ICZM is “grounded in the concept that the management of coastal and ocean resources and space should be as fully integrated as are the interconnected ecosystems

making up the coastal and ocean realms” (Cicin-Sain & Knecht, 1998: 1-2). Operating according to the principles of sustainable development, ICZM takes into account the economic, social and environmental issues.

According to Cicin-Sain and Knecht (1998), ICZM focuses on five coastal and marine zones which are: 1) inland areas- affects oceans via river and non-point sources of pollution, 2) coastal lands- wetlands, marshes etc where the human mass is found and adjacent waters are impacted by activity, 3) coastal waters- estuaries, lagoons and shallow waters where the impact of land-based activities is obvious, 4) offshore waters- usually the area that reaches the national jurisdictional boundary, 5) high seas- beyond national jurisdiction. Coastal and marine tourism occurs in all of these zones and is one of the sectors managed by the ICZM process.

### Biosphere Reserve – MAB Program

UNESCO’s Man and Biosphere Program is an internationally recognized program that has the goal of “promoting solutions to reconcile the conservation of biodiversity with its sustainable use” (UNESCO, nd). The program promotes conservation with the idea in mind that human beings are a part of the ecosystem as well. The program promotes sustainable development for the communities in the programme and incorporates the integrated management of land, water and biodiversity (UNESCO, nd). The Man and Biosphere program is a world network of biosphere reserves established by UNESCO that has the aims of *conservation*- the conservation of genetic resources, species and ecosystems; *sustainable development*- sustainable development of the communities in the biosphere, and *research and education*- the scientific research and monitoring (UNESCO, nd; George Wright Society, nd). Sovereignty over a biosphere reserve remains solely under the power of the State where the biosphere reserve is located. There is however a Statutory Framework that recognized UNESCO biosphere reserves are supposed to follow. UNESCO’s Statutory Framework of the World Network of Biosphere Reserves is “soft law” and not binding for the States, although they are to be committed to apply to the framework. The Statutory Framework has the purpose of increasing widespread recognition of biosphere reserves, and to encourage and promote examples of good and working biosphere reserves in the world.

Biosphere reserves vary from the usual national park and other recognized protected areas because of the involvement of sustainable development of the community associated with the program. Tourism could be a form of sustainable development, especially nature-based tourism and eco-tourism. Research is necessary within the area in order to qualify as a MAB area. The purpose of researchers is to develop information and data in the biosphere, that in return could help create positive management techniques for other biospheres in the biosphere network. Ultimately when done correctly, biosphere reserves raise environmental and developmental awareness amongst those in the biosphere area, among other citizens living near the biosphere area and government authorities. (UNESCO, nd).

Biosphere reserves are made up of three zones, the core zone, the buffer zone and the transition/development zone (Saricam & Erdem, 2012). The core zone is a protected site with the purpose of conserving biological diversity, monitoring ecosystems, and research. The buffer zone is the area that surrounds or adjoins the core zone, used for activities compatible with ecological practices. This includes environmental education, recreation, ecotourism and basic research. The transition/development zone includes the area where the sustainable management of the activities of the community takes place (Saricam & Erdem, 2012). Zoning is flexible in order to accommodate the various conditions of the area including geological, social, and legal conditions (UNESCO, nd).

### Marine Protected Area (MPA)

According to Miller (2008) the International Union for Conservation of Nature (IUCN) defines *protected area* as “An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.” There are different types of MPAs in the world and not all have the same regulations. Some MPAs are exclusively no take zones and no entrance zones while others allow some types of fishing and tourism activity. Considering the biological activity of the area, some areas may need high restrictions e.g. regarding endangered species or highly degraded areas, or where spawning and juvenile species are present.

There are various positive trade-offs that MPAs provide. That is to say, as an area is being protected, economic gain can be brought about due to the MPA (Hall, 2001).

Economic gains from fish spillover and tourism activities are two very beneficial results of MPAs. If fish have an area where they have the opportunity to live and grow without human disturbance, the biodiversity of the area will increase. Since the ocean is an open area, the biodiversity may spillover into the fishing areas, creating economic benefits for fishermen and locals (Alaca, 2001; Hilborn et al, 2004).

Tourism can be a popular economic activity conducted in MPAs (Miller, 2008). The increased biodiversity in MPAs creates opportunities to conduct wildlife viewing like whale and bird watching, snorkeling and fishing. Establishing an MPA also gives the area a unique label and can therefore be easily marked as a tourism site. In order for a MPA to serve its purpose, care must be taken to respect the human carrying capacity. Sustainable Tourism (nd) uses WTO's definition of carrying capacity: "the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors' satisfaction". The carrying capacity must be respected in the MPA to ensure the sustainable use of the area (Sustainable Tourism, nd).

Proper management of MPAs is necessary in order to reach the goal of protection. Care must be taken to respect the human carrying capacity of an area and secure economic benefit retention because these will impact the lifespan of the tourism product (Hall, 2001; Dixon et al, 1993). In the tourism planning stage, planners must look into at the various conditions of the MPA and environment, and use biological, ecological and human geography tourism research to analyze how much tourism the ecosystem can withstand.

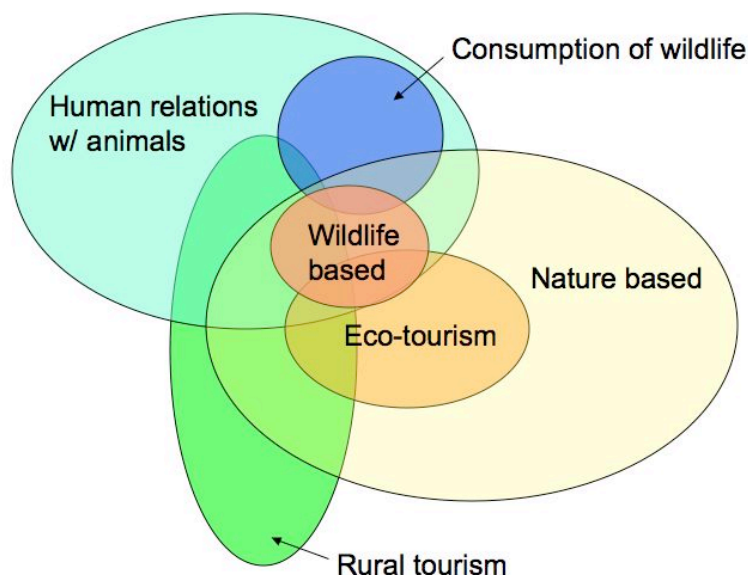
MPAs are not always well-received forms of marine preservation, especially amongst those utilizing the marine area that is to be protected. MPAs are a management tool that introduces regulation to an area perhaps not previously regulated. Such regulations introduced for MPA management governs what activities can, or cannot, take place in a given area. Giving an area boundaries and introducing regulations can bring forth distrust in the science among critics, especially fishermen (Ray, 2004).

## **1.3 Nature-based Tourism**

Nature-based tourism is increasing worldwide (Curtin, 2010; Hall, 2001). Nature-based tourism is a broad term that very generally concerns the kind of tourism where the natural

world is the main amenity that tourists go to experience. Defined broadly, nature-based tourism is “primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature” (Valentine, 1992: 108). Nature-based tourism can take place in “undeveloped natural areas or wildlife” (Goodwin, 1996: 287) where the main amenities that the tourist seeks are the biotic and a biotic elements of nature (Miller, 2008). Since nature-based tourism relies on the presence of undeveloped nature, a goal of nature-based tourism is ultimately to be sustainable. However in practice, advertised nature-based tourism activities can actually be unsustainable and harm natural areas and/or wildlife. Unsustainable tourism activities conducted in nature could include unsustainable hunting and habitat destruction by mass tourism. For the purpose of this thesis, these types of tourism activities do not fall in the scope of nature-based tourism by the definition presented in this thesis.

Various subcategories fall under nature-based tourism, including eco-, adventure-, wildlife-, rural- (e.g. farmstay), and marine tourism, and nature retreats (Sustainable Tourism Online, 2010). The interaction of nature-based tourism, eco-tourism, rural tourism and wildlife-based tourism with wildlife and its consumption is demonstrated in Figure 2.



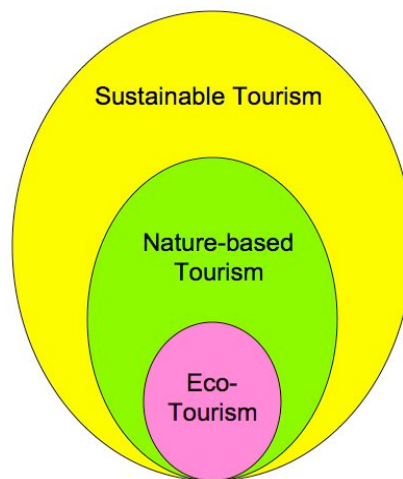
*Figure 2. Figure on wildlife-based tourism (adapted from Reynolds & Braithwaite, 2001).*

This figure shows that eco-tourism and wildlife based tourism are always subcategories of nature-based tourism. This is not the case with rural tourism because rural tourism can be conducted without nature being the main component of tourism activity. Human relations



with animals are always included in wildlife tourism; that is to say, animals are the purpose of wildlife tourism. Wildlife can be consumed while conducting wildlife tourism (e.g. hunting and fishing), rural tourism and nature-based tourism, but never in eco-tourism.

In some academic literature, the term nature-based tourism is often used interchangeably with ecotourism (Orams, 1996; Luzar, Diagne, Gan & Henning, 1995). This is not how nature-based tourism will be defined in this thesis. First and foremost, ecotourism is a subcategory of nature-tourism. The distinction between nature-based tourism and eco-tourism should be made in order to clarify confusion. Eco-tourism is tourism where a tourist's experience contributes to the maintenance of species and habitats whether it is done by means of contribution, conservations, and/or providing the local community with valuable revenue, creating an incentive amongst them to protect their wildlife heritage (Goodwin, 1996). The key ideas in ecotourism are conservation, education and appreciation, whereas the ideas for nature-based tourism are relaxation, discovery and adventure (Tourism Queensland, 2013). According to Hall (2005), nature-based tourism can be conducted in natural settings (adventure tourism), can focus on specific elements of the natural environment (safari and wildlife tourism), and can be developed in order to conserve or protect natural areas (ecotourism, national parks).



*Figure 3. Correlation between sustainable-, nature-based and eco tourism (adapted from Tourism and Events Queensland, 2013).*

Nature-based tourism activities can grow to become unsustainable when not managed correctly and can have a detrimental impact on the environment, especially since more people are using the area than before (Curtin, 2010; Kuenzi and McNeely, 2008; UNEP, 2005; Reynolds & Braithwaite, 2001; Laws, 1995). These tourism activities then

become tourism activities in nature, not *nature-based tourism*. Valentine (1992) mentions that crowding, development, tracks, noise, pollution, vandalism and the feeding of animals can all be negative impacts of sustainable tourism that ultimately can make the activity unsustainable. The more popular an activity becomes in a certain place, the greater the impact of said activity, calling for a limit of tourists or a carrying capacity.

Considering the definitions identified above (Figure 2 and Figure 3), and for the purpose of this thesis, nature-based tourism will be defined as those tourism activities where the main purpose is to experience the biotic and/or a biotic nature, and where those activities are conducted in a sustainable way. Nature-based tourism can be conducted on any form of transportation and can include the consumption of nature.

## 1.4 A Tourism System: BLT model

A sociological way to model tourism dynamics has been conducted by Miller and Auyong (1991) through the BLT model. The BLT model shows how tourism dynamics are dependent on three actors, the Brokers, the Locals and the Tourist (BLT) (Figure 4). Before discussing what the model describes, first it needs to be defined.

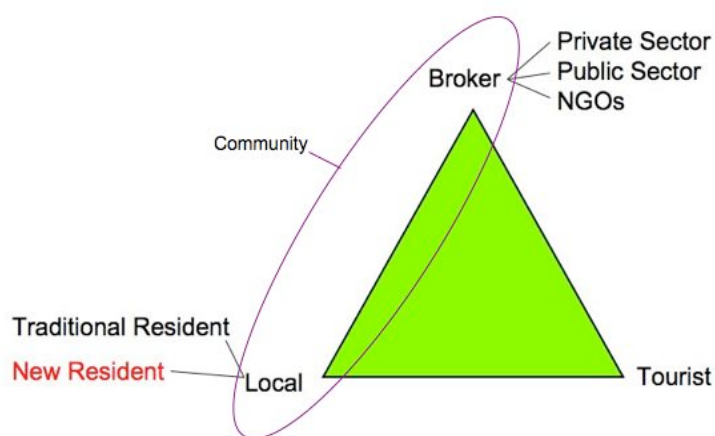


Figure 4. Broker – Local – Tourist model of Coastal Tourism (adapted from Miller and Auyong, 1991).

Brokers are “persons who, in one way or another, manage, design or otherwise seek in their occupational work to control tourism outcomes” (Miller, 2008: 237). This category can be subcategorized into three categories: 1) private sector brokers, 2) public sector brokers, and 3) Non Governmental Organizations (NGOs). Private sector brokers include the individuals and businesses that are part of the tourism industry and make a profit from

tourism (Miller, 2008). Nature-based tourism examples of private sector brokers include travel agencies, tour operators, hunting guides, kayak instructors, and charter boat companies. Public sector brokers are the government agencies responsible for tourism legislation and regulation, policies and enforcement. These are usually government sectors, national or local. The NGOs are non-governmental organizations that address tourism issues. This category can include the World Wildlife Fund for Nature (WWF) (Miller, 2008).

The locals are those individuals who live in the area where tourism is taking place, but do not participate in the tourism sector. Hence the locals do not economically profit from tourism. This thesis will form two subcategories of locals, 1) traditional locals and 2) short-stay locals. Traditional locals are those individuals who call themselves locals of the area and have a deeper connection with the area than short-stay locals. The short-stay locals are those individuals who move to the area and stay longer than one year but shorter than five years. The time period that this thesis uses is five years because it is believed that this is a long enough time to get acquainted with the area. These individuals can include students, employees and adventurers. Short-stay locals can become traditional locals if they stay for over five years. The reason for making this distinction is that the emphasis of the way of life, interests and politics can vary greatly in these two groups.

The model also shows potential tourism conflicts amongst actors and to whom the rules and standards of the tourism system apply (Miller & Auyong, 1998). The model takes a step back from the “hosts and guests” way of thinking of tourism and expands it to make a distinction between the members of the community, or the “hosts”. The community is split up into brokers and locals, incorporating the fact that not everyone in the community has a profit to gain from tourism (Miller & Auyong, 1991). Hence, although a community may be considered a tourism community, it does not mean that all the locals living there are involved or benefit from tourism.

One member of a family may be a politician making decisions on tourism in the town (tourism actor); another member may be a scuba instructor (tourism actor), while their neighbor could be a teacher (not a tourism actor). Although not all members of the community choose the tourism sector for employment, all of them are a part of the community in which tourism activities take place.

Tourists are “...persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes” (WTO, 1995). Tourists are as diverse as the number of people on this earth, with different interests, experiences, histories and expectations. Tourists can be domestic tourists traveling within their own country, or international tourists traveling outside of their own country.

Tourism is dependent on these three actors and therefore it is greatly interesting to model how they interact with each other. Local fishermen may want to quit professional fishing and turn into guides,  $L \rightarrow B$ . Tourism guides may want to quit their jobs and join a non-tourism sector,  $B \rightarrow L$ . A public sector tourism government worker may want to open up a tourism business,  $B \rightarrow B$ . A local individual, a surf shop owner and a tourism governmental worker can host their friends from abroad,  $T \rightarrow B \& L$ . The model therefore shows how the three actors interact and impact each other.

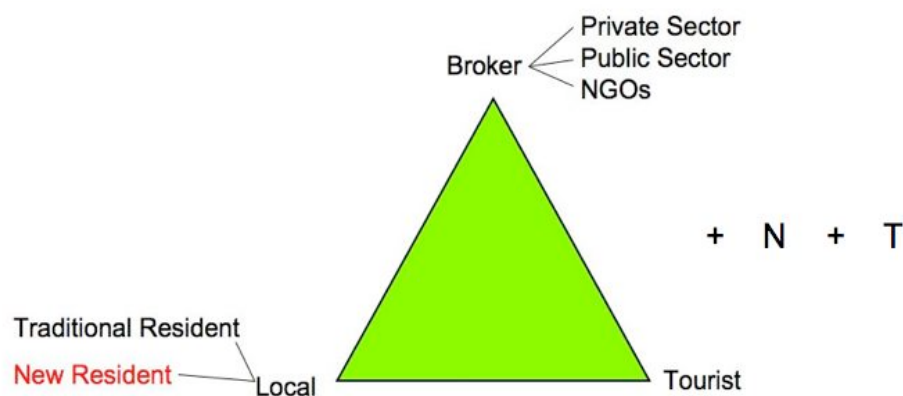


Figure 5. Broker – Local – Tourist model of Coastal Tourism (Miller, personal communication).

A modification of the BLT model is the BLT+N+T model (Figure 5) (Miller, personal communication). This model incorporates nature, N, and technology, T, to the social dynamics of tourism model. Ultimately, nature and technology will have an impact on the sociological model in various ways. For example, if the nature is ideal and pristine, and weather conditions are favorable, then a given area may be a popular tourism site, as opposed to polluted, unsafe and destructed areas. Technology includes tourism infrastructure and facilities such as hotels, ski resorts, airplanes, ports-harbors-wharfs, on-land transport services, and boats.

## 1.5 Literature Review

No research on nature-based tourism has been conducted for Nuup Kangerlua in Greenland, and Nuuk and Kapisillit are very often left out of tourism research. Nuuk is most likely left out due to its modern culture, large population, and larger economic sectors. The tourism sector is present in the Nuuk area, and the overall strategy for the country is to increase tourism, making research of the subject very important for future development. (Naalakkersuisut, 2012; Visit Greenland, 2012).

Tourism research for Greenland has mainly been of the sociological and historical nature. Tommasini (2011) discusses the hopes and dreams of the local population in the main tourism destinations in Greenland, but omits Nuuk and Nuup Kangerlua. The conclusion reached in Tommasini's work is that the smaller communities in Greenland lack and want more business skills to participate in the tourism sector (Tommasini, 2011). She also finds that the communities would like to know what the overall plan for tourism development is. Tommasini discusses how planning for tourism is essential and must have local support. Knowing what type of tourists the community wants is also an important factor in order to have successful tourism (Tommasini, 2011).

Kaae (2002) identifies that although tourism research has been conducted in and on Greenland, the research is mostly individual student projects, and many are over ten years old. A great majority of the research conducted in Greenland relates to the natural sciences, leaving the social sciences out of the picture. Kaae also remarks that the economic and management issues of tourism are mostly considered in tourism research in Greenland. Topics on the connection between tourism and nature are lacking. Egede Hegelund (2009) has written a book about tourism in Greenland, taking the history of Greenlandic tourism together. Nuup Kangerlua, as a tourism area, is not discussed *per se* in the book.

Little research focus has been put on Nuup Kangerlua as a nature-tourism destination. Perhaps this is because it is becoming a modern capital, soon looking to be the *Arctic Metropolis* (Sermersooq Business Council, 2012). This thesis will however show that nature-based tourism is a growing business sector in Nuuk, needing goals and strategies in order to become a sustainable sector in the future.



## 2 Research Methods

### 2.1 Introduction to Research Methods

The objective of this thesis is to answer four research questions. This chapter will explain how the information was attained and assessed in order to answer them. The *overarching research question* is:

RQ1: *What coastal management strategies and tools can be introduced to Nuup Kangerlua in order to aid in sustainable nature-based coastal tourism development?*

Three supporting research questions are:

RQ2: *Who are the tourism actors (brokers-locals-tourists) in Nuup Kangerlua?*

RQ3: *Based on current natural amenities and tourism facilities in Nuup Kangerlua, Greenland, what are the main areas for responsible growth in nature-based coastal tourism?*

RQ4: *What current and future conflicts are occurring or may occur a) within the tourism sector in Nuup Kangerlua, Greenland, and b) between the tourism sector and other sectors in the area, according to selected tourism actors?*

This chapter outlines the methods used for the thesis. The methods of procedure for this thesis called for a four step sequence: 1) selection of the study area, 2) collection of data, 3) development of three kinds of assessments, and 4) a development of management recommendations.

### 2.2 The Study Area

This section explains why Nuup Kangerlua was selected as the study site and also how and why the private sector brokers were chosen.

#### 2.2.1 Selection of the Study Site

Nuup Kangerlua was determined as the study location because few studies on nature-based tourism or even tourism as a whole have been conducted there. Nuuk is the

capital of Greenland with the largest population, it has an international airport, a year-round ice-free harbor, and is located in the region with the most bedstays. It therefore struck the author how underdeveloped the tourism sector in Nuuk was. The author therefore saw the possibility of conducting a tourism development study that would benefit sustainable tourism development in Nuup Kangerlua. The author also saw the possibility of developing recommendations that could be used in other parts of Greenland and the Arctic.

The whole fjord system is the study site, and includes Nuuk, the main city in the fjord, and the small village of Kapisillit, which is located further in Nuup Kangerlua. The tourism operators, tourism facilities and the tourists themselves are located in Nuuk. Nuuk has an airport and seaport, making international access to the city possible from abroad and from within Greenland. The fjord system of Nuuk, Nuup Kangerlua, was selected as a whole rather than just the city of Nuuk because Nuuk serves as the *town of entrance* for tourists visiting Nuup Kangerlua. Great nature is found in the fjord and tourism facilities are present, making Nuup Kangerlua a suitable nature-based tourism destination. A map of Greenland and its location in the Arctic can be seen in Figure 6 and Figure 7.



Figure 6. A political map of Greenland showing the location of Nuuk and other towns in Greenland (About.com Geography, 2013).





Figure 7. Map of the Arctic showing Greenland's location and the 10°C July isotherm line (National Snow & Ice Data Center, 2013).

## 2.2.2 Selecting the interviewees

Initially the Tourism Board in Greenland and the Sermersooq Municipality Business Council were contacted and interviewed in order to get an overview of tourism in both Greenland and Nuuk, along with the current tourism policies and goals. The Sermersooq Business Council provided a list of tourism stakeholders, containing a

thorough list of tour operators in the Nuuk area. Boat tour operators were the largest group of tour operators on the list provided, therefore it was decided that they would be the focus group in this project. The ten boat tour operators on the list provided by the Sermersooq Business Council were sent an email and interviews were scheduled with the five boat tour operators who responded. In order to meet the main tourism stakeholders in Nuuk, the author attended a meeting set up by the Sermersooq Business Council where tourism stakeholders were present. The meeting was attended by the author as a means of meeting those boat tour operators that had not initially responded to the emails. At this meeting the author met and arranged a meeting with one more boat tour operator. Therefore a total of six boat tour operators were interviewed for this study. Although not all of the operators on the list provided by the Sermersooq Business Council responded, in-depth interviews were conducted with the following six boat tour operators: Arctic Boat Charter, Arctic Guide Fishing, Martek, MR Charter, Sula Adventure, and Tupilak Travel. Through these six interviews a good overview of the boat tour tourism industry in Nuup Kangerlua was obtained.

In-depth interviews were also conducted with a representative of the Ministry of Domestic Affairs, Nature and Environment, and a local researcher at the Nature Institute of Greenland. These interviews were conducted in order to obtain information on the context of tourism in Nuuk.

## **2.3 Data Collection**

A qualitative research method, using both primary and secondary data, was used in this thesis. Data collection was conducted using three techniques: 1) in-depth interviews, 2) secondary sources, and 3) assessments.

### **2.3.1 In-Depth Interviews**

In depth interviewing was the technique chosen for this thesis in order to gain *more* information from *fewer* individuals. (Adams & Cox, 2008; Boyce & Neale, 2006; Guion, Diehl & McDonald, 2001; PRA, nd). This allowed the author to acquire more information on the topic at hand and also get familiar with the interviewee. The interviews were kept informal in order to approach the interviewee comfortably. Static interview questions were asked in each of the interviews, allowing space for further discussion on the topic in order

for the snowball effect to occur. What is meant by the snowball effect in this context is asking the interviewee a single question on a certain topic that allows follow up questions. These questions build upon themselves, dig deeper and reveal more information than the starting off static question. The snowball effect therefore allowed the questions to be guided by the information revealed by the interviewee.

Handwritten notes were taken in each of the stakeholder interviews and transcribed to digital form directly after each interview. The interviews were not sound recorded so that the interviewee would open up while partaking in the interview and not feel the pressure of his or her words being recorded.

## Boat Tour Operators

Six semi-structured in-depth interviews with boat tour operators<sup>1</sup>, consisting of both static- and open-ended questions, were conducted in order to identify the experiences and activities of the private sector brokers on nature-based tourism in Nuup Kangerlua. Various main points were addressed and as the interviews progressed the snowball effect occurred, and the direction of the questioning took shape. From this point, questioning became more direct and distinct themes took shape.

The interviews were semi-structured and contained twelve static questions. The static questions gave the interviewer and the interviewee time to get to know each other and keep the interview at a comfortable pace. The snowball effect took place after each question, providing more information than just answers to the static questions. The static interview questions asked were:

1. How many employees does the company have?
2. What activities are conducted during the sailings of the boat?
3. How does the company advertise and market itself?
4. Who are the clients?
5. Are the client's locals or tourists?
6. What nationality are the clients?
7. Are the clients who are local traditional locals or short-stay locals?
8. Is the company considering expansion?
9. What are the winter tourism challenges?
10. Is there cooperation with other boat tour operators?

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<sup>1</sup> Boats that offer the transportation of tourists, with or without guides. This category also includes the kayaking company.

11. Are there conflicts with the tourism sector and other coastal sectors? If so, what are they?
12. What is your opinion on the introduction of concessions to rivers in Greenland?

During the interviews, the boat tour operators were asked to look at a map of Nuup Kangerlua and mark where their tourism activities take place. The interviewee was asked to locate areas where: 1) sailing/paddling takes place, 2) whale watching takes place, 3) bird watching takes place. They were also asked to mark areas where other tourism activities currently take place, and where tourism activities could take place. Some activities and amenities were given an area rather than a pinpoint location due to the nature of the activity (e.g. whale watching). Once having marked the area or location on the map, the boat tour operators were asked to describe the marks. The collected information from the tour operators was digitally transcribed onto a map using Google Maps ®.

### Other Tourism Actors

Semi-formal in-depth interviews were conducted with two individuals: a public sector broker at the Ministry of Domestic Affairs, Nature and Environment for the Government of Greenland and a local researcher at the Greenland Institute of Natural Resources. The purpose of the interviews was to get the perspective of the public sector and the perspective of a local.

The in-depth interview with the employee at the Department of Nature and Environment for the Government of Greenland had the goal of covering three areas of concern:

1. Protected areas and IUCN categories in Greenland
2. Protected areas and nature legislation in Greenland
3. Prospects of nature-based tourism in Nuup Kangerlua

The interview conducted with a researcher at the Greenland Institute of Natural Resources was conducted in order to get a biologist's perspective on tourism in Nuup Kangerlua. This in-depth interview had the goal of covering and answering the following questions:

1. What natural amenities, including flora and fauna, can you find in Nuup Kangerlua?
2. In your opinion, is Nuup Kangerlua an interesting place for nature-based tourism to take place?

3. What nature-based activities do you participate in and what facilities would increase your likeliness to participate in said activities?
4. What is your opinion on a campsite in or around Nuuk?

The desired outcome was that the interviews would result in the snowball effect and reveal local knowledge on: activities conducted, conflicts, the possibilities and hopes for the area, and areas of improvement for nature-based tourism.

### 2.3.2 Secondary Sources Research

Secondary sources were used to acquire information on 1) tourism activities in Nuup Kangerlua, 2) the character of Nuup Kangerlua, and 3) marketing conducted for tourism activities in Nuup Kangerlua. These sources included Internet domains, brochures, and included information provided by the boat tour operators, Visit Greenland, and Sermerssoq Business Council.

Mosbech et al.'s (2000) shoreline sensitivity maps also provide detailed information on the location of shoreline species (fauna) along with the human resource use, both onland and on sea, of Nuup Kangerlua. The shoreline sensitivity maps chart the shore type of the fjord, providing excellent baseline-information.

## 2.4 Assessments

The third part of the methods was to develop three assessments. The assessments developed are tools that can be used to assist in managing and developing sustainable tourism. The three assessments developed are 1) BLT assessment, 2) natural amenity and facility assessment, and 3) conflict assessment.

### 2.4.1 BLT Assessment

The identification of the tourism actors in Nuup Kangerlua was conducted using Miller and Auyong's BLT model (Miller & Auyong, 1991). A BLT assessment of the information collected was then conducted. The BLT assessment of the tourism system was developed using primary information obtained from 1) interviews and personal communications and 2) secondary information, primarily statistics from Statistics Greenland. The aim of the assessments was to identify:

1. The private sector brokers, the public sector brokers and NGOs
2. The nationality of the locals
3. The nationality of the tourists

#### 2.4.2 Natural Amenity and Facility Assessment

A natural amenity and facility assessment was developed using on-site fieldwork, interviews and information provided by secondary sources like Internet sites and Sermersooq Business Council's brochure [*what arctic feels like*] *Welcome to Nuuk, Our Arctic Metropolis* (Sermersooq Business Council, 2012).

Natural amenities are natural objects located in nature that an individual goes to see; they are destinations. In order to reach natural amenities, a tourist usually has to pass through public resources e.g. mountains, lakes, or fjords. (Marcouiller, Kim & Deller, 2004). Marcouiller et al. (2004) state that natural amenities are often non-priced and have common-pool characteristics.

Information for the natural amenity assessment for Nuup Kangerlua was developed predominately using the boat tour operator's tourism activity map (discussed in section 3.3.1). On-site fieldwork and research was conducted along with interviews to further identify the natural amenities in Nuup Kangerlua. The natural amenities were charted and some identified on the boat tour operator's activity map.

The facility assessment of the area identifies the built tourism infrastructure in Nuuk fjord. The amenity list, published by the Discovery Islands Chamber of Commerce and Contributors (2009), was used as a reference for the facility assessment. The information gathered was categorized into the following charts with individual variables appropriate for each: Transport – Air; Transport – Sea; Ports – Harbors; Transport – Land; Accommodation; Leisure; Culture; Restaurants and Cafes. The variables for the charts assessed are listed below in Table 3. The restaurants and cafes in Nuup Kangerlua were identified but no variables were added.

*Table 3. Variables for the charts Transport – Air; Transport – Sea; Ports – Harbors; Transport – Land; Accommodation; Leisure; Culture, Restaurants.*

			Small
<b>Transport – Air:</b>	Year Round	Helicopters	Planes

---

<b>Transport – Sea:</b>	Year Round	Day Trips	Ext. or Multi-Day		
<b>Ports – Harbors:</b>	Fuel Dock	Service/Repair	Description		
<b>Transport – Land:</b>	Hours	Description			
<b>Accommodation:</b>	Price Range (High Season)	# of Rooms	# of apartments	Restaurants/ Lounge/ Pub	Description
<b>Leisure:</b>	Day Pass	Year Round	Description		
<b>Culture:</b>	Year Round	Open 7 days/week	Description		
<b>Restaurants and Cafes:</b>					

#### 2.4.3 Conflict Assessment

The conflicts identified in the tourism brokers interviews were assessed post interview. These are conflicts that were either expressed by the interviewees themselves or through an assessment of the interviews. The conflicts were categorized into five groups: (1) conflicts between private sector brokers, (2) conflicts between the coastal sectors, (3) conflicts between boat tour operators and the locals (4) conflicts between boat tour operators and nature, and (4) conflicts between tourism and politics.





## **PART 2. CASE STUDY: NATURE-BASED TOURISM IN NUUP KANGERLUA, GREENLAND**

### **3 Background and Context**

#### **3.1 Tourism in Greenland**

Icelanders introduced organized tourism in Greenland in the 1950s starting with trips to East Greenland (Egede Hegelund, 2009). Icelanders were captivated by the uniqueness of the nature and environment; river fishing and hiking were among the first tourism activities performed at the time.

“The tourism of Greenland was mainly expanding because more and more nature enthusiasts, scouts, mountain climbers and amateur fishing and hunting devotees from Europe, had heard and learned about Greenland” (Egede Hegelund, 2009: 38).

Tourism pressure from the Icelanders called for the building of runways around Greenland. The building of tourism infrastructure increased along with the tourists. Increased tourism made international travel to Greenland less time-consuming and less expensive. According to Egede Hegelund (2009), tourism from Denmark followed, especially when the Peqatigiit Kalaalliit (PK), the Association of Greenlanders living in Denmark, noticed that there was a possibility for economic gain from the tourism industry in Greenland. While the PK continued to try to involve the locals, there was a strong force calling for large-scale tourism infrastructure like hotels and larger aircraft, facilities that would send income back to Denmark, not to the people of Greenland (Egede Hegelund, 2009).

There were various factors that impeded tourism development in Greenland between the 1950s and 1990s; the main one being that the tourism council was created late, leaving the country without a tourism strategy to work with. Having been under colonist

rule, decision-making and the economic idea of tourism was not high in the Greenlanders' minds (Egede Hegelund, 2009). Greenlanders however tried to use Iceland as an example of building tourism with national pride. Icelanders used the uniqueness of Iceland like food and Icelandic tour guides in their tourism strategy. Although the Greenlanders attempted this, the Danish cultural influence eventually superseded that of the Greenlandic (Egede Hegelund, 2009).

Tourism in Greenland was supposed to become the sector that would save Greenland from its economic decline due to the fishing sector in the 1990s (Tommasini, 2011). The tourism plan created for the years 1991-2005 pinpointed the negatives and difficulties that tourism would have in Greenland, but failed to discuss the positives and offer actions that would increase tourism (Tommasini, 2011). None-the-less, a great deal of government aid was contributed to the tourism industry, making it a business supported by the government, instead of a business producing financial surplus on its own (Tommasini, 2011).

The following tourism strategy for 1996-2005 saw the misfortunes of the previous plan and realized that the number of tourists visiting the area had to be increased if the industry was to succeed (Tommasini, 2011). It was decided that the infrastructure already created in the earlier years would be used instead of building new infrastructure, and that the focus would be on the MIC (meetings-incentives-conferences) tourists and on the Open Water District- and the Disko Bay area. South Greenland, having previously been a popular tourist attraction, would not be focused on due infrastructure problems - and the fact that it was in the *south* and *traditional Greenlandic activities* like dog sledding were not found there (Tommasini, 2011).

### 3.1.1 Tourism Today

There are many factors that have affected the growth of tourism in Greenland and Egede Hegelund (2009) and Tommasini (2011) capture it well in their works. Currently the National Tourism Strategy 2012-2015 focuses on *Branding Greenland* and the marketing of Greenlandic brand and *Pioneering Nation*. These are concepts that involve introducing Greenland and the Greenlander's relationship with nature to the rest of the world. The types of tourism types that National Tourism Strategy focuses on developing is cruise- and extreme tourism (Naalakkersuisut-Government of Greenland, 2012). The government

agency responsible for tourism and business development, Visit Greenland, also has a strategy: *The Strategy for Visit Greenland 2012-2015*. This strategy uses the National Tourism Strategy as its base and finds ways to “[...] further the progress of tourism on the target of outcomes drawn up by the Self Government” (Visit Greenland, 2012: 3). Visit Greenland’s (2012) strategy for 2012-2015 points out five critical challenges mentioned in the national strategy, which include:

- Statistics and documentation: there is limited data and statistics available on tourism and the tourists who visit Greenland
- Visibility: global competition for adventure tourism destinations and a low knowledge on how to make Greenland more visible
- Accessibility: Infrastructure limited and expensive, ports outdated
- Concessions: Difficult to promote investment in sports fishing, trophy hunting, heliskiing and wilderness resorts
- Market Progress: Product adjustment and better marketing of products

In order for tourism in Greenland to reach the goals of increasing land-based tourists by 15% and cruising tourists by 5%, these challenges must be met and resolved. The vision in the Visit Greenland’s strategy is for Greenland to be “[...] an internationally famous and sought-after adventure and cruise destination” (Visit Greenland, 2012: 7).

Visit Greenland runs an award winning tourism website containing vast information on what kind of tourism activities can be done in the country, and by areas. Greenland provides a variety of tourism activities. The activities most advertised by Visit Greenland are called *The Big Arctic Five* and include dog sledding, northern lights, ice and snow, pioneering people and whales. *The Big Arctic Five* are the most popular and sought after tourism activities in Greenland and provide the tourism sector in Greenland with a set package to sell.

Tourists can experience more tourism activities than just these five. Visit Greenland displays 34 activities that can be conducted in the two seasons, summer and winter (see Table 4) (Visit Greenland, 2013). It should be noted that the list is composed of various forms of tourism like nature tourism, adventure tourism, wildlife tourism, eco-tourism, cultural tourism, rural tourism and indigenous tourism.

Table 4. The 34 tourism activities identified on Greenland.com (taken from Visit Greenland (2013)).

Angling at sea	Arctic Wildlife	Mountain climbing & mountaineering	Close to Greenlanders	Coastal Sailings	Cruises
Diving	Dog Sledding	Go Sailing	Greenland Gastronomy	Guided sightseeing	Heliskiing
Hiking in Greenland	Hot Springs	Ice Fishing	Icebergs	Ilulissat icefjord	Inuit culture
Kayaking in Greenland	Midnight Sun	Museums and Art exhibitions	Musk Ox safari	Norse History	Northern Lights
River fishing	Skiing in Greenland	Small game hunting	Snowmobiling	Souvenir Shopping	Sports and events
The ice sheet	Tourist flights	Trophy hunting	Whale watching		

Tourism in Greenland is a growing sector that has possibility for growth. Although transportation difficulties make many tourism activities in Greenland costly and often time consuming, the amount of people visiting the area is increasing and more nationalities are gaining interest in the country, especially because of climate change. Climate change has made Greenland a “final destination” for many, offering them the opportunity to see climate change happening and experience glaciers, something that their great-grandchildren may not get the chance to experience. By sustainably increasing the visitor capacity and amenity infrastructure, and through education and realization of the uniqueness and possibilities of the land, tourism can become a very strong sustainable sector in Greenland.

### 3.1.2 Tourism Statistics

Statistics Greenland is the main source of tourism statistics for Greenland. Statistics Greenland uses the four WTO requirements for the definition of a tourist; 1) moves in space and time beyond his or her normal environment, 2) does not receive wages from the place the person travels to, 3) stays overnight in the country, and 4) does not stay in the

country for more than a year (Statistics Greenland, 2013). This term covers then also business travelers, athletes, and foreign artists.

The numbers of locals visiting Nuuk airport grew from the year 2008 to 2011. However, about 1,000 less international visitors traveled through Nuuk airport in 2012. These figures can be seen in Table 5 (Statistics Greenland, 2013a). According to Statistics Greenland (2013c), the peak season for foreign tourism in Greenland is July and August, with the so-called *shoulder seasons* of June and September. In the estimated statistics provided by Statistics Greenland, the lowest tourism months are from November through January. The number of nights spent at hotels in Greenland by guest's country of origin ranks as follows: 1. Denmark; 2. Germany; 3. "other countries"; 4. USA; and 5. Canada. (See Table 6).

*Table 5. Number of international passengers traveling through Nuuk airport by year. Notice that tourists are not identified separately, hence this number could include international locals living in Nuuk and tourists (table provided by Statistics Greenland, 2013a)*

	Total
<b>Nuuk</b>	
2008	1,387
2009	1,909
2010	3,791
2011	5,232
2012	4,100

The international route from Nuuk started in June 2007, in June 2009 the international route from Ilulissat was started

**Latest update:**  
2013-03-01 09:00

*Table 6. Nights Spent at Hotels by Guests in Greenland by Country of Origin (Statistics Greenland, 2012)*

	2003	2005	2007	2009	2011
	Number of nights				
<b>Numbers of nights spent, total</b>	<b>192,774</b>	<b>215,916</b>	<b>234,604</b>	<b>224,801</b>	<b>213,656</b>
Greenland	100,574	106,712	119,970	120,870	115,322
Denmark	62,966	67,876	78,788	67,218	56,350
Sweden	1,224	2,892	2,219	1,875	1,755
Norway	1,556	1,419	1,851	2,110	1,899
Iceland	1,352	6,881	1,359	1,780	1,558
Germany	4,313	3,726	4,459	5,091	6,263
France	1,280	1,422	1,858	1,354	1,842
Italy	1,989	431	738	717	701
Netherlands	750	474	1,117	696	732
United Kingdom	1,949	2,611	2,260	2,362	4,448
Rest of Europe	3,502	3,034	4,255	5,587	4,678
USA	6,679	6,756	8,744	9,428	6,236
Japan	1,223	765	727	919	596
Canada	1,717	1,520	1,878	2,336	4,700
Other countries	1,700	2,281	4,052	2,458	6,576
Unknown	-	7,116	329	-	0

The ranking of the regions with the most overnight stays in 2008 are as follows: Central Region (app. 117,100), Disko Region (app. 69,000), Southern Region (36,700). and the Northern and Eastern Region (14,000)(Table 7). Nuuk is located in the central region, the region with the most overnight stays. It should be noticed that one of Greenland's most popular tourism attraction, UNESCO's World Heritage Site in Ilulisaat Icefjord, is located in Disko Bay (Disko Region). It should also be noticed that many Greenlanders visit Nuuk for various reasons, hence not all of the overnight stays are by foreigners or tourists. Holiday and business trips account for approximately 55% of trips, and many of those tourists who travel to Greenland also visit family and friends (Statistics Greenland, 2013c).

Table 7. Overnight stays by region (Statistics Greenland, 2013c).

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Bednights										
<b>Nation-wide</b>	<b>200.573</b>	<b>205.047</b>	<b>209.468</b>	<b>192.925</b>	<b>179.349</b>	<b>192.774</b>	<b>190.755</b>	<b>215.916</b>	<b>225.667</b>	<b>234.604</b>	<b>236.913</b>
Southern Region	44.447	39.416	38.197	31.457	29.410	35.998	29.956	37.333	38.093	34.333	36.670
Central Region	106.246	115.836	119.254	103.145	92.021	92.583	95.786	106.536	113.696	115.499	117.116
Disko Region	42.914	40.939	42.820	45.702	43.857	49.435	47.093	56.367	62.398	71.535	68.947
Northern and Eastern Region	6.966	8.856	9.197	12.621	14.061	14.758	17.920	15.680	11.480	13.237	14.180

## 3.2 Nuup Kangerlua

The scope of this thesis is nature-based tourism activities conducted in Nuup Kangerlua. Nuuk is the main gateway to Nuup Kangerlua since it has the seaport facilities and an airport. A great deal of the tourism activities and tourism facilities in Nuup Kangerlua are located in Nuuk, turning Nuuk into a focus point in this thesis. Kapisillit, the small town inst in the fjord, has a smaller population than Nuuk and does not have many developed tourism facilities.

Tourism in Nuuk is not as strong of a sector as one would expect from a capital city in the Arctic. Currently Nuuk's tourism sector is being overshadowed by the mining industry, causing a power battle for government financing and investment interest of locals in tourism. Many locals do not view tourism as a profitable business in Nuuk *per se*, but rather that the tourism hub is an area like Ilulissat where the ice cap close by and dogsleding possible. Tourism is seasonal, causing employment difficulties and many do not view Nuuk as being "Real Greenland". Hence tourism in Nuuk faces many difficulties and conflicts. This section defines the case study area and identifies the threats to nature in Nuup Kangerlua.

### 3.2.1 Definition of the Area

Nature-based coastal tourism in Nuuk is land *and* sea based, impacting coastal societies and requiring various management techniques to ensure sustainability. Nuup Kangerlua is a large enclosed undeveloped fjord of wilderness where one can find various natural amenities. It includes the capital of Greenland, giving it the resources needed to establish and conduct tourism activities.



The scope of the project is the Nuup Kangerlua fjord system, including areas both land and sea. The line drawn across the mouth of the fjord extends from the southern tip of Ukkusissat (Store Malene) across to Eqaalunguit (see Figure 8). This may be an untraditional line, but due to the kayaking tourism that is conducted around this area, it was reasonable to take the boundary further out of the mouth of the fjord.



*Figure 8. Map of the study area with boundaries*

The northern boundary includes the areas along the coast of Akia. This boundary was not strictly defined and the author let there be some room for the northern boundary interpretation. Following the interviews, since there was not a lot of tourism activity marked in Akia, a clear and defined northern boundary running along Akia was not created.

All of the sea within the fjord up to the boundary across the mouth of the fjord is included in the case study area. The landward boundary includes all of the islands in Nuuk Kangerlua, along with the landmass that Nuuk lies on – this thesis will call this area the Nuuk jaw<sup>2</sup>. Nuuk jaw's seaward boundary in Ameralik fjord will be used as the southern boundary. A made up boundary between from the inst point in Itilleq fjord comes down

<sup>2</sup> Nuuk jaw is a made up name. Due to the many names that make up this landmass, it was decided by the author that one single name would be used.



towards Ausmannadallen, and then continues in Ausmannadallen towards the glacier. This boundary marks the eastern boundary.

### 3.2.2 Threats to Nature in Nuup Kangerlua

Nature-based tourism is based on the natural environment, therefore threats to nature indicate threats to nature-based tourism and are important to identify. Nuup Kangerlua is 186 km. long and covers 2,000 km<sup>2</sup>, hence a very large fjord system (Sermersooq, nd). The population of Nuuk in 2013 was 16,454 and Kapisillit 78 (Greenland Statistics, 2013). The population in Nuup Kangerlua is therefore a small population that has a relatively small impact on the environment. It is an area of wilderness, most of it is uninhabited and the current human activities in the fjord include transportation, hunting, fishing, and patrolling. The ocean current in Nuuk fjord is very strong, cleansing the fjord of unwanted substances like sewage and oil debris.

Currently the iron ore mine Isua in Nuup Kangerlua is expected to opened again for production. London Mining, the company proposing the project, foresees many possibilities and potential for the people of Greenland. Some of the potential foreseen with the Isua Iron Ore project stated by London Mining (2012) include:

1. Isua will make Greenland a major exporter of minerals on a global scale and provide a new pillar to Greenland economy.
  2. Isua will be a major source of revenue for Greenland and its people.
  3. Isua will be a major generator of jobs for Greenlanders in the long term.
  4. Isua will improve technical education and develop world class skills for Greenland.
- Furthermore, it is the opinion of many Greenlanders that if Greenland wants independence, financially speaking, they must take on the Isua project.

Big resource extraction projects like Isua bring about various concerns for the environment. The following issues are of concern and identified in London Mining's environmental impact assessment (EIA): caribou disturbance and dislocation, air emissions, marine mammals and birds, disturbance from shipping, marine habitats, marine water environment, landscape alterations including visual impacts, and hindrance of other land use. (London Mining, 2012) The EIA for the Isua project has been conducted and the impact significance's are all on the scale of very low, low, to medium. It should be noticed that the impact significance of the marine water environment is listed as medium.

Other threats to nature in Nuuk fjord include climate change, overfishing, tramping of the flora, land and ocean pollution due to trash, nonpoint source pollution, boat oil, and fishing gear and tackle left in the oceans. How Greenlanders deal with rubbish can also be considered a threat to nature. Greenlanders used to be able to throw rubbish out into nature and let nature take care of it. However, the introduction of southern goods with plastic and non-biodegradable wrappers brings along with it a great abundance of trash to the area, forcing the locals to change their manners. Changing the mindset of the disposing of trash in the correct manner has come a long way, but is not complete.

## 4 Results

### 4.1 BLT Assessment

The BLT model (Miller & Auyong, 1991) is used in this thesis to understand the sociological dynamics of tourism in Nuuk and to get a further understanding of the interaction of the actors. The purpose of this section is to answer RQ2: *Who are the tourism actors (brokers- locals- tourists) in Nuup Kangerlua?* This section will also identify and map the tourism activity of the boat tour operators (private sector brokers). Although BLT Assessments usually only identify who the actors in the BLT model are, this BLT assessment will also present *what* tourism activities are being conducted.

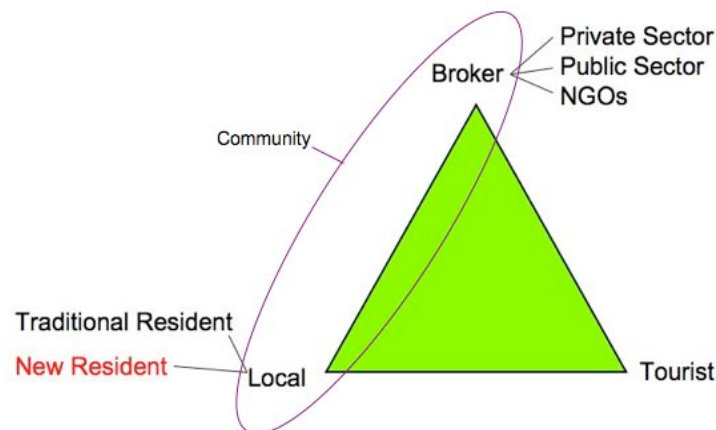


Figure 9. Broker – Local – Tourist model of Coastal Tourism (adapted from Miller and Auyong, 1991)

#### 4.1.1 The Brokers

##### Private Sector Brokers

The first category of nature-based tourism brokers is the private sector brokers. This category includes the individuals and companies that are part of the tourism industry (Miller, 1998). Nature-based coastal tourism examples include the travel agencies, tour operators, hunters, kayak instructors, and the charter boat companies (see Table 8).

*Table 8. Private Sector Brokers in Nuup Kangerlua.*

• Travel Agencies	• Boat Charters	• Apartment/room rentals
• Tour Operators	• Coastal sailing ships/boats	• Galleries
• MICE coordinators	• Airlines	• Museums
• Taxi Services	• Hotels	• Workshops
• Bus Services	• Bed and Breakfasts	• Gyms
• Car Rentals	• Hostels	• Swimming Pool
• Golf Course	• Restaurants and Cafes	• Paintball Company
• Shopping Center	• Retail Stores	

Although this thesis focuses on nature-based coastal tourism and the boat tour operators in Nuuk, other private sector brokers, including on land tour operators focusing on archaeology and culture, make up the private sector. These brokers create a tourism environment that offers past-time leisure activities that include restaurants, souvenir shops and art galleries. More information on the private sector brokers can be found in the facility assessment of this thesis (Section 4.2.2).

**Boat Tour Operators:** In Nuuk there are several boat tour operators, most are only composed of 1-2 employees. There are however two larger tour operators that offer various different activities. Tupilak Travels is one of the larger tour operators, and serves as the tourist information centre in Nuuk. The activities found in Tupilak Travel are mostly boat tours with wilderness safaris and iceberg watching, although they do also advertise hiking tours to Quassussuaq (Lille Malene) and Ukkusissat (Store Malene) and Kaffi Mik, a traditional Greenlandic gathering that is similar to British “tea-time” (Sermersooq, 2012). Touring Greenland is a smaller tour operator focusing on many unique tourism activities like joining a local hunter on his hunt, kaffemik, guided and self-guided hikes, and fishing tours, but also focuses on the wildlife safaris to see the whales and icebergs (Sermersooq, 2012). Both of these tour operators may buy the services of the boat charters when conducting their tours, especially when large groups, like cruise tourists, come to Nuuk. This usually happens in the summer time when cruise tourism is at its peak.

The boat tour operators make up the majority of the tour operators in Nuuk. There are ten boat tour operators total in the Nuuk area. Some of them offer sight seeing, ocean fishing tours, char fishing tours, hunting tours, whale watching and/or transportation (Sermersooq, 2012). Many of the tours are custom made for the customer, requiring them

to charter the entire boat. This makes the charter boat (boat tour operators) very popular for businesses and groups. In the interviews it was found that although many of the boat tour operators try to promote what they themselves have a passion for like fly fishing, “The Big Arctic Five” (dog sledding, northern lights, ice and snow, whales and pioneering people) are usually on the top of the tourists minds, with whales and ice being the most popular in Nuup Kangerlua. Dog sledding is not conducted in Nuup Kangerlua.

*Table 9. List of the ten boat tour operators currently in business in Nuuk, Greenland. (Sermersooq Business Council, 2012)*

<b><u>Boat Tour Operators Interviewed</u></b>	<b><u>Boat Tour Operators Not Interviewed</u></b>
<ul style="list-style-type: none"> <li>• Arctic Boat Charter</li> <li>• Arctic Guide Fishing</li> <li>• Martek</li> <li>• MR Charter</li> <li>• Sula Adventure</li> <li>• Tupilak Travel</li> </ul>	<ul style="list-style-type: none"> <li>• 64 Degrees North</li> <li>• Greenland Extreme</li> <li>• Kisaq</li> <li>• Touring Greenland</li> </ul>

Tupilak Travel is a travel agency, a tour operator and a tourism information centre in Nuuk. Boat tours are the main tours they conduct but they also offer hiking tours. The tourist is able to buy a single ticket for a boat tour meaning that they do not have to rent the entire boat. This gives Tupilak Travel an advantage to the smaller boat tour operators. Tupilak Travel has two boats that they administer and use to conduct boat tours, but will contact the other boat tour operators in Nuuk if they need to charter more boats due to a large number of tourists. This especially happens when cruise ship tourists come to town. Since Tupilak Travel also runs a tourism information centre located in the town centre, many tourists initially contact them for boat tours.

Arctic Guide Fishing and MR Charter specialize in fishing tours. Arctic Guide Fishing offers their client’s fishing tours, sightseeing and transport. Like MR Charter, Arctic Guide Fishing would like to focus on fishing tourism, but due to tourism interest in whale and nature watching, and glacier trips, it becomes one of three main tourism

activities. Arctic Guide Fishing is a charter boat company where a client must rent the entire boat, rather than buy an individual ticket. MR Charter offers deep sea and char fishing. According to Michael Rosing, the owner of MR Charter, there is great cooperation between the boat tour operators and they work well together. An example of this cooperation happens when there are enough clients in the Nuuk area. When this happens, other boat tour operators will recommend clients to Michael Rosing, especially if they are enthusiastic fishermen because fishing is MR Charter's speciality. Michael will have fly fishing concessions of a river in Nuup Kangerlua, hence he will be the only tour operator allowed to take tourists to the river to fish. MR Charter may be chartered by Tupilak Travel if they have a large group of clients, like cruise tourists.

Arctic Boat Charter offers boat tours focuses on quality and has the slogan "Always Best Choice". This boat charter charges more for their boat tours, but believe they are giving their client excellent service while on board. This service includes the information provided during the tours, the natural amenities visited, the activities conducted while on the boat, and the speed and comfort of the vessel. Arctic Boat Charter entertains the client during the trip and bears in mind that the adventure is the trip, not only the destination. Arctic Boat Charter offers cabins for rent, guided hunting and fishing, team building events and company outings.

Martek is a boat company that transports cargo and people. Tourism is a side-business for them and it is not intent to be a tourism operator. Their main non-tourism customers are the oil and mining industries. As a boat charter company, Martek rents their boats and crew to individuals and companies. Travel agencies like Touring Greenland and Tupilak Travel will also contact Martek if they are in need of a tour boat. Individuals who contact Martek can get organized tours once they communicate to Martek what kind of trip they want and what kind of activities they want to do (e.g. fishing, whale watching, skiing).

Sula Adventures, a kayaking company in Nuuk offers an experience on a sea kayak, as opposed to a Greenlandic kayak. These trips are all custom-made with the wants and abilities of the customer in mind, which is especially important in Nuup Kangerlua because the current in the fjord is strong. During the trips the kayakers may catch fish and

cook them, and it is the main theme of kayaking to enjoy the trip and the experience it brings, not just to get from point A to B.

### Public Sector Brokers

The second category of nature-based tourism brokers is the public sector brokers. This category includes government employees who minister to tourism regulations, policies and enforcement. Nature-based tourism examples of public sector brokers include the Sermersooq Business Council (Municipality), Visit Greenland (Greenlandic Government), the Ministry of Domestic Affairs, Nature and Environment (Greenlandic Government), and the Ministry of Industry and Labour (Greenlandic Government).

The Sermersooq Business Council oversees tourism development from the municipal standpoint. Tourism is one of the sectors overseen by the Sermersooq Business Council, along with the mining sector and other business development. Visit Greenland is the government owned tourism board of Greenland that oversees national tourism development from a government's perspective. Branding, marketing, and advertisements are among the functions of Visit Greenland. The Ministry of Domestic Affairs, Nature and Environment is a department in the national government that oversees, among other things, strategic planning of national parks, international cooperation in nature conservation, and approval of the expedition and field activities in the National Park. In the national government, the tourism sector and its development is overseen by the Ministry of Industry and Labour.

### NGOs

The third category of the brokers is civil society organizations, NGOs, "[...] that have programs or initiatives that address tourism issues as well as the behaviour of other kinds of brokers" (Miller, 2008: 238). There is a lack of active NGOs based in Greenland, but the present ones include Avataq, the WWF (World Wildlife Fund for Nature), and the ICC (Inuit Circumpolar Council). Although tourism is not their main focus, they do focus on the environment, which in return impacts their voice and opinion on how nature-based tourism can be conducted. Recently they have been focusing on the Isua Iron Ore project proposed in Nuup Kangerla, and raising concerns and recommendations (Inuit Circumpolar Council & World Wildlife Fund for Nature, 2012).

#### 4.1.2 Tourism Activity of the Boat Tour Operators

During the interviews, the boat tour operators were asked to mark on the map presented where their tourism activities take place. Although most of the activities conducted by the boat tour operators are sea based, there were also land-based activities identified in the interviews. The activities include visiting areas that are both especially popular among tourists, and areas that are less popular but nonetheless present. Some of the activities are pinpointed to specific locations, whereas some of the activities are more spread out due to the interest in the whole area and not necessarily a certain site.

Figure 10 maps the activities identified in the interviews. Although this information is not conclusive, it gives a very good idea of what, where and why the popular tourism activities are conducted in the fjord. The activities mentioned in the interviews include:

- Weekend cabin trips
- Glacier/iceberg watching
- Nature watching (bird, whale, and waterfall)
- Fishing
- Hiking
- Kayaking

Qoornoq, Kapisillit and Qooqqut are popular stopping areas in the fjord. Kapisillit offers an experience of a small Greenlandic village and is close to the ice fjord. Qoornoq is an old abandoned settlement and is similar to a ghost town in the fjord. It has become a popular tourism site because it in a way symbolizes urbanization and is a reminder of the old ways. Qooqqut is approximately 2 hours away from Nuuk by boat and serves as a weekend getaway area for the locals. A sheep farm used to be located there and more recently a restaurant and small hotel has been built there and serve as a tourist sites in a beautiful environment. Cabins are also located in the Qooqqut area.



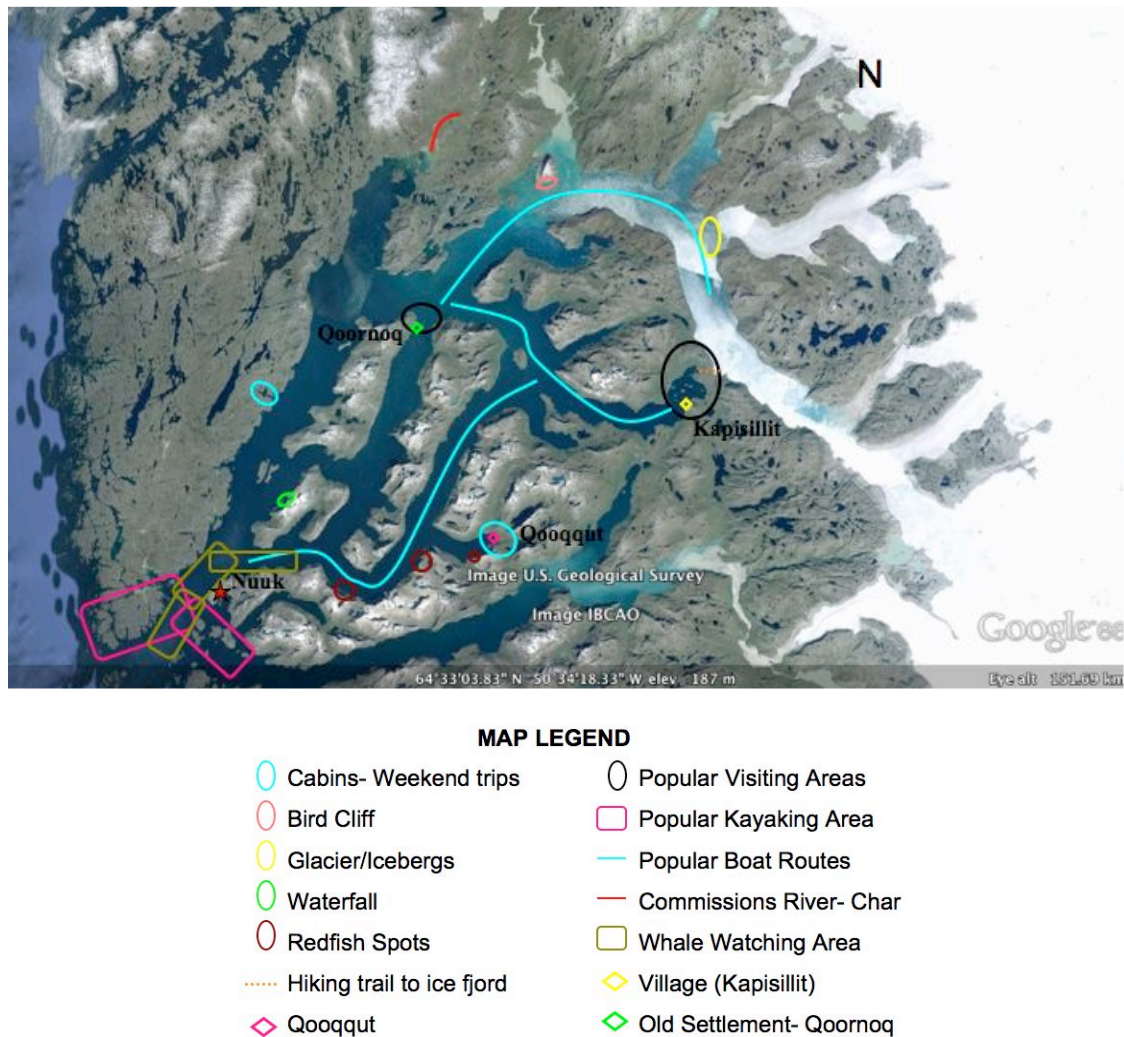


Figure 10. Mapped boat tour operator activity in Nuup Kangerlua, Greenland (adapted from Google Earth, 2013).

#### 4.1.3 The Locals

The locals can be traditional locals or short-stay locals. As discussed previously, the purpose of this thesis, a traditional local refers to an individual who has lived in the Nuuk area for more than five years. They can be Greenlanders, Danish-Greenlanders or any other nationality. The short-stay local title refers to those living in Nuuk that have not reached a term of five years, and usually move to Greenland knowing that they will return “home” or move away. They regard Greenland as a temporary home. The short-stay locals must have stayed in Greenland for over a year in order to not be considered a tourist, or work in the area. The short-stay locals in Nuuk mostly include Danes, Thais, and other Scandinavians. Many of the Danes and other Scandinavians who move to Greenland do so to experience Greenland or to gain job experience and then return home.

#### 4.1.4 The Tourists

The tourists are individuals who visit Nuuk and Nuup Kangerlua to experience, among other things, nature and the environment and leave Nuuk and Nuup Kangerlua and eventually return home. The interviewees stated that approximately 80% of their clients were Danish - either visiting or new residents. They also mentioned that those tours are very often tours for businesses. It was also mentioned that the Danes who charter the boat are often short-stay locals who do not own a boat. The boat tour operators also mentioned that they get other nationalities like other Scandinavian, German, and French individuals/groups.

#### 4.1.5 Findings

It can be drawn from the BLT Assessment that the tourism actors in Nuup Kangerlua have a close relationship with each other. Most of the tourists are visiting the area because of family or friends, or are on business. Some may be revisiting the area. The local – tourists relationship most likely has a different impact on the tourism system than e.g. if the tourists visiting would be highly reliant on the tourism brokers for entertainment and service. The tourist – local relationship may be creating a situation where the reliance of the tourists on the brokers is less.

## 4.2 Natural Amenity and Facility Assessment

The natural amenity and facility assessments fit to the BLT+N+T model discussed earlier in this thesis, N being natural amenities and T being technology (tourism facilities). This section will disclose findings of the natural amenity assessment and the facility assessment conducted. The findings will provide the information needed to answer RQ3: *Based on current natural amenities and tourism facilities in Nuup Kangerlua, Greenland, what are the main areas for responsible growth in nature-based coastal tourism?* RQ3 will be answered in section 6.2, *Recommendations Following the Natural Amenity and Facility Assessment*.

#### 4.2.1 Natural Amenity Assessment

The area around Nuuk is a natural amenity within itself. The area is fundamentally a wilderness and a playground for nature enthusiasts and therefore there is some difficulty when performing this assessment. Taking this into consideration, the natural amenities of

Nuup Kangerlua are the sites that tourists and locals find the most interesting; the things that people visit and/or want to see or experience. This could then include, among other things, a special area to camp, boulders, beaches, lakes, and hunting grounds.

*Table 10. List of natural amenities in Nuup Kangerlua, Greenland.*

<b>Exact sites</b>	<b>What people go to see</b>
<ul style="list-style-type: none"> <li>• Quassussuaq (Lille Malene)</li> <li>• Lake behind Quassussuaq</li> <li>• Ukkusissat (Store Malene)</li> <li>• Qooqqut</li> <li>• Qoornoq</li> <li>• Eagle's Nest</li> <li>• Waterfalls</li> <li>• Icebergs</li> <li>• Glacier</li> <li>• Bird Cliff</li> <li>• Qingaaq- Rubies and Gold</li> <li>• Hiking Trails</li> <li>• Hiking Trail Cabins</li> <li>• Oldest Rock in the World</li> </ul>	<ul style="list-style-type: none"> <li>• Wilderness</li> <li>• Whales, seals</li> <li>• Birds</li> <li>• Northern Lights</li> <li>• Large game: Musk Ox, Reindeer</li> <li>• Small Game: Arctic Fox, Arctic Hares, Ptarmigan</li> <li>• Ocean Fish: Red Fish, Cod, Greenlandic Halibut</li> <li>• River Fish: Arctic Char, Salmon</li> <li>• Herbs and Berries</li> <li>• Geological Formations</li> </ul>

The content provided during the boat tour operator interviews on natural amenities in Nuup Kangerlua was analyzed and put into two groups (Table 10). The two groups are: *exact sites*, pertaining to what exact sites were identified by the boat tour operators as natural amenities of interest to tourists, and 2) *what people go to see*, pertaining to what characteristics or elements of nature tourists expect or want to see when visiting Nuup Kangerlua. Ultimately, it can be seen that there is a great deal of natural amenities in Nuup Kangerlua that are, and could be, of interest to tourists if they would be marketed correctly. Although there are many opportunities, it must be realized that means of reaching many of the amenities by boat poses hindrances in tourism growth due to tourism costs. By marking hiking trails, there could be an increase in hiking tourism, resulting in tourists being able to reach some of the natural amenities by foot.

Natural amenities in Nuup Kangerlua offer vast opportunities for tour operators to inform, educate and entertain tourists. The fields of science, biology, geology, geography, coastal morphology, and glaciology could be used to gather more information on Nuup Kangerlua that makes the fjord more interesting and worth visiting. Tour operators could

then find more natural amenities worth visiting with their clients, and have more information to provide to their clients. This information could help create a tourism product.

Erik Palo Jacobsen, the owner of Arctic Boat Charter, especially mentioned how they aim to educate their tourists during their boat tours. They use old tales from the times of Norse settlers and old Inuit to give their client a cultural experience; they use information obtained from geologists to inform the client on interesting rock formations; and they use information obtained by biologists to inform the tourist on the ecosystem they are visiting. According to Jacobsen, the information provided during the tour and the enthusiasm of his crew to educate, makes his boat tours “always the best choice”.

Close cooperation with the Nature Institute of Greenland, the Climate Change Research Centre of Greenland, and the knowledge of the locals in Nuuk and other tour operators could offer great advantages for knowledge sharing opportunities. Further information from environmental impact assessments for projects can also provide information on the environment and possible locations to conduct tourism. Shore Sensitivity Maps were produced for the Danish Energy Agency for the Ministry of Environment and Energy and the Bureau of Minerals and Petroleum for the Government of Greenland for the purpose of oil spill response methods. These maps offer utilization mapping and information on wildlife, birds, and recreation areas that can be used by tour operators themselves. (see Mosbech et al., 2000).

#### 4.2.2 Facility Assessment

Various facilities are available in Nuuk for tourism use. Some of them are seasonal but most of them are open year round. Nuuk has all the built amenities needed in order to service tourists who visit the town. Although the carrying capacity for Nuuk is undoubtedly higher than that of the smaller villages in the country, care must still be taken not to over exceed the limit. When the carrying capacity tourism destinations in Nuup Kangerlua are calculated, the building of tourism facilities should be conducted with the carrying capacity in mind.

Tourism facilities in Nuuk, that is facilities that provide services in an area to tourists, are quite many. Nuuk is the capital of Greenland and is the most populated. Nuuk

therefore has the infrastructure necessary to support those living there. This chapter will assess the tourism facilities in Nuup Kangerlua.

## Transportation

To travel to Nuuk, you can either fly with Air Greenland or Air Iceland or sail. Tourists who sail are mostly cruise ship passengers. There are no roads connecting towns within Greenland and therefore travel between towns and villages is conducted by airplane, helicopter, boat or hiking. Within Nuuk, there are road infrastructures and one can therefore travel easily by foot, car, bus, and bicycle, but also by boat. The possibilities of transportation into Nuup Kangerlua (out of city limits) can be conducted by boat, helicopter, and small airplanes or by foot. Keeping this in mind, it is fairly obvious why it is important to have tourism facilities in Nuuk since tourists cannot simply drive to the next town and book a hotel or tour. It should be kept in mind that although tourists can use tourism facilities, they are mainly built and present for the locals, e.g. the swimming pool and restaurants.

Transportation to and within the town is quite advanced. International air travel to Nuuk comes from Iceland and is only supplied by smaller airplanes. Three airlines in and out of Nuuk and are listed in Table 11. Nuuk has an airport that can receive smaller Dash airplanes, not the bigger international crafts used for longer flights. This means that the capital of Greenland currently does not have an airstrip that can land the larger international airplanes, creating difficulties with tourism opportunities. This means that if tourists want to fly directly from Denmark, then they must first land in Kangerlussuaq, and then take a 1 hour flight to Nuuk. Kangerlussuaq is a civilian airport that services both domestic flights and international flights to Denmark via Air Greenland (Air Greenland, nd).

*Table 11. Facility Assessment- Air transportation in Nuuk, Greenland.*

<b>Transport Air</b>	<b>Year round</b>	<b>Helicopters</b>	<b>Small Planes</b>
<b>Air Greenland + Charter</b> Tlf. +299 34 34 34 info@airgreenland.gl	Yes	Yes	Yes
<b>Air Iceland</b> Tlf. +354 570 3000 websales@flugfelag.is	Yes	No	No
<b>Air Zafari</b> Tlf. +299 24 85 54 book@airZafari.gl	Yes	No	Yes

Nuuk's harbor is ice-free all year round making it an Arctic harbor accessible all year. This is not the same for other harbors in Greenland, creating advantages for Nuuk. Boat tour operators therefore have an opportunity to offer year round tourism if their boat meets the requirements. Sixteen companies in Nuuk provide sea transport and are listed in Table 12. Public transportation and taxi services in Nuuk are reliable, abundant and quick (Appendix A). Many locals do not own cars and rely on the taxi service as a means of transportation. This has assisted with the creation of efficient taxi services. The streets, as well as the main walk-paths, are plowed and sanded diligently in the wintertime, making almost all areas in the town accessible by foot.

*Table 12. Facility Assessment- Sea transportation in Nuuk, Greenland.*

<b>Transport Sea</b>	<b>Year Round</b>	<b>Day Trips</b>	<b>Ext. or Multi-Day</b>
<b>Arctic Umiaq Line</b> Tlf. +299 34 91 90 info@aul.gl	No. April-January	Yes	Yes
<b>Arctic Boat Charter</b> Tlf. +299 53 38 80 abc@greenet.gl www.abc.gl	Yes	Yes	Yes
<b>Arctic Guide Fishing</b> Tlf. +299 32 68 03 info@ameralik.com www.ameralik.com	Yes	Yes	Yes
<b>Boat Charter Hans Egede</b> Tlf. +299 32 96 75 cder@greenet.gl	Yes	Yes	Yes

<b>Br. Pedersen Charter Service</b> Tlf. +299 55 85 91 www.nmc.gl	NA	Yes	NA
<b>Immanuel</b> Tlf. +299 32 39 66 immanuel@greenet.gl	No	Yes	NA
<b>Kisaq</b> Tlf: +299 55 22 30 KisaqGL@hotmail.com	Yes	Yes	By arrangement
<b>Kissavik</b> +299 55 34 92	NA	By arrangement	By arrangement
<b>Martek</b> Industrivej 1, Tlf: +299 48 73 48 martek@martek.gl www.martek.gl	Yes	Yes	Yes
<b>MR Charter</b> Tlf: +299 530 531 booking@mrcharter.gl www.mrcharter.gl	No	Yes	Yes
<b>Naraseq Boatcharter</b> Tlf. +299 52 38 83 sepasu@greenet.gl	Yes	Yes	NA
<b>Nuuk RIB Service</b> Tlf: +299 48 71 12 nuuk.rib.service@gmail.com	NA	NA	NA
<b>Qaatsiaq Tours</b> Tlf: +299 55 18 64 / +299 23 63 96 ingefile@greenet.gl	No	Yes	NA
<b>Touring Greenland</b> Hans Egedesvej 29 Tlf: +299 31 44 14 info@touringgreenland.com www.touringgreenland.com	NA	NA	NA
<b>Tugdlik</b> Tlf: +299 55 17 32 tomlynge@msn.com	NA	By arrangement	By arrangement
<b>Tupilak Travel</b> Ilivinnguaq 1, Tlf: +299 31 32 18 info@tupilaktravel.gl www.tupilaktravel.gl	Yes	Yes	By arrangement

## Ports – Harbors

Ports and harbors in Nuuk are not only important as an entrance for people and goods

into the country, but also as a cultural area full of the busy port life. That is why the ports, harbors and wharfs are included in the assessment. Ports and harbors can be the location where tourists dock their boats and enter the land, e.g. sailing passengers, or where tourists enter tour boats. Ports and harbors can however also serve as an area of culture since they are the areas where the everyday lives of fishermen, hunters and locals takes place.

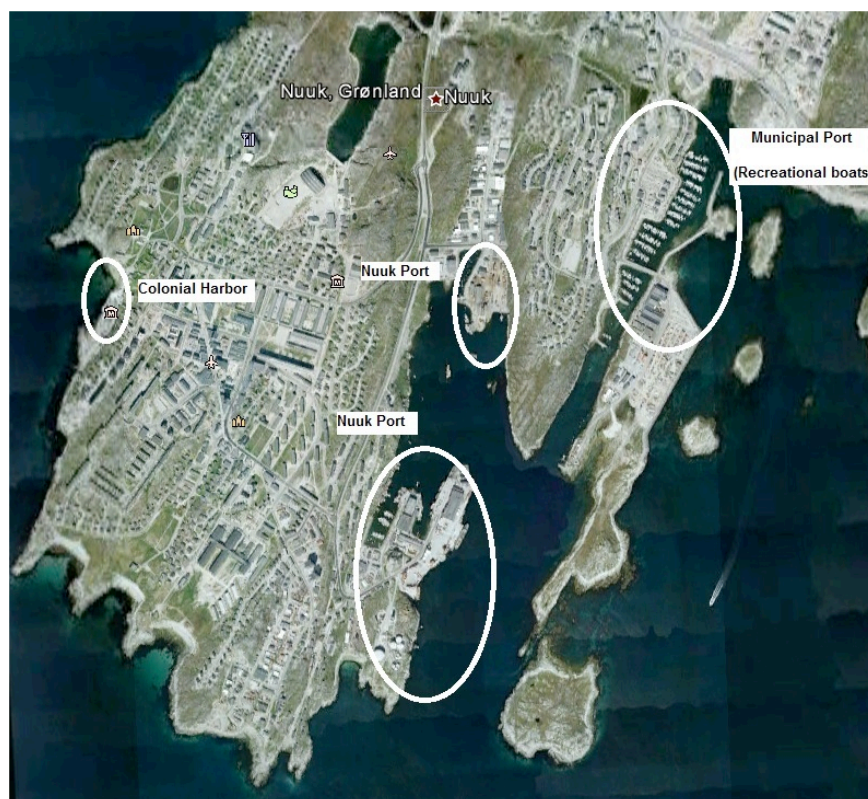
The goal of the port assessment was to find areas where people sailing in the fjord can dock their boat and get on land. There are only five harbors/ports in Nuup Kangerlua (see Figure 11 and Table 13). However, this does not mean that there are only five areas to access land from the sea. The common practice is to drop anchor in the fjord and use a Zodiac boat to reach land. This practice reduces the reliance on built infrastructure. Tourism charter boats will also often get their boats as close to the shore as possible, especially near the cliffs, allowing tourists to jump directly off the boat onto shore. This is one way that the locals have dealt with the lack of infrastructure in Nuup Kangerlua.

*Table 13. Facility Assessment- Harbors and Ports in Nuup Kangerlua, Greenland.*

<b>Harbors &amp; Ports</b>	<b>Fuel Dock</b>	<b>Service/Repair</b>	<b>Description</b>
Kapisillit	Yes	No	The local harbor for Kapisillit which serves as the towns lifeline.
Qooqqut	No	No	Small and old pontoon used to receive smaller boats.
Colonial Harbor	No	No	Oldest harbor in Nuuk. Tourist attraction, has recreational and historical value to the people of Nuuk. No permanent docking facilities there but cruise ships dock nearby and use small boats to ferry passenger to the pontoon bridges located outside the harbor. This is also where cruise tourists will go on board for the boat tours.
Nuuk Port	Yes (larger ships)	Yes (larger ships)	Mainly used for larger vessels from Royal Greenland, Royal Arctic Line and foreign trawlers. Repairs can be conducted at the ship yard although this is mainly for larger ships. Foreign boats must contact the port authorities prior to arrival and dock in the public part of Nuuk Port.
Municipal Port	No	No	Where the locals can dock their boats. A fuel truck is on call and A



			local pub is located in the Municipal Port area.
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*Figure 11. Harbors and Ports in Nuuk, Greenland.*

## Accommodation

There are various accommodation options available for tourists visiting Nuuk and the accommodation sector keeps growing. The accommodation ranges from hotel rooms, to hostels, to bed and breakfasts (Appendix B). There is no hostel located in Nuuk, and the one in Kapisillit only accommodates up to seven individuals. A low budget accommodation option is missing in Nuuk. Although people can pitch a tent anywhere in Greenland, there is no camping ground in Nuuk and tenting near the city centre is not advised.

## Culture, Leisure and Restaurants

There are many interesting cultural and leisure activities to do in Nuuk (Appendix C) and most of them can be conducted year round. There is a great deal of art and galleries in the Nuuk area and when combined with the art and goods sold by private actors in the

local markets, various cultural diplomacy opportunities present themselves to give the tourist a feel for Greenlandic and Nuuk culture. It should be noticed that there is no national gallery in Nuuk, only private art galleries.

The restaurant selection in Nuuk is quite large, ranging from an up-scale steakhouse and sushi restaurant, to fast food Thai restaurants (Appendix C). Although some of the restaurants and cafés offer Greenlandic gastronomy, it is definitely lacking in the food selection in the restaurants in Nuuk. In addition, even though the ingredients are offered, they are often not given the special status of being Greenlandic.

### **4.3 Conflict Assessment**

After conducting the interviews with the boat tour operators and public sector brokers, the information was taken together and a conflict assessment was conducted. The conflicts presented and derived from the interviews and meetings were put into five categories: 1) conflicts between private sector tourism brokers, 2) conflicts between the coastal sectors, 3) conflicts between boat tour operators and the locals, 4) conflicts between boat tour operators and nature, and 5) conflicts between tourism and politics. These categories emerged during the content analysis of the interviews with the boat tour operators and the public sector broker. The findings of this section will answer RQ4: *What current and future conflicts are occurring or may occur a) within the tourism sector in Nuup Kangerlua, Greenland, and b) between the tourism sector and other sectors in the area, according to selected tourism actors?*

#### **4.3.1 Conflicts between Private Sector Brokers**

It should be noted that there is a great deal of cooperation between the tourism operators especially between the larger tour operators and the boat charters. The boat charters also have their specialty and get recommended by other tour operators if a certain interest suits one operator better than the other, e.g. with char fishing clients. This cooperation could be a reason why the operators were not eager to tell an outsider the conflicts in the tour operator group.

This being said, it should be noticed that there are conflicts between the tour operators and the most apparent one is crowding. Crowding of operators happens e.g.

during whale watching. Kayaking tourism has discontinued conducting whale watching at the “hot spots” for safety reasons due to the recklessness of whale watching boats and locals’ boats. In 2012, one tour operator in Nuuk, Michael Rosing at MR Charter, applied for river concessions in order to promote char fishing tourism. The concession limits fishing activity in the river in the sense that other tourists are not allowed to fish in the river. Locals on the other hand are allowed to fish in the river, making the rights of the concessions holder limited. Concessions could be a tool that either instigates conflict – conflict over who gets the concession over popular fishing rivers, or dissuades conflict – there is no longer a question which operator has a right to fish in a certain river. Time will show whether concessions works for the Nuuk area and what impact it will have.

#### 4.3.2 Conflicts between the Coastal Sectors

From the tour operator’s perspective, the main sector to instigate conflict is the mineral extraction sector. If the Greenlandic government comes to the conclusion that mining for iron ore in Isua will be put into action, it could have great negative impacts on nature-based tourism in Nuup Kangerlua. Shipping traffic from the area will undoubtedly tarnish the image and expectations that the tourist has when visiting Nuuk.

Such a megaproject could bring about positive and negative impacts for tourism. Mining could create potential business for the tour operators by increasing the number of individuals in the area that could have an interest in tourism activities. A negative impact of this increased number could be the competition for the attention of the boat charters. The mining sector could compete with the tourists for the services of the boat charters if e.g. the boat charters financially earn more by transporting mining workers than through tourism. The instigation of the iron ore mine could, in these ways, undermine the tourism sector in Nuuk.

Another conflict issue raised between coastal sectors was humpback whaling. It was mentioned that there was a scare that the humpback population in the fjord would soon feel the impact of whaling and therefore impact tourism opportunities. In order for the whale meat to stay fresh once caught, the local hunters do not want to go far out of the fjord. The hunters rather choose to stay in the fjord and hunt the same population that the tour operators are viewing during whale watching tours. This causes concern because not

only does the population take a long time to repopulate, but the whales can also become frightened of boats.

#### 4.3.3 Conflicts between Boat Tour Operators and the Locals

Conflicts with the locals were also raised in the interviews. The locals' activity of gillnetting, for example, was mentioned as a hindrance to char and salmon tourism. Gillnetting causes the smaller fish to escape while the larger fish get are caught. This means that less of the bigger fish that sports fishermen (tourists) want to catch end up swimming up river. Various solutions are available for this conflict, e.g. by encouraging locals to use fish traps and allow the larger fish to move upriver. Whale watching by locals is another local-broker conflict. Tour operators are supposed to follow a code of conduct for whale-watching, although there is no enforcement saying that such a code should be followed. Locals may not know about this "code" or may ignore it. The locals therefore may approach the whale too fast or get too close, disturbing the natural behavior of the whale, causing potential impacts for whale-watching tourism.

Further potential conflicts may arise if tourism activities start to infringe on the activities of the locals. Examples of this could be crowding in rivers, hunting grounds, fishing grounds and "get-away" areas, e.g. where cabins are located that the locals use to get away from the city. This goes along with culturally important and valuable local sites that locals may not want tourism to exploit.

#### 4.3.4 Conflicts between Boat Tour Operators and Nature

When discussing tourism in Nuuk, one must remember that Nuuk is in the Arctic and the Arctic can be an unforgiving and dangerous place. Therefore it is very important to respect and understand nature. Having laid this foundation, there are various issues that the boat tour operators must deal with regarding nature including: short season, weather, nature, and carrying capacity.

The tourism season in Greenland is short. For most of the boat tour operators, tourism is at its peak in the summer time. The two seasons in Nuuk are winter and summer and the summer season runs approximately from late May until the end of September. This short season can make hiring staff difficult, especially if the boats are not operational during the off-season. The weather can also be unforgiving. Tours and flights may have to

be cancelled due to the weather, making trips somewhat unreliable. The nature of the area can be dangerous and extreme, limiting tour operators to some extent to offer extreme tourism. By providing extreme tourism activities, activities fit for the adaptable and physically fit, the tourism marketing group narrows down.

Future conflicts with nature can occur if tour operators and those managing the area do not respect the carrying capacity of the ecosystem. If this is not done the environmental services expected of the area will not meet the requirements of the tour operators. Care must be taken to preserve the natural state of the environment where nature-based tourism is taking place to keep a vigil on the carrying capacity to ensure that this conflict does not arise. The impact on vegetation in popular hiking areas and the disturbance of wildlife, causing animals to leave a certain area, are two examples of what impact too many tourists in one area can have on the environment.

#### 4.3.5 Conflicts between Tourism and Politics

The topic of concessions was a static interview question. Some interviewees had strong opinions against concessions whereas others replied that they were looking forward to seeing how they would evolve. An interesting point made in several of the interviews was that the concessions laws did not provide enough rights to the concessions holder, allowing locals to fish in concession rivers.

A potential future conflict is the lack of understanding and information gathered and passed on to locals on certain species' total allowable catch (TAC) and the potential negative impact of fishing on fish stocks. Although the government issues TAC and quotas, locals can fish in lakes and oceans as much as they like. A boat tour operator, who was especially concerned regarding the lack of data gathered on red fish, raised the issue. He was especially concerned with the idea that locals will exhaust populations of redfish in Nuup Kangerlua if monitoring does not take place. He expressed that there was a lack of interest in the issue by the government, hence the monitoring of these species would not take place or be funded. An important point that this interviewee made regarding resource management was that popular redfish fishing areas in Nuup Kangerlua change places. The reason for this is unknown. The interviewee raised the question whether this could be because 1) overfishing occurred in area (A) and the population has been depleted, or 2) the populations move around in the fjord. Increased interest in the political parties and funding

for such projects could increase the locals knowledge and compliance with TAC and other fisheries regulations.

Finally, in the Nuuk area, policy conflicts exist between the tourism sector and the mining sector. The Sermersooq Business Council has a duty to serve as the business development unit of the Sermersooq Municipality as a whole. Currently tourism issues and development only get approximately 25% of the effort and the focus is shifting towards mining sector. Politics decide how much financing will go into the tourism effort and how much time will be spent to expand, plan and brainstorm for new and improved ways of managing and planning tourism in the municipality. A well-rounded municipal tourism strategy could ensure financial input and tourism development interest by the municipality if given proper funding and support.

## 5 Case Study Discussion

### 5.1 Limitations

Although the aims of this thesis were reached, there are some unavoidable limitations and shortcomings. First, because of the time limit, not all the boat tourism operators were interviewed. It would have been ideal to contact all of the boat tour operators in order to get generalized results. The author analyzed the information in the assessments herself, creating the opportunity for a subjective assessment.

The author is not a local of Nuuk or Greenland and this may have had an impact during the interviews. Overall in the interviews, the interviewees may have had less desire to express current and future conflicts to an outsider. Furthermore, some tour operators may not want to reveal activity information or future plans due to competition reasons. Therefore, expressing unique activities or special or *hidden* natural amenities to an outsider, and having them published, may have created an obstacle in the flow of information from the boat tour operators.

In the interviews, many of the boat tour operators were not keen on expressing conflicts between each other. One reason for this may have been the fact that the interviewer was not a local. However, another reason for this may be the size of the community. Perhaps conflict is not expressed, especially to an outsider, since the community is small and tight knit. When asked, the operators said that there was no conflict. Also, when they were asked about crowding, some simply remarked that their boats would visit a different activity area. On the surface, was the overall opinion that conflict was not a problem and that the fjord is big enough for all of the tourism activity that takes place there.

### 5.2 Strategy and Statistics

Considering the topic of this thesis, a great shortcoming in the national tourism strategy is how separated the policy is to the environment and sustainable development. The strategy

is clearly designed with the economic sector in mind, not keeping in mind that the tourism is dependent on the environmental and the social sectors. The terms sustainability, carrying capacity, and the environment are not mentioned in the strategy in such a way as to promote the sustainable development of tourism in Greenland.

## **5.3 Further Research**

In order to formulate recommendations for nature-based tourism management in Nuuk, this thesis focused its attention on developing three assessments. The research could however be taken a step further and a more full analysis could be conducted if all of the tourism brokers in Nuup Kangerlua would be interviewed, not just concentrating on the boat tour operators. Further research could also be conducted to find what positive and negative impacts tourism has on Nuup Kangerlua.

In order to see the impact that tourism has on the environment, economy and society of Nuuk, tourism indicators should be researched and monitored. Intersectoral indicators such tourist satisfaction surveys on marine traffic, local hunting and non-sustainable tourism activities could be set up to see what activities of other sectors are having negative and positive effects on tourism in Nuup Kangerlua. By doing this, managers can measure the socio-economic impact of tourism using indicators including: economic indicators (gross domestic product, unemployment rate), social indicators (unemployment rate, working hours per week, happiness, population, health, education levels, domestic violence), socio-economic indicators (education, gender, poverty), and environmental indicators (water quality index, “grazing”). Indicator studies could be beneficial to all coastal sectors in Greenland and offer information on the impact of coastal activities.

Further research on the tourists coming to Nuuk would also greatly benefit the study, especially studies on what motivates tourists to visit Nuuk. This would allow those working in the tourism sector to see what sort of tourism activities could be popular in the near future. This would call for research on tourism statistics. Tourism statistics data is difficult access on Greenland Statistics webpage, the main tourism statistics webpage in for Greenland, and it would be beneficial if it would publish updated statistics and have it more accessible.. Regional and local statistics would serve a great purpose and assist the



municipalities in their tourism planning. Further studies on tourism need to be conducted by Greenland Statistics in order to get more recent data that could provide greater information on both the tourist and the trends that are happening in tourism in Greenland. These further studies could research what sort of accommodation tourists are using and why, what activities tourists hope to participate in while visiting Nuuk and why, and the income of the tourist.



## 6 Management Recommendations

The *overarching research question (RQ1)* presented in this thesis will be answered in this section. By conducting the three assessments and applying the findings found in Chapter 4, this section is able to answer RQ1: *What coastal management strategies and tools can be introduced to Nuup Kangerlua in order to aid in sustainable nature-based coastal tourism development?*

### 6.1 Recommendation Following the BLT Assessment

According to the interviews taken with the boat tour operators, clients of Danish descendant make up the majority of the tourists, or about 80%. According to the interviews this group is a mixture of tourists and short-stay locals. Many of the tourists are either business tourists, or visiting family members or friends. Since this is the majority of the clientele, it is recommended that an added emphasis in marketing be placed on this group.

An increase in local advertisement, both by tourism operators and the municipality, should be considered. The Sermersooq Business Council has put together a comprehensive tourism brochure for Nuup Kangerlua that identifies the available tourism activities conducted by businesses in Nuuk. This brochure is already being distributed outside of Greenland, giving Sermersooq a great deal of foreign advertisement, but this advertisement should also be conducted within Nuuk. This would give those individuals hosting guests more knowledge on what tourism activities are available in Nuup Kangerlua and could get the locals more active in talking about the tourism activities e.g. on various social media. This type of advertisement is inexpensive and could be very beneficial.

Little research has been done on tourism in Nuuk, and tourism studies, interviews and surveys should be conducted on the Nuuk tourist in order to identify what activities the tourist wants. Once this is identified, then opportunities could be maximized by forming a type of tourism that fits the e.g. business tourist or family tourist.

## **6.2 Recommendation Following the Natural Amenity and Facility Assessment**

Recommendations in this section have the possibility to increase nature-based tourism activity in Nuup Kangerlua. Accordingly, the recommendations include conservation management tools for the environment since the environment is the foundation for nature-based tourism. Such measures will also provide socio-and economic benefits to other sectors in the Nuuk area, hence providing positive impacts for society. This section answers RQ3 (*Based on current natural amenities and tourism facilities in Nuup Kangerlua, Greenland, what are the main areas for responsible growth in nature-based coastal tourism?*) and it is recommended that 1) that recreation areas be identified and labeled; and 2) that planning for an MPA and biosphere reserve (MAB Program) be commenced.

### **6.2.1 Identification and Labeling of Recreation Areas**

This thesis recommends that the Sermersooq Municipality work towards identifying, mapping, labeling, and publishing information for outdoor recreation areas and natural amenities. In this thesis, recreation areas are defined as those areas where recreational activities can take place, e.g. ski slopes, bike paths, and campsites. Natural amenities are nature sites that include e.g. bird cliffs, mountains, char-rivers, and areas where wildlife viewing can take place. If recreation areas are labeled and introduced to a tourist, then there is a greater chance of a tourist visiting that area. Therefore, although campsites and hiking trails are especially referred to in this thesis, a good idea would be to designate areas where tourists can, among other things: bird watch, paint the nature/scenery, photograph, berry pick, admire different vegetation, fish, and experience geological sites. Some of these activities require local knowledge, creating an atmosphere where locals can participate in strengthening the tourism sector.

The build up of nature-based tourism in Nuuk should have greater focus on the average tourist - not necessarily only on the extreme tourist. The reason behind this is the fact that Nuuk is popular to business tourists and family tourists. This average tourist is not necessarily ready to experience the intensity of extreme adventure tourism, and is not ready to be off in the wild all by himself. The average tourist is the tourist who needs guidance while experiencing nature, although not necessarily always accompanied by a

guide. Elsewhere in the world, these tourists would pitch up their tents at campsites, visit nature conserves or national parks, or would experience the aesthetics of a place within the vicinity of a designated area. These are the people who want to be guided. In Nuup Kangerlua, Sermersooq Municipality has only a few designated recreation amenities, indoor or outdoor sporting or leisure facilities, which in our nature-based tourism context include the ski lift, the golf course, the swimming pool (Malik), the cross country ski trail, a few hiking trails, and the snow mobile trail. Furthermore, there is no recreation map for Nuup Kangerlua targeted at tourists and various hiking maps are considerably outdated. Recreation infrastructure would not only provide activities for tourists, but would also have positive impacts on the locals. In order to increase the popularity of nature-based tourism, it is recommended that focus should be put on the following amenities: camp sites and hiking trails.

### 6.2.2 Campsites

Although the idea of campsites is not new in the tourism discussion for Nuup Kangerlua, no campsite has yet been established. Campsites offer tourists the chance to independently experience nature and also offer the tourists the comfort of knowing where they will pitch up camp. In Greenland, tourists can camp wherever they like, however this could be intimidating for the average tourist. Therefore, a designated area could provide a sense of safety.

Camping would offer a less expensive means of experiencing Greenland in the capital area, and could increase the time spent in Nuup Kangerlua. It could also open the gates to sharing the tourism mass that visits Nuuk with Kapisillit. Campsites could be located in such areas that could be used both by family and business tourists who want to experience nature in a semi-structured way and the more advanced outdoors tourist. Locals could also benefit from campsites since they would provide recreation amenities for them.

Campsites should be established in vibrant environments in the fjord, accessible by foot from Nuuk. The idea of campsites goes hand in hand with hiking trails because they could be placed along them, connecting locations together. The campsite design would have to be developed according to funding, location, and the vision that the provider, most likely the Municipality, wants the tourist to experience in cooperation with the tour operators. An example of a very simple campsite would be an area where stones are

arranged in a circle for seating and a marker pointing to a water source. The campsite idea is one that can be played around with in many ways, creating an interesting project.

### 6.2.3 Hiking Trails

There are various hiking trails along Nuup Kangerlua, both on Nuuk's side of the fjord and Akia (Nordlandet). Information on these trails is not easily accessible and most of them are not marked, nor are they marked on modern maps. This thesis places focus and priority to the hiking trail from Nuuk to Kapisillit.

By linking campsites and hiking trails together, the hike from Nuuk to Kapisillit could become a popular tourist attraction for hikers. Having several campsites along the way gives the hiker freedom of going a short or a long distance from Nuuk, offering a nature-based activity that could fit the time schedule of the tourist. A restaurant is located in Qooqqut, almost serving as a halfway mark to Kapisillit. This restaurant, and its natural surroundings, could be an interesting amenity for tourists on the hike. Qooqqut could even, in that sense, serve as a starting point for the hike for those who travel in the fjord by boat, leading either to Kapisillit or to Nuuk. The tourist could also experience a sense of safety knowing that the restaurant and other people are in the vicinity of their hike. This might ease the mind of the hiker knowing that they are not completely alone in the fjord.

It must be noticed that the landscape for hiking out of the city of Nuuk can be very difficult and challenging, and serves as a limitation for those who are not physically fit. However, if enough information is provided as to the difficulty level, along with information about hiking in the Nuuk area, then Nuuk could become a very popular destination for hikers. It is recommended that the marking of the trails and the development of hiking tourism be done in coordination with the local hiking group, Naleraq, since they could provide local knowledge on trails and conditions.

The Sermersooq Business Council started marking hiking trails last summer around Nuuk, marking the trails up Quassussuaq (Lille Malene) and Ukkusissat (Store Malene). Currently it has been decided to start a project in the summer of 2013 to mark hiking trails in Akai. Akai is a lowland across the fjord from Nuuk and a popular hunting ground. Akia has many lakes that connect there during the thawing season, and offers many tourism opportunities including kayaking, fishing, and trophy hunting. It should be noticed that

Akia is only accessible by boat, increasing the overall cost of reaching the attractions in that area.

Some other trails around Nuuk have been marked and hiking maps can be bought at Tupilak Travels. Due to an annual race that takes place in Kangerluarsunnguaq (Kobbefjord) the trail around the fjord has been marked. Furthermore, the local hiking club Naleraq and the skiclub NSP have built four shelters on the trail that travels from Nuuk to Kapisillit, and future plans foresee more shelters being built. These shelters are open and anyone passing along the way can use them. This could possibly change if hiking traffic in the area increases. The shelter locations could serve as good locations for campsites.

#### 6.2.4 MPA Planning

Following the content analysis of the boat tour operator's interviews, it is recommended that planning of a Marine Protected Area in Nuup Kangerlua be commenced. The MPA can serve as an area for biodiversity to flourish, act as a precautionary approach to environmental degradation, and provide economic benefits. During the planning process, the MPA should be established and planned with such zoning that the locals and tourists can use a section/zone of the MPA in a sustainable manner. This could be a great location for the build up of eco-tourism in Nuup Kangerlua, where nature-education could be conducted both for tourists and locals.

As utilization mapping continues to produce current and future maps, it will become more apparent where utilization stress areas will occur. Stress areas can decrease the biodiversity of an area, reduce species' populations and create social problems if it interferes with sustainable hunting. Hence, the preservation of an area of pristine nature can bring along with it a certain purpose for the area and a respect that cannot easily be disregarded by the government or the local for shortsighted human use. MPAs also serve to put into motion the precautionary principle; designating an area for flourishing biodiversity.

“Such considerations of nature-based tourism development require as much an understanding of the development of human and social capital as it will knowledge of the physical environment and individual species and their respective tolerance to visitor impact” (Hall & Boyd, 2005, 13-14).

There are several possible locations in the fjord; however stakeholder meetings would have to be held in order to get the community and the brokers involved. In reality, an MPA cannot be established and serve its purpose without the support of the community. Scientists, for example from the Greenland Institute of Natural Resources and the Climate Research Centre of Greenland, would also have to be active members in the MPA team in order to allocate the best possible location. The MPA is a management tool that could be incorporated into the ICZM plan (see section 6.3.2). It should however be noticed that the MPA could also be incorporated into UNESCOs MAB area (see section 6.2.5).

Concern was raised in two boat tour operator interviews regarding redfish population uncertainties and whether the whales viewed during safari tours are from the same whale family that is being hunted by local hunters. It can be seen that there are some uncertainties and vulnerabilities in the Nuup Kangerlua ecosystem. Below are three reasons why it would be beneficial to establish a MPA in Nuup Kangerlua:

1. A MPA would promise to protect a part of the fjord from the future impact of increased activity in the fjord. The MPA will not be immune to the negative impacts due to the character of water, but it does try to provide a healthy ecosystem with increased biodiversity. Furthermore, the MPA could also be a good area to measure the impacts of increased activity in the fjord. An MPA could act as a countermeasure to the increased development movement in Nuup Kangerlua. Hence, the negative impacts of e.g. mining in Isua could be justified by the positive impacts that could occur with the creation of an MPA. The MPA could be an attempt to try to balance the negative impacts of development with positive actions.
2. An MPA can increase biodiversity in the area and subsequently increase the fish population elsewhere in the fjord, creating even better fishing tourism opportunities, with a side effect of increasing the fish numbers for commercial fishermen (Alaca, 2001).
3. In Nuup Kangerlua, the precautionary principle can be kept in mind when taking the initiative and protecting an area. The focus of this argument is to protect an area before development or pollution degrades it. A clean and beautiful MPA can become popular amongst tourists. The MPA label will make the area special and interest tourists, and can be an opportunity to develop eco-tourism in a protected area in Nuup Kangerlua.

Indirect benefits of MPAs to locals in Nuup Kangerlua include a) job opportunities in the tourism industry and park management, b) fish spillover benefiting local fishermen, and c) environmental resilience benefiting the community as a whole (Fisheries and Oceans Canada, 2011). Increased biodiversity resulting from the MPA could benefit the local people culturally through subsistence and traditional harvesting. Increased



biodiversity can make the environment more resilient to climate change and man made threats like oil spills.

The governing bodies in Greenland can use examples from other places in the world to establish a MPA. In White et al. (2006) five phases of MPA establishment and management are outlined and include: 1) Issue identification and baseline assessment; 2) Plan preparation and adoption; 3) Action plan and project implementation; 4) Monitoring and evaluation; 5) Information management, education, and outreach (Table 14).

In the case of Nuup Kangerlua, once the governing bodies in Greenland have recognized the need for a MPA in the fjord, they can use White et al.'s table (Table 14) as a reference to commence MPA planning. The first step would be to identify the stakeholders and conduct a stakeholder analysis. The second step would be community organization and mobilization, where community workers would be introduced into the Nuup Kangerlua area with the purpose of identifying who in the community gains and who loses if a MPA would be established. The third step consists of the baseline study, where the environmental profile along with the goals of the MPA is identified. In this stage the resources to be managed, along with the human use of those resources are identified. The fourth step includes informing, educating and communicating findings and MPA benefits to the community.

*Table 14 Phases and Activities for MPA establishment and management within local government jurisdictions (White et al., 2006).*

<b>Phases of coastal management*</b>	<b>Stages and activities for MPA establishment and management**</b>
<b>1. Issue identification and prioritization, and baseline assessment</b>	Recognition of a need and program preparation Integration with the community and assessment of issues <ol style="list-style-type: none"> <li>1. Stakeholder identification and analysis</li> <li>2. Community organization and mobilization</li> <li>3. Conduct of baseline studies</li> <li>4. Information, education, and communication</li> </ol>
<b>2. Plan preparation and adoption</b>	Definition of goals and objectives: Formation of the core group and development of the management plan <ol style="list-style-type: none"> <li>1. Formation of the core group</li> <li>2. Definition of goals and objectives</li> <li>3. Preparation of management strategy and action plan</li> <li>4. Determination of reserve boundaries and zones</li> </ol>
<b>3. Action plan and project implementation</b>	Implementation: Formalization of the reserve, implementing management strategies, enforcement and community strengthening <ol style="list-style-type: none"> <li>1. Formalization of the reserve through local ordinance</li> <li>2. Implementation of strategies for managing the reserve</li> <li>3. Enforcement</li> <li>4. Permits and user fees</li> <li>5. Strengthening of community involvement</li> </ol>
<b>4. Monitoring and evaluation</b>	Monitoring and evaluation Refinement of the management plan
<b>5. Information management, education and outreach</b>	Review of status of MPA and its benefits Refinement of education program from experience Development of outreach program as appropriate

*\*Described in detail in Philippine Coastal Management Guidebook Series 1 and 3 (DENR et al. 2001) as the overall phases for coastal resource management planning and implementation.*

*\*\*These stages and activities are different from those prescribed under the NIPAS Act because of the focus on MPA within local government jurisdiction.*

### 6.2.5 Biosphere Reserve (MAB Program)

This thesis proposes that an application for a Man and Biosphere (MAB) area be arranged for the area around Kapisillit. This area would range from the settlement of Kapisillit to the Southern most part of the protected area in Ausmannadallen. The MAB recognition would benefit the area environmentally, economically and socially, and the author predicts that this would especially benefit the tourism sector.

National parks, MPAs, and nature reserves are entities that are known for attracting nature enthusiasts. Strategically, it could be beneficial for the Sermersooq Municipality along with the Greenlandic Government to see if there is a possibility to designate and/or promote the nature in Nuup Kangerlua. An interesting idea mentioned in an interview with an employee at the Ministry of Domestic Affairs, Nature and Environment for the Government of Greenland, was to apply for UNESCOs MAB program.

Biosphere reserves have the aims of conservation, sustainable development, and research and education. Biosphere reserves are different from the usual national park and protected areas because human beings are recognized as being a part of the biosphere. Human activities, sustainable development and research in the biosphere reserve are a focus of the MAB program.

The Kapisillit area has a protected area, the Ausmannadallen protected area. MAB reserves often include protected areas and zone around them. Therefore, Kapisillit already meets the standard of protection. The standard of conservation would be entailed in the conservation of the unique Kapisillit salmon, the only salmon known to spawn in Greenland. Sustainable development would assist with the development of the village of Kapisillit. Those living in Kapisillit, the University of Greenland and the Nature Institute of Greenland (which are located in Nuuk), could conduct both research and education in the biosphere reserve.

The livelihood of Kapisillit could be revived economically with the opportunities that a biosphere reserve and the MAB recognition would bring with it. These opportunities include partaking in research and monitoring, development of tourism businesses, and other opportunities that come with sustainable development. An increase in responsible tourism could increase the economic sustainability of Kapisillit. Education on sustainability and biodiversity in Kapisillit could leak into other smaller villages and settlements in Greenland.

The biosphere reserve label could give the nature and the village of Kapisillit a quality label that could attract nature enthusiasts around the world. Tourism and coastal managers have the power to direct the flow of tourists by telling them what areas are interesting and good to visit (Miller, 2008). The MAB biosphere reserve status would be one of those positive labels, creating an opportunity for sustainable nature-based coastal tourism.

### **6.3 Recommendations Following the Conflict Assessment**

Following the conflict assessment, two recommendations were developed in order to find solutions to the conflicts found when answering RQ4. It is recommended that a) rules of

conduct and nature guidelines be developed, and b) integrated coastal zone management (ICZM) be introduced.

### 6.3.1 Rules of Conduct and Nature Guidelines

In order to protect nature and educate those using nature, a great tool that could be introduced would be rules of conduct and nature guidelines. These two tools could raise awareness in how people conduct themselves. They would serve as a guide or reminder of how to act in the wild and at the same time encourage recreational activities. Currently, Visit Greenland has whale-watching guidelines printed for whale watching tour operators (Greenland Tourism & Greenland Institute of Natural Resources, nd). The guidelines are worked on in cooperation with the Greenland Institute of Natural Resources, showing that the knowledge acquired by the Nature Institute is being distributed to the public.

Visit Greenland and the Greenland Institute of Natural Resources could continue to establish codes of conduct for nature-based activities conducted by tourists, tour operators, and locals. Cooperation between these two bodies, along with reference to guidelines elsewhere in the world, could help make Greenlandic nature friendlier towards tourists and vice-versa. Further codes of conduct could include recreational boating guidelines, hiking guidelines, camping guidelines, bird watching guidelines, river fishing guidelines, and hunting guidelines.

### 6.3.2 Integrated Coastal Zone Management (ICZM)

In order to manage an area, one has to know what activity is taking place there. As a solution to RQ1, ICZM can be introduced to Nuup Kangerlua in order to aid in sustainable nature-based coastal tourism development. ICZM is a practical approach to management. However, although this may be very practical, it is very seldom put into practice when it comes to the management of the oceans and coasts.

Coastal and marine sectors are usually managed separately although the actions of one sector may very likely have a direct impact on another sector. The sectors are egotistical in their actions and view their economic benefits more highly than those of others. However, ICZM provides a way of managing the coastal and marine area in an sustainable way where sectors are integrated in order to decrease environmental damage, increase economic responsibility and create greater social benefits.

The common opinion of the tour operators is that the fjord is big enough, there is enough space, and that conflicts of resource use are not present in the area. If a conflict arises, the disgruntled party moves elsewhere to conduct their activity. Although this is what many of the interviews expressed, it cannot be guaranteed that the conflict between the operators does not escalate to a point of discomfort. Activities like whale watching and fishing may be very place bound. Furthermore, it would be beneficial to Greenlanders if the way of thinking about resource exploitation would change. That is to say, change the thinking that if all the fish in river A get depleted then people can move onto river B, then on to river C, and so on and so forth. If nature is supposed to be present for generations to come, then nature's exploitation threshold should be respected. ICZM offers the sectors an option to coordinate their activities in a way to decrease the negative impacts that sectors have on each other.

One of the first steps for ICZM is to map fjord utilization. This thesis focused on tourism activities of boat tour operators. The resource utilization mapping group at the Greenland Climate and Research Center is currently working on mapping other local usages such as hunting, fishing, camping and berry picking. Shoreline Sensitivity maps, conducted by The Danish Energy Agency and the Ministry of Environment and Energy, provide baseline information for a Nuup Kangerlua. This can be used as baseline information for both Sermersooq Municipality and the Greenlandic Government. Utilization mapping can be used to identify potential conflicts or benefits that may arise if the sectors in Nuup Kangerlua grow or decrease in size. ICZM can also minimize the possible negative effects of *mare librum* expressed in the interviews. This way of thinking brings up utilization concerns and reminds one of Hardin's (1968) *The Tragedy of the Commons*.

Hardin (1968) discusses how the world's common resources are finite. As long as the population remains under the carrying capacity of the land, man is able to live a satisfactory life of enough resources. However, as population grows, unlimited consumption of the world's limited commons leads to ruin. The local mentality of consumption in Nuup Kangerlua expressed in the interviews was that the fjord is big enough and contained enough resources for local exploitation. However, with an increasing population and increase in local use of the commons in the fjord, ruin may

foreseeable in the near future. ICZM is recommended as a tool to lessen the likeliness of the tragedy of the commons happening in Nuup Kangerlua.

## 7 Conclusion

Nuup Kangerlua is a playground for nature enthusiasts, creating opportunities for tour operators to capture and create a business based on the tourist's needs. This thesis concludes that nature-based coastal tourism in Nuup Kangerlua has the potential to develop sustainably if:

1. Marketing is focused on the right group
2. Recreation areas are identified and labeled
3. Planning for MPAs and a biosphere reserve is commenced
4. Rules of conduct and nature guidelines are introduced
5. ICZM is conducted in Nuup Kangerlua

The majority of the tourists visiting Nuuk are visiting either due to business or for visiting family/friends. For this reason, it should be a goal for those managing tourism to inform the locals of the tourism activities being conducted in the fjord. By informing the locals and raising their pride in the tourism sector in Nuuk, tourism in Nuuk will get a positive reputation. A clear sustainable tourism strategy is not present for the municipality of Sermersooq, creating difficulties in knowing where the tourism sector is headed. Furthermore, the national strategy is purely based on economic gain, clearly excluding the impacts of tourism on social and environmental issues, and vice-versa.

The tourism sector has the ability, to an extent, to control the tourists who travel to Nuuk by labeling the activities available to them. By marking hiking trails and labeling good places to set up camp while hiking, hunting or fishing in the fjord, the tourist are told where to go, what to do and how to do it. Labeling and marking the natural amenities on modern maps makes the tourist comfortable enough to conduct some of the activities by himself. Tourism managers have the power to inform the tourists. Informing tourists on e.g. camping opportunities and explaining where camping can be conducted and how to get there motivates tourism activity.

The nature in Nuup Kangerlua is a free for all, meaning that almost *anyone* can conduct *any* activity *anywhere*. Regulations on hunting and concession areas limit tourism activities to an extent, and the whale watching guidelines limit the actions of the boat tour

operators. This thesis comes to the conclusion that if tourism is to continue to develop, along with other sectors like mineral extraction, then an MPA can serve as a beneficial management tool to increase the number of tourists, protect nature, and increase biodiversity. Increased biodiversity and MPA spillover can benefit local fishing. Community agreement along with sound scientific information would have to be in place in order to have a successful MPA.

Kapisillit provides Nuup Kangerlua with a Greenlandic village, creating potential tourism benefits to the economy of Kapisillit and the tourism sector. Introducing the UNESCO biosphere reserve program to the village of Kapisillit can serve as a precedent for how smaller villages in Greenland can develop sustainably while caring for and respecting the environment. The UNESCO label and status can certainly raise international interest in the Kapisillit area, including tourism interests.

Increased development in the Nuuk area and Nuup Kangerlua will increase marine and terrestrial traffic and pollution, disrupt the environment, and bring more people into areas not so commonly visited. Conflicts between the stakeholders of the fjord are imminent unless managed correctly. ICZM can offer a solution to the conflicts, along with a plan for sustainable development. By managing with the economic, environmental and social aspects of society in mind, and integrating the management of the coastal sectors, a good management plan can be proposed for Nuup Kangerlua. It could be especially beneficial for Nuup Kangerlua to start ICZM as soon as possible since overcrowding and overriding conflicts are not currently present.

MPAs, biosphere reserves and ICZM, serve as management tools that can increase the development of nature-based tourism in Nuup Kangerlua. These three management tools require scientific and local knowledge in order for them to function properly. Along with a sound national and municipal tourism strategy that focuses on sustainable development, sustainable nature-based coastal tourism can become a strong economic sector in Nuuk Fjord.



## Discussion

With increased focus of climate change and global warming impacts on the Arctic, especially Greenland, the pristine and vulnerable environment has been brought to the attention of many. Despite carbon dioxide cutbacks worldwide, the Greenlanders have an internal battle to face regarding development. Greenland turned into a self-rule in 2009 and many Greenlanders want to move towards independence. The only financial way presenting itself today towards this goal is through the extraction of minerals. The fjord system of Nuup Kangerlua is no exception to this plan and mining in the Isua iron ore mine will most likely commence in the near future.

While mineral extraction projects can benefit the economy, it does not benefit the environment. Sustainable nature-based coastal tourism can be the instigator of discussion for the need for coastal protection and management. Research and knowledge can come from eco-tourism as well as more environmentally conscious activities of the host community. Furthermore, sustainable tourism offers another industry to diversify the economy, creating a more stable economy.

This thesis considered possibilities for nature-based coastal tourism in Nuup Kangerlua. Three assessments, BLT Assessment, natural amenity assessment and a conflict assessment were developed and conducted to answer the overarching research question: *What coastal management strategies and tools can be introduced to Nuup Kangerlua to aid in sustainable nature-based coastal tourism development?* The results of these assessments contain information that tourism managers, tour operators and the municipal and national government have an interest in.

The assessments show that work still has to be done in Nuup Kangerlua in order to create an area desirable for nature-based tourism. Nuup Kangerlua has untouched and unspoiled nature with interesting natural amenities ideal for tourism activities, however the management and development of said activities still has a far way to go. The conflicts with tourism politics and how much attention tourism development should receive from Sermersooq Municipality may be hindering further tourism development.

The three management tools developed for this thesis only offer a small analysis of tourism and further research can be done to benefit coastal tourism. This study focused on the boat tour operators, whereas a more full analysis would focus on all the brokers in Nuup Kangerlua. Further research on studies including the environmental impact of increased tourism, the social impact of increased tourism, statistic research on the tourists visiting the area, and economic studies on the net value and worth of the tourism sector in Nuup Kangerlua could give tourism brokers a greater understanding and handle on tourism in Nuup Kangerlua.

The approach taken in this thesis worked well for the study area and can be conducted elsewhere, especially in Greenland and other places of the Arctic. An environmental focus on tourism research in Greenland can help incorporate more sustainable tourism strategies and agendas, creating an economic sector that could make an income while preserving the environment. While the world is talking about climate change threats, the people and businesses of Greenland must continue to develop their country. Greenland has the opportunity to offer a strong economic sector built on sustainable development alongside other coastal sectors. This sector is called: Nature-Based Coastal Tourism.

## References

- About.com Geography (2013). *Greenland*. Retrieved from <http://geography.about.com/library/cia/blcgreenland.htm>
- Adams, A. and Cox, A.L. (2008). Questionnaires, in-depth interviews and focus groups. In: P. Cairns & A.L. Cox (eds.), *Research Methods for Human Computer Interaction* (p.117-34). Cambridge, UK: Cambridge University Press.
- Air Greenland (nd). Kangerlussuaq. Retrieved from [http://www.airgreenland.com/information/voresdestinationer/flybilletter\\_til\\_kangerlussuaq/](http://www.airgreenland.com/information/voresdestinationer/flybilletter_til_kangerlussuaq/)
- Alaca, A.C. (2001) *Marine Protected Areas: Tools for fishery management and biodiversity conservation in the Philippines*. Retrieved from [https://www.cbd.int/doc/nbsap/fisheries/alcala\(summary\).pdf](https://www.cbd.int/doc/nbsap/fisheries/alcala(summary).pdf)
- Boyce, C. & Neale, P. (2006). *Conducting In-depth interviews: A Guide for Designing and Conducting In-depth Interviews for Evaluation Input*. Retrieved from [http://www.pathfind.org/site/DocServer/m\\_e\\_tool\\_series\\_indepth\\_interviews.pdf?docID=6301](http://www.pathfind.org/site/DocServer/m_e_tool_series_indepth_interviews.pdf?docID=6301)
- Bryman, A., (2004). Interviewing in qualitative research. In A. Bryman (ed.) *Social Research Methods* (2<sup>nd</sup> Edition). Oxford, UK: Oxford University Press.
- Cibien
- Cicin-Sain, B., & Knecht, R. W. (1998). *Integrated coastal and ocean management: Concepts and practices*. Washington, D.C.: Island Press.
- Curtin, S. (2010). Managing the Wildlife Tourism Experience: The Importance of Tour Leaders, *International Journal of Tourism Research*, 12, 219-236.
- Discovery Islands Chamber of Commerce and contributors (2009). *Quadra Island Amenities- Accommodation, Dining, Tours and Attractions at a glance*. Retrieved from <http://www.quadraisland.ca/tourism/media/amenities.html>
- Dixon J.A., Scura L.F. & Hof T. (1993). *Ecology and microeconomics as 'joint products': The Bonaire Marine Park in the Caribbean*. Washington, DC: World Bank.
- Egede-Hegelund, L. (2009). *Tikeraaq*. Liisi Egede Hegelund & milik.
- Fisheries and Oceans Canada (2011). *Spotlight on Marine Protected Areas in Canada*. Retrieved from <http://www.dfo-mpo.gc.ca/oceans/marineareas-zonesmarines/mpa-zpm/spotlight-pleinsfeux/index-eng.htm>

George Wright Society (nd). *The UNESCO Man and the Biosphere Program: What's It All About?* Retrieved from <http://www.georgewright.org/mab.html>

Goodwin, H. (1996). In pursuit of Ecotourism. *Biodiversity and Conservation*, 5(3), 277-291.

Google Earth (2013). Fjord near Nuuk, Greenland. Retrieved from [https://maps.google.com/maps?q=nuuk+fjord&client=safari&ie=UTF-8&ei=01uWUZKKGMGxtAaJIYCoDg&ved=0CAsQ\\_AUoAg](https://maps.google.com/maps?q=nuuk+fjord&client=safari&ie=UTF-8&ei=01uWUZKKGMGxtAaJIYCoDg&ved=0CAsQ_AUoAg)

Greenland Tourism and Greenland Institute of Natural Resources (nd). *Whale Watching Guidelines*.

Guion, L., Diehl, D. & McDonald, D., (2001). *Conducting an In-Depth Interview*. Retrieved from <http://edis.ifas.ufl.edu/pdffiles/FY/FY39300.pdf>

Hall, C.M. (2001). Trends in ocean and coastal tourism: the end of the last frontier? *Ocean & Coastal Management* 44, 601-618.

Hall, C.M. & Boyd, S. (2005). Nature-based Tourism in Peripheral Areas: Introduction. In M.C. Hall & S. Boyd (eds.), *Nature-based Tourism n Peripheral Areas: Development or Disaster?* Clevedon: Channel View Publications.

Hall, C.M. & Jenkins, J.M. (1995) *Tourism and public policy*. London: Routledge,

Hardin, G. (1968). Tragedy of the Commons. *Science*, 162(3859). 1243-1248.

Inuit Circumpolar Council (ICC) & World Wildlife Fund for Nature (WWF) (2012). *Høringssvar vedr. London Mining/Isua projektet på baggrund af VVM rapport og tilhørende bilag fra Orbicon A/S, august 2012*. Retrieved from [http://inuit.org/fileadmin/user\\_upload/File/2012/Consultation\\_statements/ICC\\_WWF\\_hoeringssvar\\_vedr.\\_London\\_Mining\\_ISUA\\_VVM\\_og\\_VSB\\_okt\\_2012.pdf](http://inuit.org/fileadmin/user_upload/File/2012/Consultation_statements/ICC_WWF_hoeringssvar_vedr._London_Mining_ISUA_VVM_og_VSB_okt_2012.pdf)

IUCN (1996). *Tourism, Ecotourism and Protected Areas: the State of Nature-based Tourism Around the World and Guidelines for Development*. Gland and Cambridge: International Union for the Conservation of Nature.

Kaae (2002). Nature Based Tourism in Greenland. In Watson, A., Alessa, L. & Sproull, J. (Eds.). *Wilderness in the Circumpolar North: searching for compatibility in traditional, ecotourism, and ecological values; 2001 May 15-16 University of Alaska, Anchorage, Alaska*. Proceedings RMRS-P-000. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Kuenzi, C. & McNeely, J., 2008. Nature-Based Tourism. In O. Renn and K. Walker (eds.), *Global Risk Governance: Concept and Practice Using the IRGC Framework* (p. 155-178). Netherlands: Springer.

Laws, E. (1995) *Tourist Destination Management: Issues, Analysis and Policies*. London: Routledge.

- London Mining (2012). ISUA Iron Ore Project- August 27, 2012, Nuuk, Greenland. Retrieved from <http://dk.nanoq.gl/Service/Hoeringsportal/Miljøvurderinger/2012/~media/Naalakkersuisut/Raastof/Hoeringsportal/Udnyttelsestilladelse%20London%20Mining/Borgermøde%20/Isua%20Project%20Introduction%20%20%20August%2027%20public%20hearing.ashx>
- Luzar, E.J., Diagne, A., Gan, C., Henning, B.R. (1995). Evaluating Nature-based Tourism Using the New Environmental Paradigm. *Journal of Agriculture and Applied Economics*, 27 (2), 544-555.
- Marcouiller, D.W., Kim, K. & Deller, S. (2004). Natural Amenities, Tourism and Income Distribution. *Annals of Tourism Research*, 31(4), 1031-1050.
- Miller, M.L. (2008). Marine Wildlife Tourism Management: Mandates and Protected Area Challenges. In Higham, J. & Luck, M. (eds), *Marine Wildlife and Tourism Management* (p. 233-256). Wallingford, UK: CABI.
- Miller, M.L. & Auyong, J. (1998). Remarks on tourism terminologies: Anti-tourism, mass tourism, and alternative tourism. In M.L. Miller and J. Auyong (eds.), *Proceedings of the 1996 World Congress on Coastal and Marine Tourism: Experiences in Management and Development* (p. 1-24). Washington Sea Grant Program and the School of Marine Affairs, University of Washington and Oregon Sea Grant College Program, Oregon State University.
- Miller, M.L., Auyong, J., Hadley, N.P. (2002). Sustainable Coastal Tourism: Challenges for Management, Planning and Education. In Miller, Marc L., Auyong, Jan, and Hadley, Nina P. (Eds.). *Proceedings of the 1999 International Symposium on Coastal and Marine Tourism: Balancing Tourism and Conservation. (26-29 April, 1999, Vancouver, BC, Canada)*. Washington Sea Grant Program and School of Marine Affairs, University of Washington, Seattle, WA, Oregon Sea Grant College Program, Oregon State University, Corvallis, OR, and Oceans Blue Foundation, Vancouver, BC.
- Miller, M.L. & Ditton, R. (1986). Travel, tourism, and marine affairs. *Coastal Zone Management Journal*, 14(1/2), 1-19.
- Miller, M.L.; Orams, M.B.; Lück, M.; Auyong, J.; Gräupl, A. (2009). A field taking shape: Papers from the 5<sup>th</sup> International Coastal and Marine Tourism Congress. *Tourism in Marine Environments* 5(2/3), 75-87.
- Mosbech, A; Anthonsen, K.L., Blyth, A., Boertmann, D., Buch, E., Cake, D., Grøndahl, L., Hansen, K.Q., Kapel, H., Nielsen, S., Nielsen, N., Von Platen, F., Potter, S., Rasch, M., (2000). *Environmental Oil Spill Sensitivity Atlas for the West Greenland Coastal Zone. Internet-version*. The Danish Energy Agency, Ministry of Environment and Energy.
- Naalakkersuisut- Government of Greenland (2012). National Tourismstrategi 2012-2015.
- National Snow & Ice Data Center (2013). All About Arctic Climatology and Meteorology – What is the Arctic? Retrieved from <http://nsidc.org/cryosphere/arctic-meteorology/arctic.html>

Organization for Economic Cooperation and Development (OECD) (1994). *Tourism Policy and International Tourism in OECD Countries 1991-1992. Special feature: tourism strategies in rural development*. Paris: OECD.

Orams M.B. (1996). Using interpretation to manage nature based tourism. *Journal of Sustainable Tourism*, 4(2), 81-94.

Orams M. (1999). *Marine tourism: development, impacts and management*. London: Routledge.

Pickering, C.M., Hill, W. (2007). Impacts of recreation and tourism on plant biodiversity and vegetation in protected areas in Australia. *Journal of Environmental Management*, 85, 791-800.

Prairie Research Associates Incorporated, (nd). *The in-depth interview*. Retrieved from [http://www.pra.ca/resources/pages/files/technotes/indepth\\_e.pdf](http://www.pra.ca/resources/pages/files/technotes/indepth_e.pdf)

Ray, C.G., 2004. Reconsidering 'dangerous targets' for marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 14, 211-215.

Reynolds, P.C. & Braithwaite, D. ( 2001). Towards a Conceptual framework for wildlife tourism. *Tourism Management* 22, 31-42.

Saricam, S. & Erdem, U. (2012). The Importance of Biosphere Reserve in Nature Protection and the Situation in Turkey. In Ishwaran's (ed.) *The Biosphere* (p.193-214). Rijeka: InTech.

Sermersooq (nd). *Nuuk – Our Fjord*. Retrieved from <http://www.sermersooq.com/ourcities/the-cities/nuuk/>

Sermersooq Business Council (2012). *[what arctic feels like] Welcome to Nuuk, Our Arctic Metropolis*.

Statistics Greenland (2012). *Greenland in Figures 2012*. Statistics Greenland.

Statistics Greenland (2013a). *Table: Number of international passengers by time, airport and month*. Retrieved from <http://bank.stat.gl/Dialog/varval.asp?ma=TUEUPAX&ti=Number+of+international+passengers+by+time%2C+airport+and+month&path=../Database/Greenland/Tourism/&lang=1>

Statistics Greenland (2013b). *Table: Population in localities by time, locality, age, gender and place of birth*. Retrieved from [http://bank.stat.gl/Dialog/varval.asp?ma=BEEST4\\_old&ti=Population+in+localities+by+time%2C+locality%2C+age%2C+gender+and+place+of+birth&path=../Database/Greenland/Population/Population%20in%20Greenland/&lang=1](http://bank.stat.gl/Dialog/varval.asp?ma=BEEST4_old&ti=Population+in+localities+by+time%2C+locality%2C+age%2C+gender+and+place+of+birth&path=../Database/Greenland/Population/Population%20in%20Greenland/&lang=1)

Statistics Greenland (2013c). *Tourism*. Retrieved from <http://www.stat.gl/dialog/main.asp?lang=en&version=2010&link=TU&subthemecode=o2&colcode=o>

Sustainable Tourism (nd). Sustainable Tourism. Retained from [http://www.biodiversity.ru/coastlearn/tourism-eng/con\\_capacity.html](http://www.biodiversity.ru/coastlearn/tourism-eng/con_capacity.html)

Sustainable Tourism Online, (2010). Nature-Based Tourism. Retrieved from <http://www.sustainabletourisonline.com/parks-and-culture/nature-based-tourism/forms-of-nature-based-tourism/nature-based-tourism>

Tommasini, D. (2011). Tourism Experiences in the Peripheral North. Case Studies from Greenland. *Inussuk – Arctic Research Journal*, 2.

The International Ecotourism Society (TIES) (2012). What is Ecotourism? Retrieved from <http://www.ecotourism.org/what-is-ecotourism>

Tourism and Events Queensland (2013). *Sustainability & Climate Change*. Retrieved from <http://www.tq.com.au/resource-centre/sustainability-and-climate-change/about-sustainability/about-sustainability.cfm>

United Nations Environmental Programme, World Tourism Organization (2005). *Making Tourism More Sustainable – A Guide for Policy Makers*. Paris/Madrid: United Nations Environmental Programme/World Tourism Organization.

UNEP/MAP-PAP/RAC (1995). *Guidelines for integrated management of coastal and marine areas with particular reference to Mediterranean basin*. UNEP Regional Seas Reports and Studies No. 161. Nairobi: UNEP/MAP-PAP/RAC.

UNESCO (nd). *FAQ – Biosphere Reserves?* Retrieved from <http://www.unesco.org/mab/doc/faq/brs.pdf>

United Nations World Tourism Organization (UNWTO) (nd), *Sustainable Development of Tourism- Definition*. Retrieved from <http://sdt.unwto.org/en/content/about-us-5>.

Valentine, P. (1992) Review: nature-based tourism. In *Special interest tourism* (p. 105-127). London, Great Britain: Belhaven Press.

Visit Greenland (2012). *Strategiplan For Visit Greenland 2012-2015- Handleplan 2012. The Pioneering Nation*.

Visit Greenland (2013). *Things to do*. Retrieved from <http://www.greenland.com/en/things-to-do.aspx>

White, A.T., Alino, P.M., Meneses, A.T. (2006). *Creating and Managing Marine Protected Areas in the Philippines*. Cebu City: Fisheries Improved for Sustainable Harvest Project, Coastal Conservation and Education Foundation, Inc. and University of the Philippines Marine Science Institute,

WTO (1995). *Technical Manual No2 – Collection of Tourism Expenditure Statistics*. Retrieved from <http://pub.unwto.org/WebRoot/Store/Shops/Infoshop/Products/1034/1034-1.pd>





# Appendix A

## Facility Assessment of Nuuk – Transport on Land

Transport Land	Hours	Description
<b>AMS Nuuk</b> Industrivej 29, Tlf: 32 37 05	Call for service	Car rental.
<b>LP Biludlejning</b> Industrivej 2 D, Tlf: +299 55 77 55	Call for service	Car rental.
<b>Nuuk Biludlejning Aps.</b> Iggiaanut 3A, Tlf: +299 31 25 58 biludlejning@greenet.gl	Call for service	Car rental.
<b>Biludlejnin.gl</b> Industrivej 18, Tlf: +299 314 314 nuuk@biludlejning.gl	8:00-16:30	Car rental.
<b>Nuup Bussii</b> Industrivej 10-12, Tlf: +299 34 23 00 post@bus.gl	6:18-00:15*	Public transportation bus for the Nuuk area. Run every day. They also provide charter rentals. (*Depending on routes)
<b>Nuuk Taxi</b> Industrivej 55, Tlf: +299 36 36 36 kontor@363636.gl	24 Hr Service	Taxi service. Focus on easy and fast delivery.
<b>Taxagut</b> Industrivej 18, Tlf: +299 321 321	24 Hr Service	Taxi service with 35 operating taxi cabs.



## Appendix B

### Facility Assessment of Nuuk – Accommodation in Nuuk Fjord

Accommodation	Price range (High Season)	# of Room s	# of apartm .	Restaurants/ Lounge/Pub	Description
<b>Hotel Hans Egede</b> Tlf. +299 34 80 00 info@HHE.gl http://www.hhe.gl/	1490 - 4800 DKK	140	10	4	Four star hotel in the city center. A conference hotel that can take up to 150 conference participants that includes various restaurants and a range of accomodation types.
<b>Hotel Nordbo</b> Tlf. +200 32 66 44 info@nordbo.gl http://hotelnordbo.gl/	895 - 1.685 DKK	0	25	No	A apartment hotel located close to Nuuk center. It has two departments in town offering 8 types of hotel apartments.
<b>Arctic Kapi</b> (Tupilak Travel B&B) Ilivinnguaq 1, Tlf: +299 31 32 18 info@tupilaktravel.gl www.tupilaktravel.gl	375 DKK	6	0	No	A hostel located in Kapisillit. Takes up to 7 people and has a television, access to kitchen with a water tank. There are no showers in the house but a service building is located nearby and charges 20 kr. For adults and 10 DKK for a child.
<b>Budget &amp; Comfort</b> Tlf. +299 26 37 26 berthe.healing@greenet.gl http://www.nuuk-in-wellness.dk/	700 DKK (250 DKK for extra person)	0	1	No	A hotel appartment close to the city centre. It has a beautiful view and is located in a quiet part of town. It has a separate entrance and is child friendly.

<b>Hotel Sydbo</b> +299 55 57 00 info@sydbo.gl http://sydbo.gl	1200 - 1800 DDK	0	1	No	A 2 bed hotel suite located near the city centre.
<b>Nuuk Biludlejning</b> Iggaanut 3A, Tlf: +299 31 25 58 biludlejning@greenet.gl	1000 - 1500 DDK		1	No	A hotel apartment that can house up to three people. This apartment is sometimes not available due to long-term rent agreement.
<b>Seamens Home</b> Tlf. + 299 32 10 29 nuuk@soemandshjem.gl http://www.soemandshjem.gl/nuuk/gb/	1.025-1.420	41	0	1	A 3 star hotel with meeting and conference rooms. Home cooked meals available for a moderate price in the cafeteria.
<b>Touring Greenland B&amp;B</b> Tlf. +299 314 314 info@touringgreenland.com www.touringgreenland.com	NA	NA	NA	NA	NA
<b>Tupilak Travel B&amp;B</b> Ilivinnguaq 1, Tlf: +299 31 32 18 info@tupilaktravel.gl www.tupilaktravel.gl	500 DDK	NA	0	0	A bed in breakfast where the guest stays in their own room with a local family in Nuuk. The guest receives breakfast in the morning and has access to a bathroom and a living room.

## Appendix C

### Facility Assessment in Nuuk – Restaurants, Leisure, and Culture in Nuuk

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<b>Restaurants and Cafes</b>	
Anaana Mad	Pascucci Corner
Esmeralda	Restaurant Bones
Café Brugseni	Restaurant Bryghuset
Café Chili	Restaurant Charoen Porn
Café Mamaq	Restaurant Isikkivik
Café Mik	Restaurant Sarfalik
Café Prego	Restaurant Qooqqut Nuan
Café Tuaq	Sushi Huset
Centrum Grill	Somandshjemmet
Drop Inn	Qooqqut Nuan
Grill & Pizzabar	Web Café Barista
Igaffik	Nipisa

<b>Leisure</b>	<b>Day Pass</b>	<b>Year Round</b>	<b>Description</b>
<b>Fit &amp; Fun</b> Prinsessevej 2, Tel: +299 32 55 55 info@fitogfun.gl www.fitogfun.gl	Yes	Yes	A local gym that provides classes, free weights and cardio equipment.
<b>InuFitness</b> Kissarneqqortuunnguaq 2, Tel: +299 32 16 54 www.ghb-hallen.gl www.ghb-hallen.gl	Yes	Yes	A local gym that provides various exercise classes.
<b>Katuaq</b> Imaneq 21, Tel: +299 36 37 80 Reception@katuaq.gl www.katuaq.gl	Yes	Yes	Greenland's culture house. When it's not filled with music from concerts, then it acts as an art exhibition site, a coffee house and a movie theater.
<b>Malik</b> Sarfaarsuit 4, Tel: +299 36 63 10 malik@sermersooq.gl www.malik-nuuk.gl	Yes	Yes	Designed with the movement of a wave in mind, Malik, Nuuk's swimming pool offers both locals and visitors a time of relaxation and fun. Opening hours may vary due to club swimming. See website.
<b>Nuuk Center</b> Tlf: 539808 info@nuukcenter.gl www.nuukcenter.gl	NA	Yes	Nuuk's central shopping center. Retail stores, restaurants and a coffee house.
<b>Nuuk Fitness</b> Sarfannguit 4B, Tel: +299 31 40 40 kontakt@nuuk-fitness.com www.nuukfitness.gl	Yes	Yes	A local gym that provides classes, free weights and cardio equipment.
<b>Nuuk Golfklub</b> Siaqqinneq B-3194, Tel: +299 32 53 61 info@nuukgolf.gl www.nuukgolf.gl	Yes	No	The 9 hole course offers the chance to golf in the Arctic. Indoor practice facilities are also available.
<b>Nuuk Paintball</b> Illerngit 2001, Tel: +299 27 15 91 petrussen@greenet.gl www.paintball.gl	Yes	No	A paintball field in Nuuk.

<b>Sisorarfiit / Ski Lift</b> Tlf: +299 32 78 05 skilift@greenet.gl      www.skilift.gl	Yes	No	Ski lifts that open every winter for downhill skiing. They are located on (Lille Malene) and offer a great view of Nuuk. Ski rental is possible and a café is in the ski resort. Sisorarfiit also oversees the cross-country trails in Nuuk.
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<b>Culture</b>	<b>Year Round</b>	<b>Open 7 days/week</b>	<b>Description</b>
<b>Galleri Glas &amp; Ramme</b> Tuapannguit 8, Tel: +299 32 13 93 roarc@greenet.gl www.galleri.gl	Yes	NA	An art gallery with Greenlandic and Greenland inspired works of art.
<b>Galleri-Malínángamut</b> Avannarliit 17 marcussen-moelgaard@greenet.gl www.galleri-malinanguaq.com	Yes	Yes	A local woman's art gallery where various types of art are sold.
<b>Katuaq</b> Imaneq 21, Tel: +299 36 37 70 www.katuaq.gl reception@katuaq.gl	Yes	Yes	Katuaq is the cultural centre of Nuuk. It serves as the location of a movie theater, a café, and a venue for theatre, concerts, conferences and art from Greenland, Scandanavia and all over the world.
<b>Kittat</b> Hans Egedesvej 29, Tel: +299 32 55 57 kittat@sermerooq.gl	Yes	No: Mon-Fri	A small fur workshop in Nuuk where the tourist is able to see how the national costume is made.
<b>National Museum &amp; Arkiv</b> Hans Egedesvej 8, Tel: +299 32 26 11 www.natmus.gl	Yes	Closed Mondays during winter	The National Museum is Greenland's main museum where tourists can inquire about the history of Greenland and especially of the Inuit and the Norse, and features the Qilakitsoq Mummies.
<b>Nuuk Kunst/Art Museum</b> Vandsøvej 5, Tel: +299 32 77 33 kunstmuseum@greenet.gl http://www.kunstmuseum.gl/	Yes	No: Fri-Sun	The Nuuk Art Museum hold the private art collection of Svend Junge and the paintings of Emanuel A. Peterson in a beautiful scenery.