

Nature and Tourism in Greenland

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Abstract—This paper provides a short summary on the development of tourism in Greenland, the cultural context, and the protection of the nature resources on which tourism heavily depends. Existing research projects related to tourism in Greenland and the focus of these projects are briefly summarized. In general, most research in Greenland focuses on natural resources, but tourism is emerging as a prioritized topic. Existing research on tourism in Greenland has some shortcomings in content and structure. It is suggested that more integrated, cross-disciplinary research on tourism and its relation to nature and culture in Greenland be undertaken, and that Circumpolar cooperation be increased to strengthen the exchange of ideas, methods, and comparable results.

Introduction

Greenland or Kalallit Nunaat—The Land of the People—is the world's largest island (2,166,086 km²), but only 410,449 km² (19 percent) of the land is not covered by ice. Greenland has a population of 56,124 (January 1st, 2000, Statistics Greenland 2001a), mostly Inuit and some Danes. Most of the population (81 percent) now live in the towns, while 19 percent live in villages or stations (Statistics Greenland 2001a). The Inuit culture has traditionally been closely linked to the unique Arctic nature and climatic conditions, but has for some decades been undergoing major transitions to meet the challenges of the postmodern global world. Since the Greenland Home Rule Government was established in 1979, the country has gradually been building up its own capacities and institutions while maintaining strong ties and economic support from Denmark.

Tourism Trends in Greenland

Interest in tourism in Greenland started early. In 1902, Mylius-Erichsen wanted to bring a ship with 100 tourists twice per summer to Greenland from England, but permission was denied. In the 1930s, ships from the United States and France carrying tourists were observed in Greenland, but organized tourist travel to Greenland started in 1959 with a flight from Copenhagen and 1-day tourist flights from Iceland (Thalund 2000). The number of tourists remained quite low, and in 1992 approximately 3,500 tourists visited Greenland.

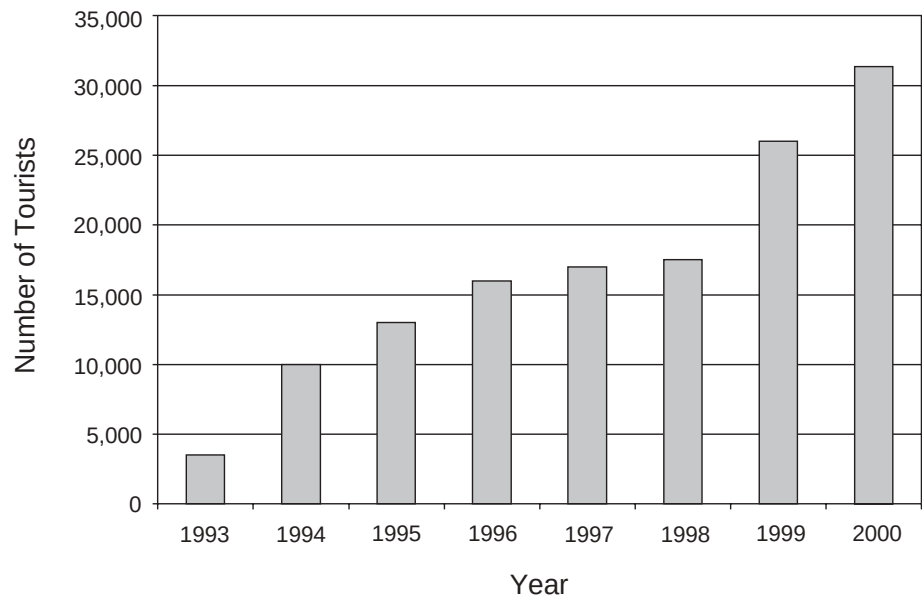
In 1991, tourism became one of three key issues in a commercial development strategy established by the Greenlandic Home Rule Government. The intentions were to supplement income from the declining fishing industry with incomes from minerals and tourism, and substantial public funds were allocated to tourism development. Consequently, Greenland has become an emerging destination for tourists. As seen in figure 1, tourism has grown substantially since the early 1990s, and in 2000 the country had 31,351 tourist arrivals (Statistics Greenland 2001b).

The intention of the Greenlandic Tourism Plan was to increase tourism to 35,000 tourists by 2005, each tourist with an expenditure of 15,000 DKK (approximately 1,800 U.S. dollars), to create 2,200 to 2,500 full-time jobs and 1,000 to 1,500 full-time jobs outside the sector, and to generate an income of 500 million DKK in Greenland by 2005. Finally, this development had to be environmentally and culturally responsible. Later it was discovered that the expenditure and multiplier effects were set too high, and rather than adjusting the expected benefits, the desired tourist numbers were upgraded to 61,000 by 2005 (Lyck 1998). So far, the expected income and job-generating effects have not been met. In 1997, a report estimated the number of tourists to be 17,000, an increased income of 130 million DKK had been generated, and 220 full-time jobs had been created, but that tourism was heavily subsidized by the government (Lyck 1998).

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Figure 1—Tourists to Greenland from 1993 to 2000 based on estimates from Greenland Tourism (2001a) and Statistics Greenland (2001b).

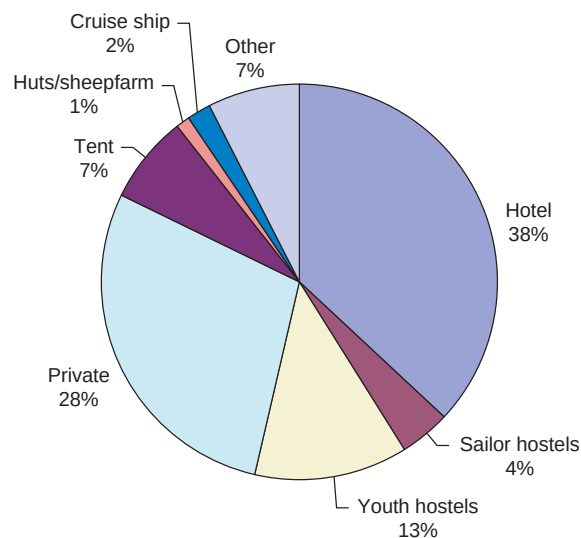


Most tourists in Greenland come from Denmark (79 percent), an additional 8 percent come from other Scandinavian countries, and the remaining 13 percent come from a range of other countries (Greenland Tourism 2001b). Just below one-half of the tourists (46 percent) are on holiday, one-fourth are on business trips (23 percent), 16 percent primarily visit family and friends; and the remaining come to study (4 percent), attend conferences or seminars (5 percent), or participate in other activities (6 percent) (Greenland Tourism 2001b). On average, tourists stay for 15 days, but this varies with the season and purpose of the visit; many of the vacation tourists stay longer.

As seen in figure 2, tourists primarily stay overnight in hotels (38 percent), private homes (28 percent), and youth hostels (13 percent) (Statistics Greenland 2001b). Due to climatic conditions, tourism is highly seasonal with most tourists arriving in July and August (Greenland Tourism 2001b). Tourists tend to be older, with 50 years and older as the dominating group, possibly because of the high price of travel to Greenland.

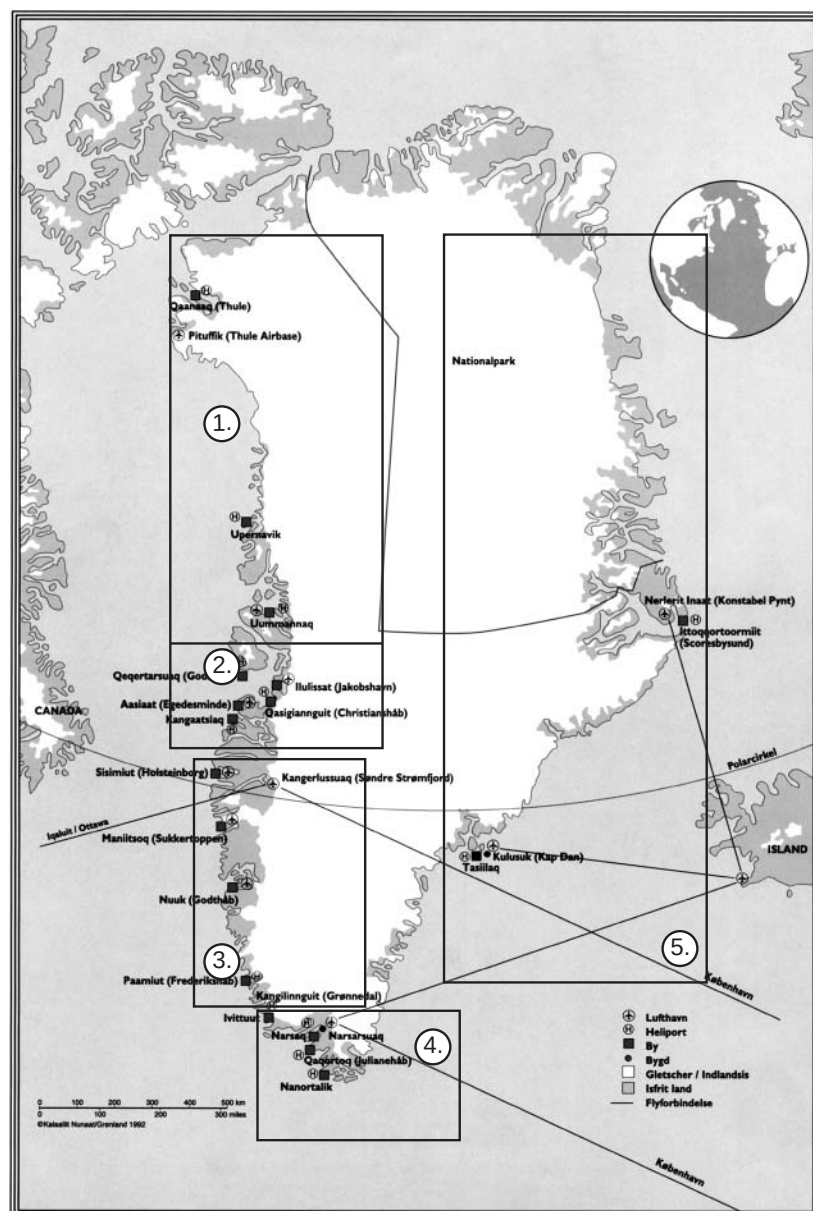
As seen in figure 3, Greenland Tourism divides Greenland into four main regions visited by tourists: (1) North Greenland from Kangaatsiaq and north to Qaanaaq;

Figure 2—Accommodation types used by tourists in Greenland in 2000 (source: Statistics Greenland 2001b).



(2) West Greenland between Sisimut and Paamiut, including the capital of Nuuk; (3) South Greenland between Aappilattoq to Arsuk; and (4) East Greenland from Isortoq to Ittoqqortoormiit, including the National Park. Each region is presented in a separate tourist brochure. Statistics Greenland, however, subdivides the North Greenland region into the popular Disco Bay area near Ilulissat and the more remote northern region.

As seen in figure 4, West Greenland, near the capital, is the most visited area by tourists overall, but among vacation tourists, the Disco Bay area is the most popular visited by 39 percent; 33 percent visit West Greenland; and 22 percent of the vacation tourists visit South Greenland. Only a few go to North Greenland (2 percent) or East



Source: Greenland Tourism 2001; Statistics Greenland 2001
Underlay map reproduced with permission from Greenland Tourism

1. North Greenland (2%)

Attractions

- Nature, flora and fauna
- Inuit hunting culture
- Inaccessible and untouched
- Expeditions, hiking, dogsledding
- Midnight sun

Barriers

- Transport conditions and access
- Military restrictions

2. Disco Bay (29%)

Attractions

- Nature, flora and fauna
- Ice and glaciers
- Midnight sun
- Hiking, boating, dogsledding all year, angling, whale watching
- Handicrafts

Barriers

- Overnight capacity

3. West Greenland (44%)

Attractions

- Nature, flora and fauna
- Nuuk - the capital
- Handicrafts
- Hiking, boating, horseback riding, angling, whale watching, Musk Ox safari, heli-skiing
- Northern lights

Barriers

- Weak area in experiences, activities, and attractions

4. South Greenland (18%)

Attractions

- Nature, flora and fauna, ice fjords
- Sheepfarms, seal hunters, fishing
- Norse history, hiking, boating, climbing, angling, horseback riding, helicopter
- Northern lights
- Hot springs

Barriers

- Ice-locked → short season
- Limited flight access

5. East Greenland (1%)

Attractions

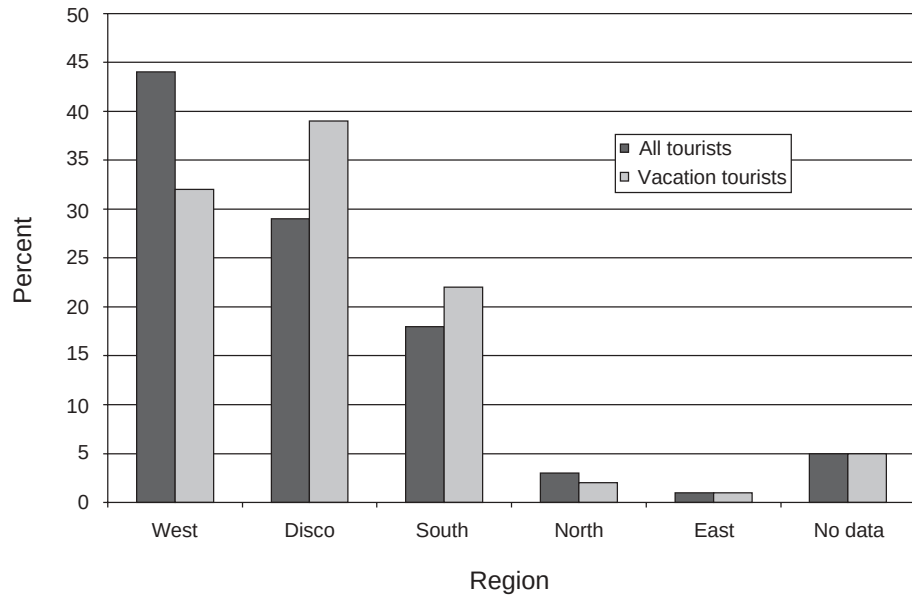
- Nature, flora and fauna, ice
- Hunting and fishing culture
- Hiking, dogsledding, boating, climbing, angling, camping
- Handicrafts
- Northern lights

Barriers

- Overnight capacity
- Product development
- Length of stay
- Helicopter ride a bottleneck

Figure 3—The primary attractions and barriers for tourism in the five tourism regions of Greenland (source: based on information from Lyck 1998, and Statistics Greenland 2001b; underlay map reproduced by permission from Greenland Tourism).

Figure 4—The regional distribution of tourists in Greenland in 2000 subdivided into all tourists and vacation tourists (source: Statistics Greenland 2001b).



Greenland (1 percent), but the low visitation in Eastern Greenland may be due to problems with the data sampling (Statistics Greenland 2001b).

Each of the tourist regions offer a variety of tourist attractions and activities, which all tend to focus strongly on nature qualities and activities in the Arctic nature.

The Role of Nature and “Wilderness” to Tourists

The tourists primarily come to experience the unique arctic nature and the Inuit culture. Given the low population in a vast landscape and the low influence of man on nature in Greenland, some tourists may possibly perceive nature in Greenland as “wilderness”—especially in comparison to the manicured cultural landscapes of Denmark and other countries of origin of tourists. But the term “wilderness” does not seem to appear in tourist brochures or general Danish language, and no classifications such as “wilderness” currently exist in Danish nature classification systems. To the local Inuit population living in “The Land of the People,” the landscape is also not likely to be perceived as “wilderness.” As such, the term “wilderness” is culturally defined and may only be meaningful to some segments of tourists. Consequently, the term “nature” is used throughout this paper.

The nature experiences in tourism in Greenland are oriented toward experiencing the ice and snow, flora and fauna, hiking in the coastal mountains, seeing the midnight sun or the northern lights, dogsledding, sailing along the coast on ferries or cruise ships, kayaking, fishing, and whale watching. It also involves more specialized activities such as rock climbing, mountain biking, heli-skiing, adventure racing, Polar Circle marathon, and ice golf. Cultural experiences include historic remains of the early Inuit and Norse cultures as well as present day culture. The high focus on nature and nature-related activities is strongly reflected in marketing materials such as brochures and elaborate Internet information, representing Greenland to tourists. However, studies of tourist’s (and resident’s) use and perceptions of natural and cultural qualities in Greenland appear to be absent.

Economic studies (Lyck 1998) suggest that in addition to environmental and social costs, tourism has brought an economic net loss to Greenlandic society. The tourism industry is in the process of strengthening its position, but further investigations into the organizational and societal factors influencing tourism development in Greenland is needed.

Cultural Resources in Greenland

Greenland has been inhabited periodically for the past 4,500 years (Grønnow 2000). The Inuit originate from Central Asia, and the first immigrations to Greenland were via Alaska and Canada approximately 2500 B.C. These early settlements consisted of Independence I culture (about 2500 to 1300 B.C.) located in the high arctic in northeast Greenland. Kayaks or umiaq (women's boats) were unknown, and fishing and hunting of land mammals were the primary sources of living. About the same time, the low and subarctic areas in Greenland were inhabited by the Saqqaq culture (about 2500 to 800 B.C.) who used boats made from hides and settled on both the west and east coasts of Greenland. After an apparent 500-year absence of habitation, a new wave of immigration brought the Independence II culture (800 to 400 B.C.) to the high arctic north Greenland, but after this culture succumbed, the area appeared to be uninhabited for 1,500 years (Grønnow 2000). In the milder low and subarctic Greenland, the Dorset I culture (about 500 B.C. to 200 A.D.) followed after the Saqqaq culture on the east and west coasts, using different hunting and fishing methods. After this time, Greenland appeared to be uninhabited for 600 years until immigration by the Dorset II culture (about 800 to 1300 A.D.) took place from Canada around 800 A.D. and settled in Northern Greenland. This culture used iron from meteorites and traded copper with groups in Canada (Grønnow 2000).

The last major wave of immigration by the Thule Culture took place from Canada around 1200 A.D. (Gulløv 2000). This is the origin of the current Inuit population and was based on hunting and fishing. During the summer, people used tents and followed the seasonal migrations of animals to ensure adequate supplies for the long winters in more permanent settlements. Hunting tools became highly developed during this period, and larger boats, kayaks, and dogsleds provided this culture with higher mobility (Gulløv 2000). Most of the prehistoric remains seen in Greenland today originate from the Thule Culture.

About 985 A.D., an immigration of Norse farmers from Iceland took place led by Eric the Red. The Norse immigrants settled in the fjords of Southern Greenland near Nuuk and lived from farming, hunting, and fishing (Arneborg 2000). Leif den Lykkelige (Leif the Happy) introduced Christianity in Greenland, and several churches were constructed—today, the remains are among the tourist attractions. The 1,000-year celebration of Leif den Lykkelige's discovery of America and of the introduction of Christianity in Greenland was celebrated in 2000 and integrated as part of tourism activities. Sometime after 1408, however, the Norse settlers disappeared, possibly also due to climatic changes. The Thule Culture expanded south along the west coast and inhabited the deserted Norse settlements, while the Dorset II culture moved south along the east coast but vanished around 1400 A.D. (Gulløv 2000). In 1721, the Norwegian Priest Hans Egede arrived in Greenland in search of the Norse settlers, but then started to missionary among the Inuit and to establish trade posts. This initiated a process of colonization, which lasted until 1953 when Greenland finally became an equal member of the Danish Kingdom with two representatives in the Danish Parliament. In 1979, the Greenlandic Home Rule Government was established and continues its representation in the Danish Parliament.

Many of the cultural remains from the various prehistoric and historic periods in Greenland, as well as present-day culture, are part of the tourist attractions in Greenland.

Natural Resources and Nature Protection in Greenland

Nature in Greenland consists of a number of habitats, which are closely adapted to the high, low, and subarctic conditions, and are generally more sensitive than habitats in temperate areas. Although Greenland has a low population density, the use of natural resources is a key factor in Greenlandic society and increasingly affects the sensitive nature areas (Due and Ingerslev 2000).

The North East Greenland National Park established in 1974 is the world's largest National Park. In addition, there are five smaller protected areas (table 1). In

Table 1—Protected areas in Greenland subdivided into ice-free land, sea, and ice areas (source: Due and Ingerslev 2000).

Protected areas	Total area	Ice-free land	Sea area	Ice area
		-----km ² -----		
National Park	956,700.0	176,076.0	110,600.0	670,024.0
Melville bugt	7,957.0	703.0	5,193.0	2,061.0
Lyngmarken	2.0	2.0	.0	.0
Paradisdaalen	90.0	90.0	.0	.0
Qinnguadalen	45.0	45.0	.0	.0
Akilia	1.4	1.4	.0	.0
Total protected area	964,795.4	176,917.4	115,793.0	672,085.0

total, Greenland has 964,795.4 km² of protected land of which 176,917.4 km² (18 percent) is ice-free land, 115,793 km² (12 percent) is sea, and 672,085 km² (70 percent) is ice. In addition, Greenland has appointed 11 Ramsar areas with a total area of 15,457.5 km², and hereby recognizes an international responsibility for protection of wetlands and bird habitats. However, no legislation has been established to protect these areas, and hunting, fishing and access is regulated through the same rules as outside the Ramsar areas (Due and Ingerslev 2000).

Nature protection in Greenland is based on legislation from 1980 (Landstingslov nr. 11 af 12. November 1980 om Naturbeskyttelse i Grønland), but is currently under revision. Assessment and gap analyses of the current nature protection in Greenland (Due and Ingerslev 2000) conclude that problems are related to protection against overhunting of species, destruction of sensitive habitats, and lack of compliance with international objectives of protecting a representative selection of Greenlandic nature.

The high, low, and subarctic zones are not represented equally in the protected areas, as 71 percent of the marine and 44 percent of the terrestrial high arctic is protected compared to less than 3 percent of the low and subarctic. Secondly, most of the current and future changes and impacts from hunting, fishing, agriculture, mineral extraction, recreation, and tourism take place in the low and subarctic zones with the least protected area. It is recommended to expand nature protection in these zones, to include more sensitive habitat types in protected areas, to establish general nationwide protection measures for some types of sensitive habitats, and to continue assessment and mapping (GIS based) of natural resources in Greenland to facilitate nature protection and management (Due and Ingerslev 2000).

Tourists primarily visit the coastal areas of Western, Southern, and Eastern Greenland, while the remote North East Greenland National Park can only be visited with special permission and receives approximately 150 annual visitors. The impacts from tourists on nature and culture in Greenland remain largely unexplored. However, an ongoing inter-Nordic project involving Greenland, Iceland, and Svalbard aims at mapping the environmental impacts of the Arctic tourism industry and, thereafter, to suggest means of implementing more sustainable forms of tourism. In Greenland, the project involves two destinations: Ilulissat and Ammassalik. Initial results indicate that impacts on nature originate as much from local residents as from tourists, and that visual pollution greatly influences tourist perceptions and the quality of the experience. Consequently, the project has initiated the removal of some of the worst eyesores in Ilulissat (Nordic Council of Ministers, cited in Hendriksen 2002, ongoing project).

The transition of Inuit culture appears to also influence the use and perceptions of nature resources in Greenland. While traditional Inuit culture has a deep respect of nature and uses only the resources needed for sustainable living, Hansen (2001) suggests that this has severely changed and massive overhunting and wasteful use of natural resources are taking place that may deplete the Greenlandic fauna in a few decades. The meat extracted through hunting by far exceeds 100 percent of the needs in Greenlandic society, but massive waste causes 76 percent of meat and meat products to be imported to Greenland. Hunters, fishermen, and most politicians appear to deny the problems, which are linked to a policy of subsidies (Hansen 2001). In addition to this threat from overexploitation in Greenland, a new status

report on biodiversity of Arctic flora and fauna by Conservation of Arctic Flora and Fauna (CAFF) also takes a pessimistic view on the future of Arctic ecosystems. It points to threats from global warming, introduction and invasion of nonendemic species, and pollution from industry and cars that accumulates in the arctic ecosystems (Toft 2001).

The transition from a traditional hunting and fishing community to a service and information society is also changing the recreational patterns among residents in Greenland. The trend is to spend free time in nature outside inhabited areas, and the number of leisure boats and huts are increasing (Due and Ingerslev 2000).

Existing Research on Tourism and Nature

Both research on tourism and nature is undertaken in Greenland, but mostly as independent disciplines. Greenland has a long tradition of natural sciences research related to geology, glaciology, biology, and so forth, since the Commission for Management of Geological and Geographical Investigations in Greenland was established in 1878 and later became The Commission for Scientific Research in Greenland (KVUG 1998). In 1999, the organization was restructured to strengthen arctic research, and in the National Strategy for Polar Research 1998 to 2002, tourism is mentioned. It states that it is important to investigate the social and cultural basis for sustainable development of the various industries including tourism. Secondly, that it will be of high importance to analyze the economic, social, and cultural effects of new industry projects at the local, regional, and national levels, and to conduct comparative studies with other arctic regions (KVUG 1998).

In general, research in Greenland appears to be dominated by research in natural sciences with little connections to studies of human activities including tourism. In 1995, only 17 percent of the total funding for research in Greenland was allocated to social sciences, statistics, humanistic sciences, and health sciences combined, while at least 67 percent was allocated for natural science research and the remaining for institutions and programs with a strong focus on natural sciences. A total of 139.5 million Dkr were allocated by both the Greenland Home Rule Government and by the Danish Government (Statistics Greenland 1997). The limited attention to research on sociocultural aspects in Greenland is also mentioned by KVUG (1998) and by Dahl and Sejersen (2000), who attribute this to isolation, closed research environments, and lack of funding. A new cultural historical research program on cultural encounters in southern Greenland has just started but none of the five subprojects have relations to present day culture or tourism. Tourism research in Greenland has also been quite limited but is emerging as a prioritized topic (KVUG 1998). In addition, the statistical data collection by Statistics Greenland has been significantly upgraded since 1998.

In table 2, the identified research and background projects related to tourism in Greenland are listed and grouped by overall topic. Many of the identified tourism projects focus on development projects and strategies. Among the more academic studies are a high number of student projects, which tends to be printed in small numbers. Many of the tourism studies involve quite local case studies, but some are characterized as pilot studies and may possibly later be broadened to other regions. Many of the studies are ongoing, and results have not yet become available. However, tourism research seems to be increasing.

Some initiatives have recently been taken to establish more sustainable types of tourism, and Greenland participates in work on developing a Nordic strategy for sustainable tourism (Nordic Council of Ministers 2001). So, interest in finding new ways for a balance between nature, culture, and tourism seems high. Linking this to sound research initiatives and lessons learned in other circumpolar regions appear to be highly relevant.

Future Trends in Tourism in Greenland

The national strategy to increase tourism to 35,000 by 2005 is strongly focused on quantitative growth of numbers and expenditure of tourists. But recently, the strategies for future tourism development in Greenland have shifted toward stabilization and more qualitative aspects, and sustainable tourism is now part of

Table 2—Identified research and background projects related to tourism in Greenland categorized by topics.

Topic	Identified projects related to tourism in Greenland
Nature/environment	Project on development of Nordic Strategy for Sustainable Tourism (Nordic Council of Ministers 2001) Ecotourism in Greenland (Mordhorst 1998) Tourism and environment in the Arctic (Hendriksen, ongoing) Tourism in Polar environments—Greenland and Antarctica (Christensen 1990) ^a
Culture and history	Concepts for monitoring natural and cultural heritage in the Arctic (Nordic Council of Ministers Arctic Programme, ongoing)
Local communities	Strategic plan for local involvement in tourism (TUC, unpublished internal report) Analysis of public and private interest groups' involvement in Greenland tourism strategic planning (Amondson 1998) ^a Coping strategies and regional policies—cases from Uummannaq, Greenland (Bærenholdt 2001, ongoing)
Tourists	Statistics Greenland conducts surveys of tourist activities, expenditure, and profile (upgraded since 1998)
Tourist industry	Image analyses of Greenland tourism (TUC, unpublished internal report) Investor analysis of opportunities and barriers for tour operators in Greenland (TUC, unpublished internal report) Education/competence development in tourism (TUC, unpublished internal report) Analysis of the role of outfitters in Greenland (Rasmussen 1998) ^a A study of tourism planning and evaluation of two tourism projects in Greenland (Guldbrandsen 1995) ^a Project about development of hunting tourism in Greenland (Bertelsen and others 1991) ^a Project on opportunities for wilderness tourism in Greenland (Guldbrandsen 1991) ^a Applied tourism development projects (such as, reconstruction of Erik the Red's settlement near Qaqortoq in Greenland) (North Atlantic Co-operation (NORA) Background studies of tourism in Norway, Northwest Territories, and Island (Erhvervsdirektoratet Grønlands Hjemmestyre 1991) Background studies of tourism activities in North-Western America as inspiration for tourism in Greenland (Nyegaard and Mordhorst 1994) ^a Study of tourism in southern Greenland (Egede 1992) ^a A study of opportunities for sustainable tourism development in South Greenland (Skourup 1996) ^a

^aStudent projects.

the national strategy. Within the past 2 years, focus has shifted to development based on regional strengths and three primary themes: (1) strengthening local and regional cooperation and involvement, (2) organization of tourism institutions, and (3) development of competencies and documentation of tourist data (Olsen 2001).

Local initiatives to establish sustainable tourism are emerging in Greenland. One example is in Rode Bay north of Ilulissat where tourism is being established as a strategy to support the declining traditional fishing and hunting community threatened by depopulation and closure of industries. The sustainability approach includes close cooperation with villagers in establishing new jobs by taking tourists sailing and dog sledding, by supplying local products to the hostel, and from a newly established restaurant in a restored old warehouse. Residents also rent out rooms, produce handicrafts, and arrange “kaffemik” (social gathering with coffee); and information to tourists on village life and culture is also emphasized (Philbert 1999).

As such, the trends in tourism in Greenland are shifting toward quality and sustainability as well as added value by income generation from tourism. Greenland Tourism is currently establishing strategies for 2003 to 2005 based on these criteria and with a focus on advice, marketing, information, documentation, and education (Greenland Tourism 2001b).

Future Research Needs

The summary of the existing knowledge and research findings of the tourism-nature relations in Greenland indicates a number of problems exist in the structure, focus, and content of research programs.

Currently, there is a very high focus on natural science research in Greenland, but few resources are allocated to social research or to tourism research. Given the rapid transitions of Greenlandic society and the growth in tourism, it appears timely to give higher priority to research of sociocultural and tourism issues. As in many other countries, much research appears to be carried out within single disciplines and rarely considers tourism issues. Given the complexity of tourism and its economic, environmental, and social implications on Greenlandic society, a more cross-disciplinary approach seems relevant.

Actual tourism research in Greenland is emerging, but is suffering from the traditional high focus on economic and management issues with little consideration of the cultural or natural context. It is included in the last phase of the national 1998 to 2005 Tourism Plan to conduct social and environmental impact analyses (Lyck 1998). The environmental issues related to the industry are emerging in some newer projects, and sustainability is mentioned conceptually, but still lacks the data and research on nature and culture.

Most of the tourism research is very local, and results cannot be generalized to other parts of Greenland. However, several projects are pilot projects, and more full-scale investigations may be carried out later if the case study results and funding allow. General baseline studies and more structure in the existing knowledge base on tourism would greatly improve the basis for tourism studies in Greenland. The increased data collection on tourists by Statistics Greenland represents great improvements in this direction.

Some established international cooperation is found in the areas of natural science research and also in tourism in a Nordic context such as the Nordic Strategy for Development of Sustainable Tourism. Greenland also participates in networks on tourism in the West Atlantic region. Tourism studies could greatly benefit from utilizing and expanding some of these networks.

Many of the tourism studies appear to have a development and management focus, but more academic projects providing deeper insights may be needed, although it is understandable that applied studies are given high priority at this stage.

Suggestions

In short, it is suggested that research programs in Greenland consider changes toward giving higher priority to research on sociocultural and tourism issues when compared to natural sciences research. Secondly, that within tourism research the focus is broadened and more attention is given to interrelations between tourism and environmental and social issues. Thirdly, that the focus on development and management projects in tourism is counterbalanced with more “academic research” but still with opportunities to be applied to actual places and problems. Fourthly, increased cross-disciplinary and international circumpolar research may also strengthen tourism research as many of the same type of problems, ideas, methods, and results may be compared across the polar region and inspire Greenland to avoid some of the problems found in relation to tourism development elsewhere.

Some of the topics for cross-disciplinary research on tourism and nature in Greenland could possibly include:

- The differences in the perceptions and cultural meanings of nature/wilderness/environment among locals and tourists and to assess if these differences are points of conflict in tourism in Greenland and elsewhere in the Circumpolar Region.
- Assessments of community impacts and resident preferences in relation to tourism development.
- Local involvement in tourism development and integration of indigenous knowledge and values into tourism.
- Criteria and indicators for sustainable tourism development in Greenland. Economic, social, and environmental indicators should be included.

Many additional research topics may emerge as being highly relevant to tourism in Greenland. Given the sociocultural transitions of Greenlandic society, the decline of traditional industries, and changing relations with the natural environment as well as the increasing role of tourism, it appears timely to increase research on how tourism interrelates with and affects local communities and nature in Greenland.

References

- Amondson, Sakarias. 1998. Organisationsanalyse af offentlige og private grønlandske interessenters deltagelse i Greenland Tourism's virksomhed. [Organization analysis of public and private Greenlandic stakeholders participation in the business of Greenland Tourism. In: Lyck, Lise, ed. *Turismestrategi og -udvikling i Grønland: [Tourism strategy and development in Greenland:]* 63–73.
- Arneborg, Jette. 2000. Nordboerne. [The Norse]. In: Jakobsen, Bjarne Holm; Jens Bøchner, Niels Nielsen; Rolf Gutteresen, Ole Humlum; Jensen, Erik, eds. *Topografisk Atlas Grønland: [Topographical Atlas Greenland:]* 54–55.
- Bertelsen, Tønnes O. K.; Christensen, Claus H; Jensen, Carsten B.; Pedersen, Jan B.; Pedersen, Jan H; Skourup, Michael. 1991. Udvikling af jagtturisme i Grønland. [Development of hunting tourism in Grønland]. Student project from the Copenhagen Business School. 133 p.
- Bærenholdt, Jørgen Ole. 2002. Coping strategies and regional policies—cases from Greenland. Stockholm: NORDREGIO working paper. 35 p.
- Christensen, Torben. 1990. Tourism in Polar environments—with special reference to Greenland and Antarctica. University of Cambridge, Scott Polar Research Institute. 81 p. Thesis.
- Dahl, J.; Sejerslev, F. 2000. Der skal flyttes grænsepæle. Debat om samfundsforskningen i Grønland. [Boundary stakes have to be shifted. Debate on social research in Greenland]. *Polarfronten* no. 1, 2000: 15.
- Due, Regina; Ingerslev, Torsten, eds. 2000. Naturbeskyttelse i Grønland. Teknisk Rapport nr. 29. [Nature protection in Greenland. Tech. Rep. 29]. Nuuk, Grønlands Naturinstitut. [Nuuk, Greenland Nature Institute]. 92 p. <http://www.natur.gl/dokument/Følsomme%20områder.pdf>
- Egede, Karin Kleist. 1992. Turisme—fremtidens bærende erhverv i Grønland? [Tourism—the leading industry of the future in Greenland?] Student project at Roskilde University. 120 p.
- Erhvervsdirektoratet Grønlands Hjemmestyre. 1991. Turisme i Grønland—baggrundsanalyse: A. Norge, B. Northwest Territories, C. Island. Report by Hoff & Overgaard planlægningskonsulenter. [Direktoratet af Trade, The Greenlandic Home Rule Government. Tourism in Grønland—background analysis: A. Norway, B. Northwest Territories, C. Iceland. Report by Hoff & Overgaard planning consultants, Denmark.] Greenland Tourism. 2001a. Estimates of number of tourists to Greenland 1993–2000.
- Greenland Tourism. 2001b. Årsberetning 2000. [Yearly report 2000.] 17 p.
- Grønnow, Bjarne. 2000. Palæo-eskimoerne—de første mennesker i Grønland. [The Palaeo-Eskimos—The first people in Greenland.] In: Jakobsen, Bjarne Holm; Bøchner, Jens; Nielsen, Niels; Gutteresen, Rolf; Humlum, Ole; Jensen, Erik, eds. *Topografisk Atlas Grønland: [Topographical Atlas Greenland:]* 46–51.
- Guldbrandsen, Christian. 1991. Grønlandsk wildernessturisme—en international mulighed for hjemmestyret? [Greenlandic wilderness tourism—an international opportunity for the Home Rule Government? Third year student project from Handelshøjskolen, Copenhagen. [The Copenhagen Business School, Copenhagen.] 75 p.
- Guldbrandsen, Christian. 1995. Apussit og Avangersuaq Turismeplanlægning og projektevaluering—en analyse af grønlandske turismeprojekter. [Apussit and Avangersuaq tourism planning and project evaluation—an analysis of two Greenlandic tourism projects.] The Copenhagen Business School. 148 p. Thesis.
- Gulløv, Hans Christian. 2000. Thulekulturen. [The Thule culture.] In: Jakobsen, Bjarne Holm; Jens Bøchner; Nielsen, Niels; Gutteresen, Rolf; Humlum, Ole; Jensen, Erik, eds. *Topografisk Atlas Grønland: [Topographical Atlas Greenland:]* 52–53.
- Hansen, Kjeld. 2001. Til den bitre ende. [To the bitter end.] *Polarfronten* no. 2, 2001: 15.
- Hendricksen, K. 2001. [Ongoing]. Project on environment and tourism in the Arctic. Romboll Consultants. Kommissionen for Videnskabelige Undersøgelser i Grønland (KVUG). 1998. National Strategi for Polarforskning. [National strategy for Polar research. [Online]. http://www.dpc.dk/kvug/Strategi9802_1.html
- Lyck, Lise, ed. 1998. *Turismestrategi og -udvikling i Grønland. [Tourism strategy and development in Greenland.]* Copenhagen: Nordic Press.
- Mordhorst, J. 1998. Ecotourism in Greenland. Dansk Polarcenter og Turismens Udviklings Center, Copenhagen. 68 p.
- Nordic Council of Ministers. 2001. Towards a sustainable Nordic tourism. TemaNord. Copenhagen: Nordic Council of Ministers. 109 p.
- Nyegaard, Inge; Mordhorst, Jeppe. 1994. Aktiv turisme i det nordvestlige Amerika og dens relevans for Grønlands turismKonsulentrapport. [Active tourism in the Northwestern America and its relevance for tourism in Greenland. Consultant report.] 160 p.
- Olsen, Simon. 2001. Landsstyrets Turismepolitik 2001. Tale af Landsstyremedlem Simon Olsens tale på de turistfaglige dage i Sisimiut. [Tourism policy of the Greenland parliament. Speech by parliament member Simon Olsens at the “days of the tourism professionals” meeting in Sisimiut.] 7 p.
- Philbert, Poul-Erik. 1999. Turisme med et lokalt ansigt. [Tourism with a local face.] *Polarfronten* no. 4: 8–9.
- Rasmussen, Kristine. 1998. Outfitterbegrebet og outfitternes rolle i grønlandsk turisme. [The concept of outfitters and the role of outfitters in Greenlandic tourism.] In: Lyck, Lise, ed. *Turismestrategi og -udvikling i Grønland: [Tourism strategy and development in Greenland:]* Copenhagen: Nordic Press: 55–61.
- Skourup, Michael. 1996. Turismeudvikling i Sydgrønland—en analyse af grundlaget for en bæredygtig udvikling af turismen i Sydgrønland. [Tourism development in Southern Greenland—an analysis of the basis for sustainable development of tourism in Southern Greenland.] The Copenhagen Business School. 148 p. Thesis.
- Statistics Greenland. 1997. Greenland statistical yearbook 1997. [Online]. <http://www.statgreen.gl/english/yearbook/chap16.pdf>
- Statistics Greenland. 2001a. Nøgletal for Grønland. [Key numbers for Greenland.] [Online]. <http://www.statgreen.gl/nøgletal>
- Statistics Greenland. 2001b. Flypassagerstatistikken 2000. [Statistics on airline traffic 2002.] *Turisme* 2001: 2.

- Thalund, Søren. 2000. Moderne turisme i Sisimiut. [Modern tourism in Sisimiut.] In: Jakobsen, Bjarne Holm; Jens Bøchner, Niels Nielsen; Rolf Gutteresen, Ole Humlum; Jensen, Erik, eds. Topografisk Atlas Grønland: [Topographical Atlas Greenland:] 236–237.
- Toft, Pernille. 2001. Ny rapport tager pulsen på det arktiske økosystem. [New report feels the pulse of the Arctic ecosystem.] Polarfronten no. 2, 2001: 16.
- Turismens UdviklingsCenter (TUC) [n.d.] Strategic plan for local involvement in tourism. Unpublished internal report.
- Turismens UdviklingsCenter (TUC) [n.d.] Image-analyse of Greenland Tourism. Unpublished internal report.
- Turismens UdviklingsCenter (TUC) [n.d.] Investor-analysis of opportunities and barriers for tour operators in Greenland. Unpublished internal report.
- Turismens UdviklingsCenter (TUC) [n.d.] Education/competence development in tourism. Unpublished internal report.