



NATIONALMUSEET

Challenges and solutions



NORDLIGE
VERDENER

**Northern Worlds – Report from workshop 2
at the National Museum, 1 November 2011**

**Edited by Hans Christian Gulløv, Peter
Andreas Toft and Caroline Polke Hansgaard**



Challenges and solutions

Report from workshop 2 at the National Museum,
1 November 2011

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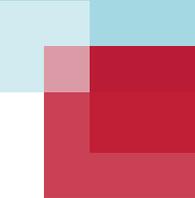
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Rødøy in Flatøysund, Alstahaug area,
Helgeland, South Nordland
Photo: Flemming Kaul



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Copenhagen 2012**

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Close-up of a string of beads on an amaut, a woman's jacket, combining large worn 18th-century glass beads with unworn seed beads produced in the 19th century. Photo: Peter Andreas Toft.





Pinhoulland
seen from the
north west down
towards Voe of
Browland. Photo:
D. Mahler.

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Greenland dietary economy

Jette Arneborg

Danish Middle Ages and Renaissance

The Greenland Dietary Economy project provides answers to the question of what the Norse Greenlanders ate – and more generally what the economic basis was for the life of the Norse settlers in Greenland, and whether there were changes during the period when the Norse-Greenlandic settlements were occupied.

The Norse-Greenlandic society endured from the end of the tenth to the latter half of the fifteenth century, and during that period Greenlandic society underwent several transformations. In the period from the first settlement until c. 1200 the religious, social and economic power was concentrated in fewer hands, but the final and definitive change came towards the end of the 1400s when the settlements were totally depopulated.

The Norse Greenlanders based their society on two economies – and each was equally important to the continued existence of the society: long-distance trading in walrus tusk, which was necessary to imports of among other things iron, which was in turn one of the pre-conditions of the Norse Greenlanders'

production of their own food. The Norse Greenlanders had established permanent settlements in South West Greenland, where it was possible to have the grazing economy required for their stocks of cattle, sheep and goats. They hunted walrus on their hunting expeditions to northern West Greenland.

The Greenland Dietary Project focuses on Norse subsistence and food produc-

Fig. 1: Recent farm and Norse ruins at Sillisit in Tunulliarfik Fiord. The Norse ruins can be seen as dark green patches in the newly harvested field. Photo: Jette Arneborg.



tion – and especially on how they handled the climate changes that came in the course of the 1200s. It became colder and windier. At the same time the volume of ice in the fjords rose, cooling down the pastures, which became less productive, and at the same time making both internal and long-distance communications difficult.

Carbon and nitrogen isotope analysis of human and animal bones shows respectively the proportion of marine to terrestrial diet ($\delta^{13}\text{C}$) eaten by the individual, and where in the food chain ($\delta^{15}\text{N}$) the individual ate. The results of analyses of bones from the Norse settlers themselves, their domestic animals and the animals they hunted, show that in time the Norse diet became more and more marine. In other words, the Norse Greenlanders gradually grew more dependent on the diet they caught in the sea, first and foremost seal. In keeping with the results from the isotope analyses, the younger the deposits, the more seal bones we find in the Norse middens; and at the same time the composition of bones from the domestic animals shows that in time only the large farms were able to keep cattle. The smaller farmers gradually replaced their cows with the less resource-intensive sheep and goats. To optimize the yield from grass fodder the farmers also established irrigation systems and manured their pastures. But despite these measures it also

became necessary to harvest the resources of the sea, and it was not only the less prosperous farmers who exploited this possibility. The development from a mainly terrestrial diet to a more marine one was general. At the prosperous farms too seal meat was often on the menu.

So what role did the increased dependence on the marine resources play for the development towards depopulation? Up to a certain point the Norse Greenlanders were flexible, and viewed in isolation they could have survived in Greenland by basing their diet 100% on the marine resources as the Inuit did. But socially and culturally this was not an acceptable solution, and if we are to get closer to an explanation of the depopulation of the Greenlandic Norse settlements these factors too must be considered in the discussion.

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The project is to be published in *Journal of the North Atlantic*.



Fig. 2:
The Norse population in the Western Settlement supplemented their diet with caribou meat. Fewer caribous in the Eastern Settlement limited hunting opportunities in this area. Photo: Jette Arneborg.

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Back cover illustration:

View of modern sheep farm and hayfields in the central Vatnahverfi region, South Greenland.

Photo: Christian Koch Madsen.



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