Kort & Matrikelstyrelsen

Rolf Guttesen

The Faeroe Islands Topographic Atlas

ATLAS OF DENMARK SERIES II VOLUME 5

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Key map of the localities

Numbers correspond with the numbering of the articles

Atlas over Danmark/
Atlas Of Denmark

Editor: N. Kingo Jacobsen

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ATLAS OF DENMARK SERIES II VOLUME 5

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Velux Fonden af 1981

Introduction

The Faeroe Islands Topographic Atlas is a competent presentation of the main characteristics of our geography. It is based on 31 map extracts of specially selected localities and constitutes a comprehensive description of traditional and modern Faroese society .

Besides cartographic analysis, the atlas includes results of the latest research. It describes life in the Faeroe Islands and accounts for the conditions, past and present, that have left their mark on the cultural landscape.

The intention has been to make the atlas comprehensible to a wide international readership. The introductory articles present the main physical geography themes of climate, oceanography, geology and landscape. They also include articles on the human geography and the history of mapping the Faeroe Islands. This sets the scene for the topographic descriptions of particular towns and villages in a series of articles that illustrate certain aspects of Faeroese nature and society.

It is my great pleasure to endorse this valuable work, and I am certain that *The Faeroe Islands Topographic Atlas* will contribute considerably to the geographical literature on these unique islands.

Jóan Pauli Joensen
Rector of The University of The Faeroe Islands
Professor, Doctor of Philosophy

Atlas over Danmark/
Atlas Of Denmark

This volume of Atlas over Danmark sees the start of a new era in which Det Kongelige Danske Geografiske Selskab (The Royal Danish Geographical Society) and Kort- og Matrikelstyrelsen (The Danish Map Service) collaborate. This development is quite natural as Danish atlas production will be increasingly based on ordnance survey mapwork and national aerial photography to which KMS in Denmark has the copyright. The logos of both institutions thus appear in this volume. The production and sale of the atlas remain under the financial accountability of DKDGS whereas KMS is responsible for printing. The atlas series remains in the commission of C. A. Reitzel but this particular volume is also on sale at KMS. As usual, DKDGS members enjoy certain privileges. Series II, Volume 5 opens the door to entirely new horizons in the presentation of Danish geographical themes through the use of maps and diagrams. Spatial variations are depicted using geographical terminology with its wealth of information in code form; such symbolism is utilized in this atlas. Modern mapping techniques allow a better visual examination of our national resources so that an atlas becomes a valuable aid in itself to suggesting realistic solutions to diverse current problems.

Danish physical and human landscapes will in future be presented together so as to focus on the most important characteristics and how they interact. This is not for the sake of detail but in order to improve our understanding of the total picture and maintain a sensible balance.

Atlas over Danmark seen in the Nordic Perspective

The countries of the Nordic world each have very different histories in the making of their respective national atlases.

Finland has by far the oldest and broadest tradition in this respect. *Atlas över Finland* was started in 1895 as a national work, which was at that time under Russian control due to the occupation of Finland. The first edition appeared in 1905. Today the work is in its sixth edition. Its conceptual framework is planned by Geografiska Sällskapet, Helsinki, even though it is said that it has always been a state undertaking under Lantmäteriverket.

In Sweden the tradition is similar to that of Finland. *Atlas över Sverige* appeared in its first edition in 1940 and is the work of Svenska Sällskapet for Anthropologi och Geografi and is published by Lantmäteristyrelsen. A second edition exists both as a book and on computer diskette; 19 books in all. The Swedish National Atlas represents a very comprehensive geographic and cartographic achievement.

In Norway the *Atlas over Norge* is published by Det norske Kartverk and first appeared in 1970. The editorial work is undertaken at Handelshøjskolen and the University of Bergen.

Denmark started her national mapwork tradition with the series *Atlas over Danmark* (Atlas of Denmark) during the German occupation at the start of the Second World War (1940). Special circumstances have led to its unique form and development. The initiative remains the prerogative of the DKDGS with the support of Københavns Universitets Geografiske Institut.

Always making use of the new opportunities offered by advances in mapping technology, new volumes are published as the fruits of geographical research highlight relevant, contemporary, geographical themes and problems. From an economic point of view, Atlas over Danmark is unique among the Nordic countries in being privately financed. DKDGS celebrated its hundredth anniversary by launching its second series in Atlas over Danmark with the publication of Topografisk Atlas, Danmark (A Topographic Atlas Of Denmark) in 1976.

Atlas over Danmark thus now consists of two series, each with its own format: first series (folio) 38 × 55 cm, second series 25 × 34 cm.

First Series: This now comprises three volumes on individual themes. The larger format allows the whole of Denmark to be covered in detail. Volume One “Landskabsformene” (1949) is the Danish Landscape Atlas. Volume Two “Befolkning” (1961) is the Danish Population Atlas. Volume Three “Den danske Jordklassificering” (1992) is the Danish Soil Classification Atlas.

Second Series: This now comprises five volumes. Volume One “Opgivne og Tilplantede Landbrugsarealer i Jylland” (1976) is the Marginal Landuse In Jutland Atlas. Volume Two “Topografisk Atlas, Danmark” (1976) is the Topographic Atlas Of Denmark. Volume Three “Danske Byers Vækst” (1985) is the Urban Growth Atlas Of Denmark. Volume Four “Landbrugsatlas” (1986) is the Agricultural Atlas Of Denmark. The latest volume, Volume Five, is the “Topografisk Atlas Færøerne” (1996); the English edition of which is called “The Faeroe Islands Topographic Atlas”.

N. Kingo Jacobsen

The Faeroe Islands
Topographic Atlas

31 articles with maps and descriptions

Edited by
Rolf Guttesen

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and
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Foreword

Topography means the description of places, and therefore, using different approaches, this topographic atlas is a description of selected places in the Faeroe Islands. It is not an attempt to cover the whole archipelago to account for all its settlements and geographical aspects. As far as possible, the articles have been chosen to illustrate places that are important and representative with respect to; the physical environment, cultural landscape, commercial activity and aspects of settlement.

The articles fall into three groups. Articles 1 and 2 give a brief insight into Faeroese human geography. Article 2, which seeks to throw light on the recent crisis, is necessary because most of the articles were written during this insecure and unpredictable time.

Articles 3 to 12 are general themes such as; population geography, cartographic history, oceanography, climate, geology and soils: which together form the necessary background to understanding the past and current development of specific historical periods as well as the geography of the islands.

Articles 13 to 30 are based on selected settlements or regions, and each one tells a story of life in the Faeroe Islands, past or present. The settlements have been selected to allow a description of local matters as well as general development in the Faeroe Islands. For example, the article on Vestmanna not only deals with the local history but also gives a general account of the electrification of the Faeroe Islands, while the article on Hvalbøur, one of the old, large farming settlements, is well-suited to give an account of the historical importance of pilot-whaling to the islands. Regionally organized, this group of articles starts in the north of the archipelago, then moves westwards, then southwards, and ends with a description of the Faeroese capital, Tórshavn.

Article 31 is the last in the sequence and gives an account of the main aspects of the work undertaken by the Geodætisk Institut and Kort & Matrikelstyrelsen in the production of maps and aerial photographs specifically related to the Faeroe Islands.

Not only geographers but also experts from related disciplines have contributed to this work. There has been no attempt to impose a rigid form of presentation as it is felt that this will enhance the overall impression. On the whole, it has not been an easy task for the authors to present a whole theme due to the limited space available.

Planning the work has also meant ensuring enough space to include integral atlas elements such as large-scale map extracts, and aerial photographs. We therefore hope that the result is a set of intelligible, informative articles composed of texts, figures and maps.

Rather like looking into a kaleidoscope, the atlas can be viewed from many, different angles. To facilitate its use, there is a detailed index and comprehensive literature list. Perhaps the atlas will stimulate interest in the interpretation of map-sheets, or else assist the map-reader in relating the physical and human geographical features that enrich most of the extracts chosen for this work.

I am greatly indebted to The Royal Danish Geographical Society who suggested the production of this atlas on the Faeroe Islands.

I also wish to express my gratitude to Kort & Matrikelstyrelsen for acting as co-publisher in alliance with The Royal Danish Geographical Society. Without their collaboration, this publication would not have been possible.

The diagrams and maps are the work of John Jönsson who is the technical drawer at the Geografisk Institut, Copenhagen University. The translation from Danish into English is by Richard Barnes M.A. Honours Geography, Aberdeen University. I thank them for their good work and patience.

It is my hope that *The Faeroe Islands Topographic Atlas* will provide very valuable information to a wide readership at educational institutions and be of interest to other parties; especially during this time of hardship for the Faeroe Islands.

Rolf Guttesen
Institute of Geography
University of Copenhagen

1 Introduction to the Human Geography of the Faeroe Islands

In 1989, the Faeroe Islands were suddenly hit by a severe economic recession. Since then, Faeroese society has been subjected to many serious set-backs that have led to some drastic changes. A rapidly contracting fishing industry, appalling foreign debt, and catastrophic emigration are the main characteristics of the deteriorating state of affairs.

Owing to the suddenness of the recession and its profound consequences, a fuller description has been postponed until the next article. This article is confined to a description of the economic situation before the crisis years of the early 1990s.

Size and location

The Faeroe Islands are located in the North Atlantic Ocean at 62°N 7°W. They lie almost midway between Norway, Iceland and Scotland. They consist of 18 islands separated by narrow sounds and fjords. The closest land is Shetland, 162 nautical miles (300 km) to the southeast. The total land area of the Faeroe Islands is 1399 km^2: but when the intervening sea areas are included, the geographical extent is much larger. From Enniberg Headland on the northernmost island of Viðoy to Sumbiarsteinur Skerry off southernmost Suðuroy, the N-S distance is 118 km. From Stapin Stack on the easternmost island of Fugloy to the westernmost point of Mykineshólmur, the E-W distance is 79 km. Tórshavn lies at the same latitude as both Cape Stad in Norway, 200 km north of Bergen, and Paamiut (Frederikshåb) in Greenland, 200 km north of Cape Farewell.

The population of the Faeroe Islands tripled in the 19th century and tripled again this century. It reached a historical maximum in 1989 with 47,838 inhabitants, but since then it has been decreasing.

The few accounts on earlier centuries indicate that the population remained relatively stable at some 4,000 inhabitants for several centuries. The rapid increase of the past two centuries was caused by a transformation of the human geography in which the stable Faeroese farming society, which once relied almost entirely on the natural land resources, changed to a farming-fishing society through the exploitation of the rich resources of the surrounding sea. This was followed by a revolution in manufacturing; with new production techniques, improvements in transport and communications, new cultural habits and better health and sanitation. Consequently, the settlement structure was significantly altered: as will be dealt with more thoroughly at the end of this article.

Political position within the Danish State

The Faeroe Islands were officially a Danish county from 1852 until the Home Rule Act was passed on the 23rd March 1948. The act proclaims the Faeroe Islands as a self-governing community within the Danish State. The Home Government consists of an elected House Of Representatives, *Løgting;* which in turn appoints the Executive, *Landsstýri.*

The act divides governmental responsibility between the Danish State and the Faeroese Home Government. The Home Government, within the unity of the State, has the authority to legislate, govern and administrate in matters deemed special to the Faeroe Islands; whereas all other affairs are regarded as common affairs and in principle come under the Danish State being subject to Danish legislation. The Home Government has the right to decide on special Faeroese affairs and bears the financial reponsibility. However, the judiciary and matters of legislation pertaining to property and wealth are outwith the jurisdiction of the Home Government.

The Danish Government retains full competence in foreign affairs although in practice foreign negotiations concerning international fishing agreements have been conducted independently by the Landsstýri. Danish membership of international organizations does not automatically imply Faeroese membership. For example, the Faeroe Islands are not part of the EU but have a separate agreement. In the Nordic Council, the Faeroe Islands have been represented in their own right since 1983. The islands have their own language, flag, passport, banknotes and stamps. They constitute an independent customs area, yet they use Danish currency.

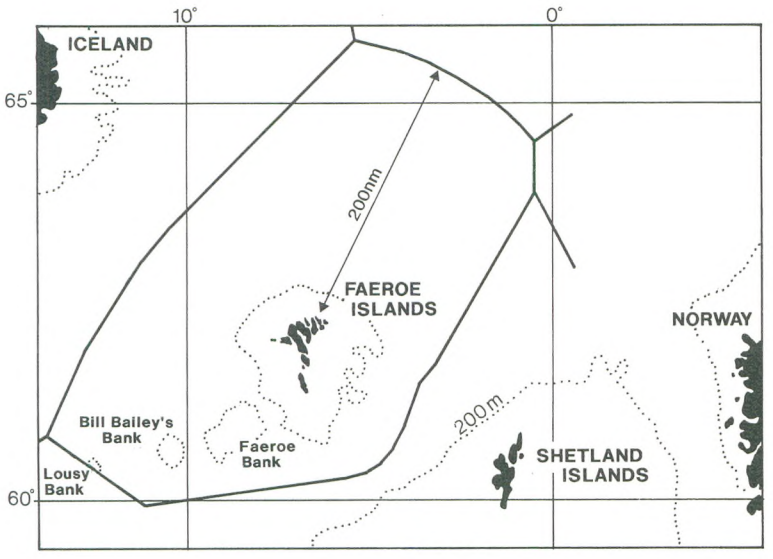
Utilization of resources

The geographical position of the Faeroe Islands midway in the North Atlantic Ocean determines what natural resources are available to the inhabitants for subsistence or trade. Formerly it was the farmland; infields and outfields that constituted the production basis of the peasant society. The richness and accessibility of the land set the limits to production and growth. With the changeover firstly to a farming-fishing society, and later to a modem fishing society, the resources of the sea began to determine opportunities and set limits.

In sea areas lying within the national fishing limit, the exploitation of fishing resources is regulated by the host nation. Outside this limit, international agreement is necessary to prevent overexploitation. However, in spite of attempts to regulate and control fishing, it has been very difficult to reach agreements that satisfy every nation.

From 1901 until 1955, a 3 nautical-mile limit from the real coastline was in force. In 1955, a slight extension of the limit occurred when straight baselines were drawn from selected points along the coast. In 1959, a “6+6 nautical-mile” limit was introduced, allowing British fishermen, who had “historic rights”, to operate as close as 6 miles to the Faeroese coast, whereas the fishing vessels of other nations were only allowed as near as 12 miles.

Fig. 5 *: The Faeroe Islands are located approximately midway between Iceland, Norway and Shetland in the North Atlantic Ocean. The 200 nautical mile fishing limit is boldly marked.*



In 1964, the Faeroese drew up a new 12-mile limit, using new baselines from the remotest coastal points and skerries; a limit which British and West German fishermen had to respect despite strong protest. The British sought revenge and refused Faeroese fishermen access to fishing ports; ending the long tradition of Faeroese wetfish landings in Britain, particularly during the winter months. This ban forced the Faeroese to establish their own handling and processing industries. The fish-filleting period had begun.

In 1973, The North-East Atlantic Fishery Commission, NEAFC, banned the fishing of certain banks outside the fishing limit for certain periods. This arrangement was short-lived as the subsequent agreement made during the United Nations conference on the Law of the Sea, UNCLOS, established general 200-mile fishing limits; also for the sea area around the Faeroe Islands. This came into force on 1st March 1977. In principle, the Faeroese exercised full control of their fishing resources but as other nations extended their limits too, the Faeroese fishing fleet found itself excluded from its traditional fishing grounds; off Newfoundland, Greenland, Iceland, the North Sea and the Barents Sea. This problem forced the different fishing nations to conclude bilateral agreements whereby quota exchanges were negotiated yearly, allowing the traditional fishing patterns to continue to some degree.

Unfortunately for the Faeroese fishermen, these quotas have been gradually reduced, except for the Icelandic quota which the Faroese have managed to maintain without having to relinquish more fish in exchange. Quota exchange seems a sensible solution to the fishing limit problem because certain pelagic species, such as blue whiting and capelin, migrate over long distances, making it impossible for any one country to have an exclusive right to them.

Each year, 20-25 different species are caught around the Faeroe Islands. The most important species for human consumption are cod, haddock and coalfish. In Table 11a, the other species include; Norway pout, greater silver smelt, halibut and Greenland halibut. The most important migratory species are blue whiting, salmon and herring; the latter was once very important. Most of the total catch is caught by the local fishermen, apart from blue whiting which is mainly fished by Russians and Norwegians.

Population growth

The population growth of the Faeroe Islands is not typical of a small, relatively isolated, northern island community. Although the population size is similar to those of Shetland, Orkney, Gotland, Öland and Bornholm, the latter have all been experiencing real population decline or stagnation for a long time. Shetland and Orkney have witnessed the abandonment of tiny settlements and a total depopulation of their remoter small islands.

The population migration pattern fluctuates greatly. Figure 6 shows that emigration from the Faeroe Islands was unimportant before this century. The First World War (1914-18) saw emigration rise to a higher level and fluctuate markedly. The 1950s represented a time of severe economic crisis for Faeroese industry. Emigration exceeded any previous level with 500-600 emigrants per year (1.3% population). The start of the following decade saw the situation stabilize temporarily before it worsened with a loss of 1% population per year in the late 1960s.

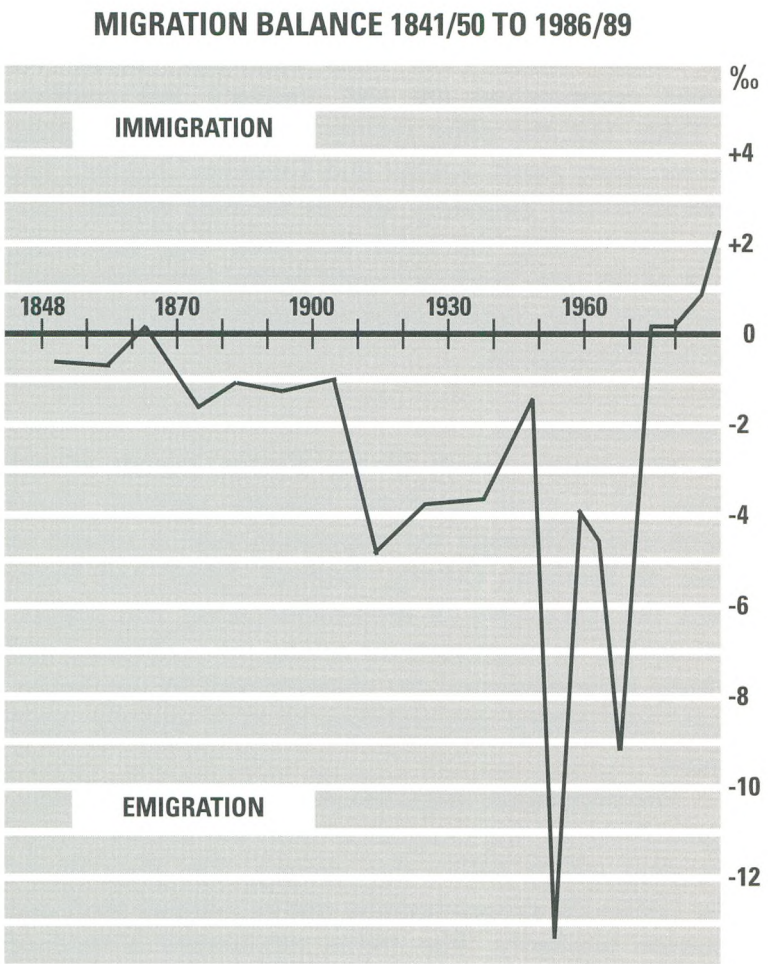
Whereas the oil crisis of the mid-1970s gravely affected the economies of Denmark and much of Western Europe, the Faeroe Islands prospered, reversing the migration trend. From the late 1970s until the mid-1980s, many large building projects were underway. Investment was high, and so too was the demand for labour. Migrant workers were attracted to the islands, especially in the late the 1980s.

At the very end of the prosperous 1980s, a very severe economic depression set in. High unemployment led to emigration; a trend which continues today (1995). This latest trend is not recorded in the statistics shown in Figure 6, but it is shown in Figure 14a in the following article.

Infrastructure

In bygone times, travellers went by foot or on horseback along tracks and paths linking the settlements. Open rowing-boats were used to cross fjords and sounds. In the mid-19th century, trading stations were established in all the major settlements and branches in minor settlements. This necessitated better transport methods and better

Fig. 6: *Long-term pattern of net migration in the Faeroe Islands based on decadal averages (relate to Fig. 14a). Source: Danmarks Statistik and Landsfólkayvirlitið, Tórshavn. RG part.*



routes. Earlier, connections were irregular and crossings were subject to immediate needs and the transport available. The first scheduled passenger and cargo service was the *s/s Smiril,* which was a purpose-built vessel constructed for the company *A/S Johan Mortensen* of Tvøroyri. The maiden voyage was on 1st January 1896. The timetable boasted no fewer than 34 ports of call within the archipelago, and even included four trips to Leith (the port of Edinburgh in Scotland) and two trips to the eastern ports of Iceland. The main purpose was trade; export of local products (e.g. klippfish), and import of vital foreign merchandise (household articles etc.).

During the early part of this century, most sea routes were operated by private companies. One of the largest networks was started in 1908 by the dairy company *Thorshavns Mælkeforsyning og Margarinefabrik* to supply Tórshavn with fresh milk from the settlements along the fjords and bays of Skálafjørður, Sundalagið, and the islands of Nólsoy and Sandoy. As private routes had to be profitable, investment was modest. Most vessels had previously been obsolete fishing-boats rudimentarily converted into ferryboats. They were cheap to acquire but were hardly comfortable for the passengers. After the Second World War, the standard gradually improved. Jetties and quaysides were modernized to provide suitable docking facilities. During the 1960s, roads were improved and extended on many islands, but the independent systems needed to be linked across the sounds and fjords by bridges, dams or new ferry services.

The first car ferry started in 1965. It could take three vehicles which had to be hoisted on board. The route connected the little town of Vestmanna on Streymoy with Oyrargjógv on Vágar. The national company *Strandfaraskip Landsins* held the monopoly of ferry routes by the mid-1970s and raised the standard of service. Car ferries now operate between all the major islands.

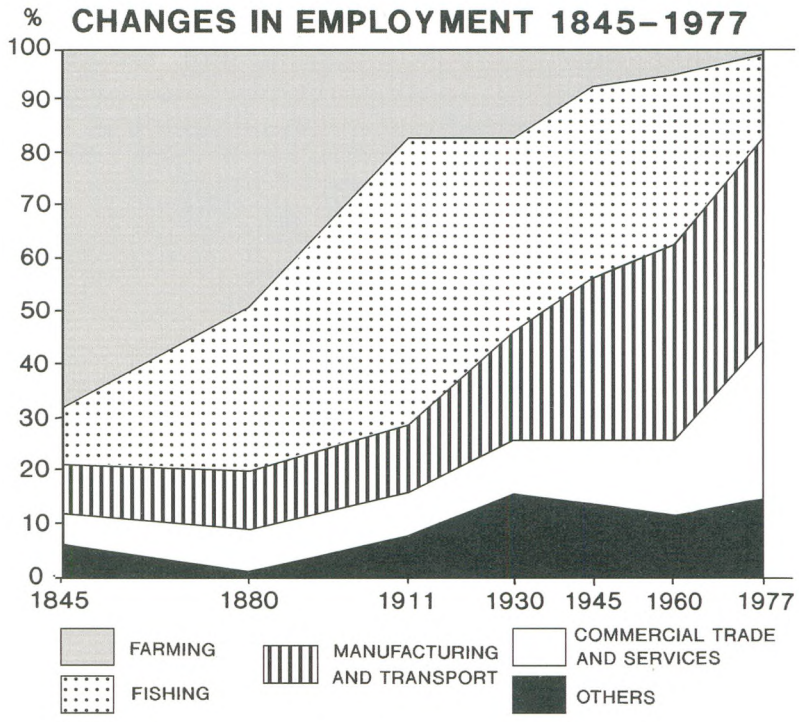
The first road to join two settlements was completed in 1916 and connected Sandur with Skopun. During the 1920s and 1930s, more than 200 km of road was laid to form 14 separate stretches, but this activity was confined to the largest islands. The roads were narrow and not yet macadamized. Most commonly, they connected remote settlements with the nearest ferry port; Saksun with Hvalvík; Eiði with Oyri; Skálavík and Sandur with Skopun. All the ferry ports had a direct service with Tórshavn. The mid-1950s saw the start of the integrated road network.

By the mid-1990s, all of the settlements on the major islands had been connected by road except for Gásadalur on Vágar. A bridge connects the two largest islands of Streymoy and Eysturoy, whereas Borðoy is connected to Viðoy and Kunoy by low dams across narrow sounds. Tunnels through the mountainous relief have ensured cross-country traffic on some islands, making it possible for previously isolated settlements to be linked to the road network. Elsewhere tunnels have shortened road stretches.

Motor traffic came to the Faeroe Islands in the 1920s, and by the start of the Second World War there were about 100 motor vehicles. It was not until the road network began to take shape that the number rose sharply, reaching 2,052 vehicles by 1965 (one car per 18 inhabitants) and 18,859 vehicles by 1990 (one car per 2.5 inhabitants). The traffic is most intense where the population concentration is highest, as in Tórshavn, Runavík-Nes, or along the arc-shaped route connecting them.

In the 1980s, a helicopter service was started to link the smallest islands; Mykines, Stóra Dímun, Fugloy, and Svínoy, as well as the isolated village of Gásadalur which still lacks road connections. Road passenger transport is in the hands of small private companies but regulated by the national company *Bygdaleiðir* in collaboration with *Strandfaraskip Landsins* to ensure the islands a comprehensive, coordinated public transport system to serve all settlements.

Fig. 7b: *Proportional change in importance of the main Faeroese occupational divisions for the period 1845-1977. Source: Population censuses. RG part.*



Until the early 1960s, the transport of passengers and cargo was by ship, whereas today passenger transport is mainly by air, with several daily scheduled flights all year round. The main destination is Copenhagen. In summer, more passenger ship services operate; connecting the Faeroe Islands with Denmark, Norway, Iceland, and the Scottish mainland.

Industrial production and other business

Figure 7b shows the employment trends of the major occupational sectors in the period 1845-1977. 1845 and 1977 represent the years of the first and latest Faeroese censuses providing data on this subject.

In order to construct Figure 7b, several problems had to be overcome. First of all, the old tables were inconsistent with recent ones with regard to occupational definitions and divisions. This problem was compounded by the fact that the practice of *útróður* (coastal fishing in an open rowing-boat) used to be an integral part of the farming-fishing livelihood from the mid-19th century until well into this century; contrasting significantly from full-time fishing with the use of smacks and trawlers. In spite of these complications, the important characteristics of each phase are evident on the graph.

The most obvious change is the almost absolute decline in farming. Once it was the main occupation; as in 1845 when it engaged 68% of the total workforce compared to but 1% today. During the first half of the period, fishing superseded farming as the main occupation; engaging 54% of the total workforce by 1911. But by 1977 its share had fallen to 15%. Nevertheless the success of the fishing industry remains vital to Faeroese interests because exports consist almost entirely of fish products. The last phase, 1960-77, shows a marked expansion in tertiary sector employment; commercial trades and services.

The occupational evolution, from farming to fishing, and then from fishing to commercial trades and services, has had a decisive impact on the population distribution and regional development. The effects will be described more fully below.

Today, the Faeroese economy is almost entirely dependent on fishing (offshore fishing, processing, export) and dependent local industries (suppliers, repairers). Attempts have been made to diversify the economy so that domestically produced goods can reduce the import bill.

Fig. 7a: *Volume of road traffic in the Faeroe Islands based on vehicle surveys in 1990. Source: Landverkfrøðingurin. RG part.*

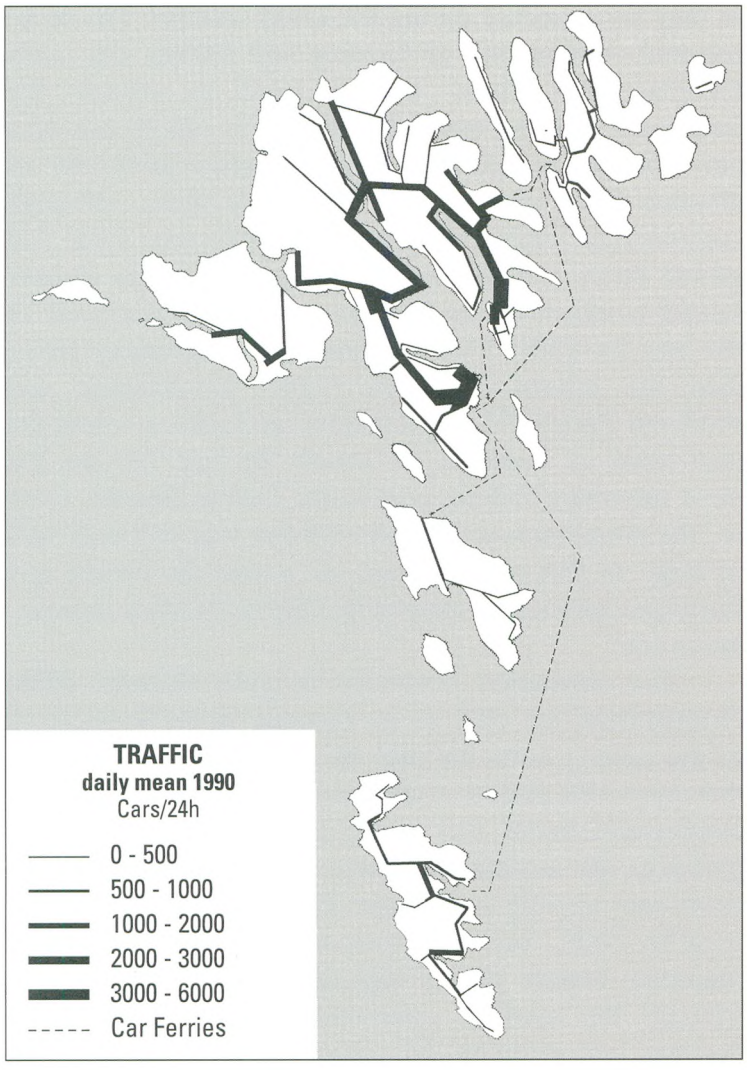
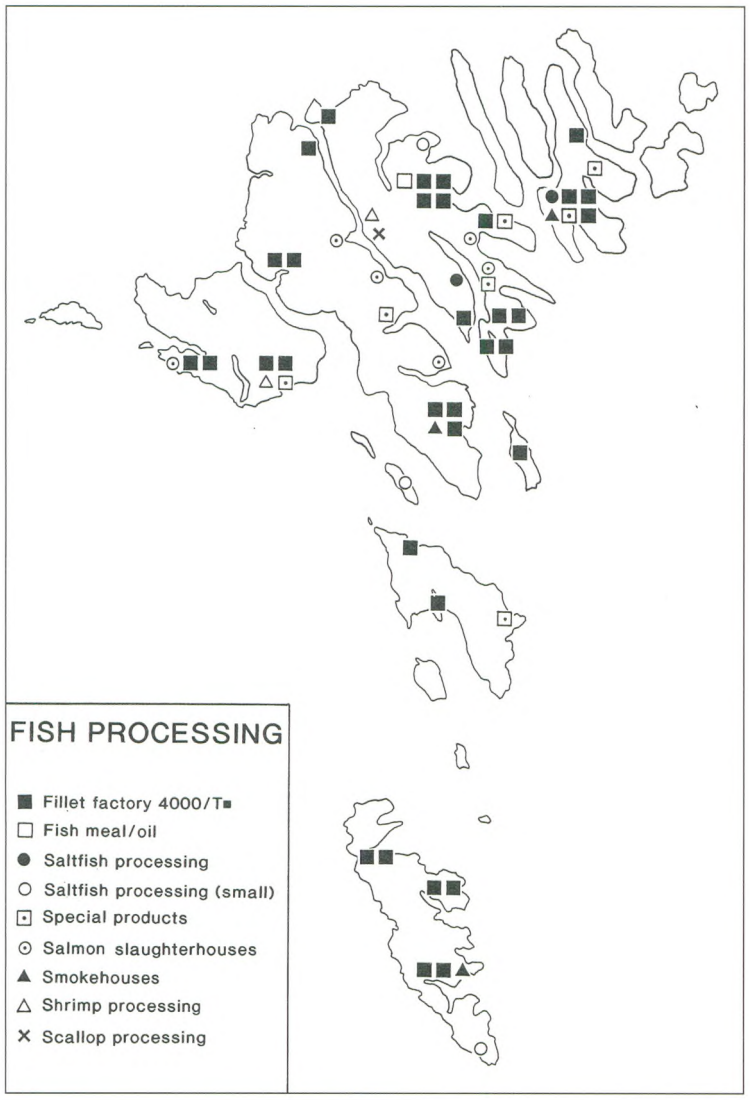


***Fig. 8** : Location of the fish processing industry in the Faeroe Islands in 1990 prior to the economic recession. Source: RG.*



Salmon-ranching is a new trade

The 1980s saw much expansion in marine fish-farming. Initial regional policy, the so-called *bygdamenning,* promoted the establishment of small, locally owned units in the medium and small-sized villages. In the first "Klondyke" period, the industry expanded rapidly and the reward reaped on the world-market was rich, but production also expanded in competing countries, primarily Norway. This was followed by a period with falling prices. Other problems have also troubled Faeroese fish-farms. The number of production units culminated in 1990 when more than 60 fish-farms were in production. All suitably sheltered fjords and sounds were characterized by row upon row of circular floating salmon and trout pounds. However, their number had already diminished drastically by 1994 when fewer than 20 fish-farms were left in operation. It is now evident that too many licences were issued and the production units were too close together and too small to have sufficient capital. Moreover, fish diseases were common but the fight against them was rarely coordinated.

Evolution of the settlement pattern and associated regional problems

The socio-economic history of the Faeroe Islands, from the time of the first census in 1801 to the present day, is reflected in the settlement pattern. Figure 9a ranks parish population sizes to show particular phases in the socio-economic development. In **1801** the main livelihood was farming. Settlements were essentially farming communities whose populations were defined according to the size and quality of their farmland as expressed by the special Faeroese land measurement unit called *markatal* (sing. *mørk,* plur. *merkur,* cf. page 80). Despite little difference in size between the various farming communities, it was the largest ones, nevertheless, that had the highest number of land measurement units. By contrast, the settlement of Tórshavn was far larger, but it was certainly not a farming community; rather a centre for trade and administration, and a garrison town into the bargain.

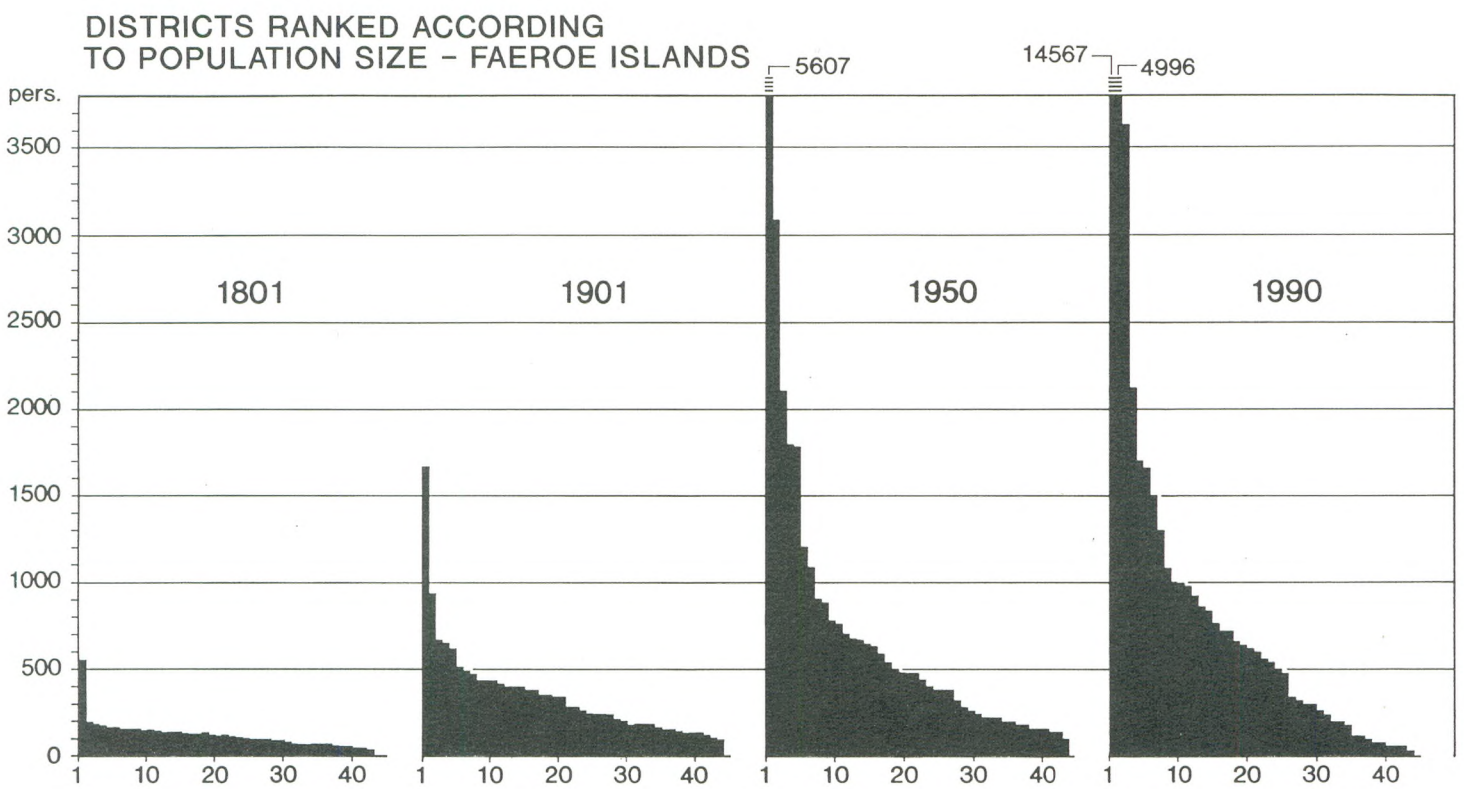
By the next stage in the settlement evolution, expressed by the figures for **1901,** fishing had asserted itself as the main occupation and the importance of farming was diminishing. Settlement location was now influenced by the need to find safe natural harbours for landing the catch as well as sheltering the fishing smacks as they lay at anchor during the winter months. The occupational combination of farming and fishing was commonplace but there was a need to extend the traditional farming area because of the emergence of a new socio-economic class. The so-called trød/traðir or labourer fields were brought under cultivation. Although communities tended to remain similar in size, some had grown faster and this fact is borne out by the slightly steeper gradient of the histogram for 1901 compared to the one for 1801. Two settlements are distinctly larger than the others; Tórshavn (1,607 inhabitants), and Froðbøur Parish (933 inhabitants) on Suðuroy where the new town of Tvøroyri, cf. article 26, had become the most important fishing port in the Faeroe Islands. Even so, the population of Froðbøur Parish was still only half as large as that of Tórshavn; yet it was the closest any Faeroese community approached the main town in population size.

The population continued to grow towards **1950,** characterized not only by an increase in the importance of the fishing ports but also by a growth in settlements that were well placed to take on central functions such as commercial trades and services. This produced a new phase in the settlement pattern. The town of Klaksvík grew very rapidly to become the second largest settlement by 1950. Several settlements began to develop as important central places with fast-growing populations, whereas the smallest communities either stagnated or declined in population. The histogram for 1950 shows an

Fig. 9a: *Faeroese parishes and districts ranked according to population size. N.B. The graphs for 1950 and 1990 have modified Y-axes. Source: Population censuses and Árbókf. Føroyar 1991. RG part.*

Fig. 9b: *Regional population growth for the 40-year period 1950 till 1990 (relate to Fig. 15b). Source: Statistiske medd. 4, 173, 3 and Árbókf. Føroyar 1991. RG part.*

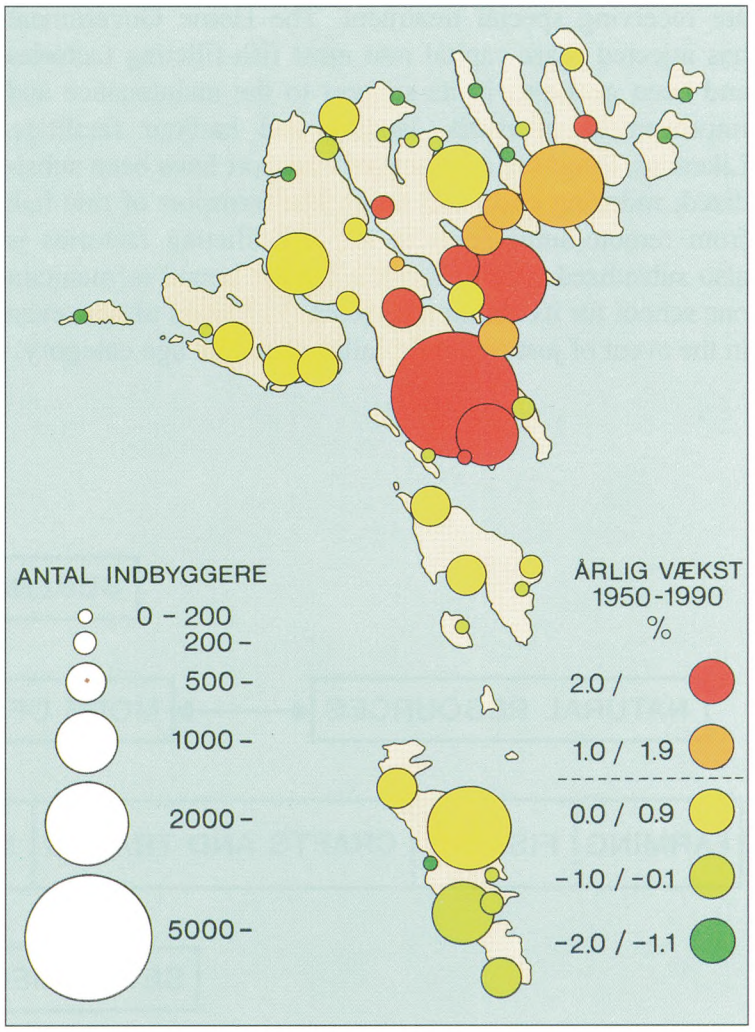
Translation: *Antal indbyggere: inhabitants. Årlig vækst: Annual growth.*



almost hyperbolic progression; a tendency which is further accentuated today because during the past 40 years urban-based functions and activities such as administration, commerce, services and the liberal professions have either moved to, or developed in, the largest communities; particularly those with the greatest hinterland.

By **1990** the municipality of Tórshavn was the largest settlement with 14,567 inhabitants, distancing itself even further from the other towns. Klaksvík had a population of 4,996 inhabitants; only one-third as large as the Faeroese capital. The trend towards centralization continues today; 35% Faeroese population live in Tórshavn (1995) as against 19% in 1950.

The changes in population distribution shown in Figure 9b, are based on the 40-year period immediately following the Second World War. It shows the long-term effects and covers important events such as the waves of emigration and immigration in the 1950s and 1980s, respectively. The total population increase for the whole period was 1.3% p.a. but it was very unevenly distributed throughout the islands. Above-average population growth is essentially concentrated in a well-defined zone that starts in the south in Tórshavn, its suburbs Argir and Kirkjubøur, and the neighbouring district of Kollafjørður; before running northwards through Skálafjørður region with the districts of Runavík, Skála, Nes, Gøta and Lorvík; to end at the second largest town, Klaksvík, and its fast-growing neighbour Hvannasund. To this zone,



Hósvík and Sunda districts may be added. Hósvík has grown as a dormitory settlement as it lies within commuting distance from Tórshavn. Sunda district, lying further north, is situated in the vicinity of the only bridge that connects Streymoy with Eysturoy; an important crossroads, and therefore an ideal industrial growth node which is already the site of two relatively large manufacturing companies.

Districts with below-average population growth rate lie in the periphery. The smallest districts have actually witnessed a decline in population. This effect is felt mostly in the smaller outer islands; like Mykines which had only 20 permanent residents left in 1995 compared to 141 in 1950. Yet it is not only the small districts that are suffering; two large districts, Vágur and Sumba, both located in the south of Suðuroy, are also losing their inhabitants.

The success of contemporary, Faeroese districts is related more to their geographical distance from the growth zone than to the number of their inhabitants.

The prosperity of settlements, particularly the problem of rural depopulation, has been an important issue, called *bygdamenning,* on the Home Government agenda since 1974. There is no specific settlement development strategy, however the peripheral settlements are receiving special treatment. The Home Government has injected share capital into most fish-filleting factories and been generous in its support to the maintenance and improvement of roads, landing and harbour facilities. Likewise, freight and passenger transport have been subsidized; reducing costs and fares. The transport of raw fish from remote settlements to the fish-filleting factories is also subsidized. Each district is legally bound to maintain one school for its children between 7-11 years of age; even in the event of just one child falling into that age category.

Conclusion and theoretical generalization

Figure 10 illustrates the relationship between the different topics in this chapter. Special characteristics of the settlement distribution are the result of adaptations by the population to particular occupational requirements which change in terms of; time, space, natural resources, capital and labour. Locational requirements alter too; affecting the importance of individual settlements. While some settlements grow prosperous, others die out.

In Figure 10 the nucleus is the *Mode of Production.* This component consists; partly of the interaction of physical and human factors in the production process; partly of internal human relation-ships, particularly in the ownership of the means of production. In turn, these relationships interact with the prevailing ideas of society and lead to specific legislation and appropriate economic and political policies: categorized here as the Superstructure; a category which is equally subject to change through time as it is to inciting change in the mode of production, thus affecting all the other links in the for-mation. This relatively demarcated geographical system interacts with the surrounding world, especially through the import and export of goods and information. Furthermore, *world prices* have a direct impact on the well-being of the Faeroese society.

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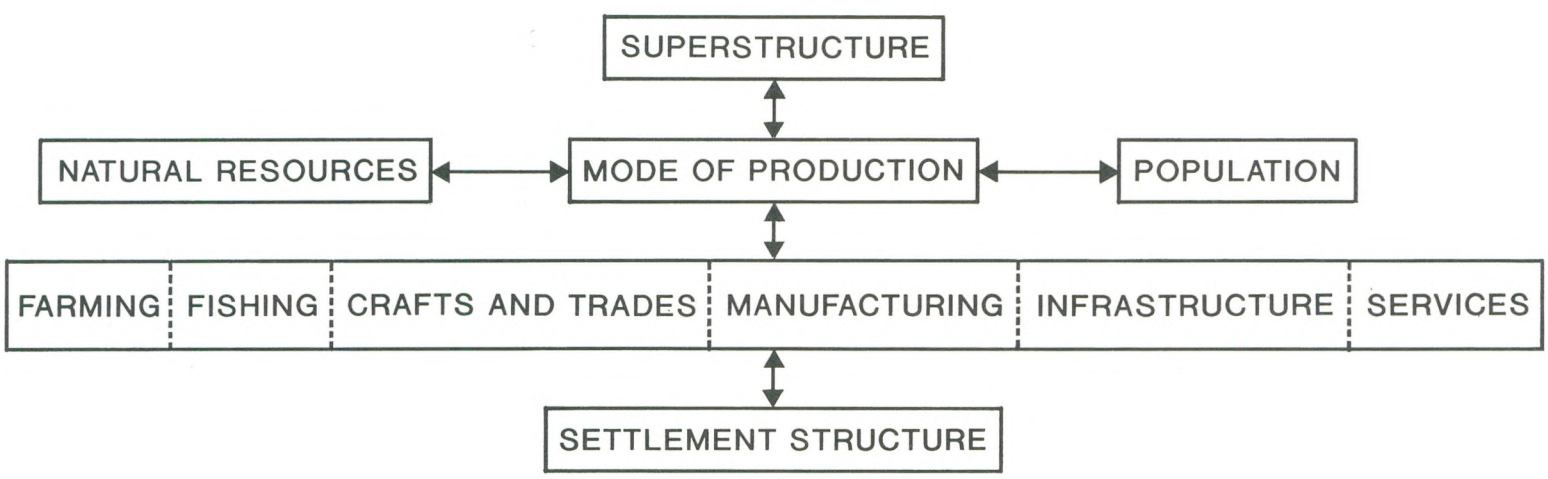
Fig. 10: *Diagram to show important relationships between factors that account for the geographical development of the settlement structure. RG part.*



1975	Faeroe	Germany	France	UK	Norway	Russia	Total
Cod	23,0	0,5	1,6	11,9	1,3	0,6	39,9
Haddock	8,8	0,2	2,3	8,5	0,1	0,9	20,7
Coalfish	2,5	5,2	23,6	7,4	0,5	2,0	41,2
Tusk etc.	3,4	1,8	4,7	1,1	9,1	0,0	20,1
Other	2,4	8,3	0,4	3,3	0,2	1,6	16,2
Total	40,1	15,9	32,6	32,2	11,2	5,1	137,2
1985							
Cod	40,2	0,0	0,0	0,0	0,0	-	40,3
Haddock	12,9	-	-	-	0,0	0,0	12,9
Coalfish	39,0	0,0	0,2	0,0	0,0	-	39,2
Tusk etc.	10,4	0,2	0,7	0,0	4,6	-	16,0
Redfish	4,6	4,2	0,5	-	-	-	9,4
Blue Whit.	21,2	-	0,5	-	3,4	75,3	100,3
Other	13,1	0,2	0,3	0,1	8,9	0,1	22,5
Total	141,3	4,6	2,1	0,2	17,0	75,4	240,6
1993							
Cod	6,0	-	-	0,3	0,0	-	6,4
Haddock	4,0	-	-	0,2	0,0	-	4,2
Coalfish	32,0	0,0	0,0	0,7	0,0	0,0	32,7
Tusk etc.	7,3	0,0	0,1	0,0	3,5	-	10,8
Redfish	9,5	0,2	0,0	0,0	-	0,0	9,8
Blue Whit.	0,3	0,0	1,2	-	19,0	104,3	124,8
Other	47,4	0,1	1,1	0,2	0,4	14,8	63,9
Total	106,4	0,3	2,5	1,4	22,9	119,2	255,8

Table 11a: *Faeroese and foreign catches of the most important fish species in Faeroese waters. Quantities in kg. tons*

1975 *shows the situation before the extension of the fishing limits to 200 nm. British trawlers fish large amounts of cod and haddock whereas the French trawlers concentrate on coalfish.*

1985 *shows the situation when the Faeroese fishing fleet has adapted to fishing in local waters. British catches have been reduced to almost nothing.*

1993 *shows the sharp reduction in catches of cod and haddock due to overfishing. Only Russia and Norway fish great amounts of blue whiting which the Faeroese are unable to utilize. The Russian catch includes those of the former Soviet republics as well as other countries. Source: Statistical Bulletin, June 1994, Árbók f Føroyar 1992.*

Table 11b: *The growth of the Faeroese fishing fleet from the time preceding the extension of the fishing limit in 1977 until 1994. Source: Árbók f. Føroyar 1992, Hagtíðindi 1994,3.*

The Faeroese Fishing fleet	Number				Size (GRT × 1000)				Average Size			
	1975	1985	1990	1994	1975	1985	1990	1995	1975	1985	1990	1994
Saltfish trawlers	4	4	6	6	2,1	3,3	6,8	6,9	522	832	1134	1150
Wetfish trawlers	10	55	74	63	4,3	16,9	21,4	19,0	425	307	290	301
Trashfish trawlers	35	21	23	23	9,8	11,3	12,6	12,3	281	538	548	535
Total	49	80	103	92	16,1	31,6	40,8	38,2	329	394	396	410
Long-liners	31	40	26	23	7,7	8,3	6,1	5,5	249	207	234	239
Purse-seiners	19	14	7	6	7,6	6,3	5,9	5,4	404	451	838	904
Refrigerated vessels	16	20	7	3	5,3	8,6	2,0	0,7	334	432	291	244
Others	-	-	8	8	-	-	1,9	1,0	-	-	236	125
Total	66	74	48	40	20,7	23,9	15,9	12,7	314	323	369	318
Comb. line-/trawlboats	97	98	82	71	5,2	5,4	4,3	3,5	53	55	52	49
Out of function	10	11	-	-	2,1	1,8	-	-	21	16	-	-
Total	222	263	233	203	44,2	62,6	61,0	54,3	199	238	261	267

2 From Prosperity to Deep Crisis

In 1989 and the years that followed, a sharp reversal of fortune hit Faeroese society as if the most blissful summer had suddenly changed to a biting, remorseless winter.

During the greater part of the 1980s, the Faeroese economy was characterized by strong growth. The locomotive was essentially the expanding fishing industry and the unusually high investment activity. However, let it be known that the governing political forces at that time operated a careless economic policy. Not least, guaranteed loans were often granted in connection with unworthy projects, in spite of professional advice to the contrary.

One of the worst cases should never be forgotten. A Faeroese company purchased one of the largest trawlers in Europe and then converted it for the purpose of fishing blue whiting. Like "Murphy's Law": all that could go wrong went wrong. The Faeroese government lost over DKK 130 million; equal to DKK 3,000 per inhabitant, or DKK 10,000 per household. Relatively speaking, had this folly occurred in Denmark, it would have cost the Danish State DKK 15,000 million.

The 1960s and 1970s witnessed a steady economic growth in the Faeroe Islands, but it was during this period that some mechanisms causing the crisis of the 1990s were created.

The roots of the crisis

After decades of arguing the case for an extension of the fishing limit, the increase to 200 nautical miles in 1977 came as a surprise. The fishing of distant waters, once providing the greater part of the catch, was suddenly reduced, and activity in the closer fishing zone rose from 14% in 1975 to almost 50% by the late 1980s. During this period of adjustment, the Faeroese authorities implemented neither a controlled strategy nor a cohesive policy to regulate the industry. In the main, the new fishing limits removed the possibility of fishermen operating freely between distant and close grounds as the abundance of fish changed.

In 1975, the *Ráfiskagrunnur* or *Raw Fish Fund* was established. Its function was to stabilize prices and spread the fishing effort by fixing higher prices for fish species that had hitherto been cheap or inadequately exploited. The idea was to operate with two prices in order to tax the purchase of dearer fish species and subsidize the purchase of cheaper species. This was achieved through a price which the fishermen received as payment for their catch, and another price which the factories had to pay when buying the catch. The Ráfiskagrunnur received most of its funds from the *Landskassin* (The Faeroese Treasury). The Ráfiskagrunnur board had a majority of its directors engaged in fishing or fish purchase, and naturally they capitalized on the short-term benefit of utilizing the financial resources of the foundation as much as possible. Owing to weak political control, the Ráfiskagrunnur was allowed to function as a money-tapping device for the subsidization of the whole fishing industry.

In the 1980s, the Landskassin used 20% of its income to support the fishing industry. In 1984, the share even reached 29%. One quarter of every Danish crown used to generate fish exports came directly from income tax. Furthermore, subsidization was weight-related; the larger the catch, the larger the subsidy. Experience has proved that arrangements of this kind inevitably lead to an increase in fishing capacity and an over-exploitation of fishing grounds.

In order to renew the fishing fleet, very reasonable borrowing terms were in operation after the mid 1950s. The net capital required was only 10%, and the Landskassin gave loans that only needed to be repaid should a boat be sold abroad. Even when it became clear that the fishing capacity had become too large, the generous investment terms continued. Court cases in the early 1990s proved in at least two instances that there was no real net capital behind the construction of trawlers in the DKK 100 million class.

The first signs of the impending crisis showed in 1989 with a slackening of the economy and increasing emigration which in the first two years mainly comprised foreign workers whose labour had suddenly become superfluous. The crisis accelerated and became catastrophic. In 1992-93, the two largest banks were on the point of closure. To avoid disaster, emergency capital had to be raised.

The crisis has several bitter aspects; not just economic problems but an increasing number of social, cultural and human problems too. Six crisis areas will now be described.

Fishing capacity related to fishing stocks

As early as the 1970s, marine biologists were becoming alarmed at the increasing fishing capacity operating within the Faeroese fishing grounds. In spite of being judged too large in the 1980s, the capacity continued to be modernized, and expanded by 40% between 1982-89. Politicians failed to enforce competent regulatory measures, and the Total Allowable Catches (TAC) were often irresponsibly exceeded by as much as 50-100%. Finally, in the late 1980s the arrangement "one unit in, one unit out" was accepted. Moreover, a costly scrapping of several vessels reduced the fleet. Certain technical restrictions were enforced; like the use of wider meshed trawls. Reservation areas were set up, and the concept of idle days was introduced. Nevertheless, the damage had been

done already. Stocks were already seriously depleted and the catches of valuable species such as cod and haddock were falling drastically, cf. Table 11a. This hit the fishing industry doubly hard because of the recent enormous investment in the filleting factories which already possessed a large processing capacity. The crisis deepened as the world market price of sea fish and fishfarm species, like salmon and trout, fell sharply.

Lower catches and the fall in sales prices reduced profitability. A report from 1988 revealed that all twenty – two filleting factories had run at a loss that year, and so it was necessary to restructure the whole fishing industry. In 1993, all the factories but two came under the same limited company, *Føroya Fiskavirking*\ whose task it was to reorganize the filleting industry through rationalization and specialization. The owners included; a State foundation, financial institutions and a shipping company. In 1994, 6-8 filleting factories reopened whereas the rest remained idle. By contrast, the whole fishing fleet, which was once closely connected to the individual processing factories, was split up and is now run by enterprises that are independent of the fish factories.

The balance of payments and trade

The balance of payments showed a deficit throughout the 1980s and the national debt grew larger. The first crisis year, 1989, saw a sharp fall in imports; a trend that continued until 1991 and led to a continuing balance of payments surplus (1995). The block grant from the Danish State and other forms of aid to Faeroese society, which still remain important, are positive items in the balance of payments, whereas the non-registered, residual items, which include; net interest, public services, dividends and salaries, constitute large negative items.

Table 13a: *Balance of trade and payments 1988-1993, in mill. DKK. Source: Endurreisingarnevndin (1994).*

	1988	1989	1990	1991	1992	1993
Export	2378	2561	2606	2813	2661	2133
Import	3221	2531	2084	1929	2009	1405
Trade Balance	***-843***	***+31***	***+522***	***+884***	***+652***	***+782***
Block grants etc.	921	882	859	868	930	*999*
Net interrests	-599	-827	-943	-945	-946	-724
Non-reg. items	-1061	-739	-796	-404	-640	-359
Payments Balance	***-1582***	***-653***	***-358***	***+403***	***-4***	***+644***

The large foreign debt of the State and private sector

Large-scale, local government and private economic activity used to be financed through loans from Denmark and abroad, and as a result the foreign debt rose astronomically as Figure 13b shows. The debt reached an all time high in 1990 and stood at DKK 8,500 million, equal

Table 13b: *Faeroese foreign debt 1988-1993, in mill. DKK Source: Endurreisingarnevndin (1994).*

	1988	1989	1990	1991	1992	1993
Financial institutions	-387	-286	-90	-197	-513	-1200
Landsstýrið, Funds	**1418**	**1851**	**2390**	**2857**	**3975**	**6200**
Local Goverment.	512	490	543	505	448	400
Private	**6432**	**6445**	**5879**	**5232**	**4086**	**2000**
Money circulation	-220	-215	-205	-193	-207	-200
Foreign debt (net)	***7755***	***8285***	***8517***	***8204***	***7789***	***7200***

to DKK 180,000 per inhabitant, approximately DKK 500,000 per household. The positive trade balance, which began in 1989, helped to reduce the private debt substantially, and, should the current export surplus continue, the private debt will reverse to a net profit within a couple of years. By contrast, local government debt rose markedly because of the need to borrow DKK 2,200 million of bank capital from Denmark. Because of the continuing Faeroese budget deficit, the debt of the Landsstýri will continue to increase, unless circumstances alter.

The local government budget deficit

Since the start of the crisis in 1989, the Landskassin has suffered from a sharp decrease in income; both in direct tax and value-added tax. As it has not been possible for the local government to cut costs to counteract this loss, each year shows a large deficit on the balance sheet. The loss in income is due to the closure of businesses, high unemployment and emigration.

The crisis in the banking system

The Faeroese financial and capital market has been subject to dramatic fluctuations since 1986. The market was initially characterized by a substantial profit liquidity, partly due to the strong increase in loans by Danish credit associations to the Faeroe Islands. Lending greatly outstripped borrowing. However, the crisis that developed in 1989 meant that the ebullient liquidity had to be staunched. On October 6th 1992, the Faeroese government injected DKK 500 million into one of the two large Faeroese banks, *Sjóvinnubankin,* in order to keep it solvent so that it could comply with the local banking law. In November 1992, the other large bank, *Føroya*

Table 13c: *Faeroese Treasury revenue and expenditure 1988-1993, in mill. DKK. Source: Endurreisingarnevndin (1994).*

	1988	1989	1990	1991	1992	1993
Operational income	3086	2914	2698	2563	2478	2420
Operat. & Invest, costs	-3022	-3343	-3140	-3134	-2997	-2728
Operat. & Invest, costs	*64*	*-429*	*-442*	*-571*	*-519*	*-308*
Capital Items Balance	-200	-90	-80	-65	-394	-2330
Total Balance	***-136***	***-519***	***-522***	***-636***	***-914***	***-2638***

Banki, received DKK 300 million from its main shareholder, *Den Danske Bank,* Denmark. However, serious problems remained. In 1993, the banks lost DKK 2,500 million all together. Their net capital totally disappeared and the Faeroese government was obliged to inject further capital into them to secure the continued financing of Faeroese businesses. In 1992, the banks came under the financial control of a new government body, *Financieringsfonden af 1992,* whose function has been to administer the aforementioned loans in order to save the banking system. This body is the main shareholder in both banks. The two banks were later amalgamated in April 1994.

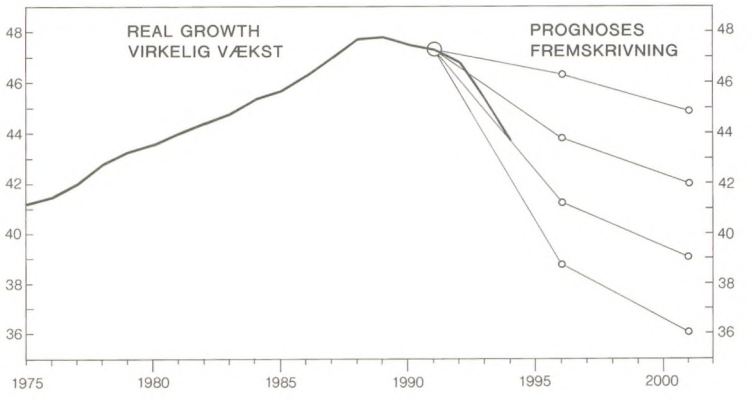
High unemployment

Until recently, unemployment had never been registered in the Faeroe Islands as the Faeroese never felt there was any need to insure against it. Traditionally, the mobility of labour in the islands has always been high, and it has been normal for people to have several occupations. In fact, a shortage of labour was normal before the crisis in 1989 and many foreigners, especially Danes, sought work in the Faeroe Islands.

At last, in September 1992, unemployment benefit was introduced as real unemployment began to grow fast. From October 1992 until January 1993, unemployment among the active population rose from 9% to 20%. The high level remained throughout 1994 and 1995 despite the high emigration rate.

High unemployment is self-perpetuating because the reduced purchasing power of the newly unemployed automatically means that shops, trades and industries experience a fall in sales and may either close or reduce staff which thus leads to further unemployment. Many

Fig. 14b: *Real population growth in the Faeroe Islands 1975-1994, plus a prognosis for 1992-1996-2002 in which the first half has 4 variants; 500, 1000, 1500 and 2000 net emigrants per annum while the second half is fixed at 500 net emigrants per annum.*
Source: Endurreisingarnevndin (1994). RG part.



Faeroese commercial businesses were found to be too large in relation to the actual market. A serious repercussion of high unemployment was the slack property market. The housing market came to a halt, property prices fell drastically and many houses were subject to compulsory purchase.

Record emigration levels

The economic crisis has led to emigration on a scale never before experienced in the islands, and unmatched almost anywhere in the world today.

In the five years between 1989-93, the net loss was 4,687 inhabitants out of 47,300; a loss of nearly 10% of the total population, or nearly 2% each year; a rate twice that of the worst crisis years of the 1950s.

Fig. 14a: *Population growth 1971-1993 based on birth surplus and net migration per thousand inhabitants. Initial three sub-periods based on 5-year averages. Source: Hagtíðindi 1994,3.*

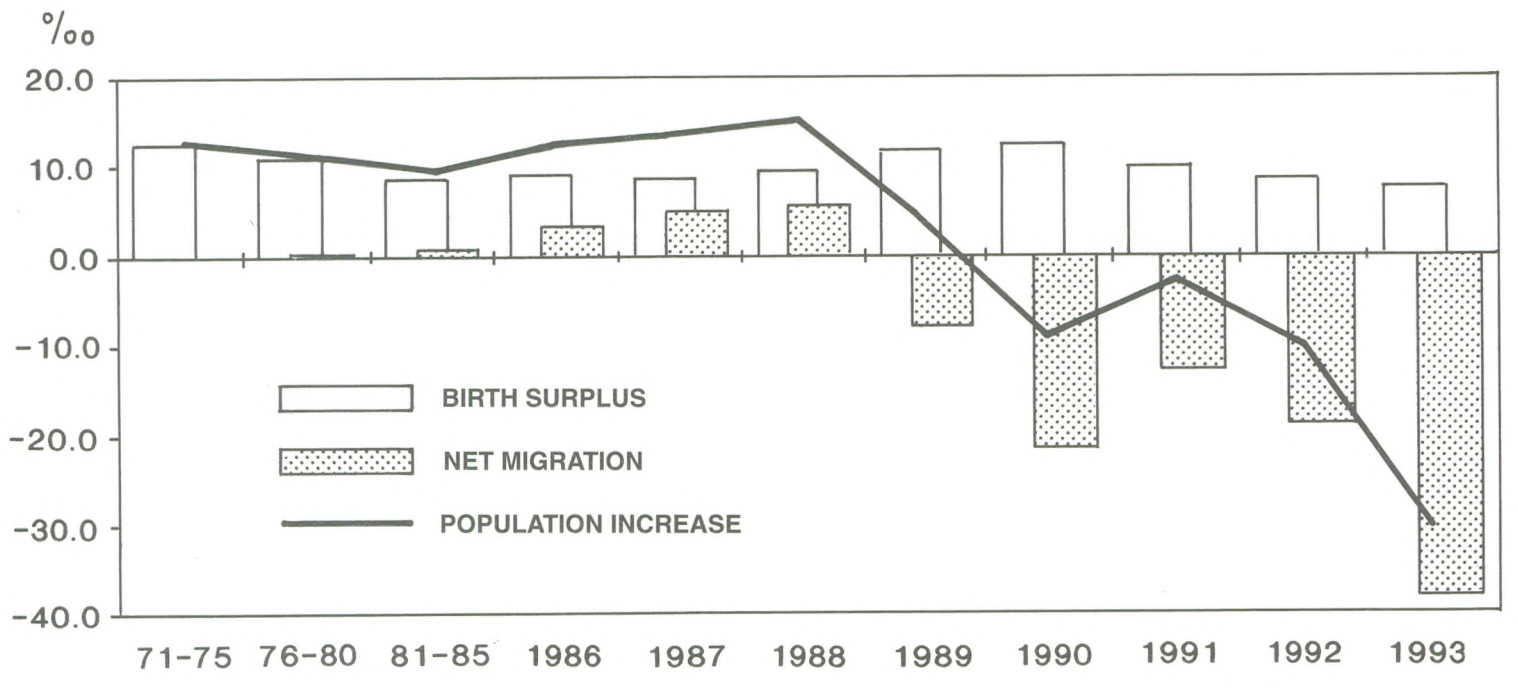
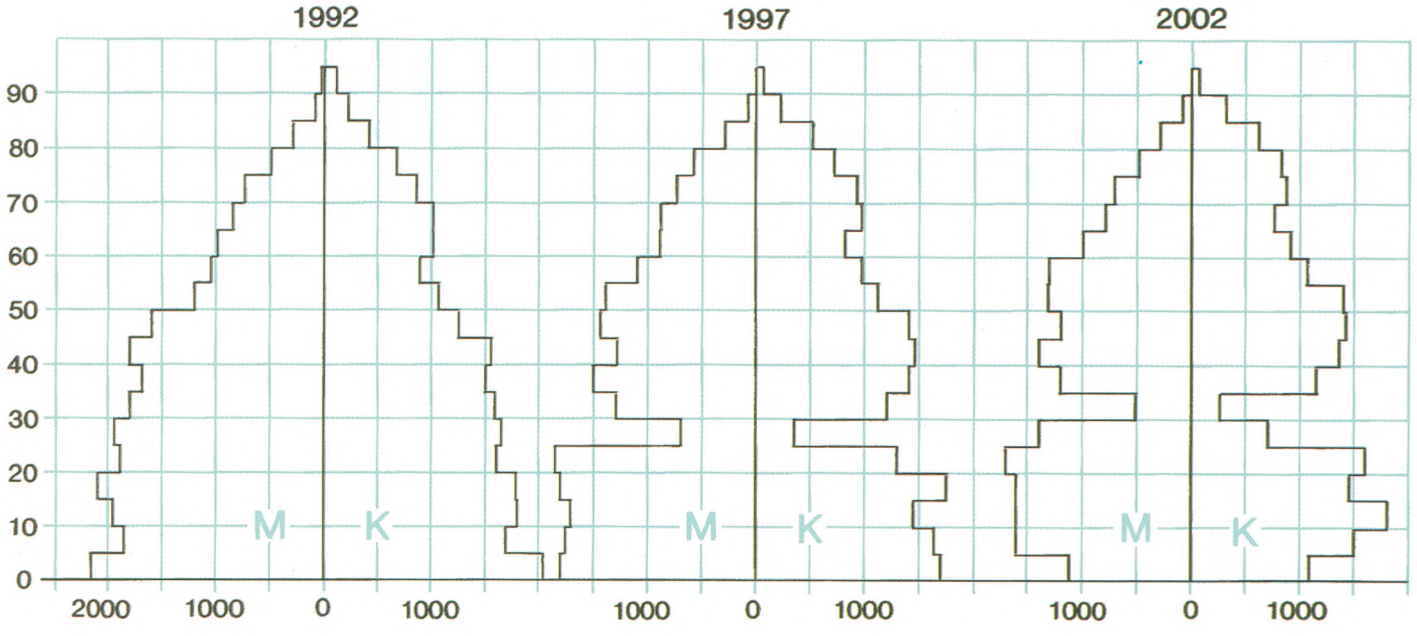


Fig. 15a: *Population pyramids to underline the consequences of very high emigration, based on prognosis variant 3 which predicts a net loss of 1500 people in 1992-96, and 500 people in 1997-2002.*
Source: Endurreisingarnevndin (1994). RG part.



The local government body, *Endurreisingarnevndin,* which is the Reconstruction Committee, made a prognosis in 1993 to see how future emigration might affect the size of the total population and its structure during the next decade. Figure 14b shows four possible courses for the first five-year period. Should the worst occur, the population will fall by 11,000; from 47,000 in 1992 to 36,000 in 2002; a loss of almost 25% of the total population.

The Faeroese population structure will be critically affected due to emigration selectivity. The age group 20-30 years will be greatly reduced (Fig 15a) as it is the most mobile and most likely to seek work abroad. Obviously the decline in this fertile age group will reduce the birth-rate substantially; thus eroding the very basis of the population pyramid. The birth-rate surplus reverts to a deficit and thus leads to a natural decline in the total population.

The regional consequences of emigration

The thematic map, Figure 15b, showing population development for 1989-93, relates to Figure 9b. The big decline in population hits everywhere very hard; apart from the smallest settlements which are either able to revert to a subsistence economy to weather the crisis or else exist as tax havens. Medium-size or large settlements which are dependent on the fishing industry are hardest hit; especially districts where local income tax is above average. Tórshavn is less affected by the crisis because its function as the capital of the Faeroe Islands guarantees it a good number of occupations in local government and public services; a sector that has not been struck so hard by the first wave of the economic recession.

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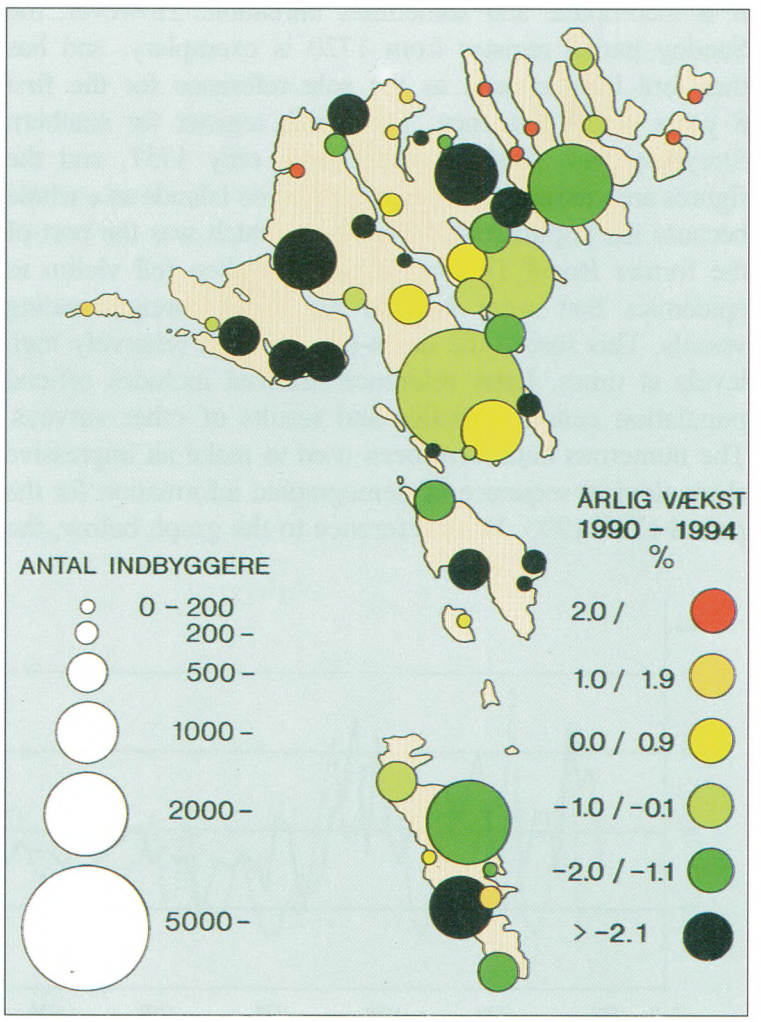
Fig. 15b: *Regional population growth in the crisis years 1989-1993 (relate to Fig. 10a).*
Source: Hagtíðindi 1994, 3. RG part.

Antal indbyggere: *Number of Inhabitants.*
Årlig vcekst: *Annual growth.*



3 Historical Population Geography

A general feature of World Population Geography is demographic transition in which both birth-rate and death-rate alter for shorter or longer periods of time. Before the 19th century Industrial Revolution and the modernization of society, both birth-rate and death-rate were high, and relatively sharp changes in either rate could occur from year to year. When the difference between the two rates approached zero, natural population growth also approached zero. As a rule, demographic transition starts with a fall in the birth-rate, followed some time later by a fall in the death-rate. In the interim period, the two rates are very different and there is a rapid natural increase in population. Later, both rates stabilize at a lower level and the natural population increase slows down.

The demographic transition in the Faeroe Islands

Official Faeroese records of marriages, births and deaths date from 1830, apart from a gap between 1855-79. By contrast, the church records date back to the early 18th century so it is possible to construct a continuous chronological record of the demographic features that spans from 1720 to the present. The research on church records and other archives was done by political scientist, *Bergur í Garði,* during the compilation of a thesis. The oldest church record is the Eysturoy parish register from 1687, but it is incomplete and sometimes unreliable. However, the Sandoy parish register from 1720 is exemplary, and has therefore been chosen as the sole reference for the first 8 years of the sequence. The parish register for southern Streymoy and Tórshavn dates from only 1757, and the figures are unrepresentative of the Faeroe Islands as a whole because the population of Tórshavn, which was the port of the former Royal Trading Monopoly, often fell victim to epidemics that were brought on board foreign trading vessels. This forced the death-rate to reach relatively high levels at times. Later reference material includes official population census statistics and results of other surveys. The numerous data have been used to make an impressive chronological sequence of demographic information for the period 1720-1993. With reference to the graph below, the birth-rate under-went pronounced fluctuations until the mid-19th century, after which the trend was upwards until the First World War. In the second half of the 18th century, the birth-rate was very low; 15-18/1000 per annum.

Throughout the first half of the record, the death-rate was also characterized by hops and leaps, although they were less pronounced than those of the birth-rate. The leaps relate to epidemics that recurrently plagued the islands. Being the main seaport, Tórshavn was always the first settlement to be hit by epidemics introduced by foreign ships, after which the diseases spread throughout the islands, with the exception of certain remote villages that were able to remain untouched until the danger passed. There are reports of earlier smallpox epidemics before the chronological record. The early major epidemics are easy to spot on the graph:

1728 influenza
1745 typhus
1775 influenza
1781 measles compounded by associated illnesses
1838 influenza
1846 measles compounded by associated illnesses
1862 measles
1875 measles

The measles epidemic of 1781 resulted in the highest death-rate ever recorded for a single year; 42/1000 per annum for the whole country, which was thrice the national average. In Tórshavn, the death-rate is thought to have reached as high as 100/1000 per annum.

The Napoleonic Wars of the early 19th century hit the Faeroe Islands hard, particularly the period 1808-10 during which the British naval blockade of Denmark prevented the annual corn delivery from being made. The graph clearly illustrates the event; expressed by a fall in the birth-rate and a rise in the death-rate caused by famine. Moreover, this event represents the last point on the graph where the death-rate curve crosses the birth-rate curve, and when the population growth was zero. Thereafter, the two curves gradually diverge and a long

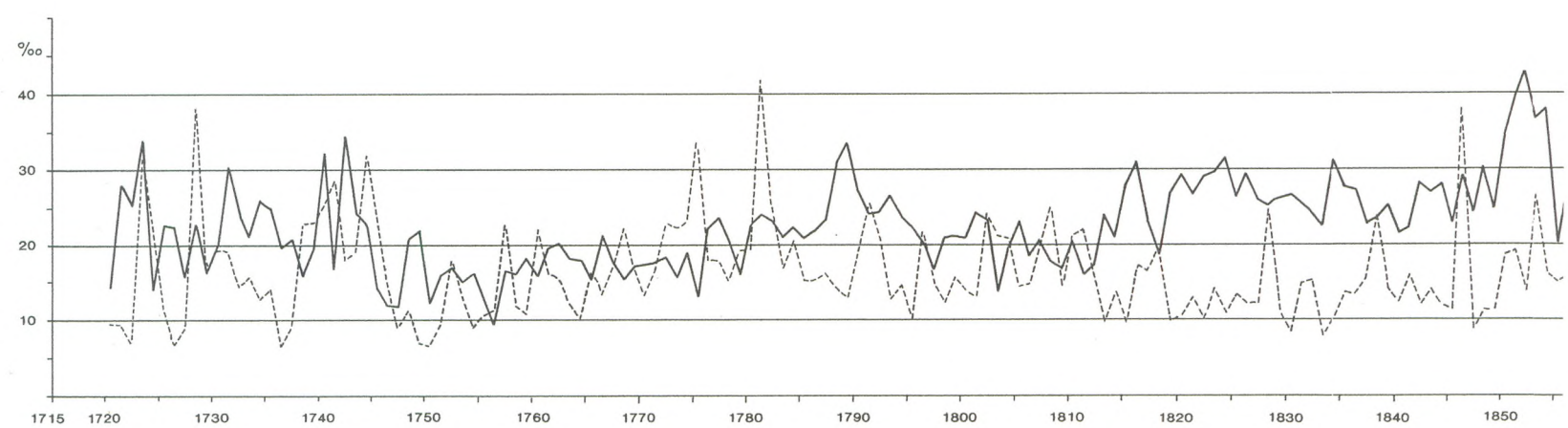


Fig. 16/17: *The transition in Faeroese demography that occurs between 1720 and 1993 as a result of changes in the birth and death rates. Source: Bergur í Garði (1984), Árbók f Føroyar.*

period of sustained population growth ensues, interrupted only by occasional minor epidemics. Recent decades have seen the death-rate stabilize at 7-8/1000 per annum. Despite a pronounced fall in the birth-rate since 1970, the rate is still high compared to other Nordic countries, and until recently this led to a relatively high population growth. A temporary rise in the birth-rate in the early 1980s was abruptly curtailed by the impact of the economic recession of the 1990s.

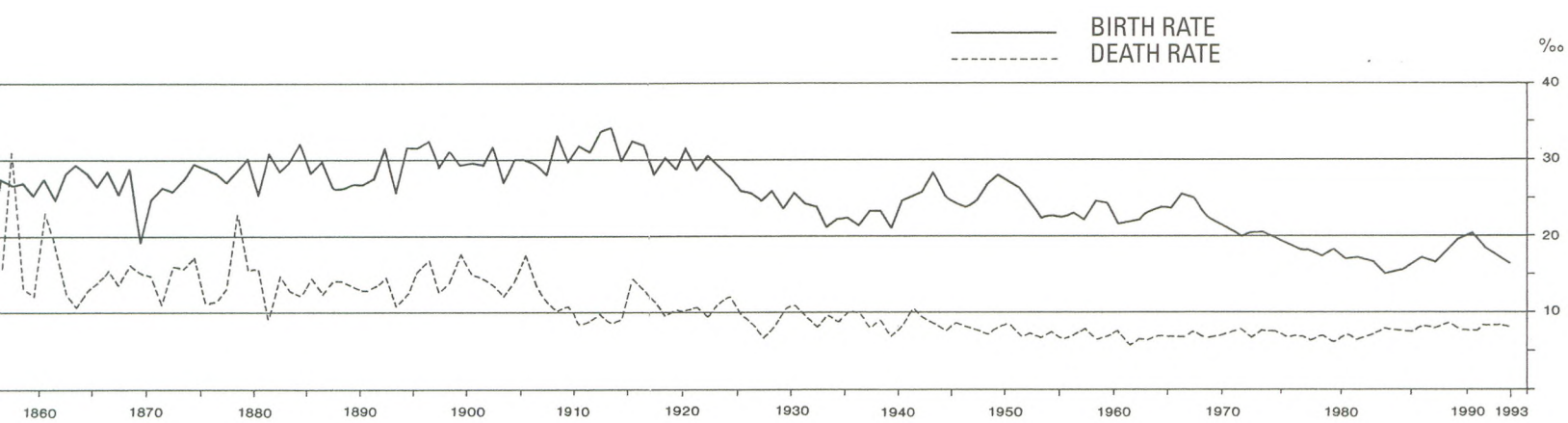
Dr. Panum's observations in the year 1846

Dr. P.L. Panum was sent to the Faeroe Islands during the latter half of 1846; the year in which 6,000 out of the total population of 8,000 fell ill as a result of a serious measles epidemic. Apart from Suðuroy, which was under the supervision of his colleague, Dr. Manicus, Dr. Panum visited all of the Faeroe Islands and became familiar with the inhabitants and their living conditions. Not least, he made a very thorough study of the epidemic; an achievement that earned him world-wide recognition. His article *"Observations Made In The Faeroe Islands During The Measles Epidemic Of 1846"* was presented in two parts. The first part described the geography, demography and aspects of the livelihood such as diet, dwellings and dress. The obvious frankness of the report might at first appear to be derisory and very humiliating to the Faeroese people, were it not for the fact that the work was intended specifically for publication in a medical journal. The article was highly controversial; especially being published during a wave of nationalism; so much so, that enraged Faeroese students in Copenhagen threatened to molest Panum in revenge. Despite his portrayal of the wretched socio-economic and sanitary conditions in the islands, Panum confirmed that the average life expectancy there was higher than in many other places in Europe. In England, the average life expectancy was 38.5 years, in Denmark 36 years, and elsewhere even lower. By contrast, the average life expectancy was 44.6 years in the Faeroe Islands. Panum concluded that the main reason for this was, *"the complete or partial exemption of the Faeroese people from contact with a number of contagious diseases that decimate the populations of other countries. "*

The second part of the article concentrated on the epidemic itself. Until the publication of "Panum's Observations", insufficient information was known about the incubation and contagion of measles. The special geography of the Faeroe Islands made them an ideal setting for a thorough study of a contagious disease. *"In order to carry out the research successfully, special circumstances have to exist; it may be said that such circumstances are to be found in the Faeroe Islands where the isolation of the island communities and the insignificant intercommunication allow accurate observations to be regularly made as to where and when the first inhabitant of a village falls victim to the disease, and the time that has elapsed since this person was last exposed to infection ".*

As soon as he arrived in the Faeroe Islands, Panum was sent to Tjørnuvík, where he made preliminary observations. *"The first village I visited (2nd July) was Tjørnuvík in North Streymoy where 80 out of the 100 inhabitants were ill in bed with measles. On 4th June, a boat with 10 men from Tjørnuvik had participated in a whale-hunt off Vestmanna, and exactly 14 days afterwards, on 18th June, all 10 men had fallen ill with measles. "* The 14-day incubation period was confirmed by the precise record kept on all subsequent outbreaks. Another discovery was the fact that measles could not be transmitted during the incubation period, whereas *"it was highly contagious in the initial stage of outbreak and during efflorescence. "* Furthermore, Panum concluded that the disease was not transmissible by air currents or wind. It could only be transmitted by physical contact. If strict quarantine measures were enforced, they would restrict the disease. Before Panum arrived, the last measles epidemic had been in 1781. He concluded that none of the inhabitants over 65 years of age who had been victims in 1781 contracted measles again in 1846.

Rolf Guttesen



4 Old Sea-charts and Topographic Maps

The oldest map on which the Faeroe Islands appear was made by *Richard de Holdingham* about the year 1280 and it is kept at Hereford Cathedral, England. It is circular with a diameter of 1.34 m. It shows three islands lying off the west coast of Norway; fareie (The Faeroe Islands), ysland (Iceland) and ultima thile (Thule).

The most interesting Late Medieval sea-charts showing the North Atlantic Ocean were made by the Dane, *Claudius Clavus,* who was bom on the island of Funen. His two major works are; "The Nancy Map" from 1424, which is kept in the French city of the same name, and "The Vienna Text". On "The Nancy Map", the Faeroe Islands are represented as an anonymous island between Iceland and Norway. Notes on the map give its name and location as Fareø, 22° 10', 68°. Measuring longitude was fraught with problems before the invention of the chronometer. Measurements were based on Pico, Tenerife. In his later work, 'The Vienna Text', the location is described as "*between Iceland and Norway, Færø Ø and Stad at longitude 26°25', latitude 64°25'".*

"Carta Marina et Descriptio Septemtrionalivm Terrarvm ac Mirabilivm Rervm in eis Contentarvm Diligentissime Elaborata Anno Dni 1539" is a rather beautiful wood-cut by *Olaus Magnus* (1490-1557) who was the Bishop Of Uppsala. The Faeroe Islands, "Fare", are depicted as an archipelago; consisting of 9 islands, separated by narrow straits. The physical alignment, southwest to northeast, is inaccurate; the true alignment being southeast to northwest. "Fare" stretches from about 68°N to 72°N and lies north of the Arctic Circle, which is incorrect. Some islands are named but positioned at random; Norderó, Svderó, Dumó, Mulse, Streme, and *Moâchus,* which is a gigantic pinnacle 6 km south of Suðuroy. Moâchus is the Latin word for "The Monk". The northeast point of the archipelago is shown as a three-dimensionally shaded headland, just like Moâchus, and must therefore be "The Bishop", or *Stapin,* as it is called in Faeroese. This impressive cliff-face has been an important landmark to vessels sailing north of the islands. Upon this rock stands a piper playing the bag-pipes. This would, however, seem to be a romantic allusion as there is no historical evidence of instruments accompanying Faeroese folksongs. Drawings on the map portray inhabitants dismembering a whale. Two barrels stand before them, supposedly for the storage of train oil which used to be an important Faeroese export.

The words *Eccle Faren* mean "The Church of the Faeroes" and they are written across the two unnamed islands below the whale and indicate the strong presence of the Roman Catholic Church in the islands before the Reformation. Although woodland is symbolized on the two largest islands, there is no knowledge of its former existence. Code letters; A (three times), B and C refer to map notes that provide the reader with more information on the Faeroe Islands:

*"**A**: the position of the Faeroe Islands and episcopal see. The inhabitants are fish-eaters and sharers of meat cut from storm-beached whales.*

***B**: the place where taxes are paid, or to which raven's heads as tributes are brought as proof of the landowners' efforts against that harmful bird which preys on sheep and their lambs.*

***C**: the sea approach to these islands where looms a tall rock pinnacle known by seamen as 'The Monk who keeps watch' because it provides leeward protection in times of storm. "*

The Magnus map appears fantastic and inaccurate. The outlines of the islands and locations are deficient, but the map ought to be appreciated for its ethnographic and chorographic qualities; like an encyclopaedia illuminating customs and ways of life, rather than just being a navigation chart. Olaus Magnus is best known for his works on the history, nature and livelihood of the Nordic people. Without doubt his reference material originates from tales told by skippers who used to sail these waters or else from old sailing guides.

The work by Olaus Magnus was valuable reference material for many cartographers; notably the famous Flemish geographer *Gerhard Kremer* (1512-94), better known as *Mercator.* In 1569, this pioneer published his map of the world, introducing the Mercator Projection in which compass lines were drawn as straight lines; a detail that was to prove invaluable to navigators. By contrast, the charts by Magnus and his imitators were of little navigational use in the North Atlantic Ocean.

In 1584-85, the Dutchman *Lucas Jansz Waghenaer* (1536-1606) published a two-volume book of sea-charts called "Thresoor der Zeevaert". This was a set of printed charts that represented a milestone in maritime mapping as it provided an alternative to the earlier popular manuscript charts or portolans. Consisting of a collection of pilot guides, it was translated into English in 1588 and published under the name "Mariners Mirrour". Owing to their great popularity, these charts became known as "waggoners"; an English distortion of the Dutch mapmaker's name. The collection contained an excellent chart of the Faeroe Islands that was a radical improvement on any previous cartographic rendering of the islands. In the map notes, the location of the Faeroe Islands is given as somewhere between 61°15'N and 62°10'N. As many as eighteen Faeroese islands are shown.

Settlements are located with reasonable accuracy, although the second largest island, Eysturoy, is surprisingly lacking in detail. The map notes confirm the Dutchman's knowledge of the existence of churches on every island apart from Oostro (Eysturoy).


CARTA MARINA ET DESCRIPTIO SEPTEMTRIONALIVM ER
GRVTLADIE PARS
ISLANDIA
MARE GLACIALE
CRIPTOPORTICVS
HVITSARK
VESTRA BORD
SCALHOLDIN
MONS SACER
HOLENSIS
VALLEN
ABBATIA HELGEFELL
FOGLASKER
OSTRABORD
BREMEN
HAMBVRGEN
SCOTI
ANGLI
LVBICENSES
GOTHI
NORVEGI
PISTR SIVE PHISETER
FARE
AMBRA SPERMA CETI
ZIPHIVS
OCCIDENS
MOSTR MDXXXVII VISVM
TILE
BALENA
ORCHA
D
ORCADES XXXIII
POMONA
HETLANDIA
SKALVOGH
SVINBORHOVIT
INSVLE HEBRIDES SIVE MVANIDES DICTAE VERSVS HIBERNIAM NVMERO XL

Fig. 21: *Lucas Debes's map of the Faeroe Islands, anno 1673. Published along with his book "Færoæ et Fceroa reserata ".*

The increase in maritime transport in the 17th century acted as a spur to navigation map production, but the maps of the Faeroe Islands remained as mere copies of the Waghenaer Map; like the one that was hand-made by the Dane, *Johannes Mejer* (1606-1674).

The first recorded survey of the Faeroe Islands was conducted by *Bagge Wandel* (1622-1684). Before his appointment as a naval instructor by King Christian IV in 1647, he had worked as a helmsman. During two months in 1650, Wandel took a series of bearings in the area.

In 1673, a wood-cut map "Faeroarum prima et accurata delineatio" was made by *Lucas Jacobsøn Debes* (1623-1675). Debes was born in Stubbekøbing, Falster, Denmark. In 1651, he became the curate of the Lutheran Church in Tórshavn. A year later, he was promoted to clergyman and became the Latin School headmaster. In 1670, he advanced to provost, and in 1673, to provost marshal. His wood-cut was part of his larger work "Færoæ et Færoa reserata" (Description Of The Faeroe Islands And Their Inhabitants). His map shows longitude, contains symbols, and is drawn to scale. Debes thought that the Faeroe Islands were situated further north than was believed at the time. Based on Pico, he gave the location of Tórshavn as 62°02'N 16°20'E; which was very accurate. Previously, Wandel had used the same location reference. The similarity between the two maps is remarkable. It indicates that Debes had availed himself of the very best material; so much so, that his work was translated into English as early as 1676 and, quite surprisingly, into German 75 years later.

The Debes map strongly influenced later map-making, in particular the map by van Keulen in 1734, "Nieuwe Afteekning van de Eylanden van Fero IN't Ligt Gebragt door *Gerard van Keulen*". This sea-chart is dubious because of a number of imaginative inclusions. The Faeroese scientist Svabo (see below) remarked, "It is most incorrect, for there are bays, headlands, islands and skerries with which the Creator never blessed these islands and whose names are quite unheard".

"A Map of the Faeroe Islands", made in 1791 by *Captain Floore,* was also a work influenced by Debes. It was published in Leith, Scotland, and issued for the purpose of aiding foreign smugglers.

Fig. 20: *Lucas Jansz Waghenaer's map of the Faeroe Islands, anno 1592.*


FÆROARUM
Prima & accurata
DELINEATIO.
INSIGNIA. PROVINCIÆ. FÆROENSIS.
Illustri & generoso Dno. JANO ROTHSTEEN
Dno. de Laerbech, Classis marinæ Reg. Majest.
Dan. Viceprafecto, in Admiralitatis
Collegio Assess. Domino & Patrono
plurimum observando submisse
hanc Tabulam chorographicam
dedicat Auctor
L. J. DEBES.
NOTARUM EXPLICATIO
Templum
Castellum
Pagus
Scopulus
Brevia
Vortex
Mare Germanica.
Vaagöe
Strömöe
Østeröe
Sandöe
Süderöe
Viderö
Bordöe
Calsöe
Nolsöe
Hestöe
Kolter
Stoere Dimon
Lille Dimon
Scüdöe
Myggenæs
Kunöe
Svinöe
Füglöe

Fig. 23: *Captain Born's map-sheet of Nordstreymoy. His well-detailed vignettes are highly renowned; this one illustrates pilot-whaling. Source: Søkortarkivet, Kort & Matrikelstyrelsen, Copenhagen.*

An impressive, hand-made chart by *Rasmus Juel* was used for many years. It includes a scale, names of mountains, and a special map of Tórshavn, cf. pg. 97. In the period 1703-05, Juel was an apprentice to the founder of Danish hydrography, Jens Sørensen (1646-1723). In 1709, on the death of Vice Governor Frederik von Gabel, Juel was commissioned to work in the Faeroe Islands. During his two-year stay, he drew his map. An attempt to improve upon the Juel map was made by two Faeroese scientists; *Nicolaj Mohr* (1742-1790) and *Jens Christian Svabo* (1746-1824). In 1776-78 Mohr gathered research material, partly to make a physical description of the Faeroe Islands, and to this end he referred to the Juel map. So too did Svabo, when he undertook a similar investigation in the islands in 1781-82. The "Svabo Report" represents a comprehensive, detailed description of the nature and society of the Faeroe Islands in the late 18th century. Circumstance prevented Svabo from producing much cartographic material. Nevertheless, he proposed to the Danish Treasury, *Rentekammeret*, that both he and Mohr should be allowed to improve on the Juel map. The Treasury agreed. On 6th January 1784, Svabo and Mohr delivered their own map. They attributed incidental errors to the lack of bearings on the islands.

The very same year, the cartographer *C.J. Pontoppidan* received the map made by Mohr and Svabo from the Treasury, along with a map of Tórshavn district made by the Commander of the islands, *Captain C.L.U. von Born* (1744-1805), which included location references added by the Director of The Navigation Map Archives, Poul de Løwenørn (1751-1826). Pontoppidan was requested to engrave a new map of the Faeroe Islands on the basis of all this new material and although he complained bitterly about the numerous discrepancies in the mapping of the southern half of the islands, he was entrusted with the task. To this end, he requested Mohr to resolve some issues during a visit to the islands in 1787.

However the weather proved so inclement that Mohr was unable to undertake the necessary investigations. Pontoppidan wrote to the Treasury to explain the problem, whereupon the latter contacted Captain Born, requesting him to undertake the survey. Born argued that it was too late in the year to take the necessary measurements in an open boat, but assured the Treasury that he would start the following year. Meanwhile, Pontoppidan proceeded without the new measurements and engraved a new map of the Faeroe Islands which he delivered to the Treasury 9th September 1788. De Løwenørn endorsed its publication a year later. The map included lines of longitude and latitude based on both Pico and the Copenhagen meridian. However, the Treasury was dissatisfied with the map as is evident from the letter of 30th May 1789 sent to Captain Born. The letter requested Born to undertake the necessary measurements and deliver them to the Treasury that very autumn. In October, Born presented his observations and criticism of Løwenørn's publication.

By the Royal Resolution of 23rd June 1790, Captain Born was assigned to undertake an accurate topographic survey of the Faeroe Islands within the space of 5 years. Measurements were to be taken inland and along the coast, and triangulation was to be applied for the first time in the islands. The result was a series of 8 map-sheets comprising; one map-sheet for each of the 7 administrative regions (scale of 4 decimal inches to 1 Danish mile, approximate scale 1:72,000), and one general map-sheet, based on the combined 7 regional map-sheets (reduced scale of 1 decimal inch to 1 Danish mile or 1:290,000). The location of Tórshavn was astronomically calculated to be latitude 62°02'38" (about 2' too north). In 1795, Born sent two copies of his finished work to the Treasury.

The Born maps are illustrated with hill-shading and show latitudinal and longitudinal divisions based on four geographical points; Copenhagen, Greenwich, Pico and Paris. Besides the lavish landscape detail, accurate measurements of settlements are given, and the buildings and infield systems are marked. There are many place-names. Annotations describe sea conditions and the coastline. Not least, each of the 7 regional mapsheets is embellished with a vignette accurately illustrating aspects of Faeroese cultural and commercial life; barley cultivation, peat-cutting, hunting the pilot whale, fowling on cliff-faces, shepherding, knitting of woollen stockings.

In spite of minor errors, the Born maps of the Faeroe Islands were a great improvement on preceding works. Moreover, it should never be forgotten that all the measurements were the work of just one man during the course of 5 years. The result was a map series that remained the best of its kind for a whole century; during the course of which new soundings were supplemented as they became available. Throughout the 19th century the work was copied and used as the basis for numerous maps.

Ib R. Kejlbo


NORDRE DEEL
af
STROMOE SYSSEL
i
FÆROE
opmaalt 1795 af
KALSOE
OSTEROE
NORD STROMOE
WAAGOE
Westmanna Fiorden
Saxen Bugt
Saxen
Tiornuvig
Haldersvig
Westmanshavn
Cvalvig
Eide
Funding
Fundings Fiorden
Eldevig
Andefiord
Fuglefiord
Nordskaale
Snaaleboln
Snaale Fiorden
Selletroet
Skaale
Sol munde
Thorsvig
Kollefiord
Signebøe
Kvivig
Skullinge
Siov
Siov & Strendre
Tofte
Nas
Tangere
Kaltbak
Kaltbaks fiord
Sund
Mulen
Nordergiov
Molen
Skalen
Stakken
Myling
Schender
1 Dansk Mil
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No 2

5 Climate and Weather

Fig. 25a: Satellite photo of the North Atlantic Ocean. Meteosat, altitude 36,000 km. Date: 15.06.1989. Source: Danmarks Meteorologiske Institut.

Fig. 25b: Weather map corresponding to Fig. 25a. Source: Wetterkarte des Deutschen Wetterdienstes.

The climate and weather of the Faeroe Islands are both strongly determined by the situation of the archipelago; midway in the North Atlantic Ocean. In this geographical region, there is a continuous confrontation between the warm, humid air masses associated with the Azores anticyclone and much colder air masses originating from the Arctic region.

Along the boundary between these two air masses, the North Atlantic Polar front develops. It consists of a number of low pressure cells called depressions, and it is characterized by; dense cloud cover, widespread precipitation and strong wind. In contrast to the continental interior, where land surface friction reduces the strong winds of depressions, the Faeroe Islands are fully exposed to storms crossing the sea from all directions. The frequent air passage of cyclones and the Gulf Stream waters, both of which arrive from the southwest, are the factors that guarantee the Faeroe Islands an almost continuous supply of relatively warm, humid air, which is especially felt in winter. The Faeroese mean January temperature is 6°-7°C higher than the mean temperatures of most other land areas located along the same line of latitude. Besides the frequent passage of depressions, two other factors are of major importance to the climate. The first is the high northerly latitude, which means that the length of day varies considerably throughout the year, with a minimum of 2 hours in December and a maximum of 22 hours in June. The strongly developed topography is the other factor. As the rainclouds strike the mountainous islands, the humid air above the sea is forced upwards; increasing condensation and precipitation processes. In this way the yearly rainfall of the Faeroe Islands reaches a magnitude of 2-3000 mm. The moun-tainous relief gives rise to pronounced differences in exposure to the sun, and thus daytime temperatures can vary considerably within short distances.

An example of typical weather development

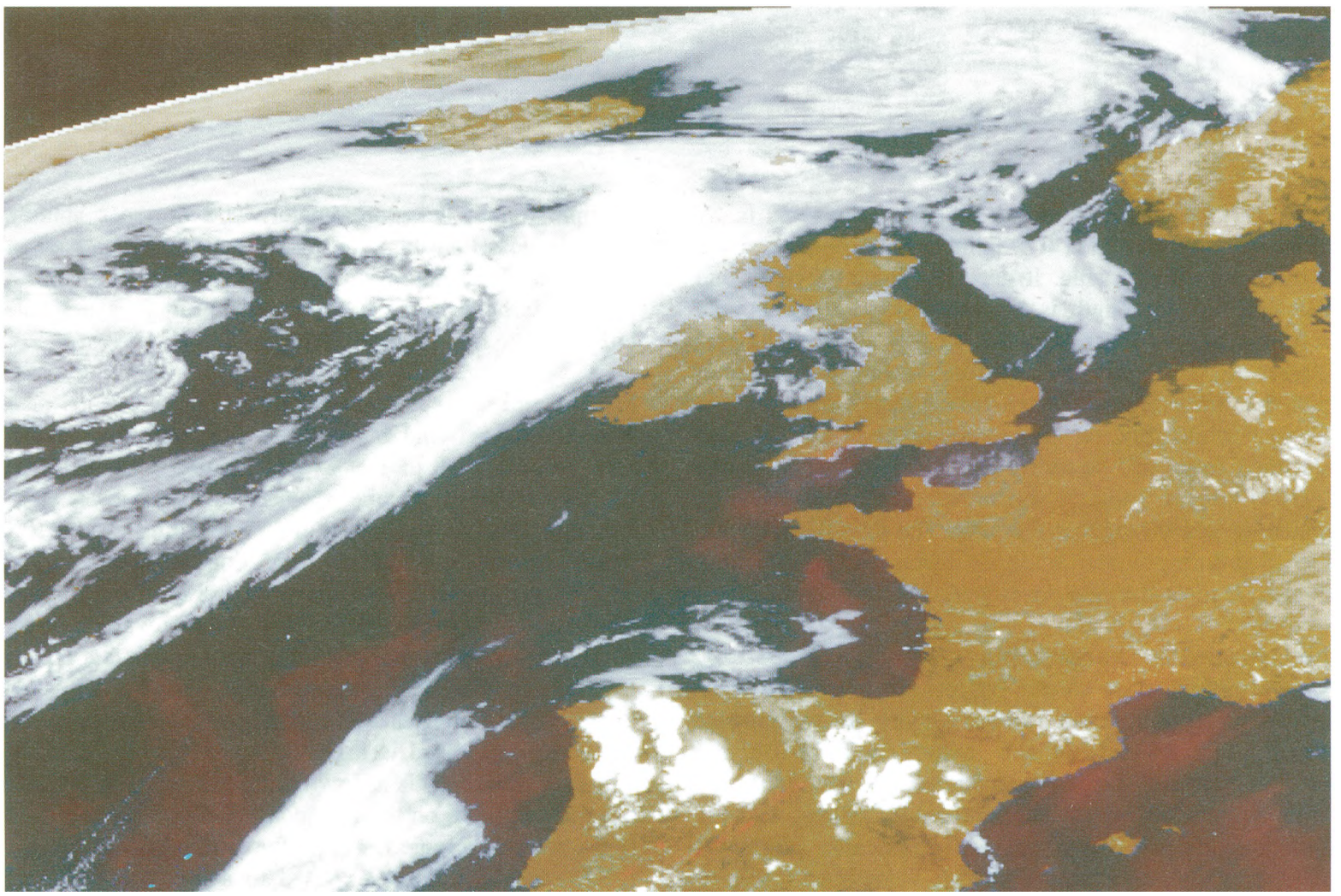
The illustrations on the opposite page show a typical weather sequence for the month of June in the area of the North Atlantic Ocean and Western Europe. This situation was recorded in 1989 by the Meteosat weather satellite. A ridge of the Azores high-pressure cell has been situated over Europe since early June. The normal, west-to-east, cyclonic track has been deflected northeastwards and is now concentrated into a narrow belt between the British Isles and Iceland where the temperature gradient is steepest. The front can be seen on the weather chart from *June 15th 1989, 00.00 GMT*. It crosses the central part of the North Atlantic Ocean at about 55°N. The south-eastern margin of the frontal system is formed by the high pressure ridge which stretches from the Azores across England and Denmark to Finland. By 15.00 GMT the same day, as shown on the satellite image, the front has already covered the sea area between the British Isles, the Faeroe Islands and Iceland, resulting in rainfall and strong winds in this region. In the area dominated by the high-pressure ridge, the weather is sunny with a daily maximum air temperature of 24°C in Copenhagen. South of the ridge, unstable Atlantic air masses invade Iberia causing violent thunderstorms.

The annual temperature cycle

With respect to air temperature, the climate of the Faeroe Islands shows only little seasonal variation because of the moderating influence of the surrounding ocean. The mean air temperature difference between January and July is only 7°C (Table 26); contrasting strongly with the 15-20°C difference typical of continental climates at the same latitude; such as those of Sweden and Finland. Moreover, the surrounding ocean mass takes longer to heat in summer, and therefore the sea around the Faeroe Islands is not at its warmest until August. This factor also delays the heating of the air, so August is also the warmest month in the Faeroe Islands compared to July in the rest of northern Europe. Topographical factors also affect local temperature. Air temperature decrease caused by increasing altitude would normally cause the temperature on the mountain summits to be 5-6°C lower than at sea-level, but this may be more than counterbalanced by ample exposure to the sun, (see Fig. 27b). The local temperature range is also moderated by the mild, Atlantic influence. The narrow annual temperature range recorded at Mykines proves that the climate here is more constant throughout the year than in Tórshavn.

Climatic fluctuations recorded this century

The Green House Effect and Global Change are topical issues, and in this respect it interesting to see whether any notable changes to the Faeroese climate have occurred in the 20th century. Climatic descriptions are normally based on long-term, 30-year, data sets. Table 26 shows the Tórshavn weather records for the period 1961-88. These are compared with the records for the preceding period, 1931-60, which were recorded at Hoyvík, a few kilometres to the northeast. Summers have apparently become cooler. For July and August, the average air temperature has decreased by 1°C; a fact confirmed by other Faeroese weather stations. In this respect, the Faeroe Island statistics do not support the general trend towards global warming. The oceanic influence on the climate is not only seen in the temperature but also in the very high air humidity and cloud cover. Throughout the year, air humidity is very high; almost constantly at 88-90%. The cloud cover is on average 80% and remains more or less unchanged throughout the year. Cloud amount is, how-


1005
H
1020
1005
L
995
1000
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1035
H
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1010
1015
1020
1025
H
1030

Table 26: *Selected climatic parameters for Tórshavn/Hoyvík 1961-1988. Source: Danmarks Meteorologiske Institut.*

ever, rather difficult to assess because it involves many different types of clouds. The number of sunshine hours is a more suitable variable. It depends on cloud cover and day length. Day length is longest in June and July, but sunshine hours top in May due to less cloud cover and clearer air. The sunshine hour total in July is not higher than that of April despite the extra 4 hours of daylight. The 30-year period 1961-88 shows a reduction in average June sunshine from 140 hours to 121 hours compared to the 1931-60 period. Table 26 shows barometric pressure to be generally low throughout the year. The lowest values are recorded during winter when the Icelandic Low Pressure System is most strongly developed.

Precipitation and evaporation

Annual *precipitation* clearly reflects the seasonal pattern of low pressure systems. Winter is twice as wet as summer. In spite of the northerly latitude, only 10% of the precipitation falls as snow, according to the records at Tórshavn. Relief rainfall is common in Norway and the British Isles, but also in the Faeroe Islands, where the mild, humid Atlantic air masses are sometimes forced to ascend to heights of 600 m on contact with the steep coastline. The air masses then cool, condense and precipitate as rain or snow. The effect of topographically intensified rainfall is significant as the amount increases by 20-30% every 100 m. But strong winds cause the rainfall distribution to be complicated as much of the rain crosses the mountain ridge and falls on leeward slopes. It is not possible to construct a satisfactory rainfall distribution map on the basis of the present weather station network, but precipitation is highest on the central summits of Streymoy and Eysturoy which receive 2,000-2,500 mm p.a. The rainfall records from peripheral locations, such as Mykines or Cape Akraberg, show total precipitation to be approximately 900 mm per annum, which is less than half the maximum. A comparison of the annual evaporation and precipitation totals reveals a precipitation surplus; which means that more water falls either as rain or snow than evaporates.

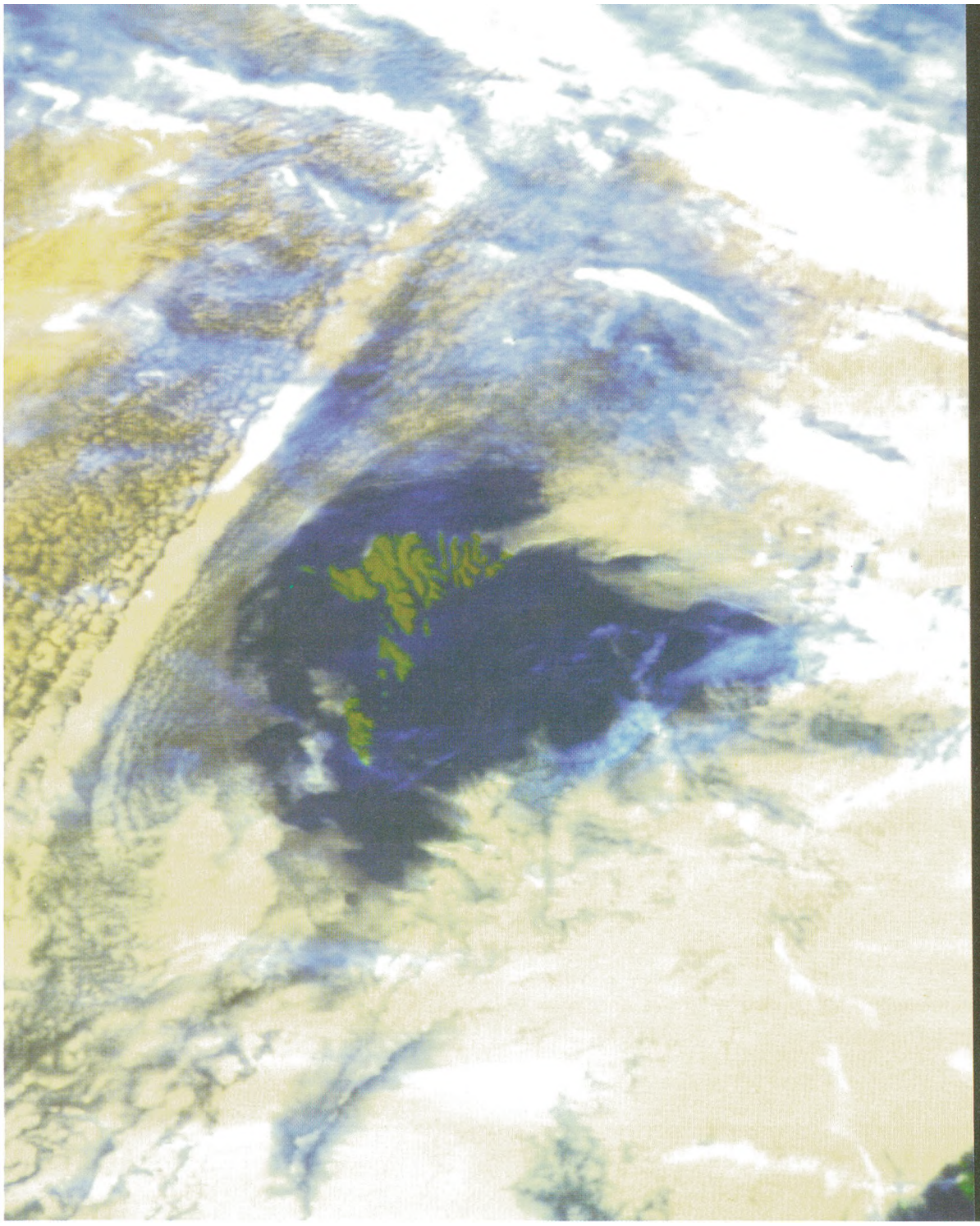
Storms and other wind conditions

The prevailing wind blows from the southwest: a fact most pronounced in the exposed outer isles, such as Mykines, or Cape Akraberg, where its frequency is 50%. Elsewhere the predominance of the prevailing wind is less freqent due to topographical deflection. At Tórshavn, the frequency is only 44%. Moreover, the orientation of many fjords and sounds is perpendicular to the prevailing wind. Along with various topographical factors, this fact means that certain places experience strong local winds, and significant differences occur within short distances. The *average wind* speed is high. Calms are rarely recorded and their frequency is as low as at 5.5% in Tórshavn, and even lower at 2% on the west coast. Being located on one of the major cyclonic tracks of the North Atlantic Ocean, the Faeroe Islands are exposed to a high frequency of gales. On the Beaufort Scale, wind forces of 3 and 4 (3.4-7.9 m/sec) are the most common, but stronger winds of 10 m/sec persist for more than 10% of the time.

A comparison of the two 30-year periods indicates that the frequency of strong winds has recently increased; especially the number of severe storms. The oceanic influence appears to have become stronger, which is confirmed by the aforementioned decreases in summer temperature and sunshine hours.

Henrik Søgaard.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean temperature °C	3.2	3.6	3.8	5.0	7.0	9.1	10.3	10.5	9.0	7.4	4.6	3.7	6.4
Mean max. temp. °C	5.1	5.5	5.9	7.2	9.2	11.3	12.5	12.8	11.1	9.2	6.5	5.6	8.5
Mean min. temp. °C	1.4	1.7	1.7	2.9	5.0	7.1	8.3	8.5	7.0	5.4	2.8	1.8	4.5
Precipitation mm	138	100	118	83	68	72	71	75	140	173	150	147	1334
Hours of Sunshine	14	34	72	105	123	121	110	98	79	48	20	7	831
Air Humidity %	88	88	88	87	88	88	90	90	89	89	88	89	89
Cloud cover %	80	80	80	78	80	80	82	82	80	80	80	79	80
Air Pressure hPa	1005	1009	1006	1012	1013	1013	1012	1011	1008	1006	1005	1004	1009
Evaporation mm	2	5	16	23	44	61	43	31	16	7	2	1	252
Wind Velocity m/sec	7.1	6.8	6.8	5.8	5.0	4.7	4.7	4.5	5.6	6.5	6.5	7.2	5.9



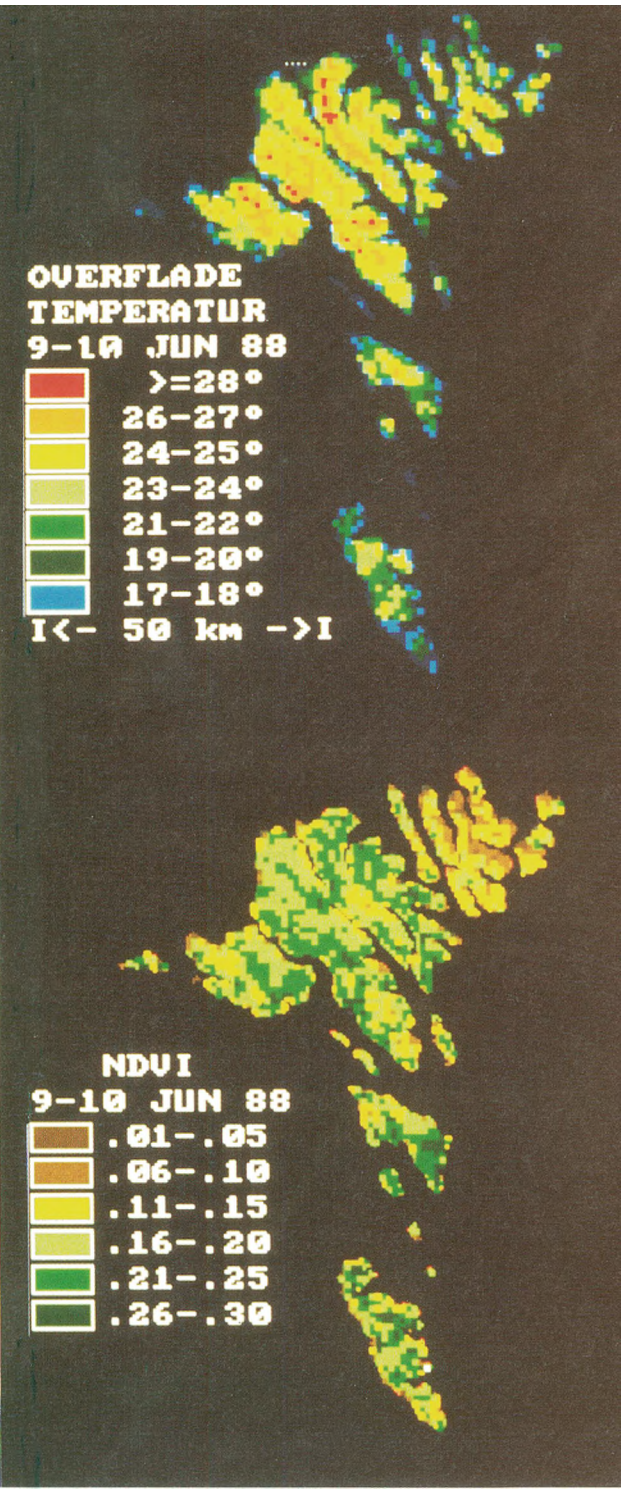


Fig. 27 a *: Satellite image, date* ***10.06.1988.*** *The Faeroe Islands can be seen through a large hole in the general cloud cover although there are a few clouds above Suðuroy, and also above Saksun on Streymoy, while a band of cloud tails eastwards from Fugloy. Satellite data: NOAA-AVHRR, acquisition University of Dundee.*

Fig 27 b: *Surface temperature. Besides the registration of cloud formations, satellites are able to measure infrared radiation emitted by the surface, and in this way both land and sea temperatures can be calculated. This image shows the land surface temperatures. The general picture is that valleys and coasts with abundant vegetation tend to be the coolest areas, 17-19°C, as the continuous plant transpiration consumes energy and is an indicator of their photo synthetic activity. The upland areas, which are usually flat, barren stretches of black basalt, experience much higher temperatures, 26-28°C, or more. The image was taken in the afternoon when southwest-facing slopes were exposed directly to the sunlight, and produced the highest temperatures.*

Fig 27 c: *Satellite monitoring can be used for the estimation of the biomass through measuring the reflected solar radiation. The green leaves on the plants absorb the visible part of the solar radiation while the rest is reflected to a much greater extent. From the satellite measurements of these two types of radiation, the greenness of the surface can be calculated and expressed in a unit called NDVI (Normalized Difference Vegetation Index). Measurements in Greenland show that an NDVI level of 0.3 corresponds to approximately 300 kg dry biomass/ha. While NDVI = 0.01 -0.05 represents surfaces with little or no vegetation. The geographical distribution shows NDVI-values on Sandoy to be twice or thrice those of the Northern Isles. Data from 09.06.1988 were used as supplementary material to help account for those areas obscured by clouds on 10.06.1988.*

6 Oceanographic Conditions around the Faeroe Islands

The sea around the Faeroe Islands is greatly influenced by the submarine relief and by the convergence of two major ocean currents; the *North Atlantic Current* and the *East Icelandic Current.* These currents dominate the upper layers of the ocean in this area. The deeper layers, on the other hand, are affected by a system of submarine ridges that forms a barrier between the warm Atlantic Ocean and the cold Norwegian Sea.

Bottom topography

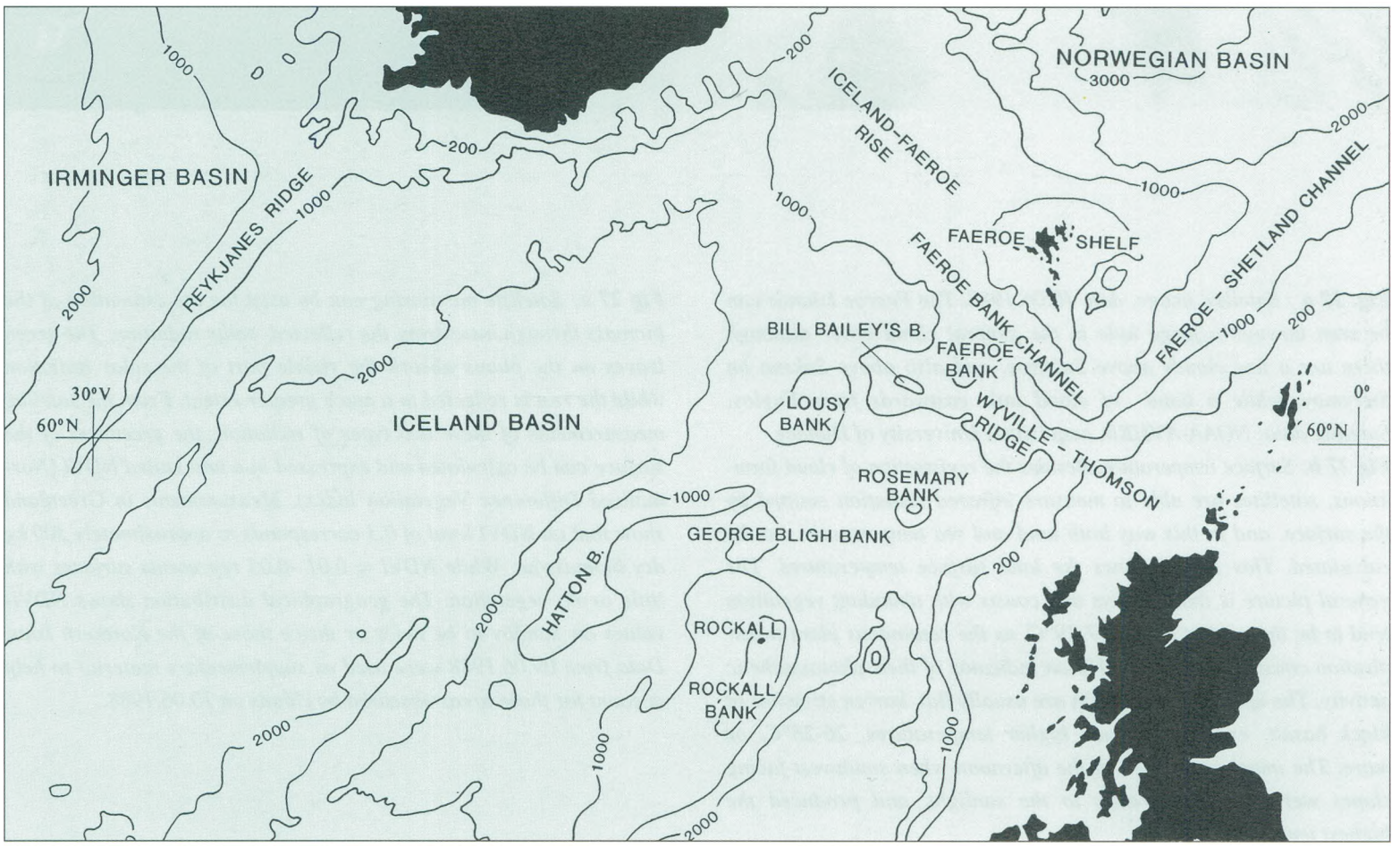
The Faeroe Islands are located on the northeastern part of a substantial submarine plateau; the *Faeroe-Rockall Plateau* (Fig. 28) with an average sea depth of 1,000 m. Rising from this plateau, several banks approach the ocean surface, and some break it to form Rockall and the Faeroe Islands. The Faeroe Islands are situated on a large ridge system that runs from Scotland to Greenland.

Between Iceland and the Faeroe Islands, the ridge has a sill depth at about 500 m and is called the *Iceland-Faeroe Ridge.* From Scotland, the *Wyville-Thomson Ridge*, with a sill depth at about 600 m, extends to the Faeroe Bank. The *Faeroe Bank Channel,* with a sill depth at about 850 m, separates the Faeroe Bank from the Faeroe Islands. It is the deepest channel cutting through the ridge system. The part of the Faeroe-Rockall Plateau that lies to the east of the Faeroe Bank Channel is called the *Faeroe Plateau.*

The origin of the water masses

Most of the upper water masses that flow around the Faeroe Islands derive from the *North Atlantic Current* (Fig. 29) whose normal temperature in these sea areas is about 8° C, and normal salt content about 35.2 per thousand (or grams per litre seawater). This current flows over the Faeroe-Rockall Plateau towards the Faeroe Islands where it divides. After passing the Iceland-Faeroe Ridge, the northern branch meets the *East Icelandic Current,* which is colder (normally 3-5° C) and less saline (normal salt content 34.8). At greater depths, the Atlantic water to the southwest of the ridge retains its fairly high temperature and salinity, whereas the deep water to the northeast of the ridge is much colder with temperatures below 0°C from a depth of about 500 m downwards, and the salt content is about 34.9.

Fig. 28: *Bottom topography of the northeastern Atlantic Ocean. The elongated Faeroe-Rockall Plateau stretches diagonally between Britain and Iceland.*



The Iceland-Faeroe Front

The water from the North Atlantic Current meets the East Icelandic Current in a zone called the *Iceland-Faeroe Front.* This is the most remarkable surface feature in the area. It appears most clearly on infrared satellite images obtained during cloudless conditions. The intensity of infrared emission depends on sea surface temperature. In Figure 30a the dark shading indicates warm surface water whereas the light shading indicates colder water.

The main features of the satellite image are sketched in Figure 30b. Several regions are obscured by cloud, but the Iceland-Faeroe Front is very evident, appearing as a sharp line dividing the warm (dark) and cold (light) waters. Normally, the temperature difference across the front amounts to several degrees. The front starts just southeast of Iceland, where it is very sharp. Thereafter it becomes more diffuse as it continues southeastwards to pass north of the Faeroe Islands. The image in Figure 30a may appear exceptionally clear, nevertheless, the oceanographic situation it portrays is quite typical. Likewise are the wavy deformations along the front and the boluses of warm water that have been released into the cold water and vice versa.

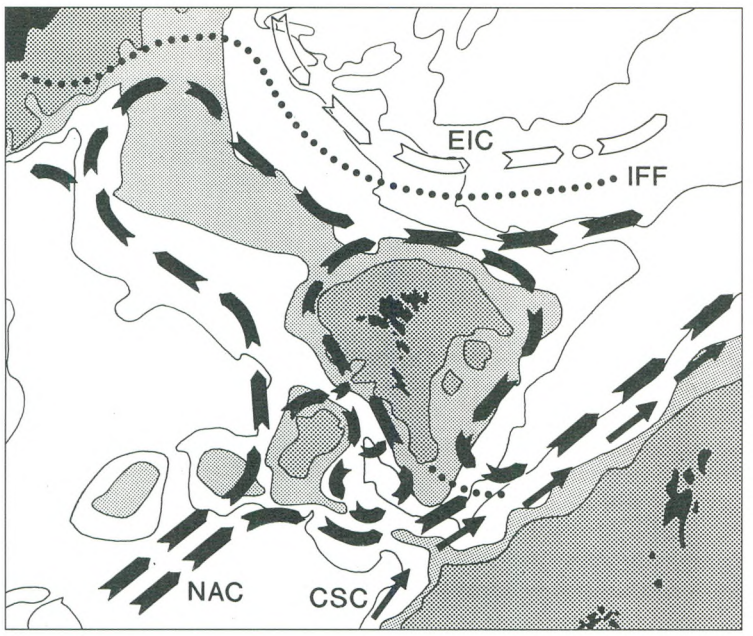


Fig. 29: *Upper layer flow system (0-500 m) of the Faeroese sea area. The bottom topography is shaded. The black arrows represent the warm water flow and the white arrows the cold water flow.*
Dotted lines represent oceanographic fronts. BH part.
NAC: *North Atlantic Current.*
EIC: *East Icelandic Current.*
CSC: *The Continental Slope Current.*
IFF: *The Iceland-Faeroe Front.*

Currents in the upper layers

The detail of the circulation has been subject to debate, but the main characteristics are portrayed in Figure 29. The arrows show the direction of the *mean current* which normally flows at 10-30 cm/sec. In places it is weaker than the *tidal current,* yet it is more stable through time and mainly responsible for the transport of water in the open ocean and hence the water mass distribution.

The water between the Iceland-Faeroe Front and the Faeroe Plateau is transported eastwards by the northern branch of the North Atlantic Current. On reaching the eastern edge of the plateau, the flow diverges; one part continues into the Norwegian Sea, and the other part flows southwards into the Faeroe-Shetland Channel as it skirts the eastern slope of the Faeroe Plateau. Further south in the channel, this flow is diverted eastwards by the southern branch of the North Atlantic Current, and together these water masses flow towards the northeast. In the surface layers of the Faeroe-Shetland Channel, the temperature of the two branches does not differ appreciably, but with increasing depth to 400 m, the northern branch contains increasingly colder and less saline water from the East Icelandic Current which has sunk in the Iceland-Faeroe Frontal zone. By comparison, the southern branch is fairly homogeneous; containing Atlantic water down to 500 m. Where the two branches converge, a front is formed. The front extends southeastwards from the southern tip of the Faeroe Plateau (Fig. 29) and it is most pronounced at depths between 100-500 m.

Above the shallower parts of the Faeroe Plateau and Faeroe Bank, the water flow forms half-closed cells that circulate clockwise. The water masses in these regions are therefore comparatively stationary and in summer a temperature difference develops between the well-mixed, homogeneous water above the shallower parts and the outer waters where thin surface layers of heated water may form. The colder water above the Faeroe Plateau and Faeroe Bank can be seen in Figure 30a ("Mw" in Figure 30b). Circulatory patterns associated with these features are of fundamental importance to the transport of plankton and the eggs and larvae of several fishstock.

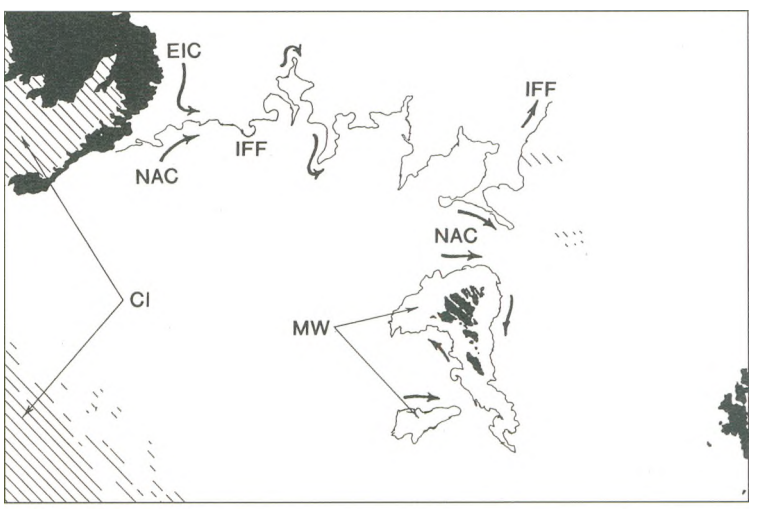
Deep currents

In the seas to the northeast of the submarine ridge system, there are several regions where the surface layer water is chilled and sinks to intermediate or lower layers. The continuous production of intermediate and deep water is compensated by an outflow. The submarine ridge system between Scotland and Greenland acts as a barrier to the exchange of water masses below sill depth but it cannot prevent the cold, dense water northeast to the of the ridge from overflowing into the Atlantic Ocean.

After crossing the ridge system, the outflowing water descends to great depths due to its high density and forms a major component of the deep water in the global oceanic system. Overflow from the Greenland-Scotland Ridge system can be traced far south in the Atlantic Ocean and even in the Indian Ocean and Pacific Ocean. Before it flows over the ridge, this water is in contact with the atmosphere. It therefore forms a link between the atmosphere and the greater depths of the global oceanic system. Through this mechanism, oxygen is supplied to the deeper layers of the oceans, allowing animals to inhabit them, and through its transfer of carbon dioxide and other elements from the atmosphere to the deep sea, the overflow is considered to be of primary importance to the global climatic system.

Fig. 30a: *NOAA infrared satellite image, 18.05.1980, altitude 200 km. The Faeroe Islands are located mid-picture. Light areas indicate cold surface water whereas dark areas indicate warmer surface water (relate to Fig. 30b). Source: By courtesy of The University Of Dundee, Scotland.*

Fig. 30b: *Sketch to show the main features of the satellite image (relate to Fig. 30a). BH part.*
NAC: *North Atlantic Current.*
EIC: *East Icelandic Current.*
IFF*:Iceland-Faeroe Front.*
MW*: Mixed water that is relatively cold.*
CL: *Clouds.*



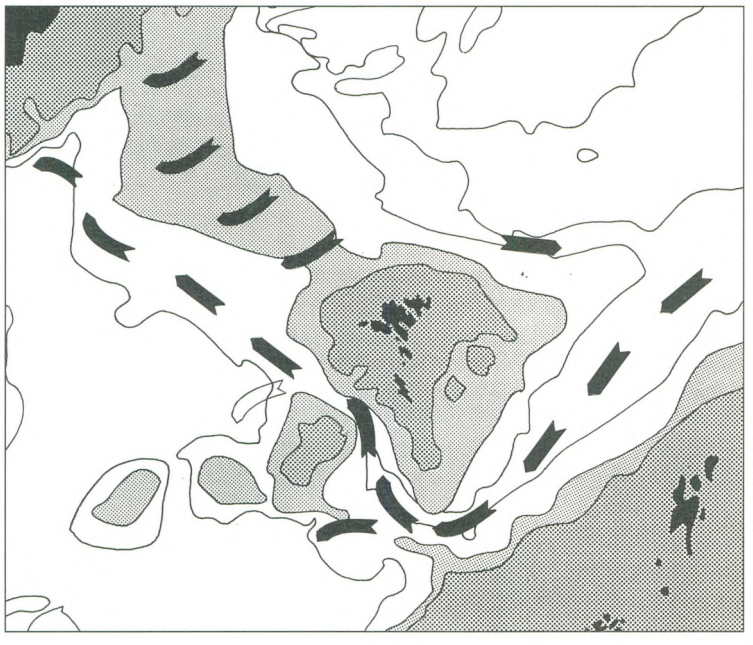
Around the Faeroe Islands, two types of overflow are observed; of which the most consistent is the continuous flow of deep cold water through the Faeroe Bank Channel. This process dominates the flow system in the deeper layers (Fig. 31a). North of the Faeroe Islands there is another overflow that crosses the Iceland-Faeroe Ridge. It consists mainly of water that has sunk along the Iceland-Faeroe Front.

Tides

Tides are the regular variations in sea-level that are generated by the movements of the moon and sun in relation to the Earth and other regularly changing currents. The location of the Faeroese Plateau at the junction of two major oceanic areas, the Atlantic Ocean and the Norwegian Sea, complicates tidal activity. Figure 31b shows the difference in mean sea-level at high and low tide. In the vicinity of Tórshavn, there is little variation in tidal elevation.

By contrast, the tidal currents are usually very strong in the sounds and around the islands. They have a profound effect on the fisheries and marine activity. In most of the narrow straits between the islands, the tidal current behaves consistently; with the flow in one direction for approximately 6 hours and 12 minutes, followed by a reverse flow for the same duration. The turn of the tide is abrupt. Usually the strongest flow occurs halfway between two turns. Tidal abnormalities may occur; such as the coastal tidal flow running counter to the offshore flow.

Fig. 31a: *Deepwater currents around the Faeroe Islands showing the overflow of cold water from the Norwegian Sea through the Faeroe Bank Channel and across the Iceland-Faeroe Ridge. BH part.*



A detailed description of local tidal phenomena is written in "Den Færøske Lods". Offshore, the shallower parts of the Faeroe Plateau experience fairly strong tidal currents which are not restricted to opposite flow directions. Under normal conditions, the tidal current describes an ellipse in roughly half a day. Figure 31b shows tidal ellipses for a number of sites on the Faeroe Plateau.

Bogi Hansen

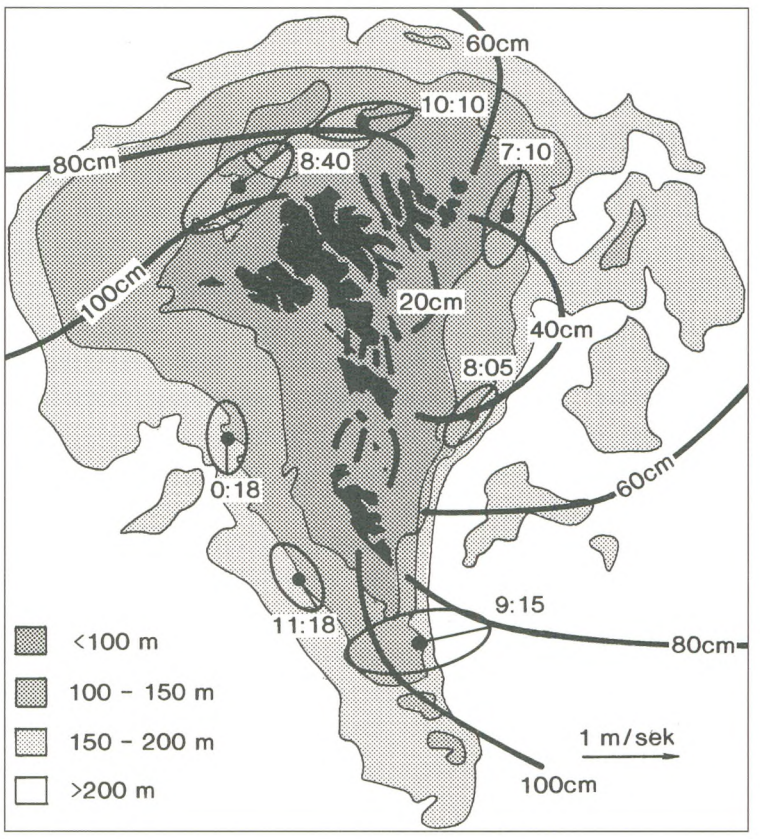


Fig. 31b: *Tides in the Faeroe Plateau sea area.*

Thick curves *connect places with a similar tidal range.*

Numbers *indicate the size of the range given moderately strong current conditions.*

Ellipses *illustrate the tidal current at selected places. Current directions are usually shown by arrows whose lengths are proportional to speeds. Under normal conditions, the point of the arrow will rotate in a clockwise manner and describe an ellipse during a complete tidal period (12 hrs 25 mins). The orientation of an ellipse indicates the main flow direction while its number indicates the time interval (hours:minutes) to be added to the time of lunar culmination in order to obtain the duration of maximum flow in the direction shown.*

BH part.

7 Sea Resources

Fig. *33: Extract from Close's Fishermen's Chart, London, 1938. Depths in fathoms. The annotations were made by a trawler skipper. Scale approximately 1:210,000.*

Close's Fishermen's Chart of the Faeroe Islands is an invaluable historical fishing document for the period 1901-59 when the official fishing limit was 3 nautical miles from the shore, as opposed to the later limit fixed by baselines. The margin is embellished with profiles of the mountains, cliffs and islands that once served as the most important bearings within the different fishing grounds; not only to small Faeroese vessels but also large British trawlers. These landmarks did not lose their importance until the mid 20th century when inventions like radar, decca, loran and satellite diminished their navigational value. The chart is evidence of the dominance of the British trawling industry after the Anglo-Danish fishing agreement of 1901 in which the ancient 16-mile fishing limit was reduced to 3 miles; exposing the Faeroese sea area to exploitation by the rapidly expanding British trawler fleet.

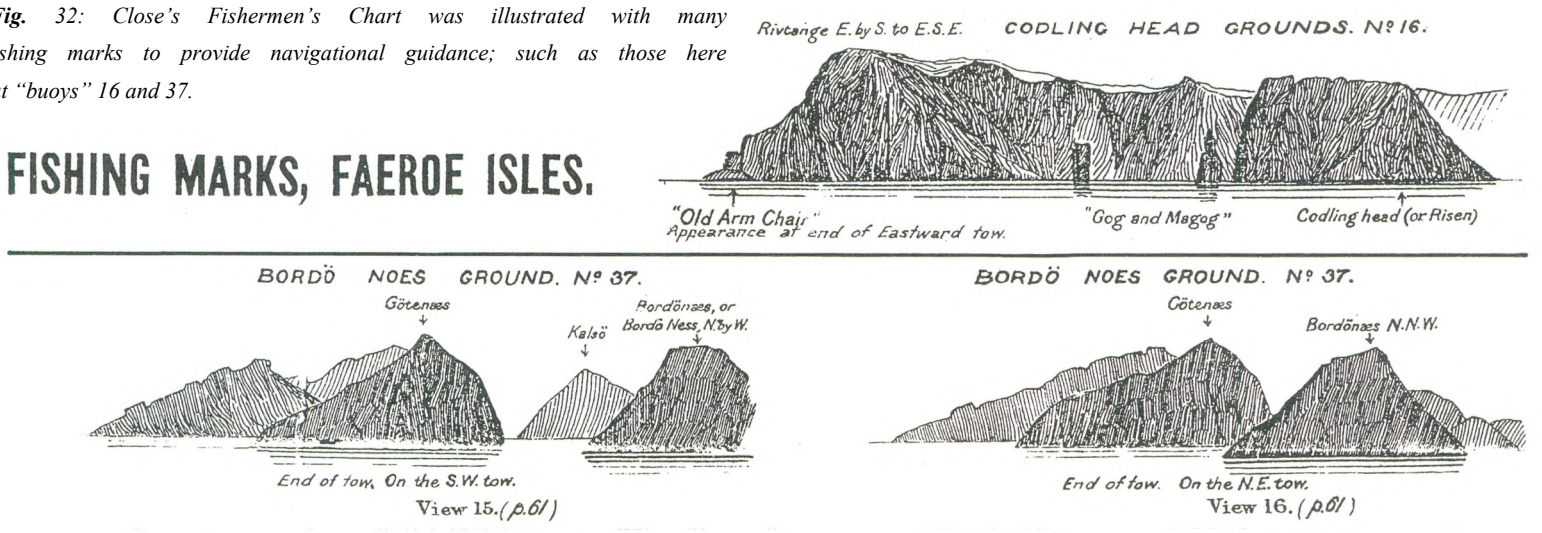
The chart extract covers the most important spring-time fishing grounds. The western limit runs due north of Eysturoy and the southern limit runs eastwards from Tórshavn. Soundings reach 180 fathoms. All of the 100 fathom area of the northeastern Faeroe Shelf is included. To the west, there is a basin below 60 fathoms that extends 3 miles north of Eysturoy. This basin, so close to the Faeroe Islands, represents the most important spawning ground for cod. Apparently, cod that have already spawned once in their lifetime migrate to the basin from the deep sea area to the north, whereas debutants arrive from shallower waters. The hydrographic conditions are well documented. The water masses are well mixed by the tidal currents and an annual thermocline does not occur. North of the area, cold water masses have a great influence. Their variable strength affects the coastal waters. Recent research has revealed that bodies of cold water can detach from the Oceanographic Polar Front and drift into the area.

The encircled code numbers on the chart, known by the British fishermen as "buoys", indicate the lucrative trawling grounds. The "buoys" are logged in the accompanying guide book which contains useful information on; bearings, the sea-bed, catches, species, migration patterns and their occurrence. The seasonal presence of different species determined the agenda of the British trawler fleet. In January, February and March, the trawlermen caught cod, haddock and saithe above 100 fathoms as the fish approached their spawning grounds in the northeastern part of the Faeroe Shelf. Summer was the favourite season for catching lemon sole, haddock and plaice within the Nólsoy Grounds. At other times of the year, fishing took place in Faeroese waters not shown on this extract.

The habits of the British trawler fleet may be contrasted with the seasonal fishing of the Faeroese fishermen before the imposition of the 3-mile limit curtailed their activity in 1901. Cod was by far the most important species. According to Faeroese tradition, February was the month of the *torrafisk* when the cod were caught as they returned to their spawning grounds. In the original Faeroese calendar, the month of *torri* was the first lunar month of the year. March and April were the months for fishing cod within the spawning grounds. The venerable fishing tradition was of paramount importance to settlements like Eiði at the northern point of Eysturoy. Owing to its close proximity to the spawning grounds, Eiði had the second largest parish population in the 1880 census. When open-boat fishing was made almost impossible by the reduction of the fishing limit in 1901 and the arrival of modern, steam-powered, British trawlers, the population of Eiði began to decline; apart from the brief respite caused by the First World War (1914-18) when Britain withdrew her fishing fleet from Faeroese waters. Traditionally, Faeroese fishermen knew little about the species called haddock, and lemon sole was quite unknown. Saithe was caught almost entirely from shoreline fishing. Not until the extension of the fishing limit to 12 nautical miles in 1964, and again to 200 nautical miles in 1977, did the Faeroese fishermen start to catch species that had already been exploited by British fishermen for three-quarters of a century. The extract shows the locational advantage enjoyed by Tórshavn, Skálafjørður and Klaksvík which all face outward towards the fishing grounds. By 1988, as much as 50% of the annual catch from the Faeroese fishing zone was processed at Faeroese fish-filleting factories.

Kjartan Hoydal

Fig. *32: Close's Fishermen's Chart was illustrated with many fishing marks to provide navigational guidance; such as those here at "buoys" 16 and 37.*




ANNIE'S HILL OR ENNIBERG GROUNDS.
FUGLÖ GROUNDS.
Tow E.S.E. & W.S.W.
Use Buoy. Good.
HARALD SOUND GROUNDS, OR SOUTH HARALD SOUND GROUNDS.
Tow W. & E. 2½m. Tow W.N.W. & E.S.E.
Use Buoy. Foul
TIDES
CODLING HEAD OR THE FIORD GROUNDS.
Tow E. & W.
KALSO
KUNO
VIDERÖ
FUGLÖ
SVINÖ
OSTERÖ
STROMÖ
NOLSÖ
HESTO
THORSHAVN
BORDÖ NOES GROUND OR DIRTY HOLE.
Tow S.W. & N.E.
Use Buoy.
BORDÖ GROUNDS.
Tow W. & E.
3 Mile Limit
Husa Ground
Lemon Soles Halibut Skate Sea Urchins Haddock
May to August.
NOLSÖ GROUNDS.
Tow N.E. & S.W. 5m.
Use Buoy
Note.—Pilots can be obtained at Thorshavn.
Round Buoy.
Foul NOLSÖ GROUNDS
Or Tow S.W. & N.E.
Skopen Fiord
KOLTER GROUND
Var.n 19° 50'W (1930)
Var.n 19° 5'W (1930)
Catchy.
Good.
Foul.
Rough.

8 The Geology of the Faeroe Islands

Fig. 35: *Northern Suáuroy. Extract from the geology map of the Faeroe Islands by Joannes Rasmussen and Arne Noe-Nygaard (1969), scale 1:50,000.*

The geological structure of the Faeroe Islands is basically simple. The islands are essentially a dissected basalt plateau belonging to the North Atlantic Basalt Area. They consist of flood basalt lavas with intervening layers of volcanic ashes, tuff, slate and basaltic sandstone. The layers tilt in an easterly direction; varying between NE and SE. The Faeroe Islands are part of the North Atlantic Basalt Area that was formed in the Tertiary Period; a time of intense vulcanicity coinciding with the embryonic phase of the Atlantic Ocean when NW Europe and N America began to drift apart. The basalt sequences are generally 3,000 m thick above sea-level, but borings on Suðuroy in 1981 proved that they go 2,178 m deeper to give a total thickness exceeding 5,000 m.

The geology of the Faeroe Islands has been mapped according to the historically separate volcanic phases.

The initial phase began with powerful crust-splitting eruptions accompanied by floods of lava to create the *lower basalt series.* The extrusions followed a rhythmic pattern and the series consists of thick basaltic layers with intervening tuff-clay sediments. The lower series has a thickness of 900 masl. This series appears on Suðuroy, Mykines, Gáshólmur, Tindhólmur and Vágar.

The formation of the lower basalt series in the beginning of the Tertiary period was followed by a long pause without any form of volcanic activity. The layers were denuded, and on their uneven surface, the *coal-bearing series* was deposited in shallow lakes. The inactive period was replaced by a violent volcanic phase with little lava but much projected material such as volcanic bombs, ash and lapilli. This loose material, which eventually hardened, is found over a vast, oblong area. Known as the *tuff-agglomerate zone*, it occurs in NE Suðuroy, NW Vágar and on Tindhólmur.

The explosive phase was immediately followed by a lava-producing phase that created the *middle basalt series;* characterized by numerous, thin lava flows, delineated by pore zones containing occasional, thin, tuff layers. Lava production was virtually continuous, with only short pauses between eruptions, or none at all. The total thickness of the middle basalt series is 1,400 m, and it is found in northern Suðuroy, on Vágar, and on the eastern and northern islands where it is normally overlain by the upper basalt series.

In the *upper basalt series,* the rhythmic volcanicity was repeated. The series comprises a sequence of alternating lava flows and tuff, in which the flows only average 10 m thick; being half the thickness of the lower basalt series flows. The total thickness is 675 m.

After the extrusive volcanism was brought to an end, subterranean subsidence and settling caused vertical or steeply inclined fractures in the newly formed plateau. The basaltic magma formed *intrusive bodies* in these weak zones of the plateau; such as, dykes in the fractures, irregular bodies in the tuff-agglomerate zone, and sills where magma intruded along boundaries in the horizontal layers.

The geology of Suðuroy

The first map extract shows part of northern Suðuroy where most structural phases in the formation of the Faeroe Islands are found, except the upper basalt series and sills. In the steep western mountainside of Prestfjall, south of Hvalbøur, the vertical sequence is visible; lower basalt (dark green), coal-bearing series (brown), middle basalt series (light green). At the foot of the mountain, the lower basalt series comprises 10 flows that are about 20 m thick, alternating with slaggish tuff layers 2-10 m thick. The upper slope consists of thinner flows of the middle basalt series separated by porous inliers. Tuff is rare. The coal-bearing series separates the two basalt series half-way down the mountainside and is characterized by its luxuriant vegetation cover. At Skarvgjógv on the west coast, the boundary line between the three series is at 250 masl compared to at sea-level on the coast along the line Froðbiarnípa-Hvannhagi-Kolaratangi.

The coal-bearing series covers 23 km^2. It comprises intermixed slate, shale and coal. It averages 10 m in thickness although the two coal seams are but 0.75 m thick. The coal-bearing series is divided into four coal-fields:

1. *Grímsfjall,* west of Hvalbøur.
2. *The northern coalfield* at Prestfjall and Rókhagi between Hvalbøur and Trongisvógsdalur.
3. *The southern coalfield* at Rangibotnur and Oyrnafjall.
4. *Hovstúgvan and Kolheyggjur* at the foot of the map.

Only the northern and the southern coalfields have been exploited. The potential is very modest; just 10 million tons, yet the mines satisfied household fuel requirements during and just after the Second World War. Mining continues in the 1990s at Rókhagi in the northern coalfield. As mentioned, the tuff-agglomerate zone is exposed in a broad belt along the eastern coastline of Suðuroy. It can be observed in ravines and stream banks on the northern slopes of Trongisvágur, along the coast of Hvannhagi, and on both sides of Hvalbiarfjørður. Because irregular intrusions have penetrated the non-homogenous tuff-agglomerate zone, and thus are impossible to separate from it, they are represented by the same map symbol.

The lower and middle basalt series produce different kinds of relief. The former produces a massive, broad-stepped profile, whereas the latter, although massive, produces a gently sloping terrain.

SUÐUROYAR

Sandvík

Tvörgjógv

Reyðibarmur

Hvítanes

Hamranes

Kolaratangi

Hvalböur

Hvalbiarfjörður

Grímsfjall

Hvalbiareið

Ökslin

Undir Bergsleiti

Suðuri undir Hæli

Prestfjall

Hattur

Prestskorar

Skarvgjógv

Geitaskoragjógv

Geitaskor

Botnsskarð

Guðmundsmine

Trongisvágsbotnur

Rossarok

Rangibotnur

Mót

Hvammabotnur

Oyrnafjall

Knukur

Keppur

Kirkjuvatn

Fjallið Mikla

Fámjin

Svinagjógv

Borgin

Hovsvötn

Seiðagjógv

Tjörnunes

Snæbjarnarhol

Myrkagjógv

Úlvsgjógv

Vatnsdalur

Flekká

Akraskor

Hvannhólmur

Lónin

Svínadals

Todnes

Stapin

Knúkaborg

Vatnsdalsá

Grónagjógv

Gasagjógv

Hvannhagi

Dysjarnar

Ribbingamúli

Frostgjógv

Myrkagjógv

Rókhagi

Blásossur

Myklá

Svalbarðsá

Trongisvágur

Trongisvágsdalur

Innarihválur

Hvalsgjógv

Leirgjáa

Tvöroyri

Uttarihválur

Húsagarðsá

Öravík

Kolheyggjur

SUÐUROY

Fig. 37: *Sundalagið Sound separates the islands of Streymoy and Eysturoy. Extract from the geology map of the Faeroe Islands by Joannes Rasmussen and Arne Noe-Nygaard (1969), scale 1:50,000.*

The geology of the northern isles

The map extract covers part of eastern Streymoy and western Eysturoy which are separated by the NW-SE oriented sound known locally as Sundini or Sundalagið.

The youngest part of the *middle basalt series* (light green), the oldest part of the *upper basalt series* (yellowy green), and the largest sill on the Faeroe Islands, called the *Eysturoysill* (pink), are found here.

Near Hvalvfík in the northwest, the landscape is typically middle basalt; with its broad, gentle, convex slopes covered by luxuriant vegetation, and absence of protruding basalt ledges and cliffs. Northwest of Hósvík, the middle basalt series is overlain by the upper basalt series; producing a stepped landscape of alternating basalt and tuff.

East of Sundini, the impressive Eysturoysill forms a columnar cliff and follows the dip of the fracture between the nearly horizontal layers in which it is intruded. To the north, south and east, the sill is transgressive cutting through benches of earlier basalt layers.

Like other Faeroese sills, the Eysturoysill is shaped like a saucer, but its western half is missing. It was intruded into the boundary between the middle and upper basalt series and measures 16 km^2. The rocky terrain between Selatrað and Oyri undulates in places where the sill is exposed at the surface.

The quaternary ice age

The threshold that determined the direction of glacier flow in the Sundini during the Quaternary Period runs between Hvalvík and Norðskáli. From Norðskáli, one valley glacier flowed northwestwards through the sound, whereas from Saksunardalur, near the mouth of Stórá stream by Hvalvík-Streymnes, the other valley glacier flowed southeastwards.

The Faeroe Islands were covered by their own ice sheet during the Ice Age. Former glacier movements are indicated by *striae* or *roche moutonnées* which are common in areas of resistant rock. These features appear in Figure 36 which shows the directions of ice flow movements. The evidence points to the existence of ice caps on both Suðuroy and Sandoy; at least during the last deglaciation. In the Northern Isles, the ice-divide from Vágar to Viðoy separated the NW and SE ice flows.

During the initial phase of deglaciation, the ice movement was strongly radial, outwards from the ice-caps, whereas the flows tended to follow larger relief features during the middle phase. During the final phase, the ice movement was increasingly determined by local terrain features.

An investigation site at 750 masl, just below the summit of Reyðafellstindur on Eysturoy, (seen towards the right edge of the map extract), represents the highest point in the Faeroe Islands where there is evidence of glaciation.

Joannes Rasmussen

Fig. 36: *Main directions of quaternary ice flow in the Faeroe Islands. Source: Jørgensen and Rasmussen (1988).*

EYSTURO

STREYMOY

Norðskáli
Növin
Oyrarskarð
Sandfelli
Keldueklettur
Oyrargjógv
Breiðabothur
Halgafellstindur
Lágarhálsur
Knubbagil
Fransahús
Reyðafellst
Stóra
Streymnes
Hvalvík
Oyri
Hvalvíksgjógv
Hálá
Bollin
Sneis
Breiðá
Sálvá
Blásenda
Sandá
Rókin
Argisgjógv
Veðranes
Selatrað
SUNDA
Hósvík
Bornsvarði

Nederste basaltserie
Niðaru basaltfláirnar
Lower basalt series

Mellemste basaltserie
Miðfláirnar
Middle basalt series

Øverste basaltserie
Ovaru basaltfláirnar
Upper basalt series

Tuf-agglomeratzonen
Gosmyrjan
Tuff-agglomerate zone

Uregelmæssige intrusive dannelser og sills
Óreglulig innskot og syllar
Irregular intrusives and sills

Den kulførende serie (A-horisonten)
Kolalindin (A-lindin)
The coal-bearing horizon (A-horizon)

B-horisonten samt hjælpehorisonter. Dobbelt prikafstand betyder, at horisonten mangler
B-lindin og hjálparlindir
B-level and other guide horizons. Spaced stippling means that the horizon is missing

C-horisonten
C-lindin
C-level

Gang med nr.
Gong
Dyke and no.

Sammensat gang med nr.
Samansett gong
Multiple dyke and no.

Lineament
Linja
Lineament

Vertikal forkastning. Tallet angiver sænkningen i meter
Loddrætt umskaring
Normal fault. Number gives the downthrow in metres

Horisontal forkastning. Tallet angiver forskydningen i meter
Vatnsrætt umskaring
Wrench fault. Number gives the displacement in metres

Hældningstegn. Tallet angiver hældningen i grader
Hall
Dip. Number gives dip in degrees

Kullokalitet på lavere niveau end den kulførende serie
Kol undir Kolalindini
Locality for coal at lower level than the coal-bearing series

Mine
Kolanám
Mine

Gjógv
Gjógv
Gjógv

Hovedprofil
Meginskurður
Main profile

Sammensatte delprofiler
Samansettir smáskurðir
Composite profiles

Kote, topografisk
Hædd
Spot height, topographical

Kote, geologisk
Hædd
Spot height, geological

Højdeforskellen mellem kurverne er 50 meter
Hæddarmunurin millum hæddarstrikurnar er 50 metrar
The interval between the contours is 50 metres

1000 m 0 1 2 3 4 km

9 The Main Landforms – Funningur and Slættaratindur

Fig. 39: The landscape around Funningur. Extract from topographic map 412. Scale 1:20,000, KMS, Copenhagen 1992.

The landforms of the Faeroe Islands are the product of the volcanic activity that occurred 50-60 million years ago in the Tertiary Period and subsequent geomorphological processes.

The Early Tertiary volcanic period produced an even landscape of plateau lava flows in the region where the Faeroe Islands are found today. The climate was much warmer, and the virgin landscape was shaped by geomorphological processes different to those of today. Chemical weathering and the removal of weathered material as dissolved salts were the dominant processes while river erosion was also important.

Throughout the next stage of the Tertiary, vast amounts of the new volcanic rock were removed as the drainage system evolved to produce a landscape of low hills intervened by shallow valleys. The drainage system exploited lines of tectonic weakness; such as rifts and fractures, whose alignment was essentially NW-SE.

Towards the end of the Tertiary, some 2.5 million years ago, the terrain was undulating and characterized by broad valleys. In the higher parts of the hills, remnant landforms belonging to the initial landscape could still be seen. Valley depths ranged between 100-200 m. The major valleys normally flowed NNW or SSE as was determined by the main watershed that ran WSW-ENE across a terrain where the Faeroe Islands are located today.

The Tertiary Period was characterized by a deteriorating climate. River erosion became more important than chemical weathering in forming the landscape. Valleys were eroded to depths of 200-400 m. A mountainous landscape was being created for the very first time.

The quaternary ice age

The transition from the Tertiary Period to the Quaternary Period, about 2.5 million years ago, brought much colder climatic conditions and geomorphological processes such as; glacier erosion, river erosion, frost-shattering, freeeze-thaw, solifluction and soil creep. The first two processes were particularly effective in the valleys.

The Quaternary was dominated by recurrent glaciations in which as many as 15-20 separate ice ages may have occurred. Snowfields and glaciers formed on the highest summits and shadowed, leeward sides of upper valleys. As the ice ages culminated, snowfields and glaciers joined to form ice-caps that covered the whole land area, which was larger than today and included a substantial part of the Faeroese Shelf because the world sea-level was 100-150 m lower during glacial maxima.

The highest ice-cap domes developed on the Late Tertiary watershed. Scour marks on the rock faces of summits indicate that the top surface of the ice-caps attained a height of 700 masl. From the watershed, the ice moved downwards in opposite directions, either to the NNW or SSE.

In the valleys created during the Late Tertiary, the ice was thick and its movement was rapid; causing more erosion than on the relic plateaus where it remained thin, stationary and relatively ineffectual. Whereas the high plateaus retained their original form during the glacial maxima, the valleys were greatly eroded to produce the classic valley and fjord scenery that characterizes the Faeroese landscape and seascape of today.

During the initial and final phases of the recurring ice ages, glaciers were small and confined to favourable locations on the leeward sides of peaks or to shadowed valleys where nivation and glacial erosion were more prolonged than elsewhere producing the special Faeroese cirques called *botnar*.

Interstadials and post-glaciation

During warm interstadials, and the warmer post-glacial climate which started about 10,000 years ago, the major landscape-forming processes have been solifluction, frost shattering and river erosion. Frost action has been dominant on the high plateaus where the flat surfaces are characterized by block fields of frost-shattered stones and rocks. Irregular, unsorted accumulations of talus and

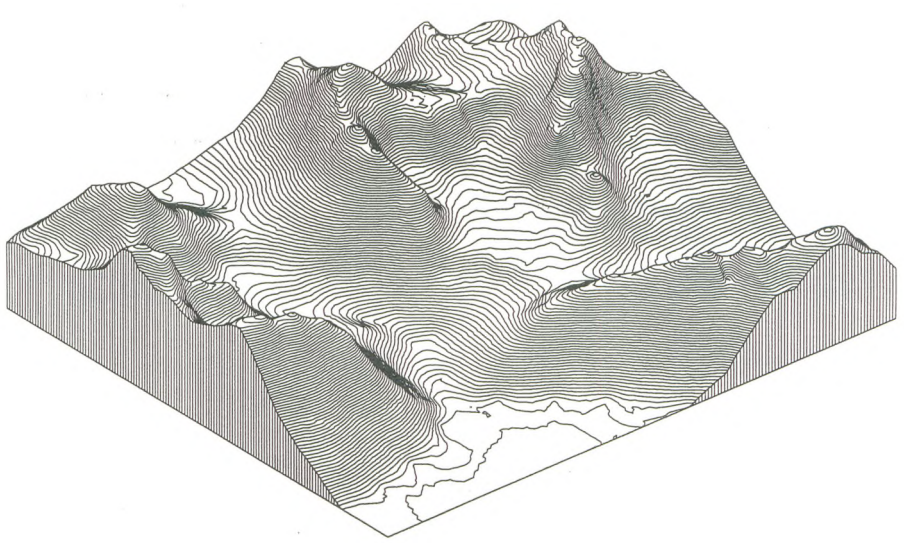


Fig. 38: Terrain model with the village of Funningur and the fjord of Funningsfjørður in the foreground. The peaks of Vadhorn, Slættaratindur and Gráfelli rise beyond. Designer: OH


NORÐURHELVT
DALURIN
LÍÐIN
BOTNAR
Í HÚSI
FUNNINGUR
GIMBRAHAGI
Slættaratindur
Sandfelli
Gráfelli
Middagsfjall
Húsafjall
Blámansfjall
Vaðhorn
Øksnadalur
Vatnsdalur
Ljósádalur
Mansetur
Svínabotnur
Rossabotnur
Heimi í Barmi
Kelkurin
Krákan
Foldarskarð
Gjáarskarð
Givrabotnur
Givrastigar
Sandastígar
Stóðlafløtan
Millum Keranna
á Brekkuni
Kaldakinn
Fossabrúgvin
Tungan
Hvíturð
Breiðarók
Rustin
Hamarsendi
Fitjagjógv
Dalfløta
Grønabrekka
Høgaleiti
Nónsskriða
Kvennhjalli
Hestfelli
Messuklettur
Hjallin
Eiðisbotnur
Eiðisskarð
Sinsbotnur
Hagagjógv
Vatndalsskarð
Urðahjalli
Rituskorarstígjur
Ternubrekkan
Líraryggurin
Marknastígjur
Klovnusteinur
Vombin
Tunguspordin
Gullheyggjur
Mjækkin
Tjørbásur
Teistagjótan
Selatra
Húsaræt
Skólpur
Tinusarkneysi
Steðugjógv
Meyggjusagil
Nýggjaberg
Tobbasatangi
Brettugjógv
Kleiv
Húsafjøra
Barnagjógv
Dýnan
Enni
Laðahjalli
Gilið Góða
Heimaraskor
Gjótan í Skor
Huldustøðin
Øssalaryggur
Skeggjanøvin
Fossinshamar
Breiðhjalli
Riddalsenni
Grønidalur
Heimi í Rókini
Leitið
Tjørnudalur
Klubbin
Kleppærnar
Skridnabrúgv
Ytruskriður
Moldbakkarnir
Hórisgrøv
Bustin
Blotin
Líksteinur
Krákugil
Heimaruskriður
Smalabrúgv
Sandfelli
Gilið Góða
Friðagil
Gráklettur
Uppi á Sløttum
Garðabrúgvin
Marknagil
Slætnabrúgvin
Gráabrúgv
Dalsárnar
Rustin
Hjallin
Hálsur
Hálsabrúgvin
Stórhamar
Ovarlíð
Koppur
Stóragil
Símunssteinur
Preststeinur
Ægrisá
Urðahjalli
Fjarskiftamastur
Klovnusteinur
Vatndalsmunnin
Vatndalsbrekkan
Inni í Skor
Ákursrøkur
Svarthamar
Vallstígjur
Hellustígjur
Flógið
Garðar
Frammi á Torvbotni
Tjørnin
Stórá
Svartá
Stigggjurin í Sinsbotni
Nón
Hálsurin
Ljósá
Stóragil
Skeggjanøvin
Hvíthamar
Mortanskelda
Skarðsáin
Tungáin
Strokufalsáin
Hestáin
Salvá
Kirkjusteinur
Tvøstlykkjusteinur
Hórissteinur
Heyggjurin Mikli
Hvarvisheyggjur
Nonsgjógv
Miðarók
Grafelsrustin
Sveðini
Við Keldurnar
Blaaberg
Fossurin í Keri
Litlibarmur
Skammrók
Skúli
Eiðiskarð
632
662
634
299

Fig. 41: *Aerial photo of northern Eysturoy showing; the village of Funningur; the mountains of Vaðhorn, Slættaratindur and Gráfelli; the large lake of Eiðisvatn (left). Route 8290-K, no. 164 & 166. Date 07.06.1982, time 13.38, scale approx. 1:32,000. KMS, Copenhagen.*

scree are common at the foot of steep mountain slopes, whereas gentler slopes are characterized by their tongues of solifluction material.

River erosion is more important at lower levels. In some places it has even been powerful enough to expose the underlying basalt bedrock. However, since the last ice age, no glaciers or permanent snowfields have existed on the Faeroe Islands. Theoretically, the snowline would lie at 1,000-1,100 masl. As a rule, all the winter snow that falls on the summits melts the next summer.

The landscape around Slættaratindur

The map extract shows northern Eysturoy and includes the highest peak on the Faeroe Islands, Slættaratindur, 882 masl. Below 560 m in the southern half of the extract, and below 430 m in the northern half, the geology belongs to the middle basalt series. Above lie the more resistant bench lava flows of the upper basalt series. The changeover is very apparent in the landscape. The lower landscape is gentler with convex slopes, whereas the upper landscape includes steep, vertical steps and edges.

The drainage pattern in several places is characterized by linear streams. These lines of weakness are exploited by weathering and run-off, giving rise to the peculiar linear drainage pattern as may be seen on the map near Hagagjógv in the southeast part of the region.

The high plateaus are remnants of the original flat Tertiary landscape as exemplified by the saddle linking the two peaks of Gráfelli and Slættaratindur. The deep cirques and the fjord valley are essentially products of the colder Quaternary climate when glaciers and rivers, combined with frost shattering, denuded the surface.

The extract covers the central northern part of the Faeroe Islands. During the last ice age, the ice moved across it from south to north. At that time, the main local feature was the large valley glacier that flowed northwards down the valley of Funningsfjørður. Simultaneously, a smaller, yet significant glacier, flowed in a parallel direction down the Dalá valley towards Gjógv in the northwest part of the region. Despite the subsequent eustatic sea-rise, the Dalá valley has remained above sea-level and retains its characteristic “U”-shape.

During glacial maxima, it is believed that the height attained by the Faeroese ice-caps and associated snowfields was 500-600 masl; above which only the highest peaks protruded as nunataks.

The extract includes several cirques. Two particularly good examples lie SW of the village of Funningur. To the NW is a large twinned cirque whose ground moraine in the SW of its basin displays glacial flutings orientated parallel to the NE direction taken by the former valley glacier. In some cases, the headward erosion in adjacent cirques has advanced to a stage where the saddles separating them have either been worn to thin arêtes or been breached to produce low cols and through-valleys; as is evident between Gráfelli and Sandfelli in the northern part of the extract. Slættaratindur has been reduced to a pyramidal peak and it is a remnant of the original Tertiary surface. Its horned peak is the result of headward erosion from three sides.

In the post-glacial period, the landscape has been mainly modified by frost shattering, solifluction and river erosion. Frost action is most prevalent at higher altitudes and its effect is best seen in the block fields on the high plateaus. Falling shattered material comes to rest as scree and talus, as is seen along the foot of the northern slope of Slættaratindur. Soil creep is prominent above 400 m; as on the southern slope of Gráfelli where a large accumulation can be detected. River erosion becomes more effective at slightly lower altitudes. Below 400 m, the mountainslope west of Funningur is being eroded by many streams. The sediment appears to be transported directly out to sea as there is no deposition in the form of a river-mouth delta or beaches along the adjacent fjord coast. Except for the block fields, (indicated by hatching on the extract), the other landscape features mentioned here are not symbolized.

The top of the extract includes a short section of the NW coast where there are very high, precipitous cliffs with occasional headlands composed of more resistant rock. Coastal erosion has been a very decisive factor in shaping the seascapes of the Faeroe Islands during both the warmer interstadials and the current Holocene Period. To the NW of Gráfelli, the seacliff has receded so much that the valley now ends abruptly at the edge; hanging 200 m above the sea. Despite the rejuvenation of the mountain streams caused by rapid coastal retreat, river erosion cannot compete with the wave erosion of the sea, whose irresistible force is the main factor shaping the coastline today.

Ole Humlum

10 Landscape and Soils of the Lake Leynavatn region

During the last glaciation, the Dalá Valley north of Lake Leynavatn contained a southward-flowing glacier that eroded a typical U-shaped, cross-valley profile; characterized by a broad, flat bottom and steep sides. As the glacier melted, vegetation invaded the landscape and soils began to form in the unconsolidated sediment deposited by the ice. Soil, which provides plants with nutrients, develops on loose deposits. In the Faeroe Islands, these deposits are clay, silt, sand, gravel and stones originating from the weathered and eroded basalt bedrock. Soils result from the effect of the relief, climate, plants and animals on this original material. From near Lake Leynavatn, three landscape types and their soils are described and further illustrated by infrared aerial photographs and explanatory sketches. The infrared light reflected by variegated vegetation produces strongly contrasting reds whereas that reflected by barren land and water produces greys and blues. A typical inorganic soil profile consists of three distinct horizons; A, B, and C. The A **horizon** is the mull layer and forms close to the surface. It contains transformed organic material called humus. This is also the place where the decomposition and eluviation of minerals and organic matter occurs. However, these processes are hindered by waterlogged and anaerobic conditions to produce a peat layer, **H.** An H horizon may totally replace an A horizon. Below lies the **B horizon.** This

Fig. 43a: *Infrared photo and sketch of the area just north of Lake Leynavatn showing the meander course of the River Dalá as it enters the lake. The land is rather flat with a series of sand ridges alternating with moist depressions. Fluvial deposits are observed. On the western slopes there are depositional fans. Photo and sketch: LEM.*

Fig. 43b: *Infrared photo and sketch of the outlet area beyond Stóragjógv Ravine with its large depositional fan. A farm surrounded by cultivated fields is situated on this relatively well-drained fan. An older outlet from the ravine has been blocked by the farmer with large stones to prevent flooding. Photo and sketch: LEM.*

Fig. 43 c: *Infrared photo and sketch of the upper valley north of Lake Leynavatn near Ærgisá (formerly spelt Argisá) showing strongly contrasting conditions in the uncultivated outfield. Subterranean stream-tunnels, in places with collapsed roofs, are visible on the photo. The hatched areas 1 and 2 are explained on page 44.*
Photo and sketch: LEM.

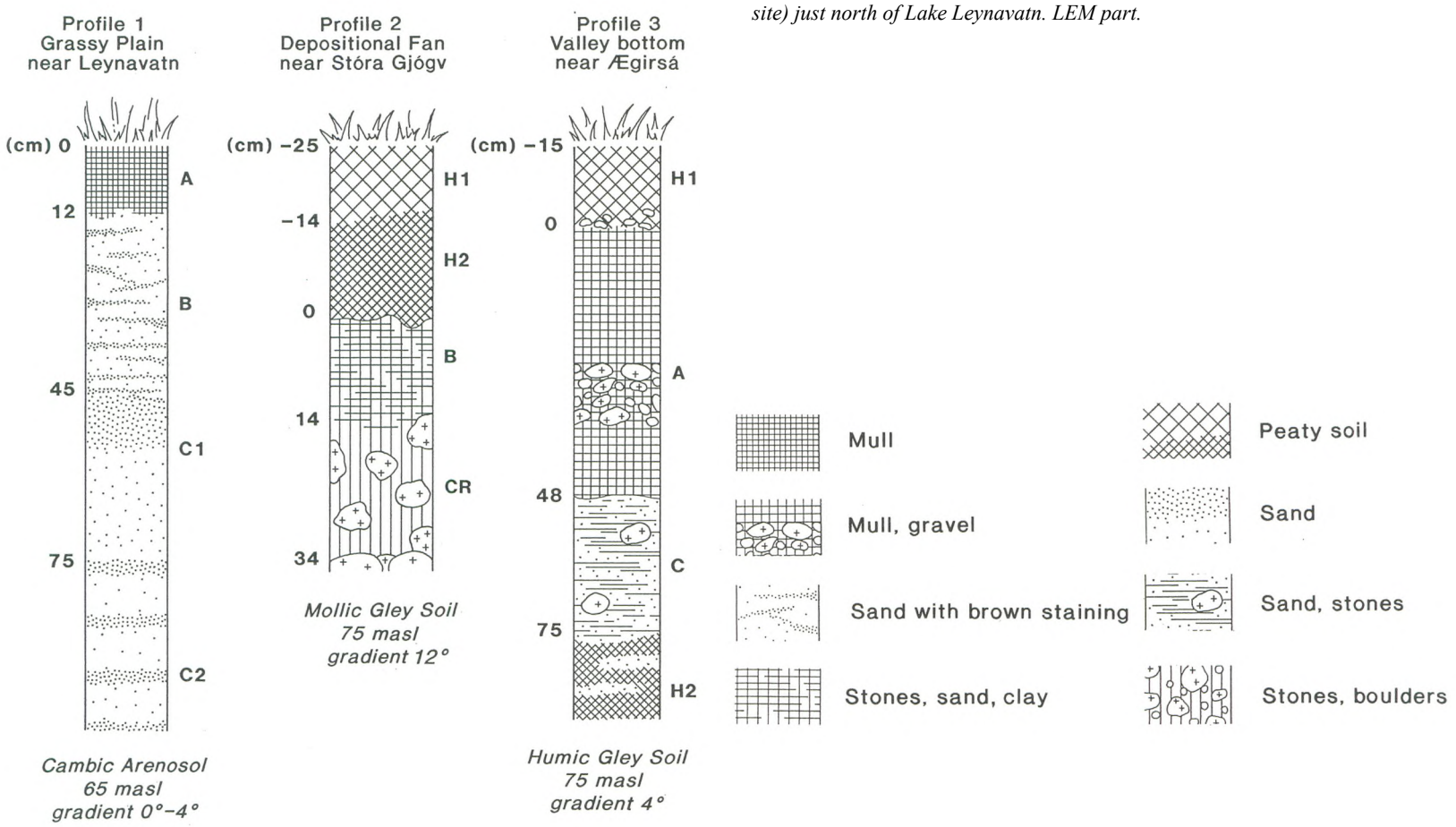
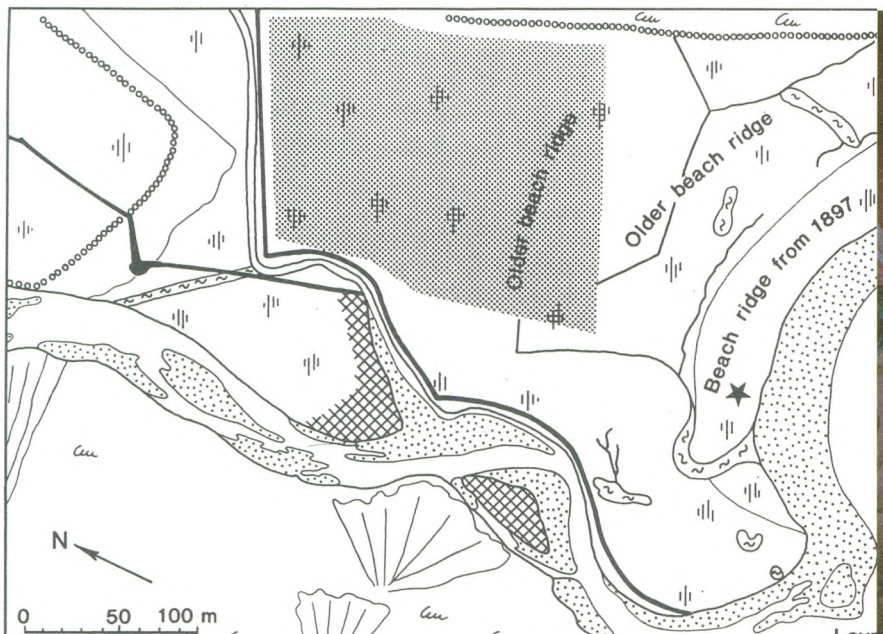
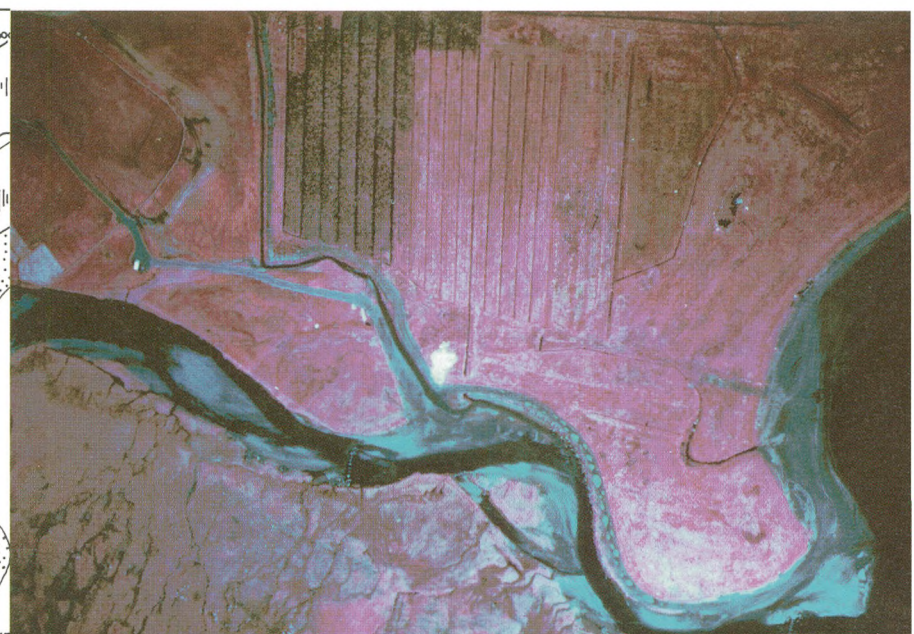
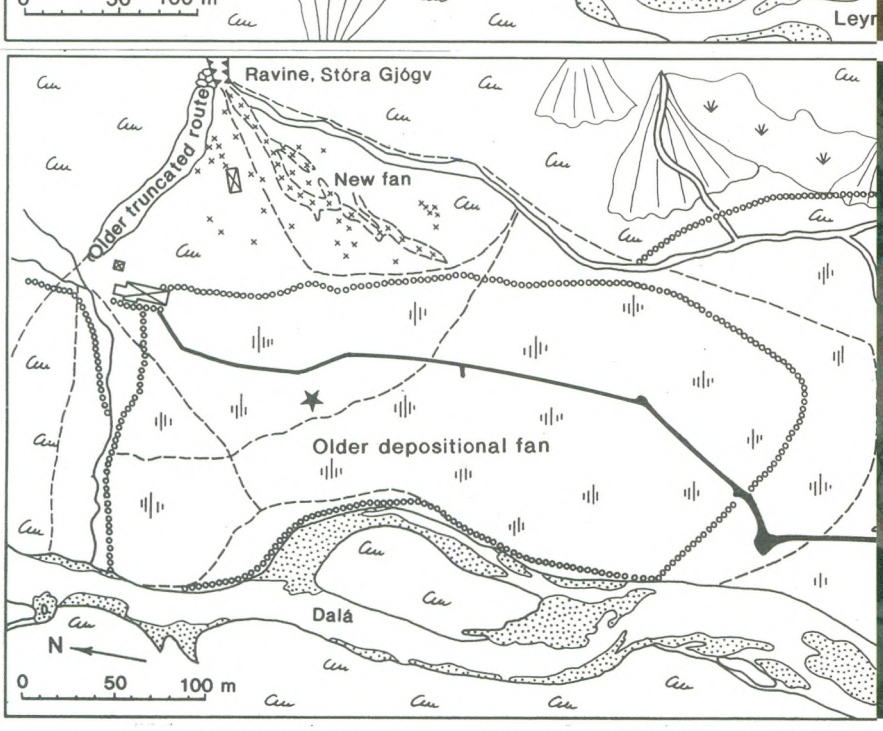
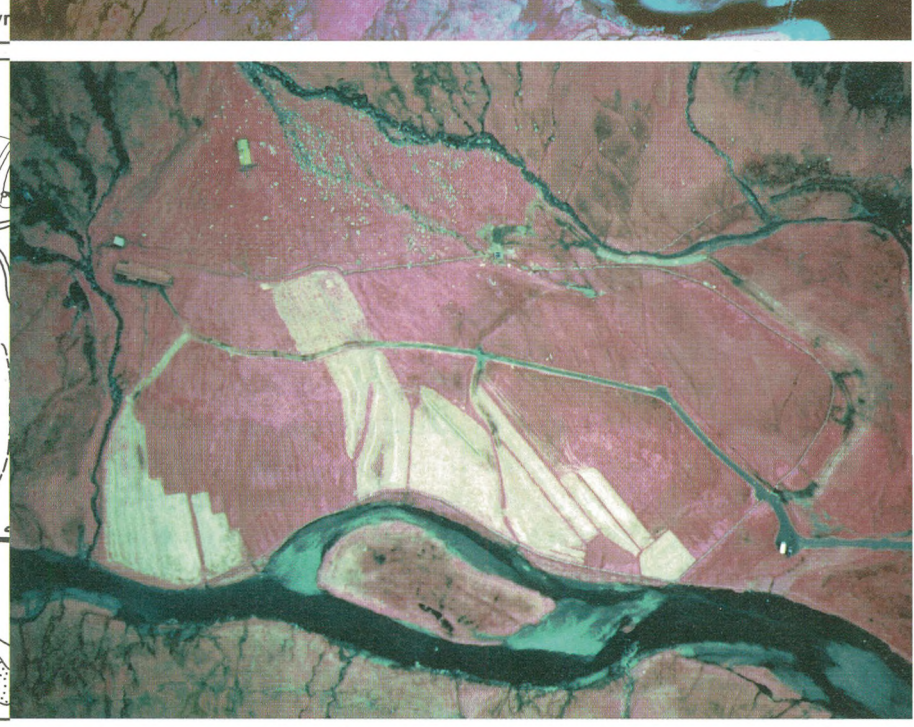


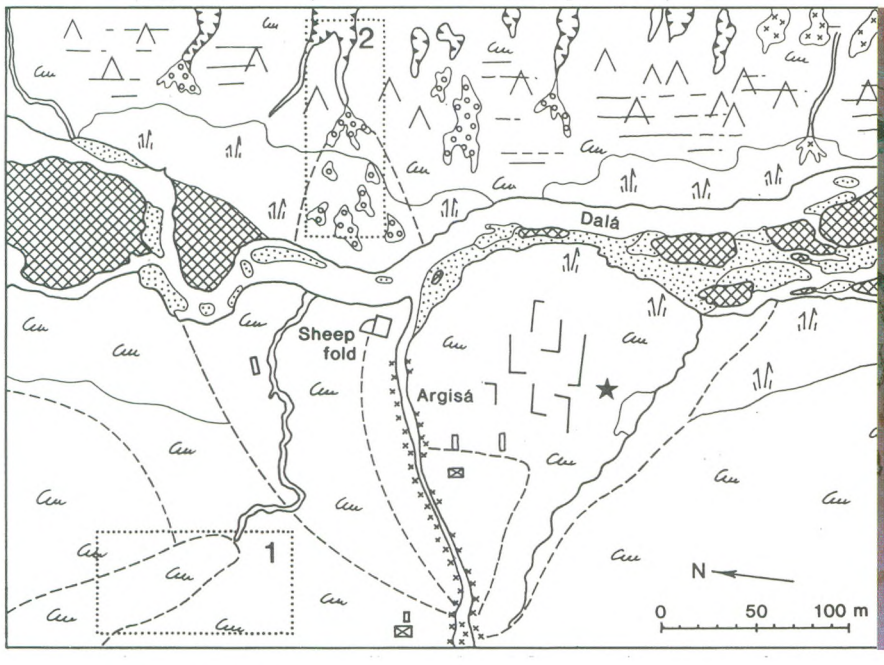
Fig. 42: *Three soil profiles from different locations (see sketch opposite) just north of Lake Leynavatn. LEM part.*

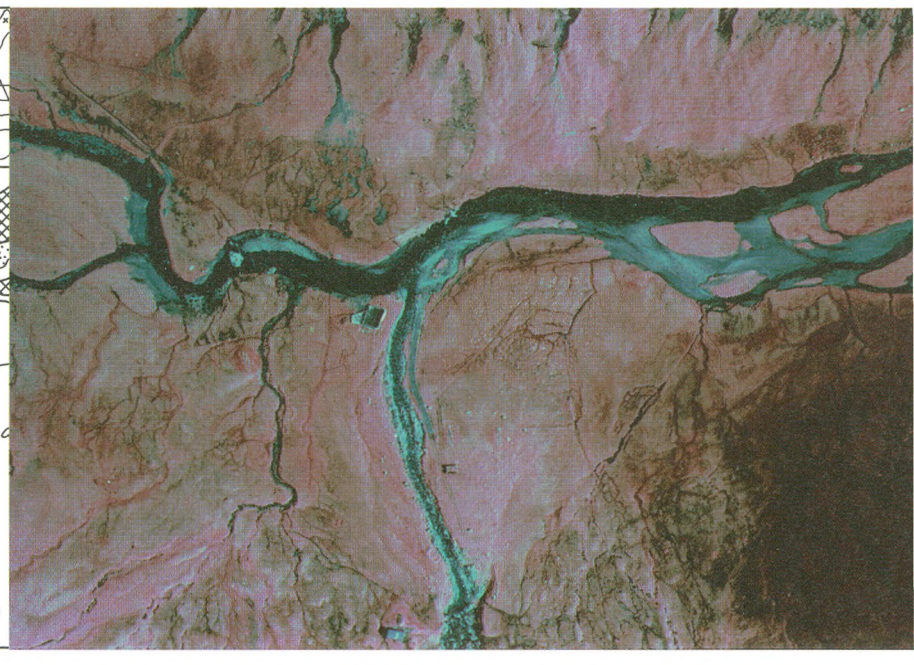












LEGEND

- boundary of depositional fan
- depositional fan
- small detached fans
- ravine
- sheep paths
- gravel and stones
- stones
- sand
- grass-covered levées
- marsh vegetation
- mountain vegetation
- vegetation on cultivated land
- mountain vegetation, well-drained
- newly cultivated area, partly overgrown
- old peat cuttings
- turbary
- croft
- track
- stone dike
- former riverbed, waterholes
- profile site

Fig. 45: *The landscape around Lake Leynavatn. Extracts from topographic maps nr. 410 and 411. Scale 1:20,000, KMS, Copenhagen 1990-91.*

is the illuviation zone where material washed down from the upper horizon precipitates and collects. This material usually consists of clays, organic matter and ionic solutions. The deepest horizon, **C horizon,** is unaffected by soil formation processes. When it is composed of the hard underlying bedrock, it may be denoted by **R**. The soils of the study area contain large amounts of organic matter in the form of peat because of the high moisture content. The three soil profiles will be described in turn. Further details are in the infrared aerial photographs and annotated sketch maps which portray the most important landform characteristics.

The Oyrarnar Plain north of Lake Leynavatn

When the glaciation ended, Lake Leynavatn probably stretched several hundred metres further north than it does today. A barren landscape existed, partly covered by loose sediment deposited during glaciation. These sediments provided the enormous quantity of material that has been removed by surface drainage since the end of glaciation. A delta formed where the River Dalá enters Lake Leynavatn. As the sediment deposited at the river mouth was greater than that removed by lake currents, the delta grew. Wave action shaped the deposits into a series of beaches; whose remnants form a pattern of low ridges and intervening marshy hollows that constitute parts of the local landscape.

The *soil profile* taken from the southernmost beach ridge comprises horizontal sand layers with textures of alternating grain size; proof of the gradual retreat of the lake. The deepest soil profile section, C2, comprises layers of coarse and medium-sized sand grains, indicating that deposition occurred in the vicintiy of the expanding delta. The deposits in section Cl are evidence of the environmental transition of the site to a lake-shore and beach-ridge formation. The uppermost soil layer, the A horizon, contains substantial amounts of transformed organic matter. The A and B horizons have also been subject to alteration because the layers have turned slightly brown due to the clay and humus combining with iron. This modification has given the soil a stable, porous structure.

The alluvial fan at Stóragjógv

River erosion, which is exploiting a line of structural weakness in the basalt bedrock, created the deep ravine known as Stóragjógv and provided material for the approximately 3-hectare alluvial fan at its outlet. Much of the alluvial fan has been cleared of boulders and cultivated by the inhabitants of the farmstead *Við Gjónna.*

The soil profile taken from the fan shows the soil to be moist. The thick organic upper layer contains peat and can be divided into two horizons; HI, which is greyish brown; and H2, which is reddish brown. The B horizon is also moist and has a high organic matter content. A laterally moving film of water marks the boundary between the H2 and B horizons. This saturated environment gives rise to intermittent anaerobic conditions and gley formation; as is evident in the yellowy, red rust particles that speckle the B horizon. The lower part of the profile, which is the CR horizon, is a mixture of boulders, stones, gravel, sand, silt and clay.

This material wealth reveals the complexity of the depositional environment in which the fan formed. Soils associated with this type of landform vary greatly in component size. In this particular alluvial fan, the upper layer contains few gravels and stones, indicating that its formation has been slowing for some time.

The valley bottom at *Æ*rgisá

The alluvial fan at *Æ*rgisá is small and poorly drained compared to the one at Stóragjógv. The entire western slope is poorly drained. Subterranean streams are common in this area, and in places the roofs have partially collapsed (Sketch Map 3, hatched area 1).

By comparison, the eastern slope is steep and well drained. It is characterized by unusual, small landforms created by the continuous slump of surface material. Sketch Map 3, hatched area 2, shows how a brook has incised the loose surface material to form a cleft, beyond which grows a small alluvial fan of gravels and stones. The small slump terraces run parallel to the contour of the land and are nicknamed sheep paths.

The conditions at the valley bottom create a waterlogged, anaerobic environment that suits marsh plants and moss. The accumulation of plant remains in the low-lying areas produces low moors, but where precipitation amounts are excessive, accumulation continues above the local water table and produces high moors.

The *soil profile* taken from the alluvial fan edge reflects the complex depositional environment. The deepest part of the profile, H2, is a peat layer that once lay at the surface. The peat was covered by a layer of sand, C, and the subsequent vegetation produced an overlying mull layer, A. Recurring avalanches and meltwater surges deposited lenses of sand and gravels at random as the A horizon developed. Later, this mull layer was also buried and waterlogged, and it now lies beneath 15 cm of moist peat, the H1 layer.

The soil profiles and associated landforms described in this chapter are characteristic of low-lying valley areas within the Faeroese landscape.

Lis E. Mortensen

INNI Í VEGGI
GARÐSENDAHAGI
MIÐGERÐAHAGI
FRAMMI Í HAGA
(PRESTHAGI)
FRAMMI VIÐ
GJÓGV
HAMRAHAGI
FREMRIPARTUR
FRAMMAN FYRI HÚSINI
LEYNAHAGI
LEYNAR
STYKKIÐ
KOLLFJARÐARDALUR
Vítin
Gjótan
Húsadalsskarð
Sneis
Hamrabotnur
Hamraskarð
Hjallarnir
Svinnistiggjur
Guttadalsrøkur
Rossabotnur
Innaragjóta
Ytragjóta
Navirnar
Navahjalli
Hjallin
Titnabrekka
Torvadalur
Sandheygar
Hálsurin
Langheyggjur
Flatirnar
Ennið
Stórheyggjur
Skarðbrúgv
Brúgvin á Botni
Frammi á Botni
Snógil
Ovastihjalli
Jøklagjáir
Miðhjallin
Niðastihjalli
Kletturin
Váti
Koppurin
Knúksgil
Knúkur
Hvítagrót
Rókarstiggjur
Hamrarnir
Flá
Djúpagil
Dalá
Rossabotnsgjógv
Mýrabotnur
Keldheyggjur
Heyggjurin Mikli
Gívrugil
Knópur
Lágni
Vestmannastiggjur
Høvdið
Tjarnabotnur
Tjarnabotnsryggur
Smørdalur
Hósviksgjógv
Grindarstiggjur
Urðahjalli
Aarstiggjur
Lirahjalli
Gívrufjall
Djúpahjalli
Djúpahjalsbrúgv
Bólið í Varða
Hósviksakarð
á Mann
Bøllufjall
Moskurskarð
Dýrnar
Regini
Vætursstigarnir
Røkin
Eysturhjalli
Klettarnir
Tøkrastiggjur
Fremstabølshylur
Spiskoyra
Stóralág
Ærgisafløtan
Ærgisfossur
Navurtunga
Støðuklettur
Rangagjógv
Litlabrúgv
Kellingarenni
Stóragjógv
á Hálsi
Ovara Valnabrúgv
Við Gjónna
Markvatnsáin
Fremstatjørn
Miðryggurin
Millum Ryggjanna
Niðastatjørn
Heimastiryggur
Oyrarnar
Drangaósi
Ennið
Gásaklettur
Skoroyran
Mjóvarrarnar
Valnabrúgv
Breiðadalstungur
Hvítiklettur
Meraklettur
Breiðidalur
Drangarnir
Drangagil
Svínagjáir
Drangalið
Leynavatn
Ingilhús
Grásteinur
Mjáuvatn
Skaðafossur
Niðari Meraklettur
Hattarsteinur
Klivarnar
Kirgil
Klivagjógv
Brúnabrúgvin
Oksagil
á Gjómunna
Brøttulíð
Frammi í Líð
Líðarenni
Grótvalir
Stóragil
Brúnarnar
Mjáahjalli
á Grondum
Hvassheyggjar
Navagjógv
í Fløttum
Undir Stigum
á Hvilvt
Navahjalli
Navirnar
Skarðstungur
Svøðini
Hamarsendi
Keldurnar
Djúpihjalli
Regnini
Sátan
Stígabrúgvin
Lippuhjalli
Hvilvtá
Ísingagil
Skúli
Kjalnafossur
Uppi á Varða
Vatnverk
Kollfjarðargjógv
Stallagjógv
Sandheyggjar
Kletagjógv
Líraberg
Vaðsteinagjógv
Steyrur

11 Plant Geography of the Lake Leynavatn region

Fig. 45: *The landscape around Lake Leynavatn. Extracts from topographic maps nr. 410 and 411. Scale 1:20,000, KMS, Copenhagen 1990-91.*

The map shows the Lake Leynavatn area on Streymoy. North of the lake, the Dalá Valley is encompassed by lofty peaks, aretes and cirques. The highest mountain is called Sneis, 745 m. The variation in landscape in this zone is so great that all the important Faeroese plant communities are represented.

Seacliff and seashore vegetation
Except for a sandy shore near the Leynará rivermouth, the coastline consists of a long seacliff upon which algae vegetation grows. The cliff-face is steep and sparsely vegetated. At the foot of the cliff, seaweed abounds, and there are black, pale grey, and yellow lichen communities. In the rock crevices, flowering plants are found, of which the most common are; *sea thrift, sea plantain* and *common scurvy grass.* Grasses include *red fescue* and *saltmarsh grass.*

Infield vegetation
Only 6% of the Faeroe Islands is cultivated. Hay is almost the only crop that remains important today. Traditionally it was cut with a scythe, dried, and used as winter fodder for cows and sheep. Nowadays potatoes are cultivated in small fields in a few areas. Formerly barley was an important crop. A field used to be sown under barley or potatoes for one year, then left to the natural incursion of wild plants of which the pioneer species were; *velvet grass, sweet vernal grass, field pepperwort* and *variegated forget-me-not.* This phase would last for about 8 years to allow the establishment of a stable vegetation cover, by which time most pioneer plants, except *sweet vernal grass,* had been ousted by *meadow grass* and *white clover.* All three plants are nutritious fodder plants. The other plants of the infield were attractive but otherwise useless and included flowering species such as; *buttercup, daisy, selfheal, eyebright* and *yellow rattle.* Wetter ground was often the haunt of; *sedge, ragged robin and marsh marigold.* The infield was therefore extremely colourful in July before the hay harvest and resembled a flowering meadow. The last 20-30 years have seen the mechaniza-tion of many farming practices in the Faeroe Islands, as is true locally in the newly cultivated areas north of Lake Leynavatn and by Lake Mjáuvøtn. Levelling and soil treatment are now machine-operated. Deep drainage channels now separate fields. The natural regeneration of wild species in the infield has been replaced by the sowing of selected grasses. Oats is now a common straw fodder, and so too are *orchard grass* and *couch grass.* Once cut, these grasses do not require drying and instead are stored in silage containers.

Lake vegetation
Faeroese lakes are poor in vegetation. The shores nearly always consist of infertile beaches of gravels and stones. Close to the shore, *quillwort, shoreweed, spearwort* and *bulbous rush* may grow. Further out, several *pondweed* species may be accompanied by *bur reed* and *water milfoil.* In deeper water, *stonewort* is found. The lakes are usually rich in *plankton algae.*

Outfield vegetation
The outfield is uncultivated and separated from the infield by a stone dike or wire fence. Sheep may graze in the outfield all year, but they are only allowed to graze in the infield during winter. Outfield vegetation is much affected by perennial grazing. The low-lying part of the valley north of Lake Leynavatn is covered with grass fields where many plant species provide the sheep with basic food requirements. They include *bent, fescue grass* and *sweet vernal grass. Mat grass* is also common but not readily eaten by sheep, and therefore its area tends to increase at the expense of edible species producing conspicuously large, tufted patches in the terrain. In wet grassy areas, and a few dry areas, many species of *sedge* are found. Waterlogged areas favour the growth of *rush species* and *cotton grass,* but they are inedible. Several herbaceous plant species grow among the grasses. *Tormentil* is a very common herb. Its yellow flowers are easy to detect in the lower outfield. In bygone times, its rhizomes were crushed and mixed with water to form a tanning agent that was rubbed into sheep-skins. Despite its exploitation, tormentil remains among the most common plants in the outfield. The *spotted orchid* is the sole orchid common to the islands. *Milkwort* is also colourful with tiny, red, blue, or even white flowers that paint the outfield landscape. Milkwort is seldom eaten by sheep.

Heaths are found in different parts of the Faeroe Islands, but rarely occur as extensive tracts except on Vágar near Lake Sørvágvatn. *Ling* prefers sun-shine and warmth and is therefore often found on south-facing slopes. On the map extract, ling is not indicated because of its very limited extent. However, a related species, *bell heather* (Erica cinerea), requires extremely oceanic climates; like those of the Faeroe Islands, Shetland, Ireland and western Norway. *Bisexual crowberry* was first discovered on the Faeroe Islands by the Danish botanist, *O. Hagerup.* The *common crowberry* is dioecious. In the northern countries the bisexual variant is the most common one.

Ravine vegetation
Sheep are unable to graze in clefts, ravines, nor on the steepest slopes, so the vegetation remains untouched. In these protected environments, plants may grow to their maximum size and bloom fully. This is particularly true of *ferns;* which only manage to grow successfully in the

absence of sheep. The most common fern species are; *lady fern, male fern, polypody* and *hard fern.* The herbaceous plants include; *meadowsweet, rose root, buttercup, purple crane's bill, willow-herb, woodrush, hawkweed* and *lady's mantle.* A particular species of this family, **Alchemilla Faeroensis,** is restricted to the Faeroe Islands and eastern Iceland. Clefts and ravines favour the growth of tall grasses and sedges. They also provide a moist, dark habitat that is ideal for many mosses. A plant akin to a moss, **Hymenophyllum wilsonii,** in English known as Wilson's filmy fern, is only found in deep recesses and requires an extremely oceanic climate.

Mountain vegetation

At higher altitudes, the vegetation changes because the climate is harsher. The temperature is lower, the wind is stronger, and the precipitation is greater. Plants are very small, and mosses predominate. The surface is a mosaic of rocky ground, gravelly soil, and patchy plant cover. Short and medium grasses are widespread. Several beautiful flowering species are also found; *saxifrage, alpine saxifrage, catchfly, spiked woodrush, alpine lady 's mantle, sibbaldia, alpine bistort, Iceland purslane* and *common sorrel. Dwarf willow* is very common. *Fungi* live in symbiosis with dwarf willow or alpine bistort. All of these plants can be found at lower levels, but *mountain poppy* and *dwarf cudweed* are confined to the highest areas. *Mountain buttercup* is, however, more widespread.

Before the arrival of mankind

Today, the ungrazed areas give an impression of how the island vegetation looked before human beings arrived with their sheep and cattle. The islands never became naturally forested after the last glaciation, but copses of willow, juniper thicket and a profusion of herbaceous plants constituted the climax vegetation. Species like *arctic willow* and *tea-leaved willow* were once common, but are now rare. Creeping *dwarf juniper* is still found in large thickets on Svínoy, but elsewhere it has literally disappeared. Fossil juniper stumps are frequently unearthed during peat-digging to prove that this tree was common before the human colonization. Juniper branches were used for smoking meat. This species was in fact already decreasing before man arrived.

Johannes Johansen

Fig. 47a: *West-facing slopes and, Stóragjógv Ravine showing the large depositional fan and the farm called "við Gjónna".*
Photo: JJ, August 1989.

Fig. 47b: *East-facing slopes near River Rættará in the valley north of Lake Leynavatn. Gravel beds and grass covered levées here characterize the course of the River Dalá. Photo: JJ, August 1989.*

Fig. *47c: The River Dalá enters Lake Leynavatn. Oyrarnar with its newly cultivated area is in the centre, while the summit of Sátan rises beyond (relate to map extract, page 45 and figures, page 43).*
Photo: JJ, August 1989.

12 GIS-Terrain Analysis near Lake Fjallavatn

Fig. 49: *The area to the west and south of Lake Fjallavatn. Extracts from topographic maps 210 and 310. Scale 1:20,000. GI, Copenhagen 1988.*

The topography of an area measuring 6.2 km^2 east of Lake Fjallavatn on Vágar was analyzed through the application of a Geographic Information System (GIS). The results were compared with fieldwork observations. The calculation of certain terrain variables, such as slope and aspect, makes an important contribution to information on the geomorphology; which is in essence a product of many interacting physical processes.

The island of Vágar is dominated by the volcanic formations of the middle basalt series belonging to the Tertiary Period. Only in the easternmost part of the island are benches from the lower series exposed. The basalt layers were later subjected to tectonic activity, and a long and broad valley was formed in a NW-SE orientation. It contains the two largest lakes of the Faeroe Islands; Sørvágsvatn and Fjallavatn. The surrounding terrain was also marked by local fractures, although not all of them are oriented in the NW-SE direction (see Figure 51a).

During the Quaternary Ice Age, the area was eroded to produce the large landforms that are seen today. The valleys were deepened, while other structural lines of weakness were exploited by glacial erosion to produce the main U-shaped valleys and tributary hanging valleys.

In the post-glacial period the landscape underwent physical and chemical weathering. The U-shaped valley bottoms have since been partially modified by incisive river erosion and resemble normal V-shaped river valleys.

The morphology E of Lake Fjallavatn is represented by the three-dimensional *surface diagram* (Fig. 48). By comparing the model and topographic map, it is possible to see how water courses follow the structural lines of weakness; including the V-shaped fracture system whose origin is mainly tectonic but modified by recent isostatic uplift as the ice melted. Confluencing streams always take the steepest, shortest routes to Lake Fjallavatn.

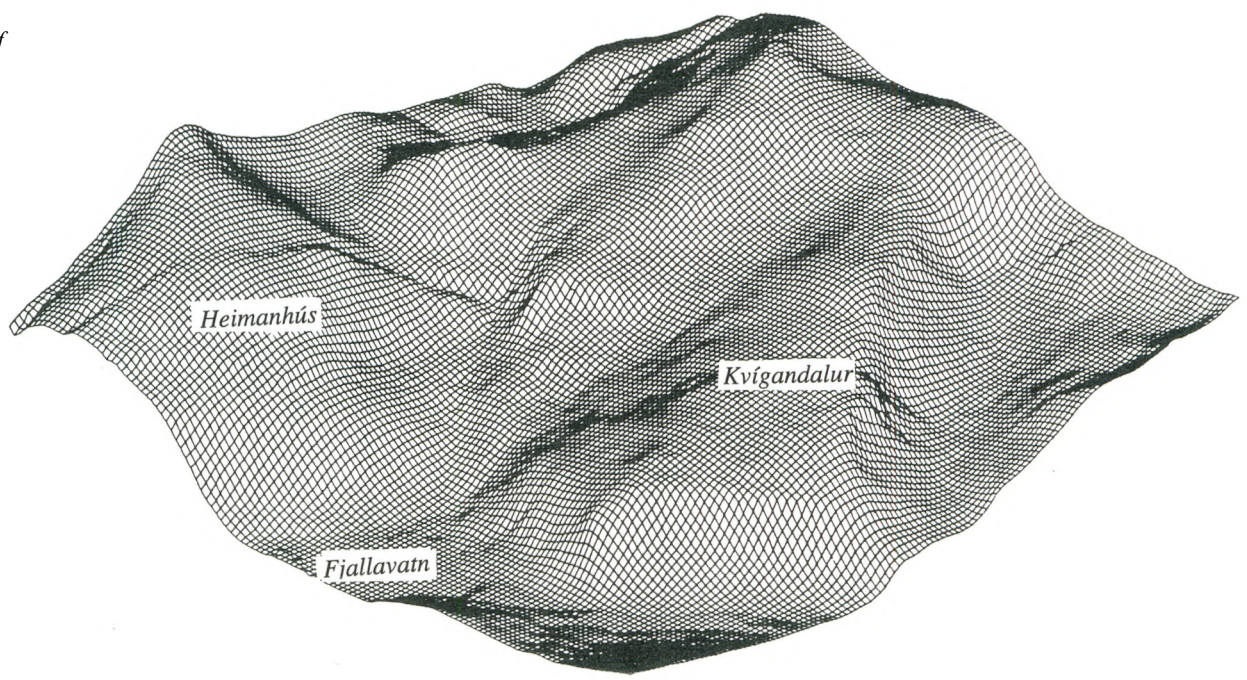
The 3D surface diagram is taken from a *digital elevation model* calculated on the basis of a topographic map contour plan. The contour plan was made stereographically from black and white aerial photographs; a topographic mapping technique commonly used in areas of rugged relief.

In the construction of the digital elevation model, each intersection of the "fish-net" diagram was designated a height through interpolating the contour heights of the 10-metre, contour map of the region. The mesh is based on 30m sections of terrain. By determining the difference in height between one intersection and its eight surrounding intersections, it has been possible to calculate and produce *slope plans* and *aspect plans* (Figs. 50b and 51b).

Heights range from 94 masl at Lake Fjallavatn to 563 masl on Tungufelli in the N. In Figure 50a the area is divided into *height intervals* as shown by the digital elevation model of the area. The zone along the edge of Fjallmannaklettur has slopes as steep as 45° exposed to the E, S and W.

The steepest terrain appears as light areas on the aerial photograph because of the lack of vegetation. Summits are either without soil or contain very little soil due to the constant removal of weathered and eroded material by the elements. Field observations on summits include the discovery of recent periglacial features such as surface polygons and sorted stone stripes caused by the frequent high gales and perpetual frost-thaw action in

Fig. 48: *Digital elevation model of Kvígandalur Hagi, SE of Lake Fjallavatn. The model resembles a fishing net and shows the area as seen from the SW. Vertical exaggeration 3.5x. Designer: TB*



SLÆTTANESHAGI
TTANHÚS
HEIMANHÚS
KVÍGANDALUR
FJALLAVATN
TJØRN
PARTUR
GI
Stikugjógv
Eystaraskor
Skoradalur
Grímstaðfjall
Skoradalshálsur
Eggin
Eggjarmúlin
Selgjógv
Selgjáliðin
Klubbin
Skáadalur
Gjóta
á Linkinum
Torv-heyggjur
Bólið við Hústø
Barmur
Áin Markná
Rivan
Mølin
Kráarheyggjur
Ternheyggjarnir
Jatnagarðar
Fossabrýrnar
Skálin
Klettareyn
Úrðin
Klingrugjógv
Uppi á Fossi
Tungufelsbotnur
Tungufelsskarð
Skúgvaflatur
Rókin
Rakarkinn
Rossasnið
Botnur
Hvanngjógv
Stertur
Uppi á Gjáum
Tungufelli
Suðansbrekka
Markaklettur
Hálsin á Rók
Miðgjógv
Høvdagjógv
Moldbakkarnir
Mýrabotnur
Fuglabrekka
Oyrarnar
Høvdin
Lobbrýrnar
Húsagjógv
Húsahjalli
Tungufellið Litla
Tvørbrekkur
Herðan á Gili
Gil
Fjallahús
Lágin
Langasandur
Heimanhúlið
Stórabrekka
Hjallarnir
Fótamerskletturin
Krossafelli
Skiturin
Tunguáin
Kletturin í Krossafelli
Sandsoddin
Krúpið
Klettareyn
Tungan
Rættartangi
Áin á Fjøllum
Graabrúgv
Sandurin
Flatnastiggjur
Grunndals-oyrar
á Flatum
Áin á Flatum
Gamlarætt
Borgarheyggjur
Fossi
Krossgil
Fjallmannaklettur
Hvítabrúgv
Litlabólið
Lágin
Høvdin
Enni
Tjørnin á Skarði
Blahamar
Longubrekka
Krossbólið
Skarð
Snið
Dalurin á Kvígandali
Marknáin
Keldurnar
Áin í Gunnhildarbotni
Tjørnin í Enni
Hamarin
Rókin
Rakarendi
Pallur
Kvígandalsá
Sundsgøta
á Flatunum
Gimbrabólið
Fløtan Feita
Illalág
Sundslag
Dalamunni
Steinurin Bogni
Slættanesgøtan
Fjallmannaklettur
Eggin
Litli Hamar
Ruskdungi
Hamarin

Fig. 51a: *Aerial photo of Lake Fjallavatn. The terrain model covers the area to the E and SE of the lake. Route 8290-D, no. 217.*
Date: 08061984, time 10.22. Scale approx. 1:28,000, GI, Copenhagen.

winter. The gales and high precipitation in the highest areas with varying relief increase erosion and prevent any vegetation from rooting permanently.

On gentler mountain slopes, complete sections of the grass-covered "peat carpets" have sheared off and come to rest further down the mountainside. These landslides probably occur when the weight of constantly accumulating, waterlogged, dead vegetation becomes so great that the force of gravity exceeds the frictional resistance of the underlying surface. The process might be quickened by frost-thaw action. However, the gentlest slopes and basins are places where high moors and bogs develop.

The eroded rock material is transported by water courses towards Lake Fjallavatn. The low, flat, discharge area around the rivermouth, at 94-100 masl, is entirely composed of layers of sands, gravels and stones; which in places have been deposited on peat layers that are several metres thick. Drilling profile studies in this area prove that the low-lying area developed as a late-glacial and post-glacial delta where the dominant rivers cut through alternating beds.

This plain of deposition is today dissected by two rivers approaching from the E and SE. The aerial photograph indicates where former water courses once ran.

The only visible remnants of the last glaciation are a series of parallel end-moraines consisting of stones and heavy clays at 100-120 masl. They lie in the SW corner of Fig.51a.

Powerful erosion and weathering by wind, rain and frost subjects the highest and most exposed landscapes to continual, rapid change. By contrast, the more stable, lower areas are utilized for extensive sheep grazing. This has certain drawbacks because grazing reduces the protective vegetation cover and exposes the land to erosion while the trampling of sheep along the paths that follow the contours of the hillsides heightens the risk of landslides.

Apart from the morphological studies, the fieldwork also examined how altitude and exposure influence *precipitation.* A series of rain gauges was established at sites in the terrain selected on the basis of the figures on *elevation* and *aspect* (Figs. 50a and 51b).

Combining the individual classes from these two figures allowed the construction of another figure (Fig. 51c) from which it was possible to select a set of precipitation measuring sites to represent the different exposure levels; which are a product of the great variation in relief and aspect in this particular area.

Thomas Balstrøm

Fig. 50a: *Digital terrain model with superimposed contour intervals. The area seen from the SW. Vertical exaggeration 3x. Designer: TB*

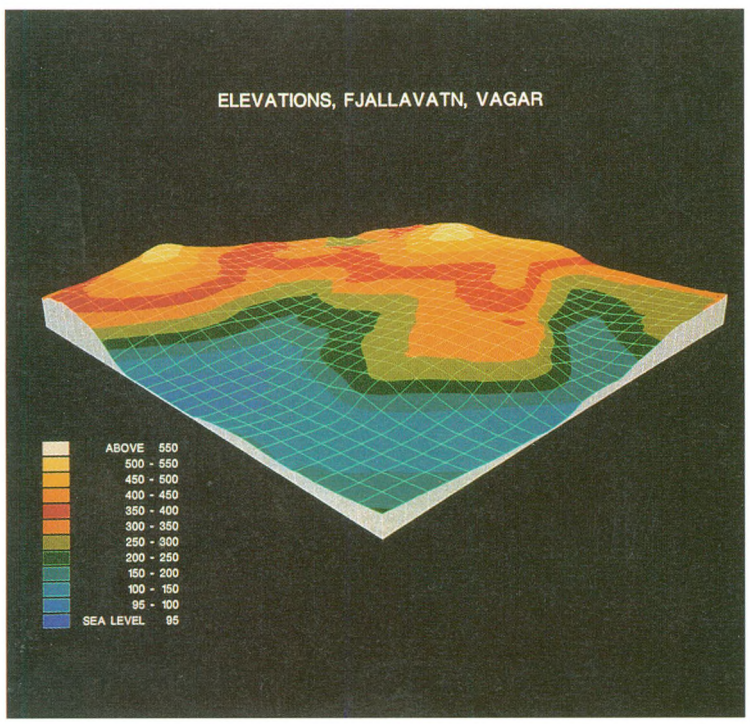


Fig. 50b: Digital terrain model showing slope intervals. The area as seen from the SW. Vertical exaggeration 3x. Designer: TB

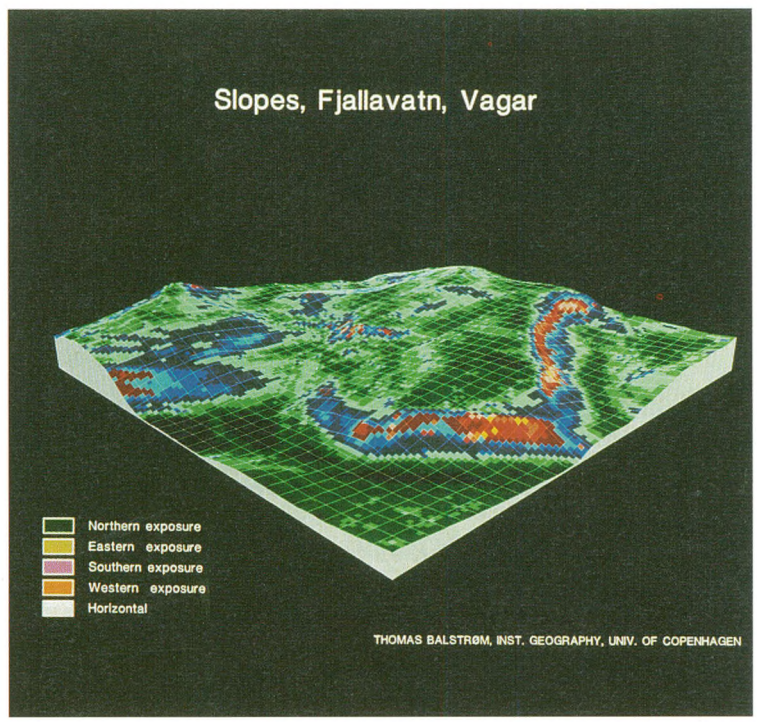


Fig. 51b: *Digital terrain model showing surface exposure (aspect). The area as seen from the SW. Vertical exaggeration 3x.*
Designer: TB

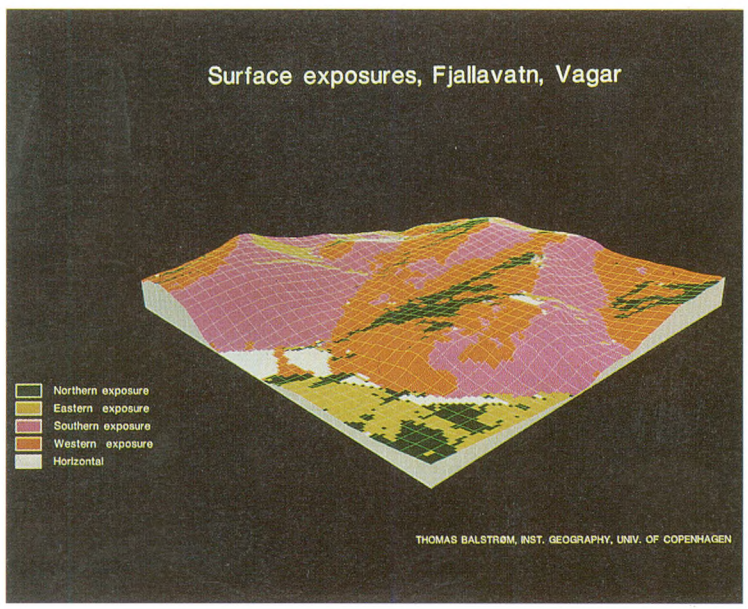
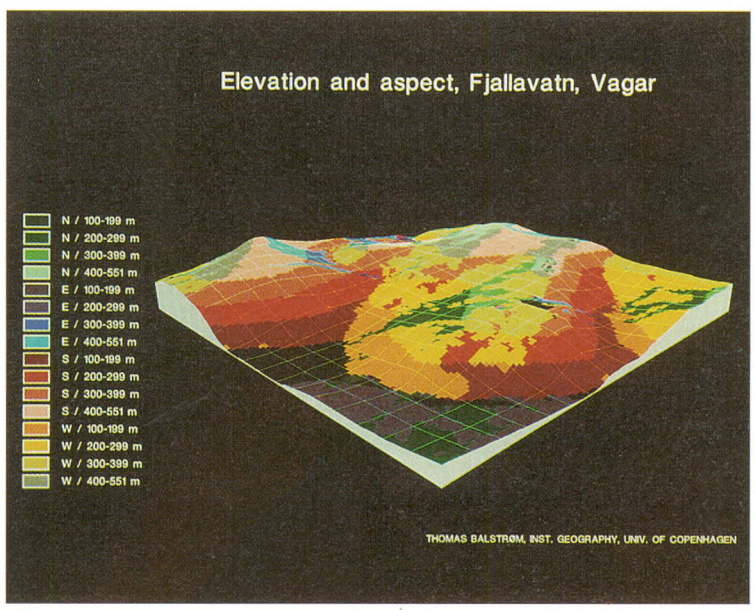


Fig. 51c: *Digital terrain model produced by combining information from the zoned elevation model and surface exposure model.*
The area as seen from the SW. Vertical exaggeration 3x.
Designer: TB



13 Klaksvík – Main Town of the Northern Isles

Fig. 52: Klaksvík, 1800. The four original hamlets lie within their respective old cultivated infields called bøur. Based on work by J.S. Hansen (1981).

The name Klaksvík is recent. The settlement was once called Vágur, or, more accurately, Norðuri í Vági, to distinguish it from another old settlement, Suðuri í Vági, on Suðuroy. The little cove of Vágin faces NW and is separated by an isthmus from the longer Borðoyarvík Fjord, which, by contrast, faces SE. The isthmus is 700m wide, but as it seldom rises above 10 masl, it contrasts sharply with the surrounding valley sides which rise steeply to form mountain ridges at 600 masl. Skirting the fjord shoreline are thick moraines that were deposited by the last ice-age glaciers as they moved southeastwards across the isthmus and passed down Borðoyarvík Fjord to reach the sea. The moraine material is being constantly eroded by the sea. An abandoned settlement called *Niðri á Toft* was once discovered within the moraine, and subsequent excavation revealed that half of the buildings had already been lost to the sea. On the map (page 55) it appears as a ruin. It was inhabited in the Viking Age and for some centuries afterwards. It is assumed that the inhabitants later moved farther up the mountainside to the tiny settlement of Uppsalir with its fine seaviews both beyond the cove to the NW and beyond the fjord to the SE.

The four old settlements

The oldest document on the settlement of Klaksvík names four farmsteads or farming communities in the reg-ion of the isthmus and its two bays. They are; Uppsalir, Gerðar, Vágur, Myrkjanoyri (later Biskupstøð). Each had an infield enclosed by drystone dikes. The *markatal* (land measurement units, page 80) for Klaksvík is 60, which makes it the largest settlement in the Northern Isles. In 1801 there were 88 inhabitants. Their distribution among the four hamlets was very uneven because of the different forms of landownership (page 81). Myrkjanoyri was a Crown estate of just 7 land measurement units and had only 1 farm with 7 inhabitants, whereas Uppsalir comprised freehold land with 15½ units divided among as many as 10 farms with 43 inhabitants all together. This dissimilarity clearly contrasts the different ancient inheritance rights whereby the division of fields into ever smaller plots was the law on freehold land, whereas no field division was allowed on Crown land without the consent of the Danish Crown Court.

Recent history

The year 1838 brought with it a new era to Klaksvík when the Royal Trading Monopoly established three branches to support the overseas trading centre at Tórshavn. The new branches were set up at Vestmanna, Tvøroyri, and, of great significance to the northern isles, Klaksvík (cf. pgs. 68 and 92). The choice of site was perfect as the sea close to the shore was 7-8 metres deep; making it one of the best natural habours for the mooring of large cargo ships in the archipelago. The Royal Trading Monopoly buildings were very different in style and function to other buildings in the neighbourhood. Their roofs were made of foreign slate, windows were large and paned, and one building was even two storeys tall. A foreman ran the daily business of the branch, and for many years this was *Johan Mortensen*, a distinguished official who came from Øravík. The branch created little economic growth for the area although it was easier for the local inhabitants to trade. On the abolition of the Royal Trading Monopoly in 1856, the building and stock were auctioned to the Copenhagen tobacco merchant, *Jørgen Bech*. He appointed a director to overtake the administration of the business, while he himself apparently

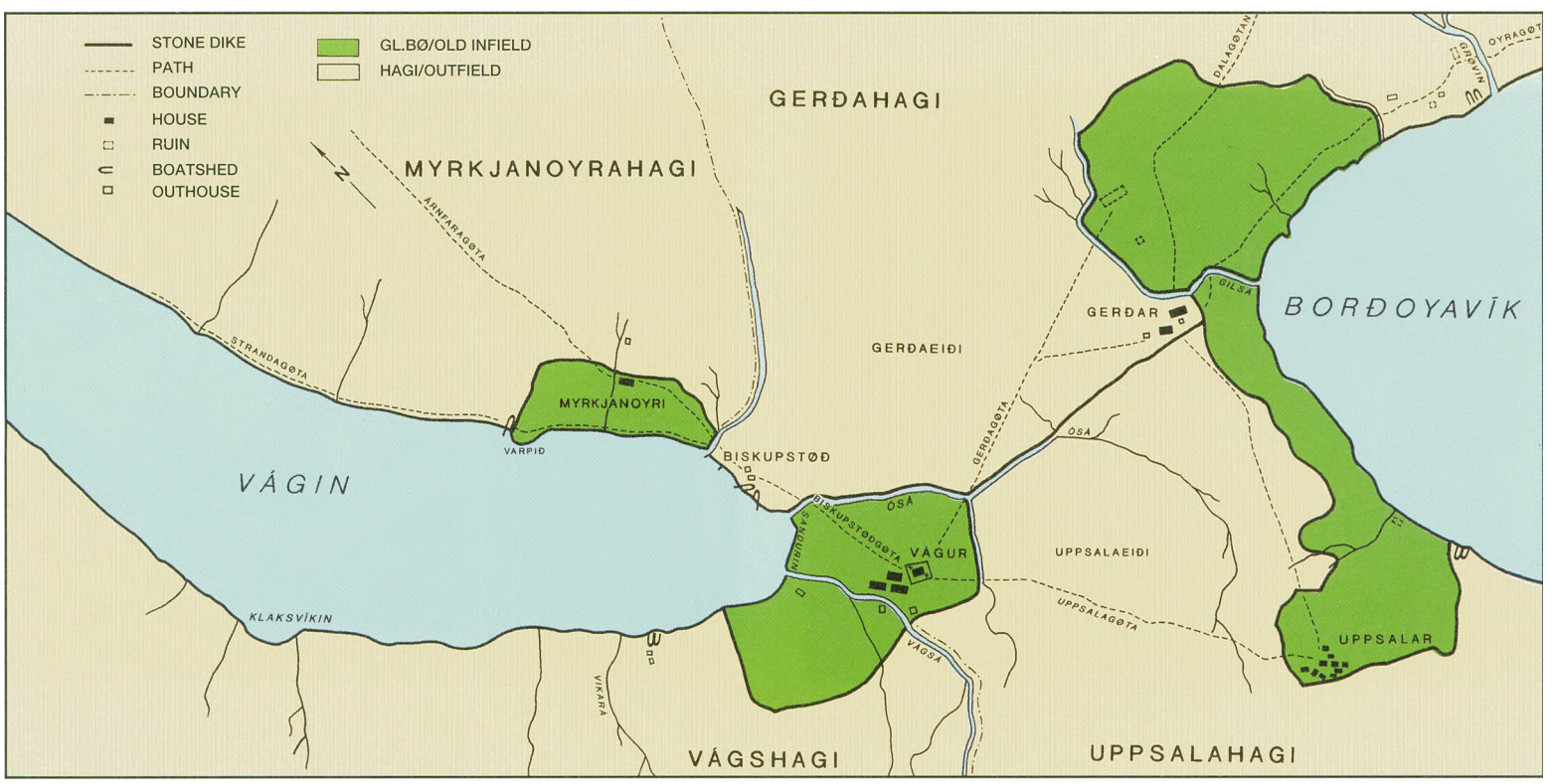


Fig. 53: Klaksvík, 1900. The four old hamlets are distinguishable despite additional building. The larger buildings of the Royal Trading Monopoly branch are located in the bottom left corner. Based on work by J.S. Hansen (1981).

never set foot in the town. For the first two years, Johan Mortensen continued as the manager, but in 1858 he moved to Tvøroyri to start his own business. The former Royal Trading Monopoly buildings now have a very different function as they house The Museum Of The Northern Isles. In the late 19th century, the settlement grew fast, particularly along the coastal stretch between the hamlet of Vágur and the Monopoly buildings in the district called *úti í Klaksvík.* The town flourished and soon took on the role of "Capital of the Northern Isles" because within its boundary it contained the official residence of the county sheriff, the district doctor and district hospital, and soon after came a post-office and a hotel.

Nevertheless, it was many years before fishing developed on a large scale. After 1910, an increasing number of wooden fishing smacks and schooners were bought to boost the town fishing fleet. This development attracted new settlers from surrounding villages, as well as from the neighbouring island of Eysturoy. By 1940, Klaksvík had become the second largest settlement in the Faeroe Islands, superseding Tvøroyri on Suðuroy.

Being so dependent on its fishing industry, Klaksvík commercially resembles the smaller settlements of 1,000 or 2,000 inhabitants. There are far fewer alternative commercial and service enterprises than are found in Tórshavn. The last two decades have witnessed slower urban population growth because of the lack of development space and the low local demand from the sparsely populated hinterland where Viðareiði is the largest settlement with just 250 inhabitants. The population of Klaksvík culminated in 1989 with 4,991 inhabitants, but because of the emigration caused by the recent recession, it had fallen to only 4,590 inhabitants by 1995.

For almost a century, municipal fortune went hand in hand with those of the large company, *J. F. Kjølbro Ltd.* It was founded on the purchase of a fishing smack in 1913. More vessels were soon bought, and the company started several business ventures to do with fish processing, trade, construction and shipbuilding. Following the economic recession of the 1960s, the company was nationalized. However, it remained the largest business in Klaksvík and concentrated on fish filleting, á *Kósini.* Its processing capacity was 15,000 tons fish per annum, and it had a fishing fleet of four trawlers and three long-liners. Today, the company has only two long-liners and three large factory trawlers, mostly operating in the Barents Sea. During the crisis of the 1990s, the filleting factory was taken over by local parties, including the trade unions. In Klaksvík harbour, liners are still a common sight because most local fishermen prefer long-line fishing to trawling. They claim that long-line fishing guarantees higher quality catches and neither interferes with the reproductive cycle nor the natural behaviour of fish living close to the sea-bed. The Klaksvík industries include fishing and fish processing (smoking, drying, salting, filleting, and freezing). There are two slipways, one of which was formerly owned by J.F. Kjølbro Ltd. for repair work. Other main industries include; rope-works, chandlers, brewers and computer soft-ware suppliers to the fish-filleting industry both home and abroad.

Rolf Guttesen

Fig. 54: *Klaksvík, 1984. Aerial photo of modern Klaksvík and the surrounding landscape. Borðoyarvík lies to the south, Vágin and Pollurin to the north. Route 8493-N, no. 843. Date 07.06.1984, time 13.41, scale approx. 1:11,000. GI, Copenhagen.*

Fig. 55: *Klaksvík, 1984. Extracts from map-sheets nos. M 14 & 15. Scale 1:20,000, GI, Copenhagen 1984.*

BORDO
Strond
FYRI SUNNAN
Stórá
Ánir
Landingssted
Kunö Næs (Kunoyarnes)
POLLUR
MYRKJANOYRAR
HAGI
Myrkjanoyrarfjall
FYRAMARKA
HAGI
KLAKSVIG
(KLAKSVÍK)
VÁGUR
Myrkjanoyri
GRAVARDALUR
Vágur
Gerdar
VÁGSHAGI
Uppsalir
Hálgafelli
Nordöre
(Norðoyri)
Skálaberg
GERDAH

14 Hvannasund and Norðdepil

Fig. 57: Hvannasund and Norðdepil. Extract from map-sheet no. M 9, scale 1:20,000. GI, Copenhagen 1980.

The villages of Hvannasund and Norðdepil face each other across the narrow sound separating the islands of Borðoy and Viðoy. In 1972, the strait was bridged by a low dam, following the construction in 1967 of two road tunnels through the mountains of Borðoy to connect both villages to Klaksvík; the capital of the Northern Isles and second largest settlement in the Faeroe Islands.

In 1948, Hvannasund, Norðdepil and the villages of Depil, Norðtoftir and Muli separated from Viðareiði district and parish to form the new district of Hvannasunds Kommuna.

At first sight, Hvannasund and Norðdepil appear to be two halves of the same community; especially because of the dam. In fact, they are quite different as the inhabitants on both sides will claim. As elsewhere in the Faeroe Islands, historical circumstances have led to the evolution of two close, yet very different, communities.

Hvannasund dates back as far as the Middle Ages. For centuries, the landownership was dominated by four Crown estates each with its share of the village's 16 land measurement units; *merkur*. The abolition of the Royal Trading Monopoly in 1856 brought a change. Four years later the Tórshavn trading company, *Restorffs handil,* set up a branch *úti í Bug* near the old village. This century, part of the outfield was needed for new building sites. The arrival of fishermen, labourers and clerks stimulated building activity, despite many newcomers belonging to local crown tenant families, although eventually the crown tenants also became dependent on fishing. Nevertheless, the historical roots are firmly planted in the soil and still influence the social life of the community.

Norðdepil, by contrast, is regarded as a "new town". It was founded in 1866 when the *Sivertsen* family came to manage a store owned by *Bech & Sons* of Klaksvík. As its name suggests, the village was built in the northern outfield of Depil. During land reorganization in the 1860s, half of the 8 merkur belonging to Depil was put to other use; 3 ½ merkur in the hagi were converted to *traðir* allotments for the new settlers while the remaining ½ mørk, which lay far north of the town, became the site of a new hamlet called Fossá, founded in 1867. Fossá never came to attract more than 10 settlers and was abandoned in 1953. Whereas Fossa failed, it was Norðdepil that succeeded, and during the expansion of the fisheries between 1900-1920, the settlement grew to become as large as Hvannasund. Norðdepil attracted settlers from far and wide; from the large towns of Tórshavn and Klaksvík to the small local villages of Norðtoftir, Depil, Muli, and minor settlements on the islands of Svínoy and Fugloy.

Norðdepil is the settlement in Hvannasunds Kommuna that truly reflects the changing fortunes of the Faeroese fishing industry. Despite occasional fishing off

Fig. 56b: Hvannasund seen from Norðdepil. Photo: JOB 1989.

Fig. 56a: Norðdepil and its fillet factory seen from Hvannasund. Photo: JOB 1989.

Iceland and Greenland, it was the local fishing grounds to the north that decided the fate of the village. The Northern Isles have always had a strong preference for coastal longline fishing, and Norðdepil is perhaps the only classified fishing port in the Faeroe Islands never to have had its own trawler.

It is worth noting that Norðdepil prospered whenever inshore fishing was in favour; early this century before the fishing-smack epoch, during the Second World War when exporting to Britain was highly profitable, and in the recent boom of the 1970s and 1980s when the local filleting factory was built. By contrast, Norðdepil experienced hardship when inshore fishing was disfavoured; in

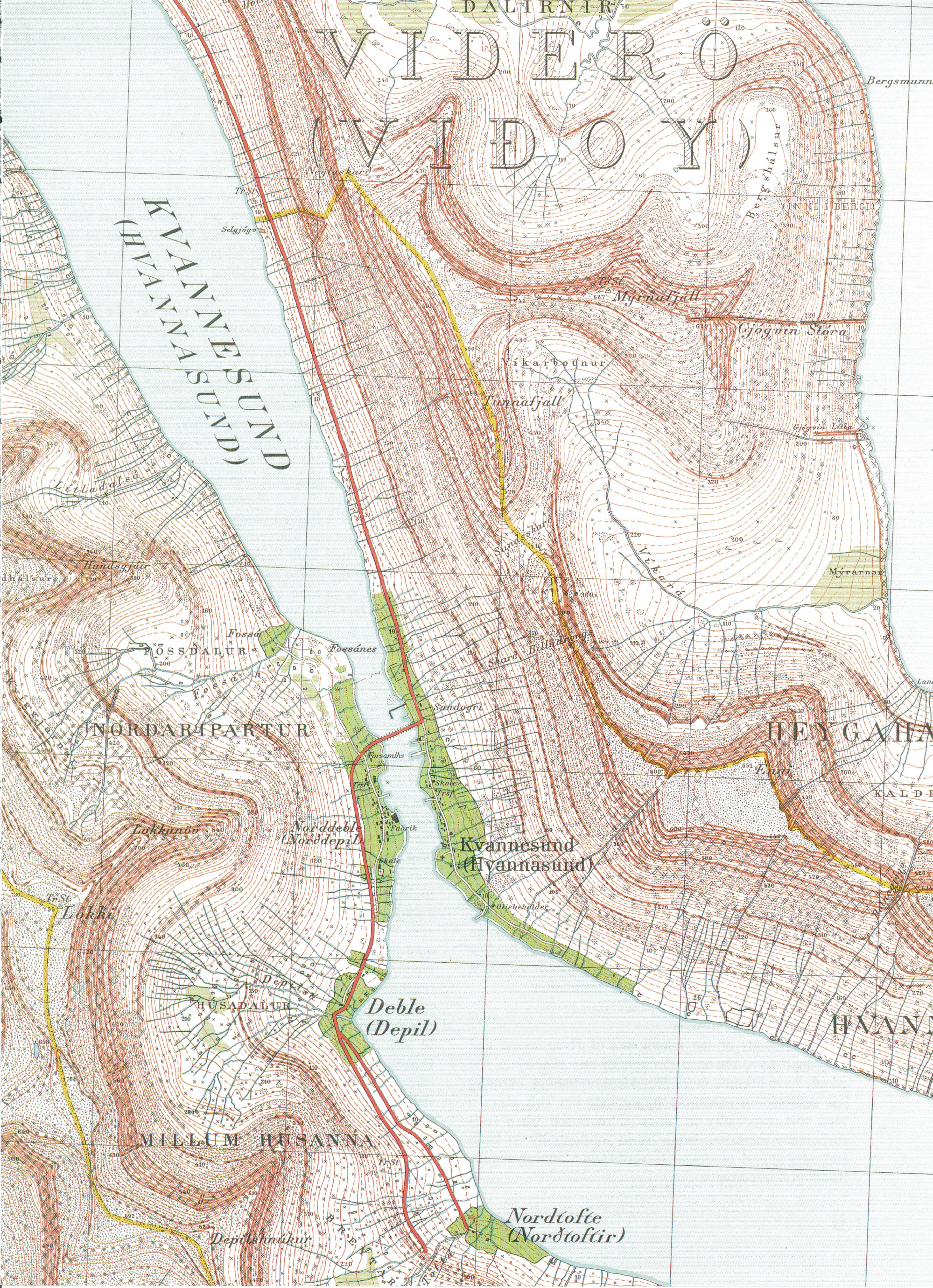
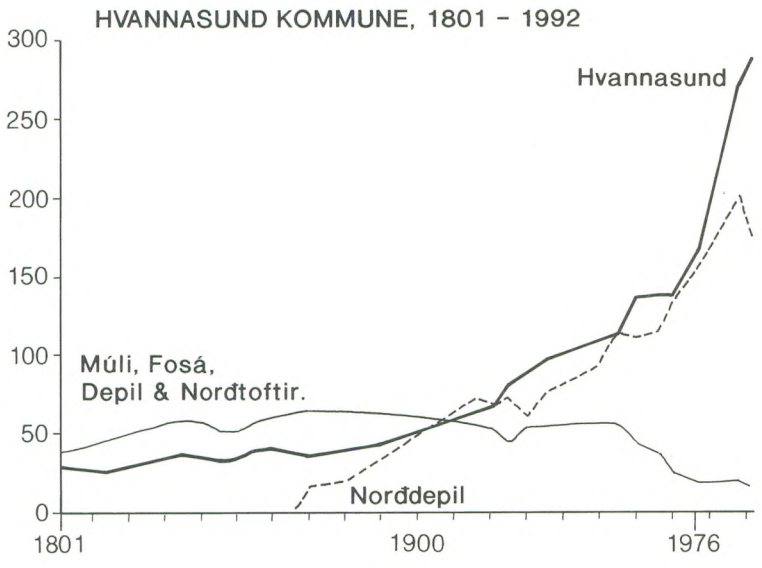

VIDERÖ
(VIÐOY)
KVANNESUND
(HVANNASUND)
Mýrnafjall
Gjógvin Stóra
Vikarbotnur
Tunnafjall
Gjógvin Lítla
Bergsháls
Mýrarnar
Fossá
Fossánes
FOSSDALUR
NORÐARIPARTUR
Sandogri
HEYGAHA
Norddeble
(Norðdepil)
Fabrik
Kvannesund
(Hvannasund)
Lokkanóv
Lokki
HÚSADALUR
Deble
(Depil)
HVANN
MILLUM HÚSANNA
Nordtofte
(Norðtoftir)
Depilsnúkur

Fig. *58: Population growth from 1801 till 1990. Hvannasund, Norðdepil, and one line to represent all the other local parish villages. Source: Population censuses and Hagdeildin, Tórshavn. JOB part.*



the fishing-smack epoch when distant waters were fished and fleets were at sea for long periods, and in the 1950s and 1960s because of competition from foreign trawlers close to the Faeroe Islands, and since the closure of the local filleting factory in 1990.

Whereas Norðdepil has experienced many vicissitudes throughout its relatively young life, the old settlement of Hvannasund across the water has developed quietly into a modern, pleasant place to live.

The construction of the dam and tunnels has meant that the road journey to Klaksvík now only takes 15 minutes, whereas before it was necessary to sail round half of Borðoy or walk across the mountain. The traffic passing through the dual carriageway tunnel was calculated to be 790 vehicles every 24 hours in 1986. All together about 750 people live in the Hvannasund and Viðareiði districts. The local traffic not only includes journeys to work, school and other education centres, but also commercial transport, errands, visits to families and friends, and, last but not least, recreational trips. Hvannasund and Viðareiði now act as dormitory towns for Klaksvík, but they are also places with good amenities in pleasant surroundings. When the tunnel opened in 1967, *Hotel Bella* suddenly became a popular haunt with the mobile Klaksvíkers, but after the construction of the low dam in 1972, the more attractively situated Viðareiði parish took over as the most popular destination.

The local fishing industry

The livelihoods of the inhabitants of Hvannasund and Norðdepil have changed throughout this century as the people have become more dependent on fishing. Farming has declined in economic importance but still plays a vital role, especially in times of recession when self-sufficiency increases; being based substantially on lamb and agricultural products. Nevertheless, farming retains its cultural importance.

It is important to distinguish between coastal fishing and fishing in remote waters off Greenland or Newfoundland. The communities were less involved in the periods with remote fishing because vessels were at sea for months. By contrast, fishing the local banks integrated the daily life because the boats would return to port every day. In preparation for the next day, the fisherwives and boys would bait hooks on the quayside.

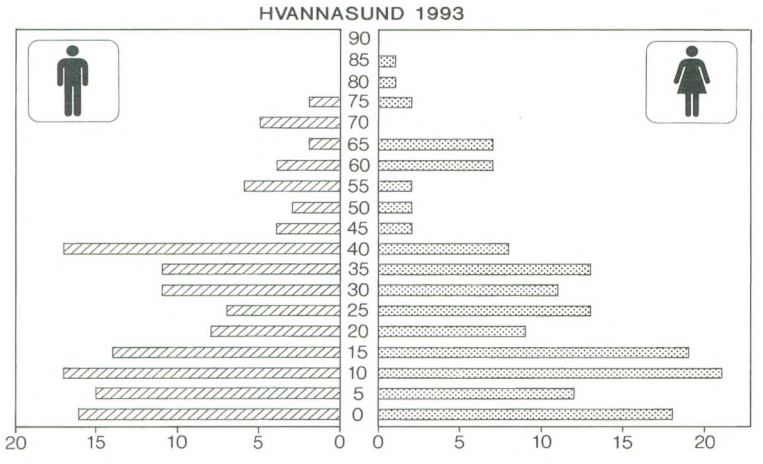
In the course of one generation, between 1960-90, the inhabitants of Hvannasunds Kommuna developed the fish processing industry at Norðdepil. Besides the tunnels and dam, the new *Frostvirkið* fish-filleting factory was a decisive factor in the new prosperity. The factory was built in 1960 as an extension to the grocery run by the *Christiansen* family since 1879. In 1963, the inefficient local electricity generator was replaced by the national grid supply which was essential to expansion. Frostvirkið became a limited company. In 1968, the districts of Hvannasund and Viðareiði invested more capital in the enterprise. They soon became the main shareholders as only 10% of the shares remained in private hands.

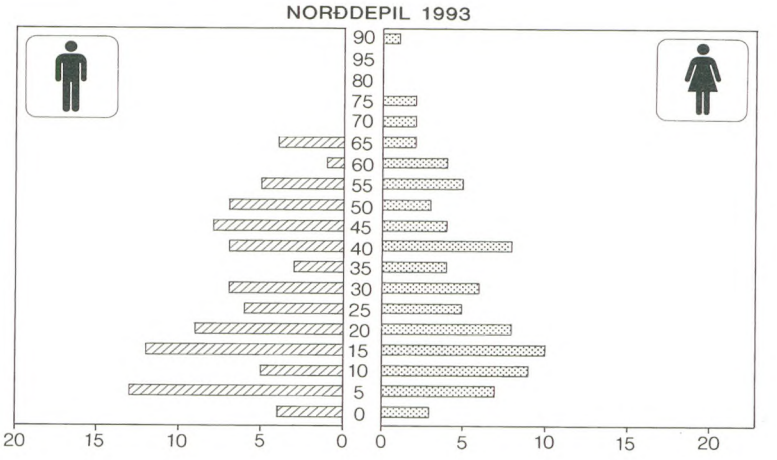
Local processing of frozen fillets made the village dependent on fishing in a new way. Earning wages as hired fishermen on vessels elsewhere was no longer adequate. For the factory to survive, local landings of fresh fish were absolutely necessary. During the 1970s and 1980s, Norðdepil established a workforce of 25-50 people in the land-based fishing industry; employing especially the younger and older men, and women of all ages. This happened at a time when many Faeroese villages were noted for having a community-owned fillet processing factory.

Frostvirkið was an exception among Faeroese filleting factories in being one of the few processors whose supply came from longline fishing or drift nets. The other factories in the Faeroe Islands were mostly supplied by trawlers.

Frostvirkið, based on raw fish, prolonged the traditional practice of coastal fisheries, *útróður*. If the Faeroese fishing industry had operated a price mechanism and distribution network to reward the higher qual-ity catches of the longline method, Frostvirkið would have had a competitive advantage, but the price mechanism fixed by the *Ráfiskagrunnur* in the 1980s favoured the fishing of lower quality species like saithe, which was caught far out at sea by larger, more expensive trawlers. Even so, it would still have been difficult for Frostvirkið to operate full-time as weather conditions often precluded the use of smaller vessels and longline fishing. Despite its potential to treat 7,000 tons raw fish per annum, the factory operated below one-third its overall capacity for several years. In 1990, it closed. It was later sold to private owners and has since been used to process fresh fish.

Fig. 59: *Age-group pyramids for Hvannasund and Norðdepil.*
Date: 01.01.93.
Source: Landsfólkayvirlitið, Tórshavn. JOB part.





Initially, there were attempts to build the factory in Hvannasund. The decision to locate it in Norðdepil was due to the better water supply. Is the community-owned fish factory to remain a closed chapter? It is true that its short-lived success was due to adept Hvannasund coastal fishermen and their resourceful wives. These women represented a rare breed; being so preoccupied with daily tasks at home that they had nothing against the frequent slack spells at the filleting factory. Nevertheless, success requires; more capital, a management with an eye for product development, and the ability to conduct business with foreign partners.

Small differences of great significance

One might believe that the most important difference between Hvannasund and Norðdepil is the greater sunlight in the former settlement. Whereas all the other villages on Borðoy are situated in open valleys, Norðdepil lies in the afternoon shadow of the highest mountain, Lokki. Hvannasund would thus appear to be the more attractive settlement. On the other hand, the very different histories of the two villages has qualified the daily life. As is the case with many neighbouring settlements, the inhabitants define themselves in relation to "the others over there". Their relative location makes analyzing the village on the opposite bank unavoidable. This confrontation through windows and binoculars leads inevitably to a reciprocal cultural definition. *"People here meet each other more than over there in Norðdepil"*, claimed one woman from Hvannasund in 1989. This fact is not surprising as there are more children in Hvannasund and intermarriage is common in this old settlement. Even when married, the people of Hvannasund traditionally remain in town, obliging their partners to leave their place of origin. While the men are preoccupied with fishing and outdoor activities, the women remain at home with the family; and their presence breathes life into the community. A neighbourly helping hand is taken for granted.

The citizens of Hvannasund are proud and seem self-assured, even if they are a little sceptical of newcomers. They regard the folk on the other side of the sound as depraved and less sociable. The historical roots of this traditional farming society go deep. The sheep round-up is still a very important annual event that reunites family members. It is not history, nor the landscape, that gives the settlement its atmosphere, but status. The inhabitants cherish a strong feeling of belonging to a modern and well-to-do community, which is more than can be said for the old, half-deserted villages of Muli, Depil and Toftir.

By contrast, Norðdepil has an atmosphere of a new settlement, despite it being more than a century old. The inhabitants do not relate to their village in the same way. Fewer children live there. Most of the relatively large proportion of elderly inhabitants grew up elsewhere in the Northern Isles and many of them still feel like strangers in the town.

Social control from the other side of the sound can be a problem. Whereas the women of Norðdepil relied on the work at the fish factory to make a living, the Hvannasund women merely regarded it as supplementary income and less important than housework. The social network is weaker in Norðdepil. After finishing school, the young citizens often leave the village.

In conclusion, it may be said that Hvannasund has succeeded in upholding its tradition of strong family ties and community spirit. Norðdepil has experienced both the new opportunities as well as the limitations that shape the lives of fishermen and workers.

Jørgen Ole Bærenholdt

15 Fuglafjørður – A Town dependent on Fish Exports

Hidden in a little cove, nestling snugly between lofty, encompassing, coastal mountains, lies the old village of Fuglafjørður. Writing in 1781, the Faeroese historian, Jens Christian Svabo, described the harbour as a safe winter haven. Later, in the days of the fishing smack, it was to become the home of a large fishing fleet.

The shipping company *S. P. Petersen* was founded in 1887. It grew rapidly and dominated the business of the little fishing port for over half a century. For two decades following the Second World War until the 1960s an economic recession caused many inhabitants to leave town. The town population size reflects the economic development over the last 75 years.

The landscape around Fuglafjørður

The mountains surrounding the cove reach 600-700 masl. Their appearance owes much to the local volcanic rock and glacial erosion. They are often triangular with pyramidal peaks or horns. Together they form a horseshoe ridge that almost encircles Fuglafjørður. The ridge starts to the east with the summit of Borgin and ends with Kambur and Tyril to the south. Breached ridges serve as passes where tracks have linked neighbouring coastal settlements for generations. Local place-names often refer to the impressive landforms. *Rust* and *Kambur* both mean "straight ridge". The inhabitants even used landforms as sundials. Southwest of the port looms the rugged crag of Nón, whose name derives from the old Faeroese word for the position of the sun at 3 p.m. It is related to the English word "Noon". Several chronometrically named landforms lie close to other Faeroese settlements; such as, Middagsfjall (Midday Fell), Landsuðurknúkur (Southwest Crag) and Nónhamar (Noon Cliff).

Not far from Fuglafjørður lies the tiny, relatively young settlement of Hellur whose origin only dates back to 1860. Today it is dominated by a salmon-smolt station which is powered by its own giant windmill. The south-eastern part of the map shows the neighbouring district of Gøta. The old Lorvík road lies further east. From this road, a path descends to the coast to reach the Varmakelda, which means "hot spring". It is one of the few hot springs in the Faeroe Islands. Its temperature remains constant at 18° C. In ancient times, the people believed that its welling waters contained healing properties.

I/S Havsbrún: The fishmeal factory

During the 1950s and early 1960s, herring was fished in large quantities to the north of the Faeroe Islands. The Atlanto-Scandian herring shoals crossed this zone as they left their spawning grounds off the west coast of Norway for their feeding grounds near Iceland. Originally, fishing was undertaken with drift nets, but by the early 1960s, catches increased dramatically due to revolutionary methods such as the power-block-operated purse seine. A hydraulic winch hauled the full purse seine to the ship-side and the catch was then taken on board by a suction apparatus. Catches that weighed several hundred tons inspired the Faeroese to construct a fishmeal factory.

The Home Government selected Fuglafjørður as the processing site because of its close proximity to the fishing grounds and the need to stimulate the ailing local economy.

In 1965, *P/f Havsild* was set up jointly by; The Home Government, local municipality, trade unions and local shareholders. A partnership was then forged with the Tórshavn trawler company, *P/f Dagsbrún,* in order to

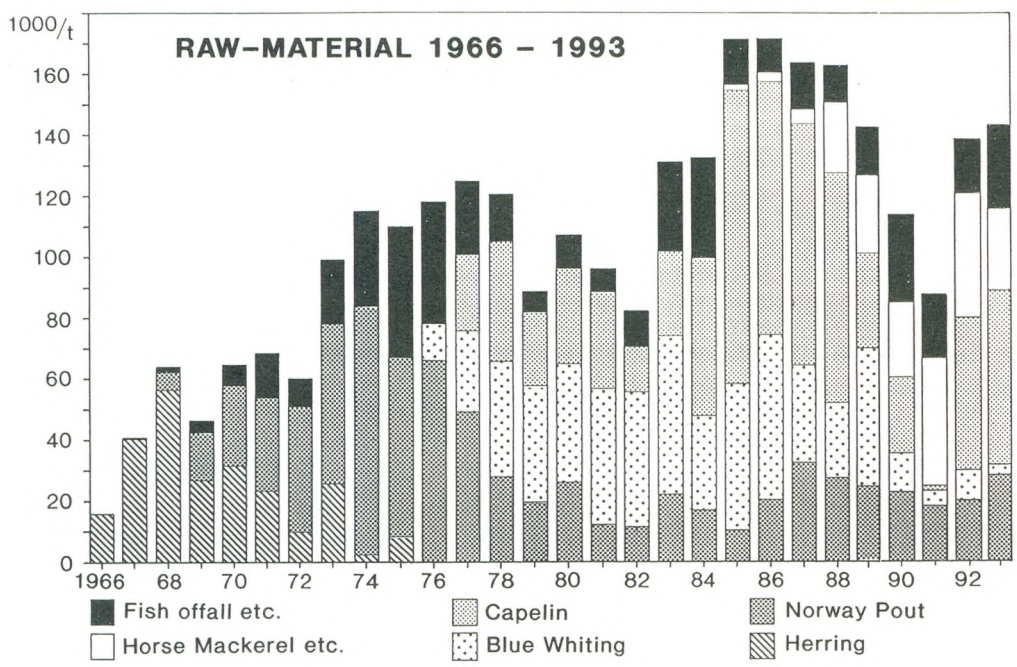


Fig. 60: *Landings of trash-fish to "Havsbrún" fishmeal factory, Fuglafjørður. Fluctuations in the catches of traditional species and the switch to new species illustrate the development in industrial fishing as described in the text. Source: Havsbrún.*

Fig. 61: *Population growth in the district of Fuglafjørður, 1920 -1995. Source: Population Censuses and Hagdeildin, Tórshavn.*

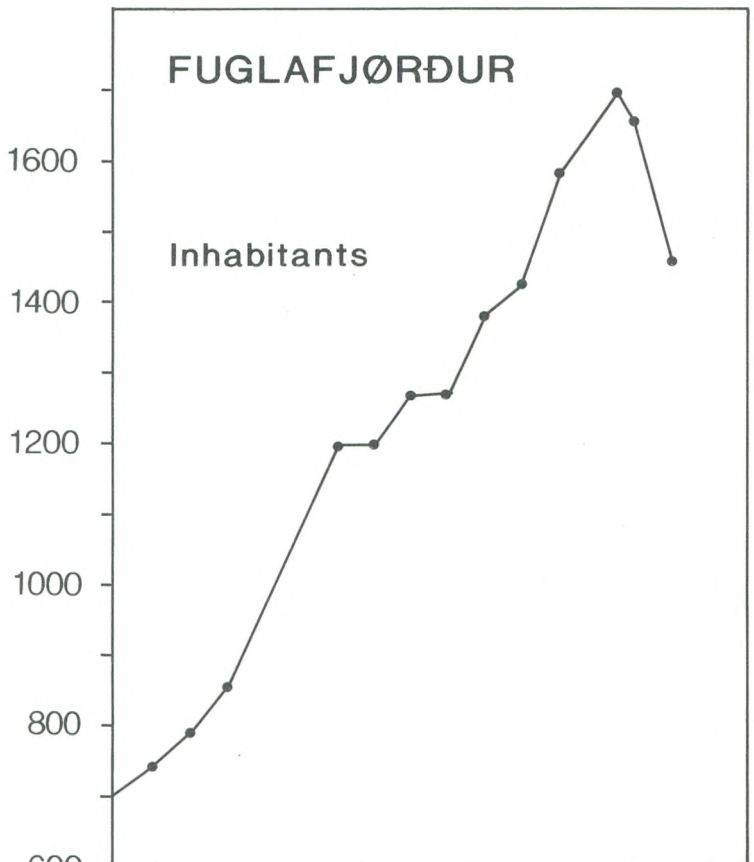


Fig. 62: *Aerial photo of Fuglafjørður. Route 8490-M, no. 104. Date 08.06.1984, time 11.26 am, scale approx. 1:21,000. GI, Copenhagen.*

Fig. 63: *Fuglafjørður. Extracts from the topographic maps nos. 511 and 512, Scale 1:20,000, KMS Copenhagen 1994.*

create the larger fish processing concern, *I/S Havsbrún,* whose initial net capital was DKK 1.5 million. The handling capacity at the factory expanded rapidly from 500 tons to 1,200 tons raw material per day. The company employed 80 people.

Figure 60b, which shows the fluctuations in the Havsbrún fish landings for 1966-93, is also in essence the story of the Faeroese fishing industry during the same period. At first, Atlanto-Scandian *herring* predominated in the total catch, but over-exploitation led to a drastic decline in the stock. In the 1970s, the fishing fleet had to resort to catching herring off Shetland and in the North Sea, but even this stock was rapidly depleted. As a substitute, *Norway Pout* was caught, but with the extension of the national fishing limits to 200 nautical miles in 1977, the Faeroese fishing fleet was literally excluded from access to the North Sea fishing grounds. The Norway Pout that is processed at Havsbrún today comes from smaller shoals on the banks close to the Faeroe Islands. By the late 1970s, alternative species were being caught to supplement the total catch. *Blue whiting* spawns west of the British Isles in March and April and then passes the Faeroe Islands in great shoals as it heads northwards towards its summer feeding grounds. In wintertime, the process is reversed as the shoals return southwards. *Capelin* gathers in great shoals off Iceland and eastern Greenland while another large stock is found north of Norway. In recent years, a quantity of trashfish has been caught in the northern North Sea.

Almost the entire fishmeal production was once exported, but the expansion of aquaculture in the 1980s led to a sudden domestic demand for fish fodder. As the fodder consists mainly of fishmeal and fish-oil, Havsbrún has had to supply an increasingly large market, which is the reason why it opened a new fodder plant in 1988. In the early 1990s it opened a new herring filleting division and a large freeze-house for which it was neccessary to blast a deep hole in the nearby mountainside.

Fish-filleting and other industrial activities

There once were two filleting plants in town; one on either side of the bay. Until the mid-1970s each plant processed 1,000-2,000 tons fish per year. In the late 1970s, one of the companies, *P/f Handils- & Frystivirkið,* grew rapidly. It received a regular supply of fish from its own trawler fleet and ranked among the largest filleting plants in the Faeroe Islands; processing 10,000 tons fish per year. The other company, *P/f Har-fisk,* failed to expand and has closed. Today, fish-related industries include the trawl manufacturers, *P/f Vónin,* whose demonstration basin allows clients to test the product range. There is a slipway and several machine workshops in the harbour district.

The lack of space in Fuglafjørður

The town resembles an amphitheatre with three parallel streets stepped above each other on the steep mountain slope that rises from the bay. The council has partly solved the space problem by building in the neighbouring valley of Kambsdalur to the south of the town, where there is a relatively flat area of terrain at 120-150 masl. This satellite suburb is planned to become the local growth zone comprising; 100 homes, community centre, kindergarten, lower and upper schools, business college, sports centre, and a modern industrial estate.

Fuglafjørður is the most important Faeroese port in terms of export. By contrast, Tórshavn is without question the dominant Faeroese port in terms of import.

Rolf Guttesen

RUSTIN
GÓÐIDALUR
Góðidalur
NORÐARIPARTUR
NORÐUR Í HAGA
HEIMARIPARTUR
FJALSHAGI
FUGLAFJØRÐUR
INNANDALS-
HAGI
KONGS-
MØRKIN
GJÓGVARÁHAGI
FUGLAFJØRÐUR
POLLURIN
FYRI INNAN
EIÐ
INNARIPARTUR
KAMBSDALUR
Kambsdalur
GJÓGVARÁ
Gjógvará
TOFTIR
Heimaridalur
Húsafelli
Borgin
Skarvaklettur
Nesgjógv
Snjógøtan
Kleyvin
Úti um
Havið
i Nesi
Vætustiggjur
Ólarókin
Kráku-
stiggjurin
Neshamar
Regnabrekka
Breiði-
stiggjur
á Rivi
Selgjógv
Gerðið
Breiði-
ryggur
Vørðugjógv
i Sandinum
Rustarkambur
Altarið
Kliv
Spreingisbrekka
Brekkurnar
Flatirnar
Gullbrandsleiði
Fuglfjarðarskarð
Millum Heygar
Sandbrúgv
Bjarnarókur
Kjóihjalli
Kjóafelli
Slætnatindur
Slættur
Túva
Knobbin
Breiðiryggur
Heyggjurin Mikli
Fossár
Hamarsendi
Vesturi í Dal
á Leirinum
Tindabrekka
Keldufelli
Nón
Húsar
Reyðarók
Svøðum
Úti á Ryggjum
Heimara
Tvørbrekka
Breiðá
Vatn-
brunnur
Svartiklettur
Smellan
Kambsenni
Breiðaskarð
Vegghamar
Skrápuróin
Kambur
Repsgjógv
Skálafjørðsflótan
Kambs-
Skarðsbrúgv
Gunnarsgil
Yrkisskúli
Hellair
Hall
Tvørbrekka
Innara Markrá
Ytra Markrá
Undir Skarði
Tyrilsenni
Stóriryggur
Hógeið
á Flatum
Stykkið
Rivuklettur
Varmakelda
Rivaklettur
Presttangi
Ritudals
Skoragjógv
Sjóvarrokin
Hovasteinur
Ryggur
Fagragil
Torvgjógv
Ytra Toftanesá
Toftanes
Innara Toftanesá
Brúnarendi
Hjallin Litli
Klovningur
Leitissteinur
Leiti
Torvstiggjur
á Ringi
Jólavíkin
Árnanes
Grønatúva
Marrusteinur
Vatnbrunnur
Gjógvaráhamar
Skorarnar
Sjómerki
Fiskavirki
á Høvda
Enni
Kránið
Bóndastallur
Lióarhamar
Lióin
Gjóstiggjur
Heimaragjógv
Loynistiggjur
Vívdatangi
Gjókluftir
Krákustiggjur
Ennistiggjur
Eystaskarð
Eingilskahús
Rituðalur
Svartihamar
Ovarihjalli
Niðarihjalli
Norðaragjógv
Stiggjurin
Kirkjukjálki
Kirkjugjógv
Svartiklettur
Svarthamar
Liasarkona
Uppi í Botni
Neythamar
Halgadalsá
Halgadalur
Burðtangi
Kýrgjógv
Torvklettur
Tøðan
Flesin
Hóva-
brekka
Teigarnir
á Slættanum
Nevið
Hundseygað
Leshjalli
Guldrangur
Skoramunni
Mosarók
Bláhamar
Skorar
Stiggin á
Bóðunum
Fuglfjarðarboðar
Harðbals
enni
á Ryskinum
Góðadalsbrekka
Nestoftir
Gjógvin í Harðbalsenni
Skarvagjógvin
Húskallatangin
Góðadalsáirnar
Smørgjógv
Loyni-
stiggjurin
Risanskelda
Nesheiðarnar
Kjóalágin
Regnabrekkan
Oksaflótan
Undir Rókum
Krákustiggjur
Brikin
Ennið
Niðara
Tjúkkurð
Ovara
Tjúkkurð
Uppi á Kálvaslættu
Lióarbrúgv
Suður
í Lið
Bláhamarsrók
Róvin
Róvurókurnar
Skarðið
Undir Oynni
Eggin
Skammrókur
Góðadalsgjógv
Breiðarók
Fløttúrin
Graabrúgv
Brosmutúvan
Mjóstiggjur
á Hálsi
Vambaklettur
á Gjótúni
i Brinnesi
á Vøkruflótu
Litla Spreingisá
Sjúrðargøta
Botnur
Botnsbrúgv
Skarðsá
Sevdalur
Rossaryggur
Varðabrúgv
Ovarihjalli
Niðarihjalli
Vørðhamar
Ryskihjalli
Urðin
í Bugnum
Undir Vørðhamri
Smørstiggjur
Gjøldneytastiggjur
Rustin
Skúli
Svartiklettur
Uppi í Brúnunum
Stb
65

16 The Central Region of the Faeroe Islands

Fig. 65: *Map extract of the central part of the Faeroe Islands with Klaksvík to the northeast, Skálafjørður in the centre, and Tórshavn to the south. Føroyar Topografiskt Kort, 1:100,000, Norðari partur. KMS, Copenhagen 1996.*

The extract shows the central region of the Faeroe Islands, which is also the main region for industrial development and population growth. The two largest towns in the Faeroe Islands, Tórshavn and Klaksvík, are situated at either end of the central region while the growth zone along the intervening fjord of Skólafjørður represents the central axis. The central region is very coherent because of the well-developed infrastructure. In recent decades, the region has seen a steady improvement in transport communication with the construction of asphalt roads, tunnels, bridges, and the introduction of regular car ferries. The once isolated rural communities scattered throughout the fjord and island landscape have at last been linked, while improvements in motorized transport have cut journey time and costs. Some people argue against the vast investment involved in modernizing transport communication, but without an efficient infrastructure the Faeroe Islands could not function as a modern society. Improvements to road communication began with the linking of short village road stretches to form a road network in order to establish a door-to-door service between Klaksvík and Tórshavn; thus avoiding the former inconvenience of cargo and passenger transfer. The road system has since been modernized with dual carriageways, bypasses and alternative routes. The road tunnel bypass that links Leirvík to Gøta was opened in 1985, replacing the old road which was dangerous, being steep and subject to snowdrifts and rockfalls. Similarly, a route opened in 1993 skirts Kaldbaksfjørður from Kaldbak to Signabøur. Its tunnel section allows motorists to avoid the high inland route from Tórshavn called *Oyggjarvegur* which is very often affected by fog, gales and avalanches. It is now possible to commute to Tórshavn from the more distant villages in the central region, so several of them have developed into dormitory settlements.

Population growth in the central region

The trend of the past forty years has been centripedal. Between 1950-90, the population of the central region more than doubled from *14,600* to *30,500* inhabitant. Not being able to benefit from any natural increase, the population of the periphery however stagnated at about 17,000 inhabitants. The central region now accounts for 64% of the Faeroese population, compared to only 46% forty years ago. The increase in the central region was most rapid between 1955-66 before improved transport communication encouraged the stabilization of the peripheral population.

The Skálafjørður

Through the heart of the central region runs the longest fjord in the Faeroe Islands, Skálafjørður. It measures 13 km from Raktangi headland at its mouth to its namesake village of Skálafjørður, also called Skálabotnur, at its head. It fills the southern part of the Eysturoy depression which continues northwards through the Milium Fjarða valley to Funningsfjørður. The Skálafjørður landscape is characterized by long grassy slopes, often reaching right down to the shoreline where rows of boathouses are proof of the fjord being well sheltered. Like other Faeroese fjords, Skálafjørður has a submarine threshold at its mouth. The threshold crosses between the villages of Saltnes and Strendur and here the fjord is only 25-30 m deep. Inwards beyond Saltnes, the fjord deepens to 60-70 m. The fjord threshold prevents the seaward escape of colder, heavier water from the bottom where there is little circulation. However, the low oxygen content is not considered to be detrimental to the fjord fauna. The biological balance used to be maintained when the households discharged only limited amounts of sewage into the fjord, but since the 1980s the situation has deteriorated. The recent economic prosperity has meant a rapid increase in the local population and an enormous increase in the amount of untreated sewage. The situation is aggravated by the expansion of the local fish processing industry, especially as it does not treat its highly organic liquid waste before discharge. Trout and salmon farms have recently been established along the fjord and add to the pollution. During the Second World War, Skálafjørður was the base for the *British Royal Navy*. A submarine trap was set up across the entrance and cannons were positioned at strategic points along the fjordside. The reinforced fuel tanks in Søldarfjørður are still in use today. A continuous belt of settlements from Glyvrar and Runavík to Toftir and Nes constitutes the third largest urban agglomeration today. The village of Skáli lies halfway down Skálafjørður. It had about 700 inhabitants in the 1990s. The largest shipyard in the Faeroe Islands is located here. Established in 1904 by smack-owners in Tórshavn, it was bought in 1940 by the Kjølbro Company, Klaksvík. This company ran the business until 1968 when it was sold to a locally owned company. This went bankrupt in 1989, and since then the shipyard has been operated by non-resident owners.

Before the Second World War, some wooden fishing vessels had been built at the yard, but in 1962 the construction of steel vessels began. By 1990, 47 steel ships had been built for domestic and foreign contractors. The vessels included trawlers, long-liners, purse-seiners and freighters. The yard has a slipway, drydock and a construction yard. Recently, repairing Russian trawlers has been an important business at the Skáli shipyard.

Rolf Guttesen

FUGLAFJØRÐUR
Rævin
Nevið
Halgadalur
Húsafelli
Hjarðardalur
Slættanesur
Kirkjugjógv
Borgin
Fuglafjørður
Vesturi í Dal
Blábjørg
Heimaridalur
Gjógvaráfjall
Kambsennu
Kambur
Kambsdalur
Toftanes
Pollurin
Varmakelda
Kálvadalur
Ritafjall
Hotell
Leirvík
LEIRVÍKSFJØRÐUR
Skoragjógv
Tyrilsenni
Trælavatn
Trælavatnskarð
Tyril
Tundradalur
Koppur
Hjallarnir
Gøtudalur
Eiðisá
Knúkur
Tussagjógv
Norðragøta
Dvørgjaskard
Sigatindur
Uti á Vík
Brennistød
Eggin
Gøtugjógv
Gøtugjógv
Stóragjógv
Gøtunestindur
Breiðhjalli
Gøtunesgjógv
Gøtunes
Syðrugøta
Stóruknyklar
í Bog
Tjørnunes
GØTUVÍK
Undir Gøtueiði
Skipanes
Skáli
Stóðlafjall
Uti á Dalinum
Djúpidalur
Miðafelli
Kjóadalsgjógv
Brattaskorsgjógv
Søldarfjørður
Lambadalur
Lambareiði
Verksmiðja
Lambi
Bassarnir
Geldingaklettur
Gøtuboðar
Lambaregn
Skáktangi
Regnabotnur
Lambanes
Drangsgjógv
Vøggusker
Mjóvanes
Lambavík
Glyvrar
Mórarnar
Glyvrafjall
Glyvregjógv
Á Dal
Høgaleiti
Saltangará
Uppi á Lagni
Klubbarnir
Garðsgjógv
Hótel í Kass
Rituvík
Gásafelli
Nev
Dervisgjógv
Runavík
Høganes
Saltnes
Vatnfelli
Nabbi
Hukslond
Toltavatn
Toftir
Raktangi
Nes
Fossdalur
Tinghella
Vørðan
Æðuvík
Næsvatn
Eystnes
Ryssan
Høgnaboði
Seyðisfjørður
Kolbanagjógv
Sýnisnes
Jøkilsgjógv
Breiðanes
Rustin
Signabøur
Hundsarabotnur
Kaldbakskambur
Dalurin
Rossabotnur
Mülin
Barmur
Skælingur
Stallur
Stigareynini
Gjáarbotnur
Mannafelsdalur
Kaldbaksbotnur
Sornfelli
Mjørkadalur
Skorardalur
Fjallið millum Botnar
Torvhjalli
Fremstiklettur
Kaldbaksnes
Kaldbak
Kaldbaksfjørður
Stórafles
Sund
Kallanes
Sandvíkatangi
Kraftverk
Brennistød
Hvítanes
Oman fyri Stigar
Núgvan
Stiðjafjall
Lambafelli
Á Yttru Fløtum
Steyrur
Steyrabuktin
Norðradalur
Tunguliðfjall
Gellingarklettur
Sundshálsur
Villingadalur
Húsareyn
Hoyvíkshólmur
Byrgistangi
Hoyvík
Boðanes
Boðin
Torvgarðstangi
Syðradalur
Konufelli
Dalsskarð
Fossdalsskarð
Fossdalur
Fjallið
Litlafjall
Norðaru Gjánir
Kalsskor
Lambatangi
TÓRSHAVN
Hotell
Sjúkrahús
Argir
Nólsoy
Bergrætstangi
Korndalur
Grønadalsnøva
Rivtangi
Eggjargerðisnøva
Stokkvík
Oyggjarmúli
Skriðutangi
Kagið
Eggjarklettur
Uppi á Manni
Bólstaður
Tjørnunes
Neystanes
NÓLSOY
Lambavík
KOLTUR
Fossdalsoyrar
Fossdalsgjógv
Tjørnunes
Tvørfelli
Reynsmúlalág
Kirkjubøreyn
Velbastaður
Prædikastólur
Gulin
Glyvursnes
Porkerisvatn
Brekkan Stóra
Dalurin
Trygilsbrekka
Teistaróktangi
Gamlarætt
Kolturshamar
Gróthústangi
Koltur
Fjallið
Kolturstangi
Kolturssund
HESTSFJØRÐUR
Hestsboði
Rivtangi
Byrgisstakkur
Mülin
Øksnagjógv
Hvalvatn
Sjúkrahús
Hótel
Nev
Nevið
Øksnatangi
Hásteinsgjógv
Líðarfjall
Skúvafjall
Flesin á Høsmøl
Ytri Skáli
Innan Glyvur
Uppi á Botni
Uppi á Regni
Slættafelli
Trongannagjógv
Dungansnes
Veðranes
Selatrað
Hósvík
Myrabotnur
Torvadalur
Hagagjógv
Millum Fjalla
Borgarfelli
Reyðafelstindur
Reynini
Grønabrekka
Hamarin
Oyri
Oyrarbakki
Sandfelli
Keldueklettur
Skálabotnur
Halgafelstindur
Lághálsur
Breiðabotnur
Svínagjógv
Oyrarskarð
Nøvin
Knúkur
Skálafjall
Millum Fjarða
Vesturdalur
Lokkafelli
Norðskáli
Skúli
Funningsfjørður
Heltain
Múlatindur
Skerðingur
Kvígandalur
Skipagjógv
Dalkinsfjall
Gomlumannatindur
Øksnagjógv
Sættarenni
Oknadalur
Blámansskarð
Ljósagjógv
Hjarðardalur
Slættanesur
Rustarkambur
Rævin
Nevið
Halgadalur
Húsafelli
Fuglafjørður
Kirkjugjógv
Borgin
Skerðingur
Kvígandalsskarð
Skipagjógv
Kvígandalur
Funningsfjørður
Heltain
Múlatindur
Blábjørg
Vesturi í Dal
Jøklaskarð
Heimaridalur
Gjógvaráfjall
Kambsennu
Kambur
Kambsdalur
Toftanes
Pollurin
Varmakelda
Kálvadalur
Ritafjall
Hotell
Leirvík
Skoragjógv
Tyrilsenni
Trælavatn
Trælavatnskarð
Tyril
Tundradalur
Koppur
Hjallarnir
Gøtudalur
Eiðisá
Knúkur
Tussagjógv
Norðragøta
Dvørgjaskarð
Sigatindur
Uti á Vík
Brennistød
Eggin
Gøtugjógv
Gøtugjógv
Stóragjógv
Gøtunestindur
Breiðhjalli
Gøtunesgjógv
Gøtunes
Syðrugøta
Stóruknyklar
í Bog
Tjørnunes
GØTUVÍK
Undir Gøtueiði
Skipanes
Skáli
Stóðlafjall
Uti á Dalinum
Djúpidalur
Miðafelli
Kjóadalsgjógv
Brattaskorsgjógv
Søldarfjørður
Lambadalur
Lambareiði
Verksmiðja
Lambi
Bassarnir
Geldingaklettur
Gøtuboðar
Lambaregn
Skáktangi
Regnabotnur
Lambanes
Drangsgjógv
Vøggusker
Mjóvanes
Lambavík
Glyvrar
Mórarnar
Glyvrafjall
Glyvregjógv
Á Dal
Høgaleiti
Saltangará
Uppi á Lagni
Klubbarnir
Garðsgjógv
Hótel í Kass
Rituvík
Gásafelli
Nev
Dervisgjógv
Runavík
Høganes
Saltnes
Vatnfelli
Nabbi
Hukslond
Toltavatn
Toftir
Raktangi
Nes
Fossdalur
Tinghella
Vørðan
Æðuvík
Næsvatn
Eystnes
Ryssan
Høgnaboði
Seyðisfjørður
Kolbanagjógv
Sýnisnes
Jøkilsgjógv
Breiðanes
Rustin
Signabøur
Hundsarabotnur
Kaldbakskambur
Dalurin
Rossabotnur
Mülin
Barmur
Skælingur
Stallur
Stigareynini
Gjáarbotnur
Mannafelsdalur
Kaldbaksbotnur
Sornfelli
Mjørkadalur
Skorardalur
Fjallið millum Botnar
Torvhjalli
Fremstiklettur
Kaldbaksnes
Kaldbak
Kaldbaksfjørður
Stórafles
Sund
Kallanes
Sandvíkatangi
Kraftverk
Brennistød
Hvítanes
Oman fyri Stigar
Núgvan
Stiðjafjall
Lambafelli
Á Yttru Fløtum
Steyrur
Steyrabuktin
Norðradalur
Tunguliðfjall
Gellingarklettur
Sundshálsur
Villingadalur
Húsareyn
Hoyvíkshólmur
Byrgistangi
Hoyvík
Boðanes
Boðin
Torvgarðstangi
Syðradalur
Konufelli
Dalsskarð
Fossdalsskarð
Fossdalur
Fjallið
Litlafjall
Norðaru Gjánir
Kalsskor
Lambatangi
TÓRSHAVN
Hotell
Sjúkrahús
Argir
Nólsoy
Bergrætstangi
Korndalur
Grønadalsnøva
Rivtangi
Eggjargerðisnøva
Stokkvík
Oyggjarmúli
Skriðutangi
Kagið
Eggjarklettur
Uppi á Manni
Bólstaður
Tjørnunes
Neystanes
NÓLSOY
Lambavík
KOLTUR
Fossdalsoyrar
Fossdalsgjógv
Tjørnunes
Tvørfelli
Reynsmúlalág
Kirkjubøreyn
Velbastaður
Prædikastólur
Gulin
Glyvursnes
Porkerisvatn
Brekkan Stóra
Dalurin
Trygilsbrekka
Teistaróktangi
Gamlarætt
Kolturshamar
Gróthústangi
Koltur
Fjallið
Kolturstangi
Kolturssund
HESTSFJØRÐUR
Hestsboði
Rivtangi
Byrgisstakkur
Mülin
Øksnagjógv
Hvalvatn
Sjúkrahús
Hótel
Nev
Nevið
Øksnatangi
Hásteinsgjógv
Líðarfjall
Skúvafjall
Flesin á Høsmøl
Ytri Skáli
Innan Glyvur
Uppi á Botni
Uppi á Regni
Slættafelli
Trongannagjógv
Dungansnes
Veðranes
Selatrað
Hósvík
Myrabotnur
Torvadalur
Hagagjógv
Millum Fjalla
Borgarfelli
Reyðafelstindur
Reynini
Grønabrekka
Hamarin
Oyri
Oyrarbakki
Sandfelli
Keldueklettur
Skálabotnur
Halgafelstindur
Lághálsur
Breiðabotnur
Svínagjógv
Oyrarskarð
Nøvin
Knúkur
Skálafjall
Millum Fjarða
Vesturdalur
Lokkafelli
Norðskáli
Skúli
Funningsfjørður
Heltain
Múlatindur
Skerðingur
Kvígandalur
Skipagjógv
Dalkinsfjall
Gomlumannatindur
Øksnagjógv
Sættarenni
Oknadalur
Blámansskarð
Ljósagjógv
Kollafjørður
Kollafjørður
TANGAFJØRÐUR
SUNDINI
SKÁLAFJØRÐUR
NÓLSOYARFJØR
EYSTURØY
YMOY

17 Við Streymin – Growth Zone by the Bridge

Fig. 67: The villages of the Streymin area, with Streymoy to the west and Eysturoy to the east of the sound. Extract from topographic map no. 411. Scale 1:20,000, KMS, Copenhagen 1990.

Sundalagið, or just Sundini, is the sound that separates Streymoy and Eysturoy. At its midpoint, it narrows to about 150 m in width. The central stretch is very shallow and varies between 3-5 m in depth. Here the current can be very strong, reaching 12 knots at times. This place is called *við Streymin* which means "by the current". From its midpoint, the Sundini broadens and deepens to the north and south, and after a short distance the current slackens, and is soon after no longer felt. North of Streymin, the Sundini is tidal, but it is tideless to the south. The shores on both sides consist of glacial moraine, and the lower slopes descend to narrow gravel beaches. Scattered erratic rocks form skerries along the coast. The islets of Kjøthólmur and Grønhólmur are unique because they belong to the little group of Faeroese holms composed of moraine material. The river Stará drains Saksunardalur, which is about 11 km long; making it the longest valley in the Faeroe Islands. The Stórá enters the Sundini through flat meadowland; either side of which are the villages of Hvalvfk and Streymes. Around its mouth, the river deposits a large quantity of sands and gravels; part of which is transported further southwards to form the recumbent spit of Skarvsoyri. The spit is another unique landform in the Faeroe Islands.

The old villages have their land registered in the traditional Faeroese land measurement unit: mørk. They are; *Hvalvík, Streymnes, Oyri* and *Norðskála.* Other settlements are more recent. Oyrabakki was established by settlers from Oyri and was built in the outfield between Oyri and Norðskála. Further north is Svínair which was built by settlers from Eiði.

A few kilometres south of Streymin Bridge is the old whaling station of við Áir. It was founded in 1905 and abandoned in the 1960s. The midpoint location was practical as it served whaling vessels approaching from both north and south. The whales were tugged to við Áir. The whaling station and its neighbourhood have since been converted into a fish-breeding research centre. North of the bridge at Gjánoyri, the Norwegians founded the first whaling station in the Faeroe Islands in 1894. The station was later abandoned and little trace remains.

Progress in transport communication

Until the late 1960s, most of the Sundini villages could only be reached using water transport; in particular on board the regular passenger and cargo ship. However, from the last port of call, Oyri, there used to be a bus connection to Eiði, Funningur and Gjógv. From Hvalvík there was also a car service along the valley to Saksun. In the early 1970s, the intermittent road stretches were eventually linked to form a network. The opening of Streymin Bridge in 1973 was a major break-through as it represented the first land link between the two largest islands. This was followed by a tunnel which was blasted through the interior of Eysturoy to connect the eastern and western road sections. The tunnel was opened in 1976, and it was the first Faeroese tunnel to have a dual carriageway.

The bridge, tunnel, and asphalt roads have radically improved the transport communication between the widely scattered villages along the Sundini, making it easier for the inhabitants to congregate. Greater cooperation between the local communities led to the decision to construct the new secondary school at Oyrabakki. It opened in 1972 and serves the whole region.

The local economy

At Oyri there is a fishnet manufacturer that used to specialize in herring nets, but he has had to alter his products to meet the demands of the recent fish-farming industry. The company *P/f O.C. Joensen* concentrates on the fishing and canning of scallops and shrimps. The scallops are dredged from banks east of Eystnes and Nólsoy. The scallop harvest is seasonal; from October till March. The scallop beds are only small and this limits the annual production to about 2,000 tons gross. The main export markets are U.S.A. and Denmark. The company has been canning and packaging frozen shrimps since 1986. The shrimps are either bought from Faeroese trawlers or purchased on the free market. The factory has a production capacity of 6,000 tons per year, and it is by far the largest industrial employer in the district, providing work for 80 people. At Norðskála there is a cement works that once provided elements for many of the larger functional buildings in the Faeroe Islands, but due to the recession, it is no longer in operation. At Hvalvík there used to be a small enterprise that manufactured house assembly kits, while another company used to manufacture fibre-glass boats.

Both shorelines of the Sundini have aquacultural entreprises, but at present many companies are out of business. Immediately to the south of Streymin Bridge, there are two oblong basins belonging to the state-owned company *P/f Fiskaaling,* which also runs the research centre at við Áir. The importance of fish farming to the Faeroe Islands increased markedly in 1977 when the fishing limit was extended to 200 nautical miles. By the late 1980s, as many as 18 fish-farms were operating along the coastal stretch from Haldarsvík in the north to Morskranes in the south. However, the fish-farms lie too close together, and this has had an adverse effect on the local environment.

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SVÍNÁIR
NORÐSKALAHAGI
YTRIPARTUR
NORÐARAHELVT
NORÐ-SKÁLI
NORÐASTIPARTUR
NESVÍK
Í SUNDUNUM
OYRARBAKKI
OYRARHA
MIÐJAN
HEIMARAHELVT
EIMARIPARTUR
STREYMNES
OYRI
HVALVÍK
SUNDINI
ÍTNSHAGI
HÚSADALSHAGI
TOFTADALSHAGI
VIÐ ÁIR
Lutastað
Svínáhólmur
Kampsannasteinur
Gjánoyri
Gjánoyrarbugur
Skriðheyggjur
Barmur
Hamarin í Barmi
Hallatangi
Dýnuklettarnir
Kistuvík
Nesið
Garðsendin
Sjómerki
Móstøðan
Neshamar
Nesá
Gjóta
Rákarendin
Ovarivarði
Niðarivarði
Gráabrúgv
Streymhjallar
Hvítabrúgv
Búðará
Torheyggjur
Eggin
Leiti
Hvítiklettur
Gráiklettur
Ítróttavøllur
Stórá
Skúli
Ósin
Flagaroyran
Æðuklettur
Heimaritangi
Norðaritangi
Norðberg
Skarvasteinar
Grønhólmur
Sundhøvdi
Fúlavík
Kjøthólmur
Streymhøvdi
Taraboðin
Dýravík
Kræklingavík
Tjørnuvíksheiðar
Svartheyggjur
Illheyggjur
Streymhjalli
á Flatinum
Bjargir
Grótheyggjurin
Rossahjallarnir
Enni
Kyrjarheyggjur
Bátshøvdi
Kluftoddin
Langheyggjur
Írland
Rættargarðsáin
Verksmiðja
Djúpagarðstangin
Túvusteinur
Lítlaból
Grønusabuktin
Byrgisgarðsgjógv
Skarvsoyri
Klettur Stóru-Malu
Toftadalsoyri
Antinishøvdi
Kópasker
Hamarin
Rættarstiggjur
Innara Krákureiður
Ytra Krákureiður
Fjallið
Fjalsendi
Mjáurók
Aartunga
Niðastiklettur
Hvítabrúgv
Landsuðurskarð
Niklasarrók
Hamrásandur
Heimastá
Svangi
Stórheyggjur
Brekkildarendin
Gráiklettur
Hvítabrúgv
Heygabrekkan
Búðarsteinar
Trunkin
Kyrjarheyggjur
Torvheyggjur
Stórheyggjur
Skálagjógv
Uppi í Dal
Tippið
Breiðiteigur
Tungan
Tingheyggjurin
á Túvu
Tvørbrekkurnar
Barmurin
Barmsenni
Skálá
Fossagjógv
Fossabrúgv
Gráisteinur
Níðarutossar
Ovarutossar
Úrðin
Lítlafelli
Skálaskarð
Mjáarók
Múlin
Hálsin í Múla
Stórurókshamar
Níðarurókshamar
Kinnarhamar
Grønihjalli
Ræðslan
Hamarsendi
Hestatrøðsáin
Borðhjalli
Eysturklettur
Tungan
Tvørbrekkan
Sandbrúgvin
Miðklettur
Húsadals botnur
Grønagjógv
Stb
10
594
62
692
592

18 Vestmanna – Fishing and Hydroelectric Power

Vestmanna is the most important settlement in northern Streymoy, and yet the coastal road, which terminates there, is the only means of communication by land. This is why the town has no hinterland. By the start of 1995 the population had fallen to under 1,200 inhabitants. Even so, the port has one of the best natural harbours in the Faeroe Islands. The inlet is deep and its bed is ideal for anchorage. The tidal range is about 2 m.

Vestmanna was originally called Vestmannahavn. Its founders were literally "men from the west", from Ireland. Early Irish emigrants also went to Iceland where they settled at Vestmannaeyar. Archaeological excavation has revealed several ruined houses at Gjógvará, but they date back to the Viking Age.

The lofty cliffs along the coast north of Vestmanna represent an important breeding ground for Faeroese seabirds. The rugged, precipitous basalt cliffs plunge into the sea below, and the craggy stacks, caves and ravines make the seascape a place of awesome beauty.

The port and the fishing industry

Like Tvøroyri and Klaksvík, the village of Vestmanna was chosen by the Royal Trading Monopoly as the location for one of its new branches in the 19th century. The branch opened in 1839 and served northern Streymoy and Vágar. In those days, the conveyance of wares was either by rowing-boat across the sounds or by foot along ancient mountain paths. The construction of roads and modernization of transport led to Vestmanna being the obvious choice as the ferry port to serve the only airport on Vágar. The crossing to Oyrargjógv takes 20 minutes. In 1989, the construction of a road tunnel under the Vestmanna Sound from Leynar to Vágar had to be postponed because of the economic crisis.

Economically, Vestmanna possesses a wide variety of fishing and manufacturing industries. In common with other Faeroese fishing towns, fish processing is the most important industrial employer. The fish-filleting factory, *Vestmanna Fiskavirki,* was established by the municipal authority and trade unions who provided more than one-third of the initial share capital. The other two-thirds were provided by a large section of the town population. In its heyday, the factory processed 4,000-5,000 tons of fresh fish annually; all caught by the town trawler fleet. At full capacity, the factory provided work for 70-100 inhabitants, but the number fluctuated according to the amount of raw fish to be treated. As was the fate of many other fish-processing factories during the economic crisis of the early 1990s, the business was taken over by the parent company, *Føroya Fiskavirking*. The factory now specializes in the production of frozen, high-quality, oven-ready meals.

Traditionally, Vestmanna fishermen have also caught trash-fish for industrial purposes. In the early 1970s, they operated in the fishing grounds of the North Sea but were later forced to fish off the coast of Iceland, East Greenland and in the Barents Sea, where capelin was the most important fish. The Faeroese sea area was important for blue whiting, which migrated past the islands twice a year. Despite the decline in the fishing industry in recent years, the port still retains its status as a trawler town. The harbour was greatly enlarged in the 1980s, with the construction of a wharf and breakwater. The old harbour was built around the low protrusion of Heyganes Point. The ship repairyard, *Vestmanna Skipasmiðja,* is found here. Although not large in size, the yard served the town fleet of British-built fishing smacks after 1897. The yard now operates as a branch of the Tórshavn Shipyard. Boatbuilding was attempted in the 1970s but although the vessels were soundly constructed, the yard went bankrupt.

The local terrain is very steep and there is little flat land for building. New sites are created by excavation or explosives. The lack of building space has meant that much of the inner part of Vestmanna Bay, whose bed is exposed at low tide, has been reclaimed to provide an estate for modern light industries such as; plastics, joiners, timber frame merchants, and building element manufacturers. However, the economic recession is hitting these industries too, and many of them are operating well below capacity or remaining temporarily idle. Moreover, the new ferry terminal and sports centre are situated here.

Vestmanna Bay has been important for the ancient Faeroese tradition, *grindadráp,* in which schools of pilot whales are driven into the bay to be slaughtered.

Hydro-electric power and the electricity supply

Electricity to power machinery and provide universal lighting is a necessity to modern industry. The electrification of the Faeroe Islands began in 1921 with a diesel works on Streymoy and an H.E.P. station at Vágur on Suðuroy. The Klaksvík; region received electricity in 1931 with the opening of the local H.E.P. station at Strond. However, the total electrification of the islands did not truly begin until after the Second World War.

In 1946, the electricity company *S.E.V.* was established by the Streymoy, Eysturoy and Vágar districts, with the notable exception of Tórshavn and Kvívík. However, later, every district in the Faeroe Islands had joined. *Fossá Station* was the first H.E.P. station to be built by S.E.V. It utilizes water from the Fossá valley just north of Vestmanna. The extract shows the two reservoirs. The construction of the high dam at the outlet of Lake Vatnið allowed a far greater body of water to accumulate in the upper valley and form the current upper reservoir. From the outlet of the lower reservoir at Lómundaroyri, a vertical tunnel had to be blasted through the mountain to allow a free-fall of 224 m through steel

Fig. 69: *Hydro-electric power stations in Vestmanna. Sketch to show the precipitation areas and network of reservoirs, tunnels, accumulation ditches and chutes. Source: SEV, 1994, RG part.*

Fig. 70/71: *Topographic map extracts of the Vestmanna region showing hydro-electric power station reservoirs and precipitation areas. Map nos. 310 (1988) and 311 (1991). Scale 1:20,000. GI/KMS, Copenhagen.*

pipes to drive the 3,000 hk turbine below. The power house, Fossá Station, lies only 1 masl.

In 1956, the production capacity of Fossá Station was enlarged with the installation of a 6,000 hp turbine, and the reservoir inflow was increased by tapping the Dalá stream to the west by means of a tunnel. Further installations were added in the Vestmanna region in 1962 when the reservoir at Mýrarnar was put into use. The free-fall to *Mýrar Station* is 240 m, after which the water collects in the lower reservoir before another free-fall of 107 m to the second turbine at Heygar Station. The large volume of water is supplemented from tunnels tapping the Gassá and Breiðá streams. The catchment area of the Vestmanna region is 35.8 km², and the 3 H.E.P. stations produce a total of 13.7mw.

Throughout the 1960s and early 1970s, no increase in H.E.P. capacity on the Faeroe Islands was made because of the low world market price of oil. On the other hand, several diesel power stations were built. The largest station was built at Sund, north of Tórshavn. It has three engines with 8,000 hp and one with 17,000 hp. Diesel power stations are also found at Vágur, Tvøroyri and Klaksvík.

The sudden rise in oil prices in the 1970s caused the S.E.V. to plan an expansion in H.E.P. capacity. Two sites were chosen. The first site was Lake Fjallavatn on Vágar, while the second site was Lake Eiðisvatn between Eiði and Veðranes in western Eysturoy. However, Faeroese environmentalists protested and the plans for Fjallavatn were shelved. In 1988, the beautiful region of Lake Fjallavatn was designated a National Park. On the other hand, the first stage of the Eiði plan has been completed. Lake Eiðisvatn has been converted into a reservoir and the H.E.P. station has a capacity of 13mw. The reservoir is partially replenished from a 9 km tunnel which taps a catchment area to the north. Until the Eiði station came into operation in 1986, 80% of all H.E.P. originated from the Vestmanna region.

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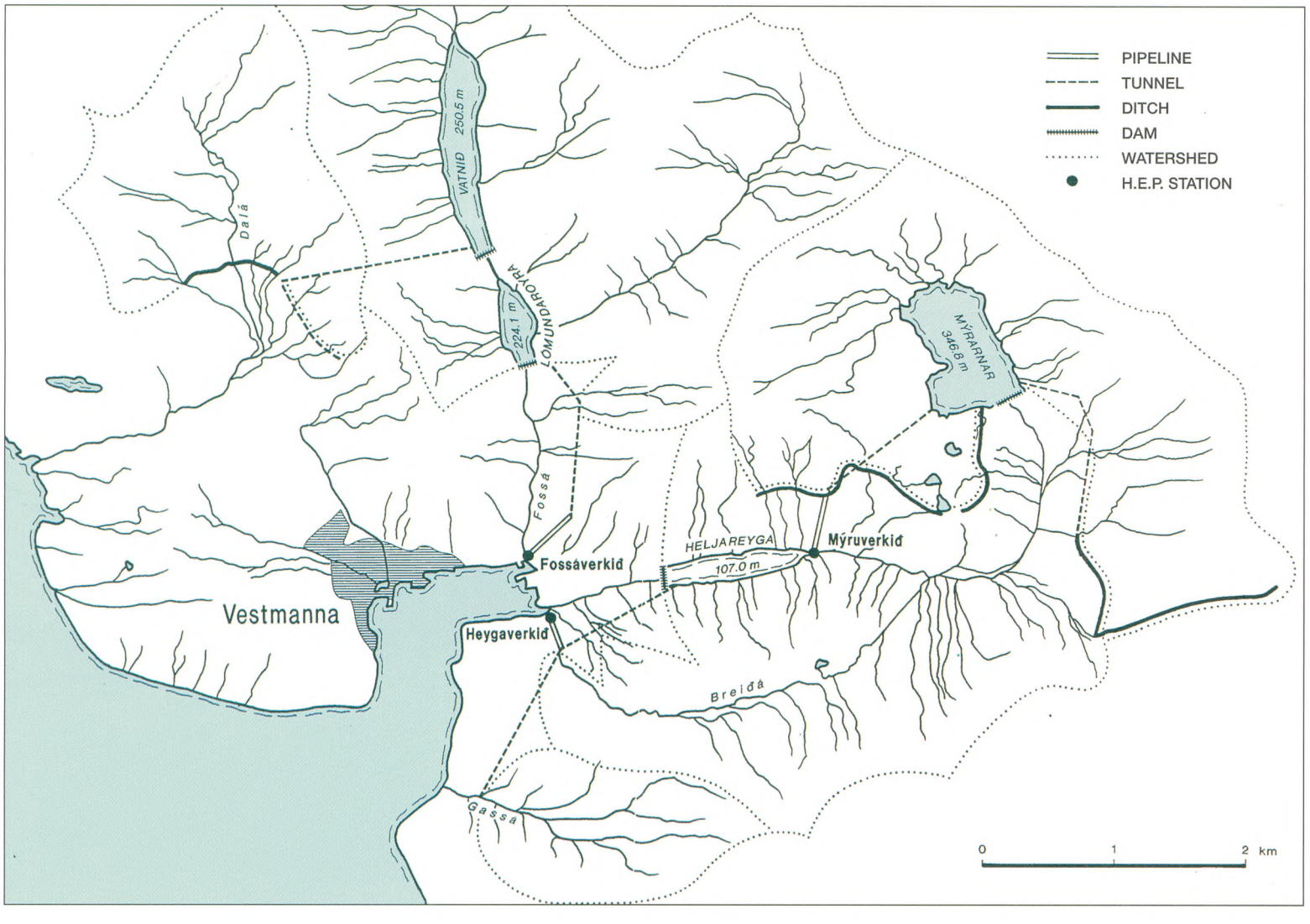



MIDDALAHAGI
FJALSHAGI
FREMRAHELVT
Á BJØRGUM
ÚTI Í HAGA
HEIMI Í HAGA
HEYGAHAGI
INNARAHELVT
Øksnadalur
NESHAGI
SLÆTTANES
AVTOFTAÐ BYGD
VESTMANNA
KVÍVÍKSMERKUR
Heygadalur
ÚTI Í HAGA
Gassadalur
Fonsdalur
Hvannadalur
Møskursfjall
Gøtuhjalli
Hægstafjall
Melin
Árndalsfjall
Miðalfelli
Ryggurin
MIÐALSBREKKA
Á RÓGVU
GERÐIÐ
FITJARNAR
Á FJØRÐ
INNI Á LEITI
VÁLUR
FRAMMI Á VATNI
Lovsingafjall
Skriðnabrekka
Eiðið
Egilsfjall
Vatnsdalur

19 Slættanes – An Abandoned Settlement

Fig. 73: *Slættanes. Extracts of map sheets. A: No. 113, 1900. B: No. M 18, 1937. C: Topographic maps nos. 210 and 310. Scale 1:20,000. GI/KMS, Copenhagen 1989/90.*

Much of the literature on the history of the Faeroe Islands assumes that the former peasant society remained static until the year 1856 when the abolition of the Royal Trading Monopoly breathed life into the economy. The truth is that important changes were taking place long before. In the 18th century, the population was already growing fast, making it necessary to convert some of the outfield or *hagi* into allotments known variously as *traðir, gerðir* or *byrgir*. These allotments traditionally lay just beyond the dike surrounding the infield or *bøur,* but by the early 19th century, the first pioneer settlements were being founded much further out in the hagi. After the First World War there were as many as 30 pioneer settlements, but since then some have been abandoned; success or decline has depended on the geographical location and resource base.

On the island of Vágar, 3 pioneer settlements were founded. *Víkar,* on the north coast, was founded in 1855. Its settlers originated from Gásadalur. It was abandoned in 1914. *Vatnsoyrar,* a recent pioneer settlement from 1921, is still in function. It was founded by people from Sørvágur and lies halfway between Sørvágur and Miðvágur. The third pioneer settlement was *Slættanes.*

Slættanes

The NE point of Vágar is called Slættanes. Here, the sound of Vestmannasund meets the coastal waters of Vestmannaflógvi, and the fishing grounds are excellent. The old village of Sandavágur has a hagi that stretches in a broad belt across the eastern part of the island. One part of it, *Slættaneshagi,* lies 14 km away, and it has always been the most difficult part of the Sandavágur outfield to tame. According to an ancient by-law, the farmers of Sandavágur switched between the use of Slættaneshagi and the nearby Giljahagi every twenty years.

In 1835, the first Sandavágur family left the village to settle at Slættanes; a move supported by *Tillisch,* the chief civil officer. Furthermore, the Danish Treasury invested 30 rix dollars in the settlement plan. However, the farmers of Sandavágur, who owned the hagi, opposed the idea and threatened to take the matter to court. The first settlers on Slættanes were registered as cottagers according to the 1840 census, but because they were not landowners, they were not entitled to a share of the bøur and hagi. The allotments to be cultivated were thus classified as *traðir,* and the settlers had to pay rent to the farmers in Sandavágur. The 1845 census confirms that three more families moved to Slættanes just five years later and the population rose to 14 inhabitants. Common to all families was the fact that either the husband or wife originated from Sandavágur. According to the season, the main occupation was either cultivation or fishing. An allotment was usually large enough to produce winter fodder for one cow, but the right to graze the cow in the hagi during the summer was granted in return for work which would involve such tasks as digging drainage ditches or building sheep shelters called *ból.* The right to sheep rearing or peat cutting had to be earned in the same way. The allotments were cultivated with grass for hay, barley and potatoes. The use of other resources or wages might be earned through the daily labour down in the old villages. A common task was the uprooting of tormentil rhizomes whose acids were used for tanning sheepskin. The fishing grounds were well exploited and along the coast saithe was caught in seine nets. After gutting, the saithe livers were melted into train oil, which had a high barter value. The fish were dried for human consumption or winter fodder for cows.

The changing livelihood

The Faeroese fishing industry entered a new epoch, the "age of the fishing smack", in the late 19th century. This introduced the island communities to the world market with money as the exchange medium. The traditional local economy, based on barter and sharing local produce and resources, began to disappear, particularly with the replacement of oars by motors in the 1930s. In 1940, the population of Slættanes reached its maximum, with 75 inhabitants. After the Second World War, fishing became a full-time occupation and lasted all year. The decreasing importance of the traðir weakened the case for living at Slættanes. There was no road connecting it to the rest of the island. Only the post-boat from Vestmanna arrived twice weekly at the landing site.

The electricity board, S.E.V., connected most settlements to the national grid in the 1950s, but Slættanes was omitted due to the considerable cost that overground high-tension cable construction would have incurred. In view of the fact that the inhabitants were unwilling to bear the cost of a diesel-fuelled generator, where the difficult task of bearing oil ashore would also have been necessary, there was no alternative but to compensate them for moving elsewhere.

Thereafter the population of Slættanæs dwindled until at last there were not enough able men to haul the boats ashore. The life-line to the rest of the islands was thus severed, and the last inhabitants left in 1964. After the exodus, the well-tended *traðir* soon reverted into *hagi* and once more became the haunt of the sheep. However, a few houses have been spared, and today they serve as holiday homes.

Rolf Guttesen

Slættaness Tangi
NESIÐ
Tr St
Grøvin
Slettene
(Slættan
Bláhamar
Selgjógv
EGGIN
ÆTTANESS HAGI

Fyr
Slættanes tangi
NESIÐ
Tr St
Skole
Tlfst
Grøvin
Sletten
(Slætta
Landingssted
Bláhamar
Selgjógv
EGGIN
ÆTTANESHAGI

Kóphellan
Viti
Slættanestangi
Nesið
Túgva
Gjarhellan
SLÆTTANES
AVTOFTAÐ BYGD
Lending
Hálsur
Undir Lað
Heiðarnar
Nevið
Skora-
nakkur
Laðgjógv
Kass
Bláhamrar
Grótgjógv
Stikugjógv
Eystaraskor
Nøvan
Skoradalur
Einiberstiggjur
Eggjarmúli
Selgjógv
Eggin
Selgjáldin
Vestaraskor
Grímstaðfjall
SLÆTTANESHAGI
Klubbin
Skoradalshálsur
Rivan
Skáadalur
Gjóta
á Linkinum
Torv-
heyggjur
Bólið
við Húsið
Barmur
Møllin
Snoáin
Skálin
Klettareyn
Úrðin
Kráarheyggjur
Ternheyggjarnir
Fossabrýrnar
Kliningsgjógv
Jatnagarðar
Uppi á
Fossi
TANHÚS
Botnur
Tungufelsbotnur
Rókin
Tungufelsskarð
Hvanngjógv
Stertur
Uppi á Gjáum
Tungufelli
Suðansbrekka
Skúgvaflatur
Rakarkinn
Rossasnið
Miðgjógv
Markagkletttur
Hálsin á Rók
Hovdagjógv
Botnáin
Fuglabrekka
Hovdin
Moldbakkarnir
Myrabotnur
Oyrarnar
Húsagjógv
Lobbrýrnar
Gil
Tungufellið Lítla
Tvørbrekkur
Branhellan
Kjøtholmur
Hoybergsboði
Hoyberg
Tungutangi
Akrab

20 Gásadalur – The Old Agricultural Landscape

Fig. 75: The westernmost part of Vágar showing Gásadalur. Extract from topographic map no. 310. Scale 1:20,000. GI, Copenhagen 1988.

The little farming community of Gásadalur lies in a broad sweeping valley in northwest Vágar which ends abruptly at the 50 m high seacliff. Coastal access to the settlement is extremely difficult, and landward access is not much easier. The sole footpath to Gásadalur is very steep. It twists in hairpin bends across the mountain. In 1996, Gásadalur remains the only Faeroese settlement that is not connected by road, and the planned road tunnel through the mountain has been postponed. The only convenient means of reaching Gásadalur is by helicopter. Isolation has helped preserve the traditional way of life. Unlike elsewhere the *útskifting* (land redistribution) has not yet come to Gásadalur.

Land classes in the infield

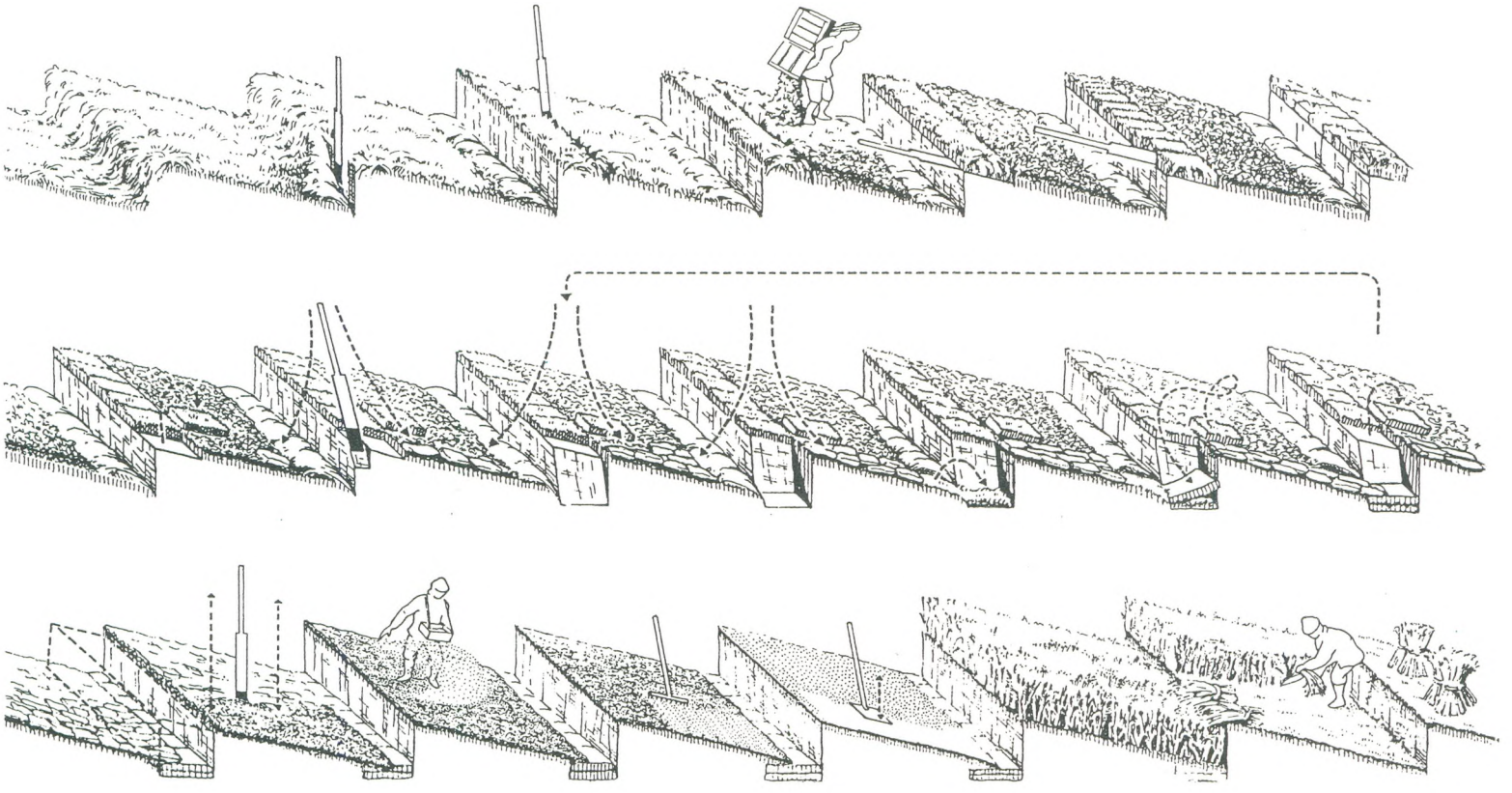
In Gásadalur there is ample evidence of the intricate land division of former times. Cadastral maps provide information on the history of local landuse; albeit sometimes difficult to interpret. In principle, understanding maps ought to be straight forward; the oldest farmland ought to lie closest to the settlement, and the number of parcels per field should correspond to the original number of properties. Nevertheless, even though the old field boundaries may be conspicuous, they may have been altered through time. The inheritance law enforced the equal subdivision of land between all the children, with the result that ever smaller land parcels were passed down from generation to generation. Occasionally, a "sensible" marriage reversed the trend and aggregated several small parcels into one large plot. The matter is actually more complicated because the original site of the settlement is unknown. The present hamlet is unlikely to be at the place where the very first building was constructed. According to local legend, *Gæsa,* the wife of a 12th century bishop, dwelt in the ruined building that lies high up on the northwest side of the valley. Another story recalls the abandonment of this settlement during the Black Death which plagued the Faeroe Islands about the year 1350. For Gásadalur, only a rudimentary chronology is possible regarding the initial cultivation of a particular field section. The sequence might be as follows:

-Former tofts, called *heimrustir* in the northwest of the valley, possibly surrounded by common land called *almenningur,* known from other settlements. The latter was eventually divided to provide "additional farmland" and the only right to exploit it was through the ownership of other land.

-Parcels in the old infield or *bøur* whose original value was fixed in land measurement units or *markatal (merkur*; *gyllin, skinn)*. This feature is important because only ownership of land measured in markatal gives the right to exploit the hagi as well as manorial rights such as a share in fowling, whaling etc.

Fig. 74: Gásadalur village and its infield. The light areas indicate mown hay. The "teigalendir" appear as narrow, elongated field strips. Photo: Kalmar 1976.

Hellutangi
Feitiskor
Hellisgjógv
Bakkin
Skorar
Barðflesjar
Urðakumli
Hopurin
Hjallabólsflesjar
Barðið
Búrðir
Hvannrok
Røgvustiggjur
á Hjalla
Barðnøs
Einiskoraryggur
á Stigum
Hjallabrúgv
Vallstiggjur
Skjalgsskor
Rygsmýra
Røkin Langa
RYGSVÍKSHAGI
Láturgjógv
við Ryggin
Tindurin
Torvheyggjur
Skarvadrangur
Tjørnunes
Stapi
Hattarsteinar
Skrapagjógv
Illarok
Reynskor
Reyndalur
Skarvagjógv
Agnheyggjur
Beringaryggur
Hvammur
Hvamsryggur
Yksnamold
Yksnagil
Guttaklettur
Flatidrangur
Umfaragjógv
Mannsetur
Steinheyggjurin
Arnafjall
Uppsalir
Tippi
Steinfløttur
Valligjógv
Garðslag
Bjargamót
Stropurð
Fjørudalur
Flesin
Langa
Malir
á Fløtum
Hvannadalur
Sæurðadrangur
Sæurða-
barmur
Svínabólsheyggjur
Nyggjurð
VÍKA
AVTOFTAÐ
Heyggjurin
Mikli
Bakkin í Blæingini
Skarð
GARÐSHAGI
Vatnsbrekka
Dalbotnar
Lambagjógv
Neytagjógv
Riddaskoraryggur
Heinanøva
Spennigjógv
Orrtindur
Skeljagjógv
Streymnes
Millum Vatna
Bustardalur
Sniðdalur
Tungan
VÍKAHAGI
GÁSADALUR
Gresskarð
Eggjarnar
Djúpidalur
Bustin
Gresskarðadalur
Eysturtindur
Braðaskor
Grótvalir
Pálsheiðar
Gardsrætt
Akranesskarð
Keriö
Braðarok
Høvnin
Akrastaðir
Roddansmúli
Rustin
Jatnagarðar
Rustin
Fuglatugvan
Líðarhús
GÁSADALUR
Skúli
Grunnadalur
Rustardalur
Tjørnudalsskarð
Langanes
Skrapasteinur
Sibbaskorahella
Múlafossur
Mannagrót
Trølsheyggjur
VESTARIPARTUR
Tjørnudalur
Reyðastiggjatangi
Norður
í Haga
Lending
Neytaskarð
Skarð
Knavin
Hvítuklettar
UTTANGARÐSHAGI
Dalsskor
Knúkarnir
Tjørnin
Líraberg
Røgvukollur
Mýrarnar
Borða
Borðusteinur
EYSTARIPART
Grunnadalur
Nevið
Biggjarskor
Kálvatrøðin
Biggjarurð
Gásadalsbrekka
Skorar
Bernartindur
Sjóvarmølin
Hattarsteinur
Leiti
Álkuklettur
Høvdin
Helluberg
Akranes
Buskafløttur
Ótrastiggjur
Røkin



-*Viðurbyrgi,* additional land for cultivation, possibly acquired due to the loss of land elsewhere caused by landslides, erosion of sea-cliffs etc.

-*Trøð,* additional land, again without a *markatal*-value. After 1800, it was allotted for cultivation. Special land laws led to the substantial expansion of land under cultivation towards the end of the 19th century and the start of the 20th century.

The above-mentioned parcel types are represented by symbols on the map opposite and may be identified with the oldest properties that later became *býlingar* (hamlets); *Uppi í Toft, Við Garð, Grástein.* It is noteworthy that a significant extension of the cultivated infield (bøur) has taken place. The "old" plots appear to be the result of measuring and subdividing by rope. The rope length chosen was equal to the width of the plot to be subdivided. By folding the rope into two, three, four, or more, it was possible to subdivide fairly when determining new plot sizes. This proportional subdivision was superior to alternative calculation methods and disputes could easily be resolved through fetching the rope to make a quick check. The technique also permitted the making of measurements on curved pieces of land, which is why curved boundary lines occur on the map.

At sometime in the distant past, an ingenious method of cultivation, peculiar to the Faeroe Islands, was invented. This is *reinavelta.* It is based on a system of downslope-tilted, prismatic, field strips running cross-contourwise. Each field strip is called a *teigur.* It is about 3 m wide (equivalent to seven turf rows) and drained by ditches running along its edges. When preparing the teigur for sowing barleycorn, the outer edge is cut away and turned face-down into the ditch immediately below. Then, in turn, the top-turves of the first turf row of the teigur are loosened. Manure is then spread over the remaining grassy surface of the teigur. Slices of earth from below the former position of the removed turf row are now spread onto the manured area. Once the process has been completed, the teigur will have been "moved" inwards by about 1/7 of its width. In the seven-year cultivation cycle, barleycorn is only cultivated in the first year, after which the next six years are under grass. Then the whole process is repeated. In this way each teigur is totally dug and mixed with manure every 49 years (7×7). Moreover, reinavelta ensures that soil; drains effectively, warms quickly in the sunlight, and aerates adequately. This reduces acidity. These advantages are similar to the effect of "ridged fields" in arable landuse where the plough is used. Reinavelta is perhaps the local answer to furrowing. The practice of reinavelta is made possible by the use of a unique implement, the *haki* (see figure 81). This is a long-bladed, cricketbat-shaped, general purpose, wooden spade with a steel cutting edge, whose main function is to slice off, lift and invert turves; the latter being rather heavy after a growth of seven years.

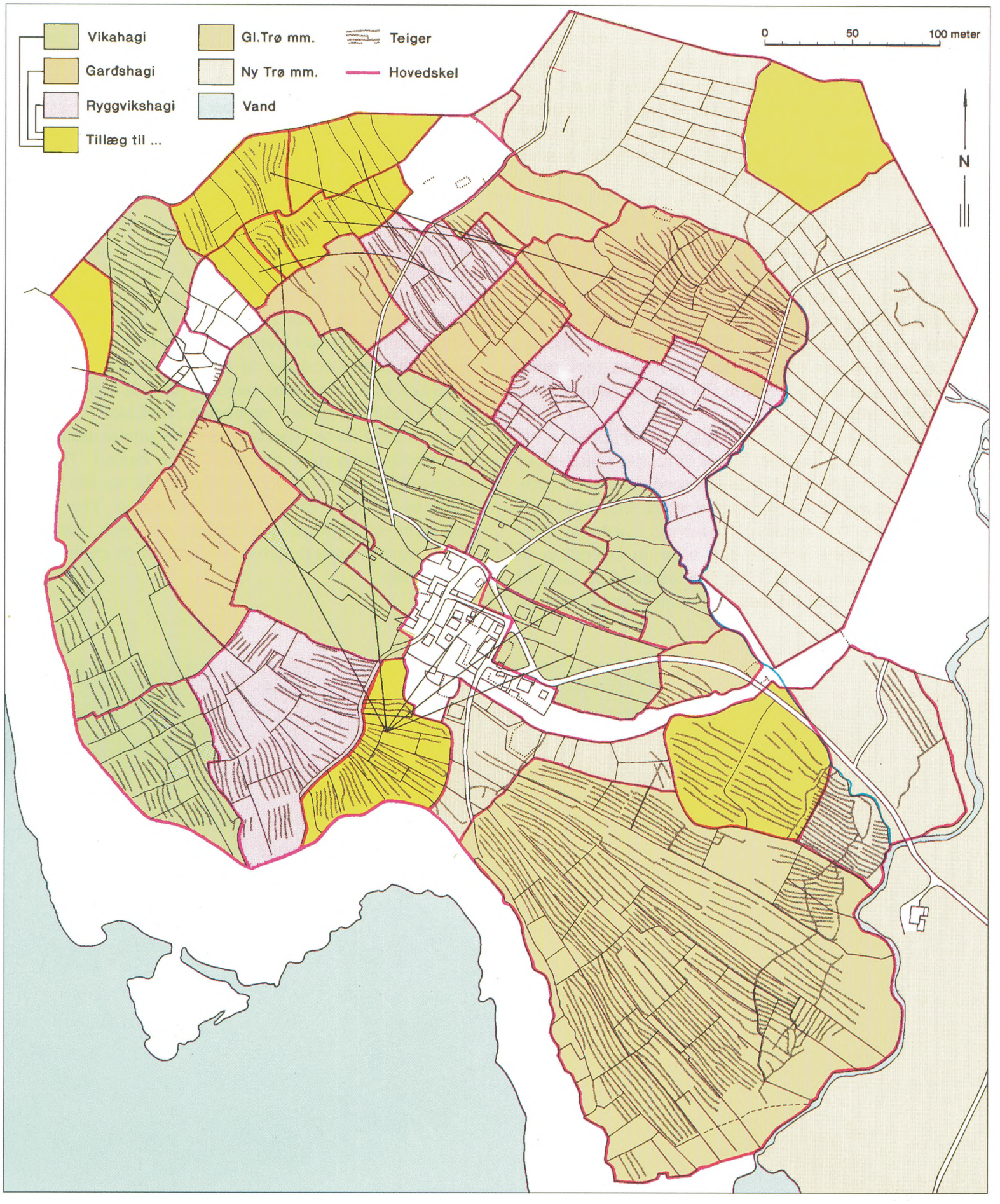
Documentary film on barleycorn cultivation

During the production of a film on reinavelta, the unique barleycorn cultivation method was discovered to produce a soil temperature that was 1.0-1.5°C higher than that of untreated soil. Given that the Faeroe Islands lie close to the northern limit of barleycorn cultivation, this fact is highly significant. It means that the growing season of barleycorn is extended by one month; the equivalent of moving the Faeroe Islands to the warmer climatic conditions that prevail some 500 km further to the south.

Sofus Christiansen

Fig. 76: *Picture sequence to explain each stage in the process of "reinavelta" and the cultivation of barleycorn. SC part.*

Fig. 77: *A cadastral map of Gásadalur showing the infield system. The division into land measurement units "merkur" is shown. The "bøur" and "traðir" are indicated. Additional land and its relationship with the three outfield areas "hagi" is also clarified. Source: Matrikulstovan, Tórshavn. SC & RG part.*



21 Mykines – Facing Depopulation ?

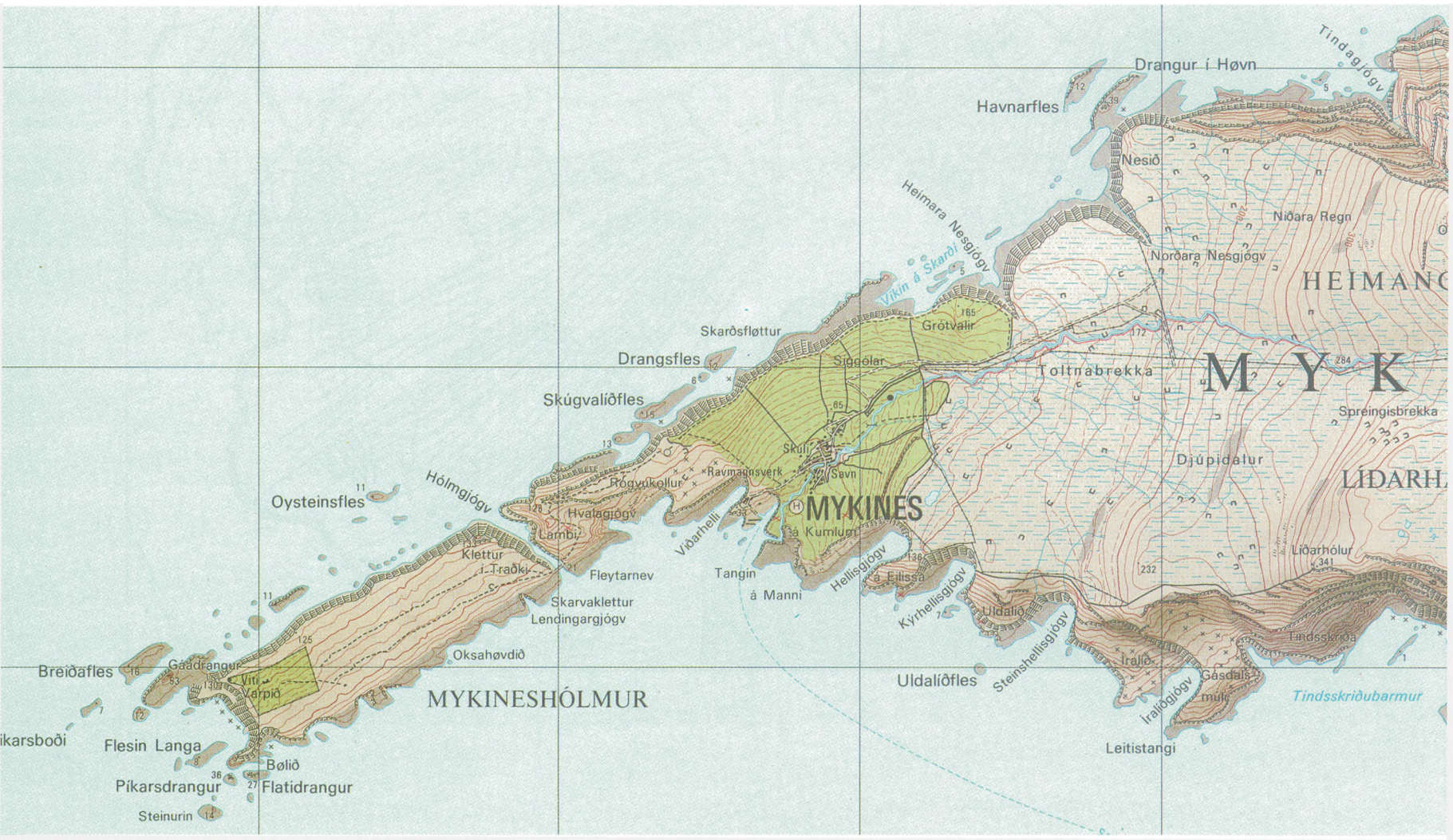
Mykines is the westernmost island in the Faeroe Islands. Its surface area is about 10 km². It is composed entirely of volcanic rock from the lower basalt series. Basalt benches may reach 20-50 m in thickness, and locally there are fine exposures of columnar basalt, as in the northeast-facing valley of Korkadalur. Some benches are separated by thin lenses of coal containing fossil imprints of trees and other plants. Less resistant tuff layers are also found between the benches and provide nesting ledges for the multitudinous seabirds.

The nature of the island

The coastline is steep and inaccessible with many rocks, stacks and skerries. The north and west coastlines are characterized by a wave-cut platform that is very prominent along the northern shore of Mykineshólmur, as can be seen on the extract below. This observation indicates that the westernmost islands may have been very gradually rising through time while the eastern islands have been slowly sinking.

A little cove close to the village of Mykines is the only landing place on the island. The post-boat from Sørvágur docks once daily when sea conditions are favourable but continuous winter storms make the little cove unapproachable for months. However, since the mid-1980s, a helicopter service has been in operation to improve transport to and from the island. The islet of Mykineshólmur is cut off from the main island by a deep cleft, Hólmgjógv, but it can be reached by a narrow footbridge. The westernmost point is marked by the *Mykinesviti lighthouse.* The beacon is 125 m above the ground and can be seen from a distance of 25 nautical miles (about 46 km). As far as 5 nautical miles west of the lighthouse, the sea is constantly troubled by strong, raging currents. Mykineshólmur is renowned for its oxen and 20 creatures are currently being fattened on the highly nutritious grass. Furthermore, the islet is able to sustain up to 60 sheep.

Mykines abounds in seabirds and some of them are rare. Ornithologists from all over the world visit the island each year. The gigantic fallen blocks at the foot of the enormous cliffs are the colonial haunt of the *cormorant.* Above, on white excrement-covered ledges between basalt layers, the *black guillemot* nests. The *puffin,* on the other hand, scratches out its nesting hole in the grassy slopes that shelve down to the abrupt cliff-edges. The abundant bird excrement enriches the soil and gives rise to the luxuriant grassy vegetation. Mykines is the only place in the Faeroe Islands where the *gannet* nests. *Seals* are highly numerous and were once hunted. The land assessment report of 1873 estimated the wealth of seabirds to be 10% of the total land value. The natural resources of Mykines are indeed very rich, but today there are not enough active inhabitants to exploit them sufficiently.



Pollen analysis and "fossil fields"

Close to Hólmgjógv is an area of terrain called Lambi where ancient field terraces are still outlined on the slopes. *Dr. J. Jóhansen,* a Faeroese botanist, has analyzed pollen traces and discovered that oats was cultivated there about 600 AD, and barley later. At Eilissa, Uldalíð and Iralíð, there are fossil field outlines in areas not traditionally associated with cultivation. The steep elongated fields are well exposed to the sunshine. It is assumed that they were once cultivated. With reference to old Irish documents, Dr. J. Jóhansen concludes that there was an *Irish-Celtic settlement* on the Faeroe Islands before the arrival of the Norse farmers. This discovery is one of the most sensational to date with regard to the history of early Faeroese settlement.

Furthermore, the Faeroese philologist, *U. Zachariasen,* has explained the peculiar name of the island to have Irish-Celtic roots. The name Mykines originates from the Celtic words *Muc-innis meaning pig-island.

The island community this century

During this century, a series of very unfortunate circumstances has left Mykines geographically isolated. In fact, the population had already culminated by 1925 when 179 inhabitants were recorded. At the time there were 3 large farms, 4 shops, and the school had 40 pupils. Coastal fishing was carried out in open boats. Then came a series of tragic events. In 1934, a fishing smack went down and 9 local men drowned. Later, tuberculosis ravaged the island. Since then, the population has declined rapidly. In 1995, only 18 inhabitants were named in the national register, but in reality not all of them were permanent residents. The school has fallen into disuse. As many as 35 houses out of the total of 40 remain unoccupied most of the year. The absentee house-owners normally only pay a short visit to Mykines in summer or else rent their house to tourists. The worst hindrance to making a proper living on Mykines is the disuse of the land owned by the absentee landowners, *uttanbíggjajørð.* The *markatal* on Mykines is 40 merkur: 12 merkur of *kongsjørð,* which is indivisible by law; 28 merkur of óð*alsjørð,* which is allodial freehold land and is divisible among inheritors.

In the 1980s, 24 merkur of the allodial land was owned by absentee landowners. The land is seldom or never tended. The desire of the absentee landowners to retain their land on Mykines remains mysteriously strong, but it pushes the price of land artificially high, preventing permanent residents from affording the use of this single resource which is of major importance to the community.

Rolf Guttesen

Fig. 78/79: *Mykines. Extract from topographic map no.* ***110.*** *Scale 1:20,000. GI, Copenhagen 1988.*

22 The Traditional Faeroese Village

There are about 90 old villages on the Faeroe Islands. Physically, they consist of two parts. The *bøur* is the in-field and smaller part with an area of 25-50 hectares. The *hagi* is the outfield, which surrounds and lies beyond the bøur. It is therefore much larger with an area of 500-3,000 hectares. The bøur is always located close to the shore, and is normally separated from the hagi by a dry-stone dike about one metre in height. The buildings of the settlement are all within the bøur and often arranged within separate hamlets known as *býlingar*. According to certain property rights, a býlingur might have its share of sheep-rearing concentrated in a certain part of the hagi, called a *hagapartur,* (cf. Article 23).

About 90% of the bøur was used for the cultivation of grass for hay production to feed the cows in winter. Barleycorn was cultivated in rotation with grass. Barley provided the local community with bread grain. The unique barleycorn-grass cultivation practice replenished the soil and guaranteed high-quality yields. Towards the end of the 18th century, the potato was introduced to the Faeroe Islands. Rootcrops, cabbage, and angelica providing vitamin C, were among the other common crops.

Out in the hagi is where the sheep graze. Peat is cut for fuel, and sod for thatch. In some villages, geese are kept. There are vast numbers of seabirds, especially in areas with high cliffs. Although seabird fowling in the Faeroe Islands is renowned, it has only been seriously practised in a few villages. Fowling has never been as important as farming, nor as important as fishing was after the mid-19th century.

The main activities were; barleycorn cultivation, sheep and cattle rearing, hay-making and cutting peat for fuel. By the end of the 17th century, barleycorn cultivation had declined and after the Second World War it was abandoned. It had demanded much toil and trouble as the grain seldom dried or ripened before being reaped, and fuelling the kiln-house, *sornhús,* where the corn was dried, necessitated vast quantities of peat.

The most important farming activity was cow and sheep rearing. In earlier times there was a close relationship between these two stocks and the use of bøur and hagi. In winter, the cows were confined to the byre and fed on the hay harvested the previous summer in the bøur. The sheep, which remained outside in the winter, grazed the fields of the bøur and the lower part of the hagi.

In summer, the cows returned to the lower hagi of the outfield. Used for the purpose of grazing cows, it was often called the *húshagi,* while the sheep were shepherded to the upper hagi where they often grazed close to the summits. The húshagi was separated from the upper hagi by a low headdike which prevented the cows from straying, thus helping to limit the walking distance for the womenfolk who had to milk the cows.

The uses of the bøur and hagi were fixed by ancient codes of law; such as the right of the sheep to graze inside the bøur from the 22nd October until 15th May.

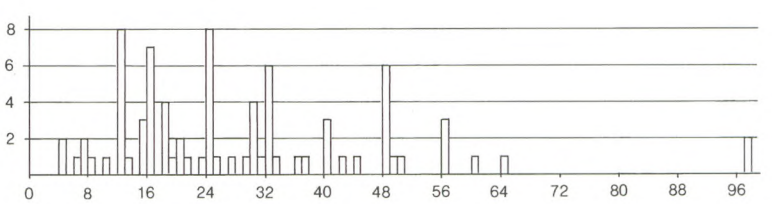
Landownership, tax payments, rights and duties, were all regulated by the traditional land measurement system, *markatal,* (sing, *mørk,* plur. *merkur*), in which property rights were tantamount to a specific share of the village. All old villages have their own markatal. The markatal was a property value awarded to a village as an indication of its total production value. The village property owners were each given their own markatal to represent their individual share of the village markatal.

An example of how the markatal system worked is shown here by referring to Húsavík, in eastern Sandoy; a village whose markatal is fixed at 31. If a farmer had 1 *mørk* in the village, he had rights to 1/31 of the village, or more accurately:

1. Specific land parcels in the bøur, being equivalent to 1/31 of the production capacity of the bøur.
2. Right to 1/31 of the sheep output, mostly expressed as a larger share from a particular *hagapartur*.
3. Right to summer grazing for a certain number of cows or 1/31 of the grazing capacity of the húshagi.
4. Right to a share in other resources, such as; turbaries (peat), fowling cliffs, *feitilendir* (rich pastures for fattening rams), driftwood, seaweed for fertilizer, *grind* (pilot whales).
5. Right to keep a fixed number of horses and dogs.

The *Markatal* as the measure of total village production, was the taxation basis in olden times. Unfortunately, there is no documentation to tell of its origin. Many markatal values (Fig. 80) are divisible by 8, and there is an evident concentration of the values 12, 16, 24, 32, 48 and 96. This may stem from an even older system of land valuation when the basic unit was eight times higher and known as *mørk gold,* and when a simple taxation system was based on the "normal farm" whose value or markatal of 48 was equal to 6 *merkur gold.* Only a few classes were fixed when the system started, but the subsequent property subdivision and sale resulted in odd property values such as the markatal of 31 at Húsavík.

Fig. 80: *Frequency distribution of the old "markatal", land measurement units, characteristic of the old villages. It is noteworthy that values divisible by 8 are rather common. JB part.*



The Danish Crown owned almost half the land in terms of markatal, *kongsjørð*. It was leased to tenants and citizens of high status, such as royal officials and priests. These were the Crown tenants, *kongsbøndur*. The allodial land was known as óð*alsjørð* and owned by freeholders called óð*alsbøndur*. On the death of the landowner, it had to be subdivided equally among all the children. This led to óðalsbøndur holdings becoming continually fragmented and thus smaller. However, as long as cultivation with the use of the spade-like haki prevailed, the continual division of land did not imply increased operational costs, but the result was a very complicated pattern of landownership. By contrast, the kongsjørð was hardly ever divided. Not surprisingly, the kongsbøndur emerged as wealthy upper-class farmers.

The constant division of óðalsjørð was not initially serious. In the late 18th century, the potato was introduced. The crop was ideal for the small plots, producing high yields every year as long as the poor sandy soil was well manured with seaweed. Traditionally, the sheep returned from the hagi in mid-autumn to graze in the bøur, but a problem arose because the potatoes were often still in the ground at the end of October. Moreover, it was forbidden to enclose the plots of land and so the sheep were free to roam across the potato beds. When the age of the fishing smack began in the late 19th century, the task of potato-seeding coincided conveniently with the lapse between the spring and summer fishing seasons and kept wage payments down for the shipowners.

Population growth during the early 19th century increased the pressure on the land. Part of the hagi was converted into small allotments called *traðir* (sing. *trøð).* However, the right to work these new allotments did not entitle the cottagers to a markatal, nor did it guarantee them other privileges or rights. Moreover, they complained bitterly about the compulsory winter grazing by sheep on their land and demanded to be free of it.

The allocation of traðir to labourers and fishermen was a matter of utmost judicial importance as it contravened the venerable Faeroese property rights. Nevertheless, the legislation was eventually passed, having been strongly supported by the new industrial elite who were keen on weakening the stranglehold that the conservative peasant society had maintained for so long on the political and economic life of the islands. The ancient property laws had frustrated the business sector by hindering the acquisition of land for commerce and industry, and by imposing too many restrictions and duties.

Jesper Brandt

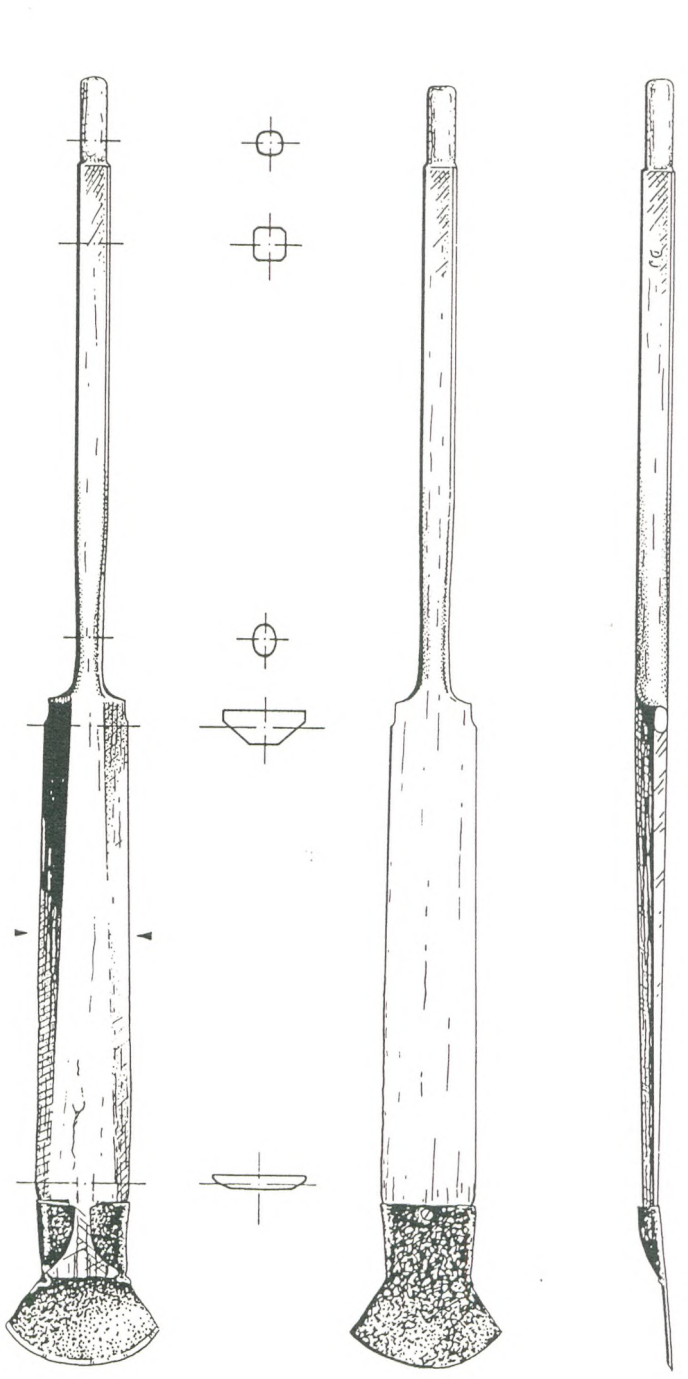


Fig. 81: *The Faeroese spade-like implement "haki" which is made of wood with a sharp steel blade. The one illustrated was used by Dávur Joensen in the documentary film "Kornvelting í Gásadali " (page 76). The length of the" haki" is 131 cm.*
Drawing: Rolf Guttesen.

23 Sheep-breeding on Eastern Sandoy

From the time of the first settlement until the mid-19th century, sheep-rearing was of great economic importance to the Faeroe Islands. The world wool price substantially rose in the 13th century and provided the islands with a lucrative export trade in wool and woollen products. By the 16th century, the wool trade accounted for 90% of the foreign income. Hence the old Faeroese proverb *"Seyða ull er Føroya gull"* meaning "Sheep's wool is Faeroese gold"!

Sheep-rearing was practised extensively and relied on the flocks being able to graze outdoors throughout the year. Sheds and winter fodder were first introduced this century. The traditional grazing methods minimized production costs but the sheep were totally dependent on the sustainability of the outfield pastures to constant grazing. Furthermore, the animals were always exposed to the capricious Faeroese weather.

Of the utmost priority, was the need to establish an efficient grazing system in order to:

1. Ensure the best utilization of the grazing areas.
2. Minimize the risk of sheep loss in severe winters.
3. Reduce conflict between landowners through a sensible administration of the unfenced outfield.

In the Faeroese language, the outfield is called the hagi. At least 95% of the Faeroe Islands consists of hagi grazing territory. It is divided into 250 *hagapartar* that have traditionally functioned as the basic property units in sheep-rearing. Hagapartar vary in area from 2 km^2 to 25 km^2, and the flocks that graze them vary from 100 to 900 ewes. In addition, there are rich grassy areas called *feitilendir*. They are found on islets or in other segregated places where rams and wethers are sent to be fattened. Although the feitilendir are limited in extent, they have proved very productive owing to their phosphate-rich soils, which are made very fertile by the excrement of the many seabirds nesting along the mountainous coast.

It was the duty of the local shepherd, *seyðamaður,* to ensure the sustainability of the pastures in a *hagapartur.* The grazing capacity of the hagi was expressed in terms of the number of ewes it could bear, the *skipan.* The rules on how the skipan was to be calculated were written in the medieval Faeroese code of law on the utilization of natural resources and landuse practices, *Seyðabrævið,* which came into force in 1298. *Seyðbrævið* means literally "The Sheep Letter". Sheep-rearing was vital to the economy, and the skipan rule read as follows: "*the number of sheep within a certain grazing area shall remain the same as before unless it is discovered that the area can sustain more."*

A shepherd might be tempted to put more sheep in the hagi than it could sustain so the skipan was one way of limiting the number. Other measures prevented private

Fig. 83: *The outfield areas and sheep flocks of eastern Sandoy. The name and number of each flock are given. Circles indicate gathering places called "savningar". JB part.*

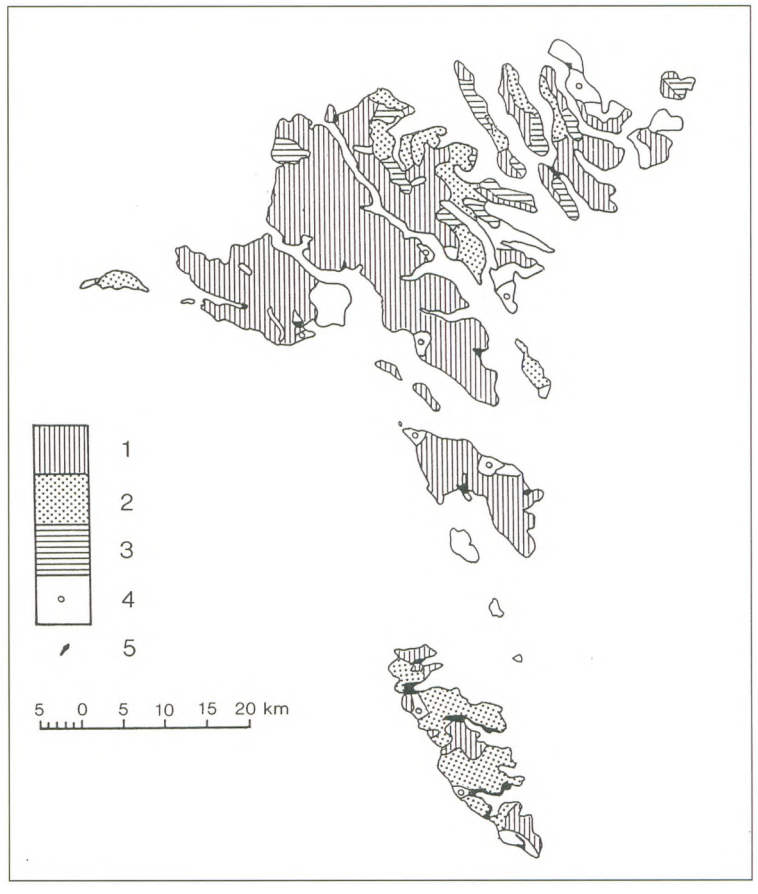


Fig. 82*: Sheep ownership in the Faeroe Islands, 1758. The distribution of private ownership and common ownership. Source: Føroya Landsskjalasavn. JB part.* ***Legend:*** *1: Feli, 2: Kenning, 3: Mixed, 4: Single owner, 5: Cultivated areas*

owners or shepherds from unfairly exploiting the hagi. One rule, in force from 1659 until 1856, forbade the system of sheep-marking and individual sheep ownership called *kenning* and only allowed common sheep-rearing, *feli,* whereby each landowner received a share of the slaughtered sheep and plucked wool according to his own *markatal.* The poor, yet eager, sheep-owners naturally wanted to keep their flocks on the best pastures so as to guarantee themselves a superior share of the profit. To prevent this from happening, the law necessitated the annual selection of one or more shepherds, *seyðamenn,* who undertook all the work in the hagi. Their decisions were to be obeyed and respected by the rest of the community. The duties of the shepherd were; to ensure that all pastures were grazed optimally, to select the best rams for breeding, to manage the shearing and slaughtering of the sheep. The rules were so strict that not even the owners might enter the hagi without permission or supervision by the appointed shepherd. However, as the 1758 report shows (Fig. 82), the feli law was often difficult to impose, especially on Suðuroy and in parts of Eysturoy and Norðuroyar.

There were several reasons why so much authority was invested in the shepherd, seyðamaðurin. First of all,

50
VIÐ ÁNNA (TAÐ VIÐ ÁNNA)
80
40 SEYÐABREKKU
30 HEIMARI SEYÐUR
BÚÐAFYLGIÐ
40
NORÐARI SEYÐUR
70
ELDRISEYÐUR
40
BYRGLS SEYÐUR
28
HEIMASTIHAGI
SKORIN
40
MÚLASEYÐUR
55
HÚALÍSHAMARSEYÐUR
40
GIMBRARNAR
40
DALASEYÐUR
43
heimari partur 40
innari partur 30
HEIMARI GRAVARSEYÐUR
INNARI GRAVARSEYÐUR
55
FLATNASEYÐUR
40
SLÖÐINGASEYÐUR
32
STAKSEYÐUR
60
SVÖÐASEYÐUR
40
STYGGJUSEYÐUR
30
BREKKUSEYÐUR
40
HANDARISEYÐUR
30
Torvnøssaseyður
12
VARGUR
40
INNARI SEYÐUR
40
HEIÐASEYÐUR
80
GERÐASEYÐUR
60
INNARI FYLGIÐ
60
STÓRÓNI
ÞUR
ÓVA STAÐNAR
70
Róka seyður
18
HEIMARAFYLGIÐ
30
SPEKINGASEYÐUR
55
ÓRUSTIRNAR
66
GIMBRARNAR
40
RÓKIN
60
LÍÐIN
60
Husevig
(Húsavík)
ASEYÐUR
ARIHAGI
RI KIRKJUBØSEYÐUR
OVARI KIRKJUBØSEYÐUR
40
INNARI HAMRASEYÐUR
43
UTTARI HAMRASEYÐUR
46
ÆRNAR
35
UFJALLASEYÐUR
44
LÍÐARSEYÐUR
46
BÁRASEYÐUR
18
OVARI GJÓFELLI SEYÐUR
44
OVARI SKARASEYÐUR
35
SYÐRI SKARASEYÐUR
35
OVARI SEYÐUR
66
LEITIÐ
75
LÍÐAR SEYÐUR
40
KNAGGASEYÐUR
30
HOYGIMBRARNAR
38
HEIMARI SEYÐUR
36
SYÐSTI SEYÐUR
18
MOLBAKKA SEYÐUR
36
VÁLISEYÐUR
70
KYRRISEYÐUR
60
ÓÐISEYÐUR
40
SYÐRA FJALLA SEYÐUR
Dal
(Dalur)
Tangin við Áannadalsbarn
Kinnartangi

Fig. 84: *Grazing areas on the eastern slope of Stórafjall between Húsavík and Dalur. The different flocks are numbered while the arrows indicate routes to and from summer and winter grazing areas. Circles indicate "savningar" (relate to pages 85 and 83).*
JB part.

the sheep were not allowed to wander at random in the hagi. They were divided into flocks, *fylgir,* numbering 10-80 animals. Each flock had its grazing area (see map page 83). If desired, the flocks could be subdivided into smaller groups, *kneppir*.

As a rule, the shepherds made sure that the flocks grazed as high up the mountainside as possible in summer, reserving the lower parts of the hagi for colder seasons. Even so, the grazing location depended on the weather, as exemplified by the shepherding of the *Knaggaseyður* flock from Húsavík. Even in winter, the flock would be taken as high up as Stórafjall, and the clever shepherd made sure the flock remained there so long as the weather remained clement. A fence now marks the hagi boundary between Húsavík and Dalur. This was not the case in the past. However, the *Knaggaseyður* flock rarely strayed into the nearby Dalur hagi as it was checked by the *Moldbakkaseyður* flock in Dalur itself. The latter was so large so there was no reason for either flock to trespass, and it is reported that the two flocks were deliberately "shepherded against each other". In the event of adverse weather, the flocks were allowed to cross the fenceless boundary. In gales and snowstorms, the sheep sought refuge in the lee of landforms or behind drystone wind shelters called *støður*. The wind direction was all important. In northerly gales, the Knaggaseyður flock sought shelter and wandered leeward of Stórafjall and into the Dalur hagi. Likewise, the sheep from Dalur sought shelter in the Húsavík hagi when gales blew from the south. The following quote is from 1753 and describes the use of the hagi boundary between Húsavík and Dalur:

"Concerning the wind shelters in Húsavík hagi, Christian tolerance should be shown when the Dalur sheep gather there of their own accord. They should be left in peace to wander there freely until the danger has passed. Then they can return home. Likewise, the men of Dalur should tolerate the incursion of Húsavík sheep into their hagi; both parties shall return their sheep to their own hagi at the first convenience. "

Unless disciplined, sheep are normally shy and flee when approached. On some islands, but in particular Sandoy, each flock had gathering-places or *savningar* along its route to the upper pastures. A well-disciplined flock would always congregate at a savning and stand perfectly still, even if closely approached. This was practised at least twice a week. It facilitated the systematic grazing of the mountainside and saved time and manpower on the return, *rakstur*. The rakstur followed carefully selected routes where it was easy to control the sheep and prevent them from straying. The use of the *savningar* enabled the shepherd to work with a minimum of farmhands or just with sheepdogs, but it was far from easy in some areas. Norðastihagi in Skálavík was a difficult place to undertake the rakstur because of the distance to the village and the high ridge that sharply divided the area into east and west. The ridge could be crossed by many routes and so there was a high risk of the sheep straying. The shepherd employed as many as three savningar on this route.

The duties of the shepherd were not confined to tending sheep. He had to maintain the quality of the outfield, and improve it, if possible. At regular intervals, he would appoint a team of labourers to cut drainage ditches in the wettest areas; partly to increase the size and quality of the pasture, and partly to combat the parasitic diseases that sheep tended to contract in waterlogged areas.

The method of electing a shepherd was not based on "one man, one vote" but on the markatal. A farmer who owned more than 50% of the total village markatal could quite literally decide who was to become the shepherd.

Jesper Brandt

Names of the sheep flocks

1: Líðarseyður
2: Knaggaseyður
3: Hoygimbrarnar
4: Heimariseyður
5: Syðstiseyður
6: Óðiseyður
7: Kyrriseyður
8: Moldbakkaseyður

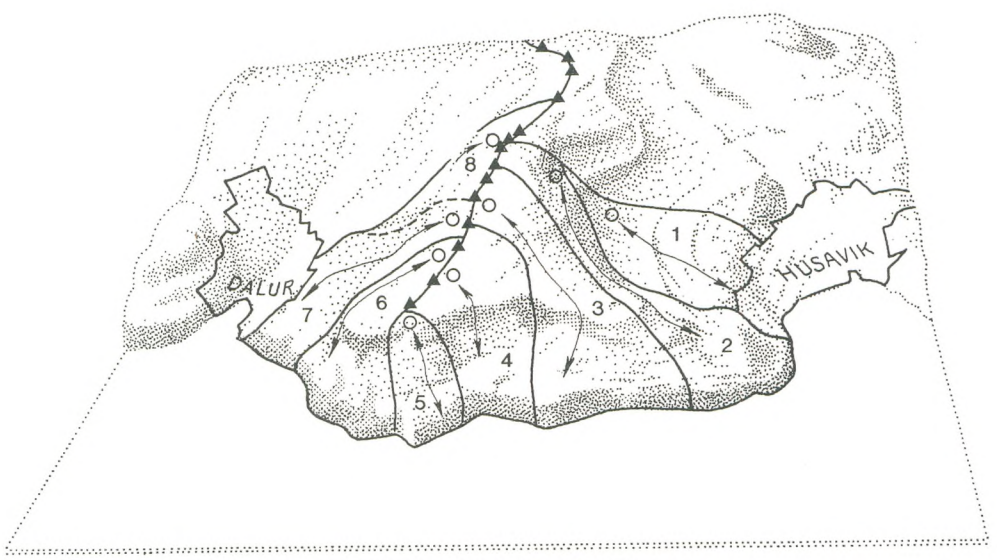


Fig. 85: *Aerial photo of eastern Sandoy showing the villages of Dalur, Húsavík and Skálavík. Route 8491 -N, no. 207.*
Date: 06.06.1984, time 9.26 am. Scale approx. 1:9,000 (1 cm = 90 m). GI, Copenhagen.

24 Modern Faeroese Farming

Only 2% of the Faeroese population remains employed in the farming industry, and its importance to the economy is equally insignificant. Nevertheless, farming is still very important considering its vast use of land and contribution to self-sufficiency. Moreover, it counteracts rural depopulation and ensures some kind of future for the Faeroese villages.

Most importantly, farming is of great cultural importance when viewed from one particular economic aspect: as a consequence of the continuous division of allodial land and the formation of some 1,000 small-holdings, *traðir,* many Faeroese have retained their connection to farming; albeit solely through landownership. Apart from occasional cultivation with potatoes or vegetables, the plots belonging to an absentee freeholder are seldom utilized economically, but the possession of even small plots safeguards the right to a share of the village common property, not least the highly relished Faeroese mutton and lamb. In return, the freeholder is obliged to provide manpower for various tasks such as; rounding-up the sheep, the *rakstur*, and assisting with the slaughter.

Nevertheless, the prevailing landownership structure is antiquated. It has stifled progress. The tiny, irregular plots are incompatible with the operational requirements of modern farm machinery. Likewise, the demand made by smallholders and cottagers for the protection of their plots in the *bøur* in winter was impossible because individual properties were scattered throughout the village. The quest for a satisfactory basis for modern farming began early this century. In 1927, the process of land reallotment or *útskifting* began. Apart from during the Second World War, the process of land reallotment has continued to this very day.

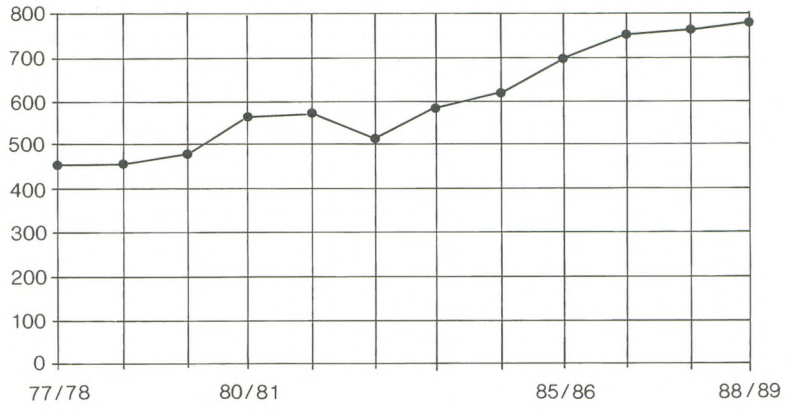
Progress in milk production

One reason behind the *útskifting* was the need to improve the milk supply. Before 1950, the Faeroe Islands had about 3,300 head of dairy cattle; after which the number fell continually until the 1970s when new measures reversed the trend. Very small herds and inadequate transport facilities made milk production unprofitable, and, moreover, there was increasing competition from imported conservable milk.

Government support programmes, beginning in the 1970s, helped increase the size of herds and yield per cow. During the 1980s, milk production doubled, and today the islands are self-sufficient.

Home Government support to dairy farmers has not only been geared to current production but also to investment in the future. Rationalization has led to fewer, larger herds. By 1974, farms generally had fewer than 5 head of dairy cattle but none had more than 15 head. However, by 1989, 80% of the milk production came

Fig. 86a: *The annual number of dairy cows that provided the Faeroe Islands with milk in the period 1977/78 to 1988/89.*
Source: Hagdeildin, Tórshavn.



from just 20 farms, each of which had a dairy herd of more than 15 head.

The rise in milk production increased the demand for fodder so the government began to support domestic grass cultivation until the new EC grants facilitated the import of high-energy feed, while the shortage of natural rough fodder was alleviated by importing Icelandic hay.

A sufficient quantity of hay could always be cultivated in the bøur if required, but the need for larger herds has led to a geographical concentration of milk production on Streymoy and Eysturoy. This is the supply area for the sole dairy cooperative *Mjólkarvirki Búnaðarmanna* in Tórshavn. On these two islands, much of the bøur has been lost to urban and infrastructural development. It has been necessary to cultivate new areas to meet the needs of the largest dairy farms. In the 1980s, the Home Government helped create about 300 hectares; an amount equal to 3% of the total bøur. The new farmland is found in several inner valleys where the flat terrain facilitates the use of modern machinery, and where the price of land is sufficiently low. The most difficult technical problem in these new areas is to secure good drainage. Land that suffers from waterlogging limits production and hinders the operation of machinery.

Fig. 86b: *Production increase in the total milk yield, and milk yield per cow, in the period 1977/78 to 1988/ 89.*
Source: Hagdeildin, Tórshavn.

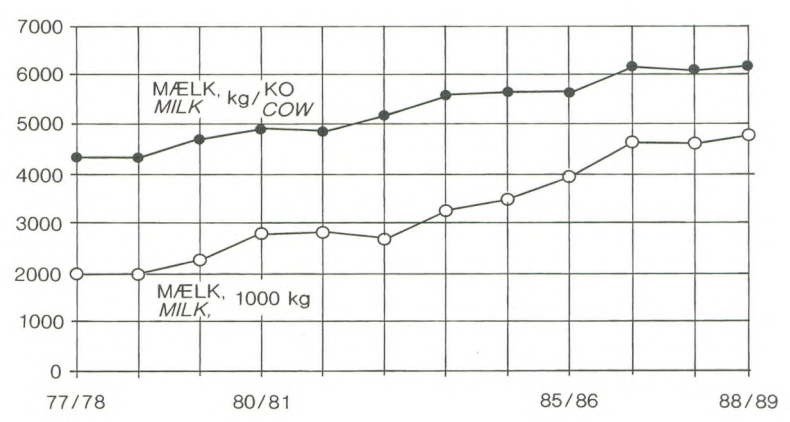
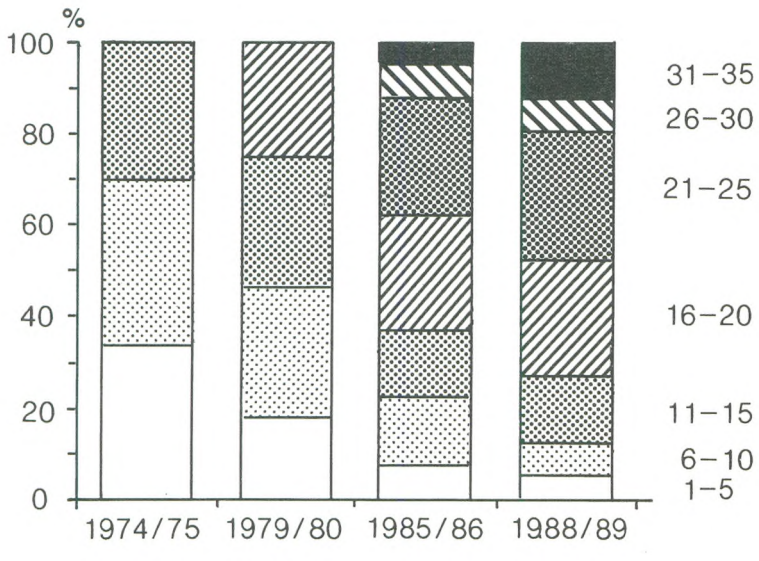


Fig. 87a: *The steady increase in the size of cattle stock per dairy farm in the period 1974/75 to 1988/89. Source: Hagdeildin, Tórshavn.*



Given favourable conditions, cultivated grass may be harvested thrice a summer. Liming and manuring of the acid soils raises yields substantially above those attainable in the hagi. Fertilizer experiments with offal from fish-processing and by-products from fjord fish-farms are being made. If successful, their use will reduce both import costs and the serious pollution of the fjords.

Sheep-rearing on the decline

Whereas favourable economic circumstances have led to greater efficiency and higher yields in dairying, sheep-rearing has stagnated in recent times. The number of ewes remains at 70,000 head and the regional distribution has changed little in more than a century.

A few communities retain their shepherding tradition and here the *rakstur* is still practised. Individual flocks, *fylgir,* are kept in some villages but today they seldom exploit the upper hagi as well as in the past because they are rarely taken up the mountainside.

Nevertheless, productivity expressed by the slaughter percentage has been maintained because of; innovations such as sheephouses in the hagi, the extensive use of hay and imported high-energy feed in the winter months, and medical success against disease.

Shepherding has disappeared in many districts, and more sheep are under private ownership as a result of land reallotment. Likewise, the *hagi* is today being divided into smaller, privately-owned, fenced *hagapartar.* The recent introduction of enclosures has reduced the need to shepherd flocks against each other; which was a practice requiring the expertise of skilled shepherds. The enclosures facilitate the rounding-up of sheep for shearing or slaughter, but they have unfortnutely precluded the optimal utilization of the different types of land in the hagi.

Fig. 87b: *Newly cultivated land (green areas) in Milium Fjarða valley on Eysturoy. The northern area belongs to the village of Elduvík, the eastern part to Syðragøta and the western part to Skála. Extract from topographic map no. 411. Scale 1:20,000. KMS, Copenhagen 1990.*

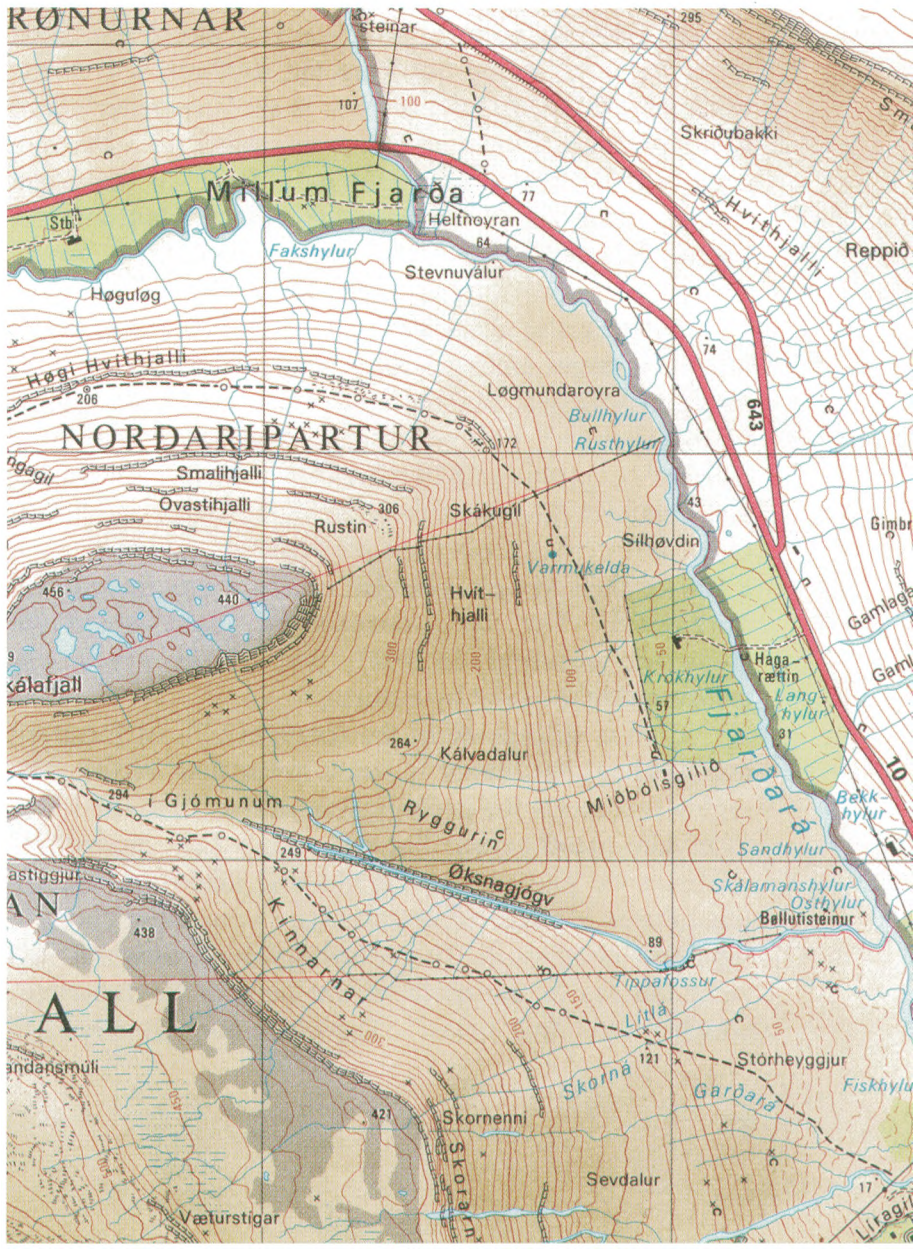
Moreover, sheep that feed all winter on high-energy feed often cease to grow in springtime when they are sent into the hagi. They have difficulty in surviving the next winter. This century has seen productivity in terms of slaughter increase from 50% to 70%, but this is small compared to that achieved by many other sheep-rearing countries. In Iceland, productivity is as high as 160%.

Broadly speaking, sheep-rearing has often become more of a pastime. Without doubt, production would increase significantly if more care was taken of winter grazing areas, while genetic improvements were made to the stock and shepherding modernized.

Despite large quantities of mutton and lamb being imported from New Zealand and Iceland, the verdict of the Faeroese is that foreign meat is no match for their own product for which they are willing to pay fourfold.

Nevertheless, cultural acceptance of the commercialization of this traditional farming sector will be necessary before modernization can occur.

Jesper Brandt



25 Hvalbøur – Largest Old Farming Village

Fig. 89: *The northern Suðuroy villages of Hvalbøur and Sandvík. Extracts from map-sheets M 43, 44, 45 and 46. Scale 1:20,000. GI, Copenhagen 1972-84.*

In the bygone days of the peasant society, Hvalbøur, or Hvalba as it is written on the map extract, was once the largest village in the Faeroe Islands when regarded in terms of the old land measurement units; 97 *merkur* and 2 *gyllin.* Sandur on Sandoy was the second largest village with 96 merkur and 12 gyllin.

Hvalbøur is situated at a narrow point on the island of Suðuroy where two depressions, Norðbergseið and Hvalbiareið, flanked by the massive Grímsfjall Hill, form a short lowland that stretches from the steep cliffs in the west to Hvalbiarfjørður Bay in the east. Since olden times, Hvalbiareið has had a landing place for small boats. The old boathouses, *neyst,* the short-haul slipway, and the little, solidly built pier are still there today. The boathouses were deliberately built 20-30m above the waterline to hinder destruction by storm waves rolling in from the west, but severe damage with the loss of boats still occurs, as was the case in the hurricane of 1988.

Two impressive sandy beaches line Hvalbiarfjørður Bay, behind which stretches an expanse of coastal marsh and meadowland. Beyond lies the arc of hamlets that constitute Hvalbøur. The hamlets, whose names follow, are built on slightly elevated sites where the ground is drier and more solid; Skálar, Giljar, Hólar, Hamar, við Krógv, Heygur, Toftir, við Neyst. One exception is Leirar; the old Suðuroy rectory, which stands alone and overlooks the bay. Jutting out from the southern arm of the fjord, beyond the hamlet of Nes, is the tiny peninsula of Ranin. Ranin is shown on Dutch sea charts from the 16th century. The peninsula might have been an important landing place for Dutch merchants who traded with the Faeroe Islands; at the same time ignoring the Royal Trading Monopoly prohibition.

Suðuroy was never fortified, and for centuries it was a popular target among foreign pirates and unscrupulous foreign fishermen. Marauding Saracen fleets, nicknamed "Turkish ships", used to plunder Hvalbøur. The worst incident occurred in 1629 when they killed 6 inhabitants and captured 30 others to be sold elsewhere as slaves. Once, however, the pirates were surprised by a storm and a few of their vessels stranded on the southern beach at Turkagravir. The name denotes the place where the shipwreck occurred. In 1991, part of the wreck was uncovered in the sand by a storm.

Coal is still mined in the southern hills of Prestfjall and Rókhagi but output is much lower than earlier. The region represents the geological transition from the lower to middle basalt series. The map symbol for coalmining indicates the place where the old coal road runs, and the tips in front of the mine entrances are very conspicuous in the aerial photograph. The seams dip northeastwards and enter the sea to the north of the fjord at Reyðibarmur, which means "red breast". The cliffs owe their reddish colour to the layer of tuff agglomerate that overlies the coal series.

Sandvík, formerly called Hvalvík

Sandvík is the northernmost village on Suðuroy. It was built in 1811 when it belonged to the Hvalbøur outfield. According to a Faeroese saga, it was already there in olden times when a peasant from Sandvík, *Torgrímur illi,* "the evil one", is accused of murdering the hero, *Sigmundur Brestisson.* Another old tale tells us about the house churl, *Snopprikkur,* who worked for the peasant in the hamlet of Giljar in Hvalbøur. He had to tend the pigs in Sandvík, but on the day they were to be slaughtered, they were found dead. The churl had apparently eaten all the swill! A mountain path marked by cairns connects the villages. At the highest point visible from Sandvík, there once was a memorial to 14 men who drowned in a whaling accident in Sandvík Bay in 1915. Because of damage caused by weathering, the monument was later moved down to the village.

Transport, communication and industry

The only way to reach Hvalbøur, apart from mountain paths, used to be by boat or the coastal steamer from Tórshavn and Tvøroyri, but in 1963, the first tunnel in the Faeroe Islands was opened between Hvalbøur and Trongisvágur to connect the village to the road network of southern Suðuroy. The tunnel passes through the coal-mining district of Prestfjall, and its position is identifiable on the aerial photograph. The other road tunnel to Sandvík was built shortly afterwards, in 1969. Their lengths are 1450 m and 1500 m, respectively, but as their widths are only 3.3 m, they are single-lane.

Despite its relatively large population of around 800 inhabitants throughout the 1970s and 1980s, the district had no significant industry until the mid-1980s. Local occupations included; farming, mining, fishing, and some processing of high-value saltfish. The rest of the catch was sent to Tvøroyri to be processed. However, in 1986 a large fish-filleting factory started operations in Hvalbøur, in the new harbour district west of Hamranes. The purchase of two trawlers made the deepening of the harbour necessary. Unfortunately, the economic crisis of the 1990s has since caused the closure of the factory, but there is still some fishing activity at the new port.

Bottlenose and Pilot whales

The first part of the place-name Hvalbøur means "whale", and the settlement has been connected with two species. Peculiar to the northeastern part of Suðuroy is the regular stranding of two or three bottlenose whales every year in the bays of Sandvík and Hvalbøur. Surprisingly, whales rarely strand further south in Trongisvágsfjørður.

ENNINI

Látragjógv

Lambhagi

Hattarsteinur

Landingssted

Sandvig
(Sandvík)

Skole

Trsf

Mindesmærke

Mýrisnípudrangur

Glyrabergsgjógv

Rituskor

Tvørgjógv

Villingagjógv

Tr St

Sandbrekka

Gridsteinur

NORÐARAEGG

EGGIN

Olmussudrangur

Norðbergsfles

Stokkarnir

Skálafjall

NIÐUR EGGINI

EGGIN

FJÓRÐINGUR

BJÁLVASKOR

Kolaratangi

Norðbergsá

Norðbergsvatn

Vandopsamling

Hólar

Giljar

Skálar

Hvítanes

Hamranes

Kobbatangi

Høvdagjógv

Skole

Forsamlhs

Trsf
Idrætsplads

Mindesmærke

við Krógv

Hamar

Kvalbö
(Hvalba)

GRÍMSEFJALL

Høgvur

Toftir

Landingssted

Eystsker

Trsf

við Neyst

Tr St
Grímsefjall

Heygsvatn

Hundagjógv

Ranin

Lejre Pgd (Leirar)

Husloftamöl

Hvalbiarrei

Økslin

Turlagravir

Dalsá

Næs (Næs)

Landingssted

Slokkarnir

Litlihamar

Heygsmúli

SUÐUR
Í HAGA

Karagjógv

Bergstangi

Reyðibarmur

Fig. 91: *Aerial photo of Hvalbøur and Sandvik. Coal mines are seen along the road south of Hvalbøur. The road tunnel to Tvøroyri begins at the foot of the photo. Route 8490C, no. 256.*
Date 06.06.1984, time 16.25, scale approx. 1:21,000. GI, Copenhagen.

This is still a puzzle to scientists, but it is thought to be related to their life cycle and migration routes.

The other species, the pilot whale, is known locally as *grind.* It was once hunted across the entire North Atlantic Ocean, according to historical documents. Around the Shetland Islands, hunting lasted until early this century, by which time it had become very commercialized and only the blubber was used for train oil production. In the Faeroe Islands, the oldest whaling rules are stipulated in *Seyðabrævið,* "The Sheep Letter", which is a very important historical document from the year 1298 (see page 82). One rule reads, *"Now men drive a whale, but do not themselves own the land above this shore; they are to have a quarter share. "* This implies that the landowner was therefore entitled to a three-quarter share.

Driving schools of pilot whales to be slaughtered into fjords and bays is a very important form of whale hunting in the Faeroe Islands known as *grindadráp.* The official records on the size of annual catches have been preserved since 1584. When a school was spotted out at sea, there used to be ingenious ways of informing the rest of the population; smoke signals, spreading sheets on hill-sides, messengers running over the mountains. Once in sight of the next village, the messenger would stand beside a landmark to signal the exact whereabouts of the school. Today, the romantic signalling methods have been replaced by the more practical telephone.

There were also strict rules on manning boats or the maintenance of weapons and equipment, and even on the strategies and tactics used during the hunt and slaughter. The sharing of the valuable whalemeat and blubber was also fixed; a fact which is still true this very day. The sharing was traditionally egalitarian. After measuring, equal portions were given to everyone in the district, irrespective of age, sex or status. However, the much larger populations of today have rendered this practice partly obsolete, so the catch is sometimes only distributed between the men who participate in the hunt, either on the boats or on the shore.

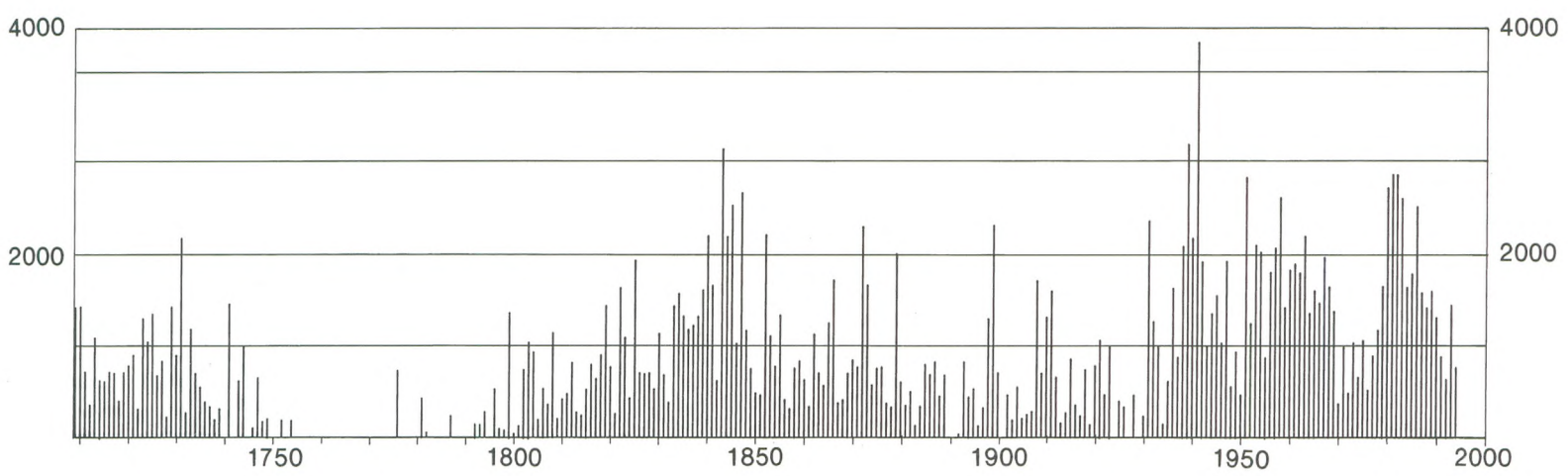
The pilot whale, *Globicephala melus,* usually lives in schools ranging between 50-1,000 mammals in both hemispheres. They feed mainly on squid. During the 1980s, whale hunting, in particular the Faeroese *grindadráp,* was subject to adverse criticism by international environmentalist organizations; particularly those in Britain and America. Their aim was to prevent pilot-whale hunting in the Faeroe Islands and achieve a worldwide ban on whaling.

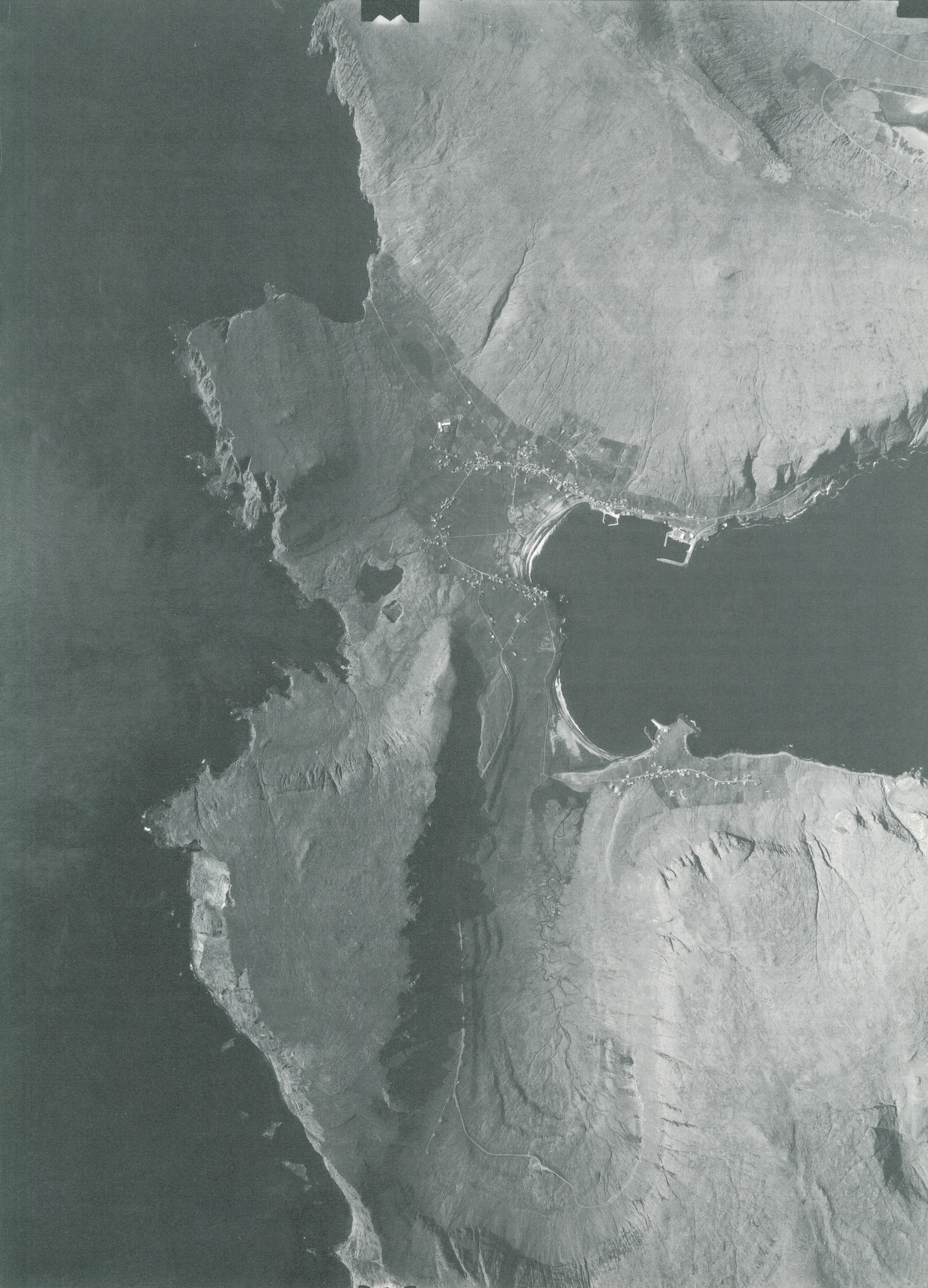
This led to research on the life and behaviour of pilot whales. In the Faeroese sea area, the pilot whale population totals about 100,000 mammals; which means that the normal annual catch of 1,000-2,000 mammals (1-2%) is unlikely to endanger the species. The largest annual catch ever recorded was in 1941 when 4,325 pilot whales were caught. Whalemeat and blubber, which is used entirely as human food, accounts for 10-20% of all meat consumption in the Faeroe Islands.

The recent spotlight on *grindadráp* has fortunately had a positive effect because slaughtering is now performed more humanely. It is better organized and swifter in order to minimize torment and pain.

Rolf Guttesen

Fig. 90: *Graph to show the fluctuations in the annual catch of pilot whales in the period 1709-1979. Source: Dorethe Bloch, Føroya Náttúrugripasavn, Tórshavn. RG part.*





26 Tvøroyri – Main Base in the Age of the Fishing Smack

Fig. 93a: *Tvøroyri. Extract from map-sheet M 47. Scale 1:20,000. GI, Copenhagen 1984.*

Fig. 93b: *Tvøroyri. The town map of 1930. JPJ part.*

In 1836, the first Royal Trading Monopoly branch was established at Tvøroyri on Suðuroy. Warehouses, staff quarters and guest accomodation were built on land to the east belonging to the farming community of Froðba. At that time, Froðba and the old settlements of Trongisvágur and Øravík constituted the parish district of Froðba; today known as Tvøroyrar Kommuna.

However, the branch did little to stimulate growth in the district during its twenty years of existence, so, in 1856, the abolition of the Royal Trading Monopoly provided the long-awaited impetus to entrepreneurship and free trade. The Danish merchant, *T.F. Thomsen,* took over the Monopoly buildings, while *J. Mortensen,* from the nearby village of Øravík, set up another business in 1858. In 1856, the parish church was moved from its old site in Froðba to Tvøroyri, and the only doctor on Suðuroy had his residence built here. Soon afterwards, the district sheriff moved to Tvøroyri, after having lived in Heiðarnar, near Trongisvágur, since 1854. Tvøroyri soon became the administrative and cultural hub of the parish with its; hospital, church, grammar school, clubhouse and hotel. However, the harbour and pier were not constructed until 1924.

In 1938, a salt depot was built on Drelnes backed by French capital, before being taken over by a Faeroese company in 1963. A slipway, shipyard, machine manufacturers, small trades and service companies contributed to the town economy.

Three companies distinguished themselves; *T.F. Thomsen, J. Mortensen,* and *N.J. Mortensen* (an offshoot of the parent company from 1911). They have been very important to Tvøroyri and the Faeroe Islands because of their extensive branch networks. Early dominance led to horizontal integration as they took over the local coastal traffic which was essential to their businesses.The company, *J. Mortensen,* started the first coastal shipping line, and even owned a ship to conduct foreign trade.

The first commercial fishing age was from 1850 to 1880, when local fisheries operated the inshore waters of the Faeroe Shelf. The fishermen owned their means of production. The second age saw the changeover to ocean-going, decked, fishing smacks. It required greater capital investment, but the unperturbed local merchants went ahead, and by 1900, 30% of the Faeroese fishing fleet was based in Tvøroyri. For many years, it remained the most important fishing port in the Faeroe Islands. The recurrent economic crises of the 1920s culminated in the Great Depression of 1929, and the 1930s were marked by stagnation and bankruptcy. Whereas much of the Faeroe Islands remained a peasant society in the 19th century, the new commercial fisheries and clever entrepreneurship led to the evolution of a small, yet powerful, urban bourgeoisie on Suðuroy. It comprised several successful business families whose interests stretched beyond the islands, and their lifestyles were more akin to contemporary, bourgeois societies in Scandinavia.

The smack-based fisheries landed vast quantities of cod. There was a high demand for seasonal labour which was substantially met through the employment of fisherwomen from all over the islands. They were given their own quarters near the harbour. In this hectic, social melting-pot, fishermen met fisherwomen, and the many newly-weds set up home in town. The local population grew very fast, particularly after 1900. *Kirkwall* was the district where the working-class were concentrated, and the conditions and circumstances that affected their lives kindled the spark of social awareness that led to a strong labour movement in Tvøroyri. The Faeroese fishermen established a trade union in 1911. Just four years later, in 1915, the workers of Tvøroyri set up their own association. The fisherwomen followed in 1922. The *Faeroese Social Democratic Party,* established in 1925, received strong support in Tvøroyri, and one year later, a social democrat was elected to the town council. By 1928, a local social democrat from Tvøroyri was elected to the Faeroese Parliament, *Løgting.* Ever since then, the town has been a bastion of the Social Democratic Party. In 1929, the labour movement in Tvøroyri took the iniative to set up a subsidized company, *Ísvirkið.* The object was to produce and export frozen fish as an alternative to the traditional klippfish production. A purpose-built cargo ship with a refrigerated hold, and other new fishing vessels, were purchased. A sequence of unfortunate circumstances led to bankruptcy in 1931. The bad fortune continued. *J. Mortensen* went bankrupt during the Great Depression. The same fate awaited the union-backed company, *Arbejdernes Trawlerdrift (AT),* which collapsed during the post-war crisis. *AT* had actually bought *J. Mortensen's* capital stock in 1936.

The other two old Tvøroyri companies, *T.F. Thomsen* and *N.J. Mortensen,* survived the crisis of the 1930s as well as the recession of the 1960s. Moreover, *N. J. Mortensen* established the first fish-filleting factory which functioned until *Tvøroyrar Flakavirki* was established to process fish in 1975. The latter was established by a consortium. The shareholders included; the local trade union, the municipality and private individuals. A similar consortium backed the construction of lineships and trawlers which were among the most successful fishing vessels in the Faeroe Islands. The very severe economic recession that started in the late 1980s led to a reorganization of *Tvøroyrar Flakavirki* in 1993 so that it came under the nationalized company *Føroya Fiskavirking.*

Joan Pauli Joensen

A: *A/S J. Mortensen's trading area.* ***B***: *T.F. Thomsen's area.* ***C***: *N.J. Mortensen's area.* ***D***:*The workers' and fishermen's district "Kirkwall".* ***M***: *Dwellings belonging to the Mortensen family.* ***T***: *Dwellings belonging to the Thomsen family.*

1: Church 2: Doctor's residence 3: Sheriff's office and residence, originally built by the Mortensen family 4: Telephone exchange, originally the Mortensens' family residence 5: Post Office 6: School 7: Bank 8: Tværå Clubhouse 9: Dance Hall hjá "Biniussi"
10: "Roykstovan", dwellings for T.F. Thomsen's female workforce
11: "Fylking", the trade union wage office 12: Hospital 13: Jørgen Mortensen's forge 14: District Office, former doctor's residence
15: "Isvirkid" 16: Danish naval coal depot.

27 Kirkjubøur – Episcopal See and Cathedral

Fig. 95a: *Southern Streymoy with Kirkjubøur. Extract from topographic map no. 508. Scale 1:20,000. KMS, Copenhagen 1989.*

Fig. 95b: *Map of Old Kirkjubøur. Drawn from the measurements made by the Føroya Fornminnissavn, Tórshavn. SVA part.*

Situated in southernmost Streymoy, Kirkjubøur lies at the very heart of the Faeroe Islands. The location is a very narrow coastal strip backed by steeply rising mountains. Besides their religious function, the episcopal sees of the Middle Ages were also farming communities, and it is therefore strange that this site, where cultivable land is limited, should have been chosen by the Roman Catholic Church. However, it is one of the best locations in the islands for cultivating barleycorn and gathering driftwood. Erosion by the sea has removed the low isthmus that once joined the islet of Kirkjubøholmur to Streymoy. On the coast to the south lies the ancient hamlet of *Úti á Bø*. It was abandoned in the 19th century.

Kirkjubøur was the religious and cultural capital of the Faeroe Islands throughout the Middle Ages. It was the main point of contact with the outside world, and from here the Roman Catholic faith was disseminated to the rest of the archipelago. The ruins that abound in this locality testify to this important historical period of local, foreign influence which contrasts strongly with the traditional Faeroese cultural heritage.

The Faeroe Islands were first christianized about the year 1000 and the faith was spread by the priesthood. Religious buildings were constructed. Archaelogical evidence suggests that the earliest churches were small, wooden, stave churches similar and contemporary with those built in Norway. It is assumed that the inaugural period of the Faeroese bishopric was the early 12th century and many sagas retell this religious chapter. The *Saga of Sverre*, the King of Norway, tells of how he was secretly fostered by his uncle, the Bishop of Kirkjubøur. *Sverrishola* is name of the mountainside cave behind the settlement where Sverre, according to local tradition, was born in concealment. On top of the mountain is the *Fleyggjarsteinur* monolith. It may once have had a windvane as it is reputed to be a replica of the *Fløjen* monolith in Bergen, Norway.

There is little documentation on the bishopric but records show that there were probably 33 bishops in all; among whom the most illustrious was *Erlendur* who acted from 1269 until his death in Bergen in 1308. He was very assiduous during his long term of office and acquired much land for the Church. A report written in 1420 by one of his successors alleged that an inscribed lead tablet had been found in his grave. According to the message, he was the first man to erect houses and churches using stone. This has led to the belief that Erlendur was responsible for the construction of the cathedral, *Múrurin* (The Wall). The catholic administration was a successful business enterprise because the Church owned half the property of the Faeroe Islands when the episcopal see was abolished during the Reformation. The Crown confiscated the Church land and leased it to Crown tenants, *kongsbøndur*. The Crown farm estate in Kirkjubøur is still the largest in the Faeroe Islands.

The *Stokkastova* and *Roykstova* constitute a kitchen-cum-livingroom, and they have served as the home of the farming family for centuries. They are superimposed on the older cellar walls of the episcopal residence. Originally this residence consisted of two parallel wings separated by a broad stone courtyard, through the west side of which a stream flowed. The northern and southern ends of the courtyard were enclosed by a stone wall. During the Middle Ages, the east wing was extended and a new wing was built onto the south side. The Stokkastova and the Roykstova were not built in the vertical stave tradition, but as log-houses, in which horizontal beams interlock at the house corners. The lay-out of the building resembles those of the larger Norwegian farms of the 13th century.

Besides the ruins of the episcopal residence, Kirkjubøur boasts no fewer than three medieval churches. The parish church, *Sóknarkirkjan,* now lies much closer to the shore because of coastal erosion. It is the only medieval church in use in the Faeroe Islands. Although rectangular in form, the church is long and narrow (21.8 m × 7.5 m), and more akin to Nordic abbeys of the late 13th century. The parish church, which was originally a very small cathedral, had a panelled chancel which was as long as its nave. Partitioned from the nave, this chancel functioned as the episcopal see for the bishops, priests and clergymen. Archaeologists have revealed the remains of an older church beneath the floor, and a grave belonging to a 13th century bishop.

On the cliff, 100 m to the east of the cathedral, lie the ruins of a small mortuary, *Líkhús*. Surrounded by its graveyard, this building also served as a church. The ruin is being slowly eroded by the sea, and only the lower part of the one-metre thick north wall remains.

The ruined *Magnus* Cathedral, *Múrurin*, is the most famous historical monument in the Faeroe Islands. The gothic stylistic detail resembles the early 14th century religious architecture of western Norway. The main structure is rectangular in form, and it measures 26.5 m by 10.8 m. It housed both a chancel and nave. The ruined walls reach 9 m in height. The tiny northern annex retains the foundation of an altar in the east wall. Once considered unfinished, on account of the impoverishment caused to Faeroese society by the Black Death in the 14th century, the cathedral may nevertheless have been completed according to new evidence. A reappraisement of late medieval Faeroese society may therefore be necessary.

Símun V. Arge

INNI Í DØLUM
GLYVURSHAGI
Dalurin
KIRKJUBØHAGI
FYRI HEIMAN
KIRKJUBØUR
Tjørnin millum Viðir
Krossvatn
Djúparók
Veðrheyggjur
Kagansheyggjur
Tjørn í Hupp
Porkerisvatn
Keldurnar
Gilið
Reynavatn
Húskalla-heyggjur
Brekkan Stóra
Brekkan Grøna
á Torvstiggi
Trøllarókur
Rangagil
á Bug
Handáralág
Heimaralág
Borá
Nødvarp
Teistarókstangi
Tjørnir millum Ryggja
Trygils-brekka
Sandurin
Mølin
Stóravarði
Trunki
Gamlarætt
Reyðheyggjur
Hellan
Støðuheyggjar
Kopparnir
Flogið
Mjáarók
Penibøur
Sjómerki
Traðar-tangi
Krossstiggjur
Sjómerki
Smørrætt
Fóga
Undir Foragørðum
Fleyggjarsteinur
Svørrishola
Árnanes
Suggan
Múrurin
Hólmssker
Kalshøvdi
Ketilsvíkin
Hvalhøvdið
Kirkjubøhólmur
Grógv
Brandansvík
Ravnabjørgini
Ásbjarnarhol
Dunnurð
Mjækki
Leitið
Kirkjubøkambur
Lágikambur
Tjørnuskoravatn
Krupsheyggjur
Skúvoyarsk
Krupið
Krupshamar
Uppi á Túgvu
Rossafløtan
Másafjall
Hálvdanshús
Tótudalur
Harðabrúgv
Klivini
Klovningur
Skirgjógv
Bøtangi
Royðrarflesin
Úti á Bø
Urðarboði
Bøboðar
Eysturskarð
Neslið
Neshamrar
Botnsiða
Løgmansurðin
Kirkjubønes
Nestangi
Búkonan
Nesá
0
50
100 m
A
B
C
D

***A**: Episcopal residence, **B**: Parish church, **C**: Cathedral ruin "Múrurin ", **D**: Church ruin "Líkhús*

28 Early Tórshavn, Thingstead and Trade Station

"The Thingstead of the Faeroese folk was on Streymoy, and there is a harbour called Tórshavn". This quote is the first documentary reference to Tórshavn and comes from the Icelandic *Fcereyinga Saga* written in the year 1220. The Thing, which was the parliamentary council, assembled on the rocky spit, *Tinganes,* which divides Tórshavn Bay into Eystaravág and Vestaravág. The Thing functioned both as the Legislature and High Court until about the year 1300 when these powers were invested in two separate institutions, *Løgting* and *Løgrættur.* The Gulating Law was in force in western Norway. It was adopted by the Faeroese in the year 1271. It restricted the legislative competence of the Faeroese parliament to local matters. The historical remains of this ancient parliamentary site are still apparent despite the superimposition of several buildings and centuries of abrasive weathering. The emblems and holes that were once etched and whittled into the flat stones, *hellur,* remain conspicuous. At the start of each ancient assembly, staves were inserted into the holes, and ropes were strung between them to demarcate the different functional areas. It is quite likely that the event was combined with an annual fair. As neither an infield nor outfield are mentioned, it is assumed that there was no permanent settlement, but later a farm, *Húsagarður,* was founded nearby as an outlying farm of the episcopal see in Kirkjubøur.

Geographically, Tórshavn lies at the very centre of the Faeroe Islands and was thus an ideal location for the assembly. It was accessible by footpaths across Streymoy, and by sea along coastal routes. Its equidistance from remote parts of the realm was officially appreciated as the ancient statutory reimbursement of travel costs, *Skipan um Tingfaratoll,* was exactly 15 ells of homespun woollen frieze to parliamentarians travelling from faraway places like; Mykines, Fugloy and Suðuroy.

Tórshavn becomes a permanent settlement

A permanent settlement was probably not established until after the Reformation. Defended by a little fort, the warehouses were used for the foreign trade of the islands. Tórshavn is a unique Faeroese settlement as it is not based on farming. Its existence is owed to its double role; as Thingstead for more than a millennium, and as the Royal Trading Monopoly port for several centuries.

The map of Tórshavn by Rasmus Juel

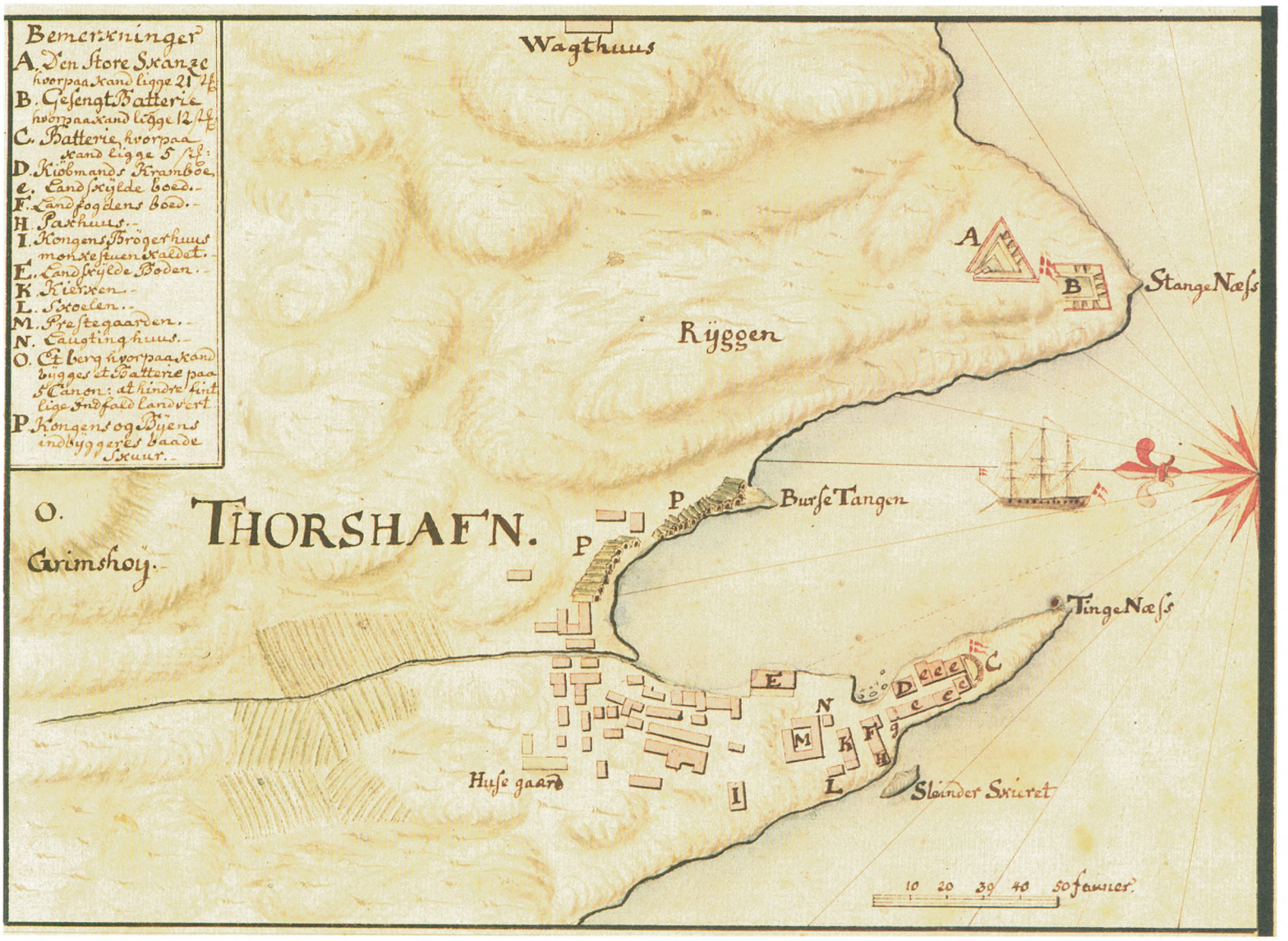
The oldest preserved map of Tórshavn was drawn in 1710 by naval lieutenant *Rasmus Juel.* He served as a member of the Royal Commission that came to implement changes related to administrative status and trade. The Crown had just assumed direct trade control through the establishment of the *Royal Trading Monopoly.* Reorganization necessitated the registration of all trading property in Tórshavn, as well as a reappraisement of the state of the dominion. The Crown lacked adequate cartographic material, and so Juel was assigned the task of drawing a new map of the Faeroe Islands.

Fig. 97: *Rasmus Juel's map of Old Tórshavn, 1710.*
Source: Det Kongelige Bibliotek, Copenhagen.

In 1710, the fortifications north of the bay comprised the main fort **A**, called Skansin, and the battery bastion **B.** They were the work of *Magnus Heinason,* in the year 1580, when the trading monopoly was in his hands. His task was to defend the warehouses against piracy. He was the son of a Norwegian priest, but nevertheless he gained a reputation as a fine seaman and successful privateer. He was later executed in Copenhagen for allegedly having broken the law; which caused much indignation back in the islands where he has since been considered as a local hero. In 1780, the fortifications were strengthened by the Commander of the islands, *Captain Born.* He is also renowned for his excellent mapping achievement. The fortifications remain in good condition even today. On the outer point of Tinganes is the semicircular battery C, built in 1630. In 1673, it was partly destroyed when the gunpowder magazine exploded, causing a fire which devastated the old parliamentary building, *Raadstouffen.* About 9 houses were also burnt down.

Landward of the battery runs a lane with two rows of buildings. They include; the Royal Trading Monopoly warehouses, the residence of the trade manager, and the trade store, *Krambúðin,* **D.** Opposite the skerry, *Skinder Skiær,* stand two old buildings. The first building, **F**, *Leigubúðin,* was the warehouse where the royal bailiff stored the natural produce paid as rent by the crown tenants. The second building, **H,** *Munkastovan,* the Monkhouse, was the only stone building in Tórshavn when Juel drew his map. In 1895, the historian, *N. Andersen,* wrote that it was used before the Reformation by monks sent from Kirkjubøur to collect tithes from Churchland tenants. The only church in Tórshavn was built immediately to the north in 1609, **K.** East of the church stands the parliament building *L0gtinghúsið,* **N**; The town keep and prison, *corps de garde.* The French name was misspelt as *Portugálið.* It was built in 1693 by Gabel, the feudal overlord. NW of the church is the old Latin School, **L,** which became the seat of learning after the Reformation had enforced the closure of the Priest School in Kirkjubøur. The rectory, *Reynagarður,* **M**, is shown as a rectangular, four-winged residence with a courtyard. Only two wings remain, and one wing represents the only half-timbered building in the islands. It was constructed in the very best Danish architectural tradition. Lucas Debes lived here when he wrote his praiseworthy description of the Faeroe Islands, which was published in 1673, along with the map printed in this atlas on page 21.

By the eastern shore of Tinganes Point, the royal bailiff had yet another warehouse, **E**. Half of it was built



upon wooden piles that formed a jetty, so that ferried goods could be handled directly; obviating the use of other forms of transport. East of the stream, beyond the row of 18-20 boathouses, lies a group of buildings that originally served as a rectory, but which had already been converted into homes by the time Juel drew his map.

The farm and its relationship with the town

Húsagarður farm lies in the northern part of town. It was described in the oldest preserved cadaster of 1584 when it had already been divided into two copyhold farms; each with 4 merkur (land measurement units) worth of land. An antagonistic relationship existed between the farm and townsfolk as the latter required peat for fuel and thatch for roofs. These materials could only be obtained from the farm outfield. However, the depletion of these resources lowered the value of the outfield and led to a reduction in the number of sheep that the farm was allowed to own. The *skipan* of 90 head of sheep in 1584 had been reduced to 55 head of sheep by 1666. A lane with houses on either side runs from the farm to the stream that bisects the town. Today known as *Bringsnagøta,* this lane was chosen by Act of Parliament in 1670 to serve as the boundary between the farm and town.

The Juel map from 1710 shows the northward town expansion beyond the stream towards *Ryggen* Hill. The population was a unique mixture of three types of people, each representing about one-third of the total; the upper class comprising Danish officials; the proletariat class comprising day labourers, fishers and wool beggars; the military class comprising soldiers. The most important Danish officials included; *handilsforvaltarin,* the manager of the Royal Trading Monopoly; *landfútin,* the royal bailiff who secured the payment of taxes and tithes by the crown tenants; *sorinskrivarin,* the judicial clerk; *prestur,* the parish priest who lived at the rectory; *kommandanturin,* the commander who, along with three corporals, lived in the fort; *bartskerin,* the barber, who incidentally also happened to be the doctor.

The Royal Trading Monopoly received shipments at least twice a year, so Tórshavn enjoyed substantially more international contact than any other Faeroese settlement. However, it exposed the townsfolk to foreign diseases. A smallpox epidemic had hit the town the year before Juel arrived. The disease arrived along with; 950 tons of barley, 1500 pounds of tobacco, and other stock on board the last ship to leave Copenhagen that year. The epidemic was particularly dreadful; killing about 75% of the population; 250 people in all. Out of the 35 soldiers that manned the fort, 25 of them fell victim to the disease, including all three corporals.

Rolf Guttesen

29 Tórshavn – Phases of Recent Development

Tórshavn is the capital of the Faeroe Islands, and by far the largest town. It attracts new inhabitants, not only to urban areas within the district but also to the neighbouring regions. Recently, this growth was so great that the local rural districts were incorporated into the metropolitan district; increasing its population dramatically. Tórshavnar Kommuna now covers 78.6 km² compared to only 15 km² before 1974 when the first rural district, Kaldbak, was added, and even though the district only had 200 inhabitants, half of whom lived near the NATO radar station in Mjørkadalur, its incorporation added 35 km² to the metropolitan area. In 1978, a similar bilateral agreement incorporated the intervening rural districts of HoyvíK, Hvítanes and Sund; adding 10 km² and 500 inhabitants. The suburban district of Argir, lying south of Tórshavn with 1400 inhabitants, used to have an agreement with the metropolitan district on the common use of the fire brigade, omnibus service and water supply, but it was not able to honour its commitments when the economic recession deepened in the early 1990s, and it has since become part of the metropolitan district. Syðradalur and Norðradalur were also assimilated during this reorganization and the metropolitan district increased in area by 18.8 km². Except for the rural district of Kirkjubøur, Tórshavnar Kommuna now covers the whole of southern Streymoy. This expansion gives it ample planning space for many years to come.

In 1900, Tórshavn consisted entirely of Tinganes and the adjoining historical Old Town. Until the First World War, the town grew only gradually. During this phase, a number of allotments, *traðir,* in the outskirts were converted into a residential area. The street plan resembles a chessboard of relatively spacious avenues. A typical street is Tinghúsvegur with its rows of detached houses and front gardens.

Progress was sure and steady until after the Second World War when the pace suddenly quickened as the urban industrial economy improved; attracting many rural inhabitants to the metropolis. The lack of town planning during this phase meant that building development was unrestricted and could occur wherever there was enough room. Despite the acute demand for new housing, there was no attempt to solve the problem through a social housing programme. Even today, there is neither an acknowledged district housing authority nor a social housing building society in the Faeroe Islands. For the newcomers who sought permanent accomodation, the only solution was to get a house built as soon as possible, or even just a single room.

The authorities made little attempt to force building contractors into providing good roads in the new housing areas. Small private building entreprises had no extra resources to improve roads in a neighbourhood Roads often remained incomplete or in disrepair for years following housing construction. This unsatisfactory state of affairs continued throughout the 1950s, as exemplified by the residential district called *Grønland;* with its small building sites averaging 300m², narrow streets, and total lack of parking facilities or open areas. The provision of a pleasant housing environment may have been regarded as superfluous because the district at the time of building was right next to the open countryside. Subsequent urban expansion has left *Grønland* surrounded by modern housing districts and the lack of open space is felt.

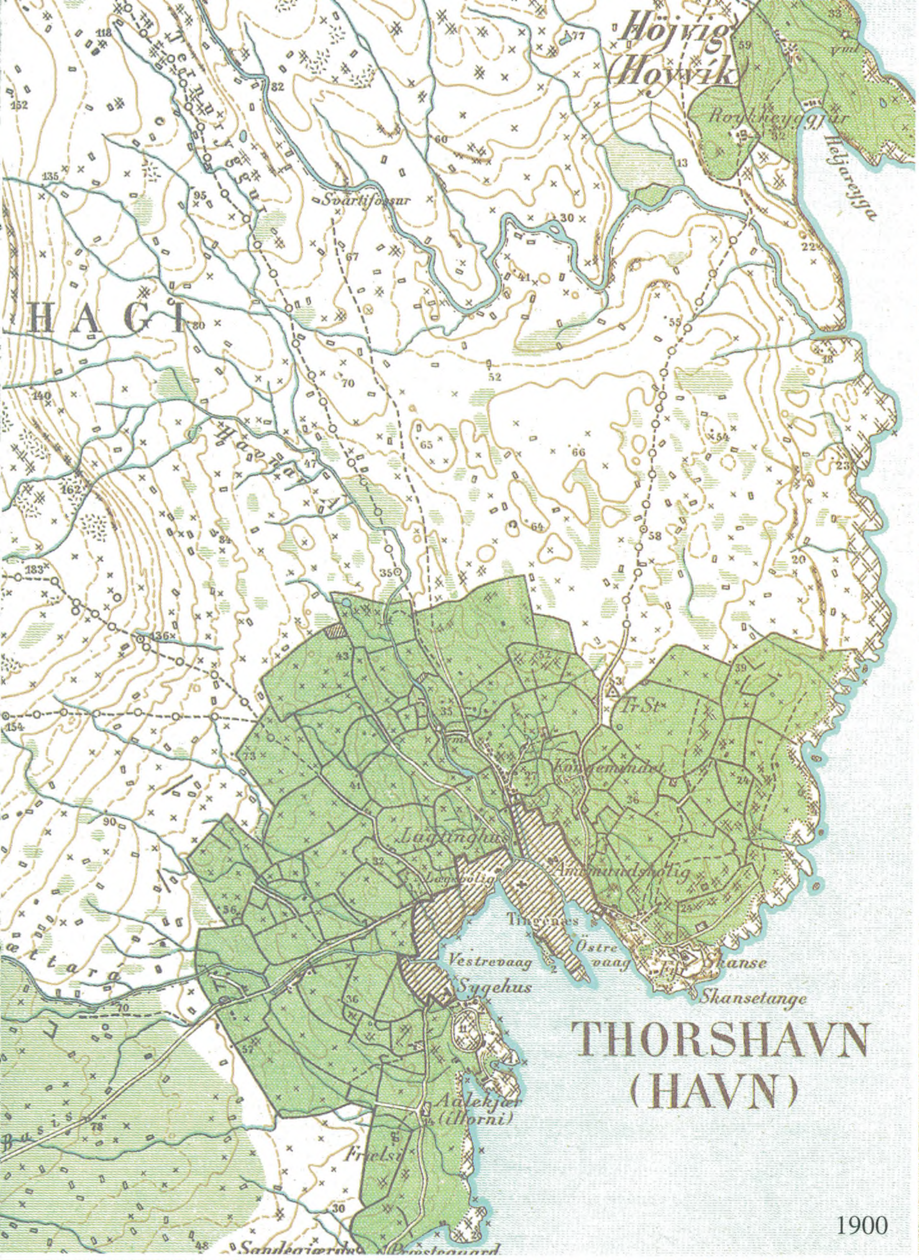
The housing shortage continued throughout the 1950s and 1960s. Entrepreneurs continued to capitalize on the absence of planning controls and standards in several districts by utilizing space to the utmost; with the construction of uninspiring, narrow streets lined with terraced houses.

Town planning

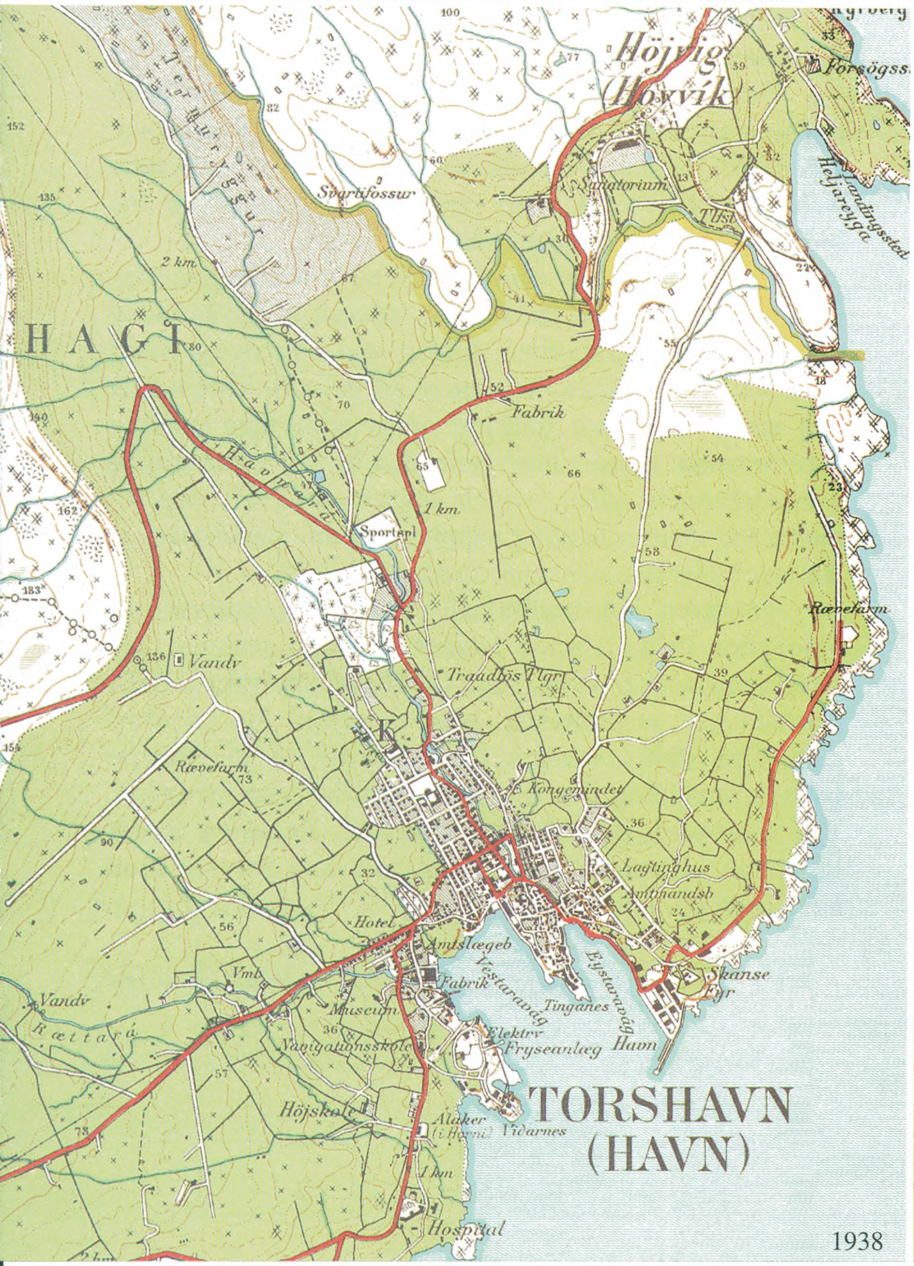
Official town and regional planning was long overdue when it was finally introduced by the Løgting in 1954. The Town Planning Act obliged all local government authorities with more than 1,500 inhabitants to present an acceptable urban development plan within 10 years. The law was welcome news for the metropolitan district.

Fig. 99: *Tórshavn. Maps to show the expansion of both the urban and cultivated areas. Extracts from topographic maps. Scale 1:20,000. GI, Copenhagen.*
A: *E 11, 1900.* ***B****: E 11, corrected 1915.* ***C:*** *M 32, corrected 1938.* ***D****: M 32, corrected 1974.*

Fig. 98: *Southern Streymoy showing the district of Tórshavn. Municipal boundaries shown as dotted lines. Extract from topographic map. Scale 1:100,000. GI, Copenhagen 1985.*


Höjvig
(Hoyvik)
Svartifossur
HAGI
Kongeminde
Lagtinghus
Amtmandsbolig
Tinganes
Vestrevaag
Östre vaag
Skanse
Skansetange
Sygehus
Aalekjær
(Horni)
Frelsi
THORSHAVN
(HAVN)
1900


Höjvig
(Hoyvik)
Sanatorium
Svartifossur
HAGI
Vandværk
Kongeminde
Lagtinghus
Amtmandsbolig
Tinganes
Vestrevaag
Östre vaag
Skanse
Skansetange
Sygehus
Höjskole
Aalekjær
(Horni)
Frelsi
THORSHAVN
(HAVN)
1915


Höjvig
(Hoyvik)
Sanatorium
Svartifossur
HAGI
Fabrik
Sportspl
Traadlös Tlgr
Kongeminde
Lagtinghus
Amtmandsb
Hotel
Amtslægeb
Fabrik
Museum
Tinganes
Skanse
Fyr
Fryseanlæg
Höjskole
Vidarnes
Hospital
TORSHAVN
(HAVN)
1938


Höjvig
(Hoyvík)
Gymnasium
Svartifossur
Meteorologisk Station
Fabrik
Hal
Idrætsplads
Elværk
Vandreservoir
Stenbrud
Vandrerhjem
Skole
Kongeminde
Museum
Sanatorium
Tinganes
Skibsværft
Fabrik
Skanse
Fyr
Vidarnes
Statshospital
Sygehus
THORSHAVN
(TÓRSHAVN)
1974

Fig. 101: *Modern Tórshavn. Extract from topographic maps nos. 408, 508 & 509. Scale 1:20.000. GI/KMS, Copenhagen 1989.*

The development plan for Tórshavnar Kommuna was endorsed in 1972, and it was the product of much hard work. The metropolitan district set up a town planning department under the leadership of a city architect.

The development plan divided the metropolis into several districts based on type and development potential. Much of the territory was unsuitable for building purposes because of the rugged relief and steep slopes. Nevertheless, land shortage compelled the authorities to utilize parts of the difficult terrain for development until rural districts were added to the metropolitan district in 1978. Although *Kaldbaks Kommuna* had been assimilated earlier in 1974, it was inappropriate as it was situated at some distance from Tórshavn, and would have meant the time-consuming, costly construction of supply installations. The current development plan dates from 1980 after a revision of the initial 1972 plan.

Land for development was always inadequate even though high-rise buildings and cluster-houses were constructed. Despite a deceleration in urban population growth, the housing shortage is now caused by the demand for improved living standards through the construction of modern spacious homes. The reduction in households from 4.0 to 3.2 members (based on the period 1977-87) is also releasing more first-time buyers onto the housing market. In the 1990s, the housing pressure has been alleviated because the severe economic recession has led to much emigration. A slight decline in the metropolitan population has since occurred.

The Faeroe Islands never had a national development plan; apart from the so-called *bygdamenning,* which is considered as a benevolent gesture, rather than a policy to sustain rural communities and offset rural depopulation.

In 1985, the lack of land became so acute that it led to an investigation of the development potential south of Kaldbaksfjørður. The report formed the basis of a development plan for the newly acquired districts within Tórshavnar Kommuna where sites for growth industries and housing for as many as 10,000 new inhabitants were identified. Future plans include a new airport at Glyvurnes to the south of the metropolis.

The Port of Tórshavn

The initial settlement was founded on Tinganes, which is the low peninsula that separates the bays of Eystaravág and Vestaravág where the port is located today. The extension of the harbour area has always been hampered by the buildings behind the bays. Tórshavn is the most important gateway for imports to the Faeroe Islands, but the pier and quayside were not improved until the late 1920s. Formerly, large cargo vessels moored out in the bay while the goods were ferried ashore on small vessels that had to ply to and fro several times. The pier and quay have since been extended regularly as ship sizes have increased. The exploitation of all available land for port development and the advent of container traffic in the 1970s made the construction of a cargo-handling terminal necessary. The project started in 1986 with the infilling of the shallow sea area by the old Skansatangi pier. Reclamation added 100,000 m^2 of land to the port area. To satisfy exporters, a cargo terminal about half the size was constructed in the 1980s at *Sund,* which is a village on the south side of Kaldbaksfjørður. Due to the current economic recession, the port of Sund has yet to operate at full capacity.

Transport, communications and public utilities

Despite being the metropolis of the Faeroe Islands, Tórshavn was once an enclave because only primitive roads connected it to the nearest villages. This problem was solved when the Streymoy trunk road, *Oyggjarvegurin,* was completed in 1964. As soon as the largest settlements were connected to the metropolis by road, the number of motorized vehicles increased very rapidly.

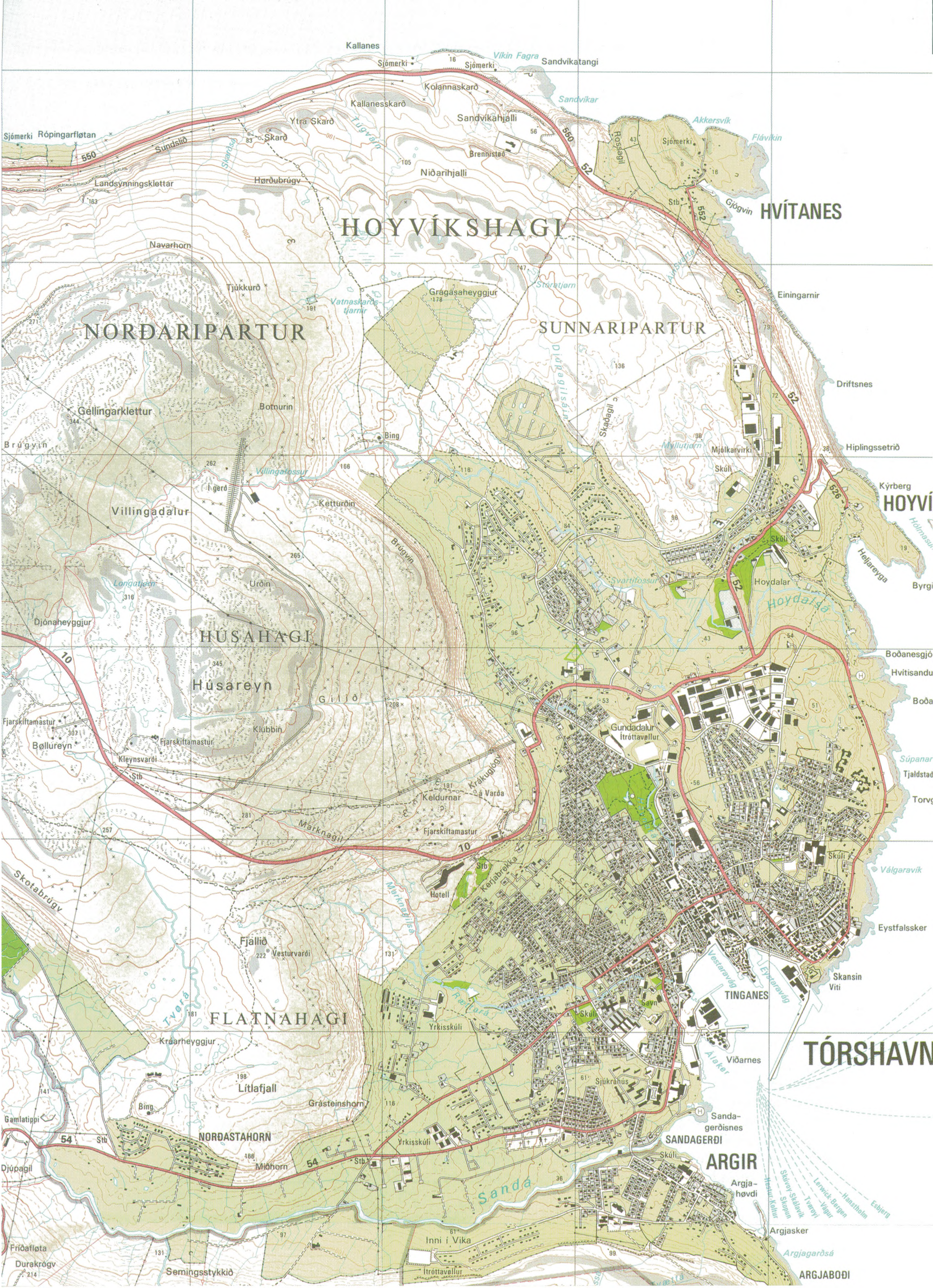
A metropolitan ring-road around Tórshavn is under construction. Other improvements include regulatory devices; such as traffic lights at the busiest junctions. Footpath networks are being extended.

The metropolitan water reserves have now been doubled by the construction of the large *Villingadalur reservoir*. Its high altitude will guarantee an adequate water supply to the new settlements proposed in the metropolitan development plan.

The diesel power station at Sund is the largest supplier of electricity in the Faeroe Islands. It serves many regions. The metropolitan district and electricity board have set up a company to supply all the new settlements and many Tórshavn housing areas with their heating requirements. Excess heat generated by the metropolitan waste-treatment plant, which opened in 1987, supplements the district heating supply, and one beneficiary is the nearby industrial estate, *Sandvíkarhjalla.*

Tórshavn has traditionally been the vanguard of innovation in the Faeroe Islands although progress and development have often been rapid and unplanned. Self-restraint has, nevertheless, been exercised for the most part. The 1990s witness the economy of the Faeroe Islands, including that of metropolis, in deep recession. The short-term outlook is pessimistic. Recovery is not imminent although measures to alleviate the situation have been put into effect.

Vøgg Guttesen



Kallanes
Sjómerki
Víkin Fagra
Sandvíkatangi
Kolannaskarð
Kallanesskarð
Sandvíkar
Sandvíkahjalli
Ytra Skarð
Skarð
Akkersvík
Fjávíkin
Sjómerki Ropingarfløtan
550
Sundslið
Brennisteð
Niðarihjalli
Rossagil
52
Landsynningsklettar
Hørðubrúgv
Gjógvin
HVÍTANES
552
HOYVÍKSHAGI
Navarhorn
Tjúkkurð
Grágásaheyggjur
Støratjørn
Einingarnir
Vatnaskarðstjørnir
NORÐARIPARTUR
SUNNARIPARTUR
Driftsnes
Gellingarklettur
Botnurin
Skaðagil
Hiplingssetrið
Brúgvin
Bing
Mjólkarvirki
Skúli
Villingafossur
Kýrberg
HOYVÍ
526
Villingadalur
Ketturóin
Longatjørn
Urðin
Svartifossur
Hoydalar
Heljareyga
Hoydalsá
Byrgi
Djónaheyggjur
HÚSAHAGI
10
Boðanesgjó
Hvítisandur
Húsareyn
Gilið
Fjarskiftamastur
Bølluroyn
Klubbin
Gundadalur
Ítróttavøllur
Kleynsvarði
Súpanar
Tjaldstað
Keldurnar
Varða
Krákugjógv
Torvg
Marknagil
Skotabrúgv
Hotell
Kerjabrekka
Válgaravík
Eystfalsskerr
Fjallið
Vesturvarði
Skansin
Viti
Vestaravág
Eystaravág
TINGANES
Reynará
Savn
FLATNAHAGI
Yrkisskúli
Tvøra
Kráarheyggjur
Viðarnes
Álakeri
TÓRSHAVN
Sjúkrahús
Lítlafjall
Gráseinshorn
Sandagerðisnes
SANDAGERÐI
Bing
Gamlatippi
NORÐASTAHORN
ARGIR
54
Stb
Mjóhorn
Argjahøvdi
Djúpagil
Sandá
Argjasker
Inni í Vika
Argjagarðsá
Friðafløta
Durakrógv
Semingsstykkið
Ítróttavøllur
ARGJABOÐI

30 Tórshavn – Commercial, Administrative, Cultural and Religious Centre

Tórshavn is the capital of the Faeroe Islands and is without doubt the most urban Faeroese settlement with its compact concentration of buildings. The town radiates outwards from the old core around Tinganes. It spreads inland across relatively low-lying, undulating terrain. The harbour district is formed by two bays; *Eystaravág* and *Vestaravág.* The town plan contrasts sharply with the elongated, ribboned structures of other Faeroese towns like; Klaksvík, Runavík, Fuglafjørður, Tvøroyri and Vágur, where steep fjords and the absence of a coastal plain confine expansion to either an extension of the main street or a stepped series of parallel streets.

Most central functions are located in Tórshavn and this makes the employment structure very different from that of other towns. The table is based on industrial sector wage-payments in 1991. Note that over half the payments

Division of Labour	Tórshavn	Other Distr.	Faeroe Islands
Primary	9%	36%	20%
Secondary	13%	33%	21%
Tertiary	78%	31%	59%
Total	100%	100%	100%
Mill. DKK	2.423	1.719	4.142
%-distribution	58%	42%	100%

Source: *Árbókfyri Føroyar, 1992*

are generated in Tórshavn. The tertiary sector is concentrated here; commerce, communications, banking, health service and public administration.

Trade

Tórshavn is the centre for both retailing and wholesaling. **Map A** shows retail business distribution. Despite the exclusion of agencies, wholesalers and workshops from the map, the retail spectrum ranges widely; from the little newspaper kiosk selling just a few items, to the large supermarkets with 50,000 products on sale. The retail trade clearly concentrates in the Old Town.

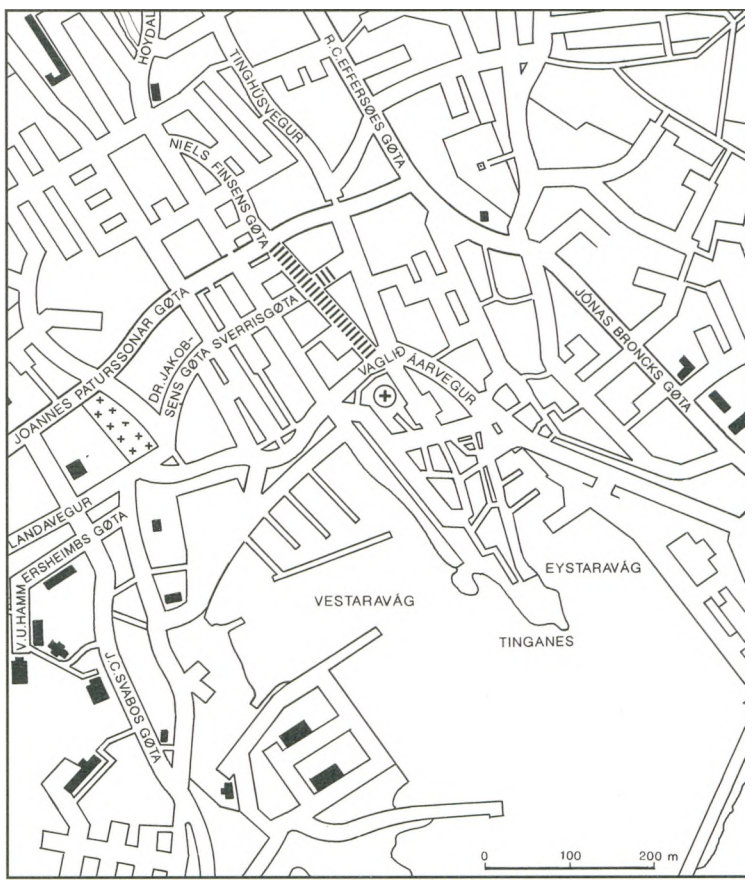
The shopping district expanded initially from Tinganes along *Áarvegur* Street to *Vaglið,* meaning "Hen-roost". Commercial activity is confined to the west bank of the stream, which is now channelled through a subterranean pipe. The spacious garden belonging to the State Commissioner occupies the whole of the east bank. The earliest retail expansion from Vaglið to *Niels Finsensgøta* began this century, but some commercial activity was already developing in the side streets.

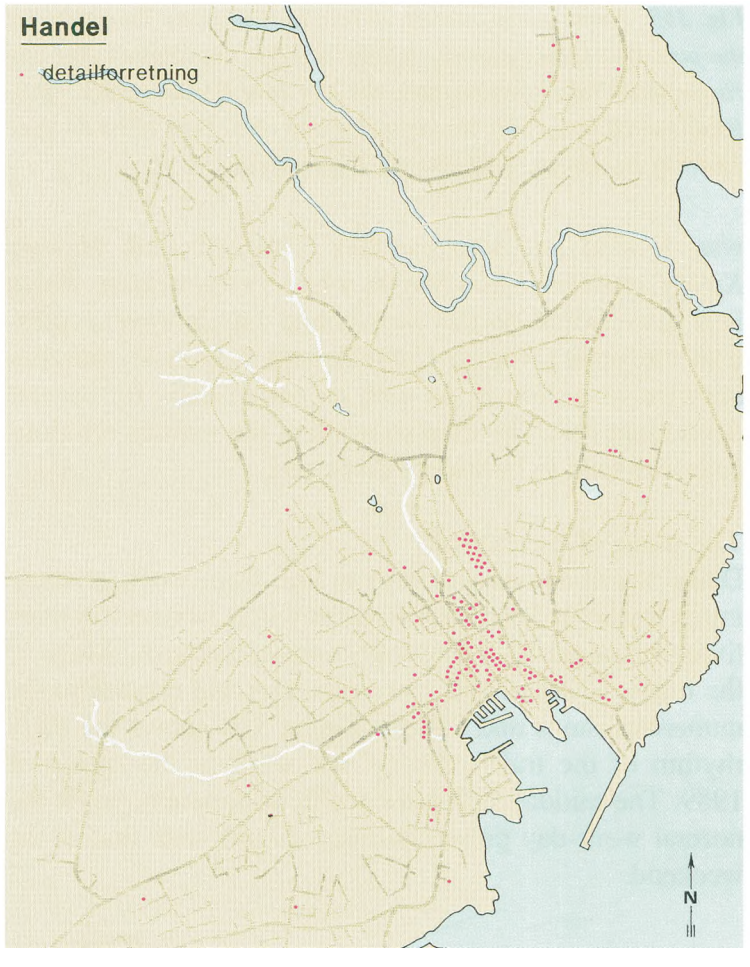
Fig. 102: *Tórshavn. The town centre with the names of streets and places mentioned in the text. RG part.*

Fig. 103: *Thematic maps showing the distribution of central functions in Tórshavn. Source: Havnarbókin 1989/90. RG part.*

More than 100 m of the main street is a pedestrian precinct. Parking is tolerated on both sides of the street and a one-way system operates. After the Second World War, the building industry prospered as new housing districts were required. One development zone stretched westwards along *Jóannes Patursonargøta* to the district known as *Grønland.* Similarly, a row of shops was built in a side street to *Dr. Jakobsensgøta,* called *Sverrisgøta,* part of which now is a pedestrian precinct. The two main shopping streets form two distinct axes on Map A. The first runs north to south, while the second joins it at right-angles at *Káta Hornið,* which means "Happy Corner". Watching the traffic from the comfort of a window-table at the cafeteria, *Restorffs Konditarí,* used to be a popular pastime.

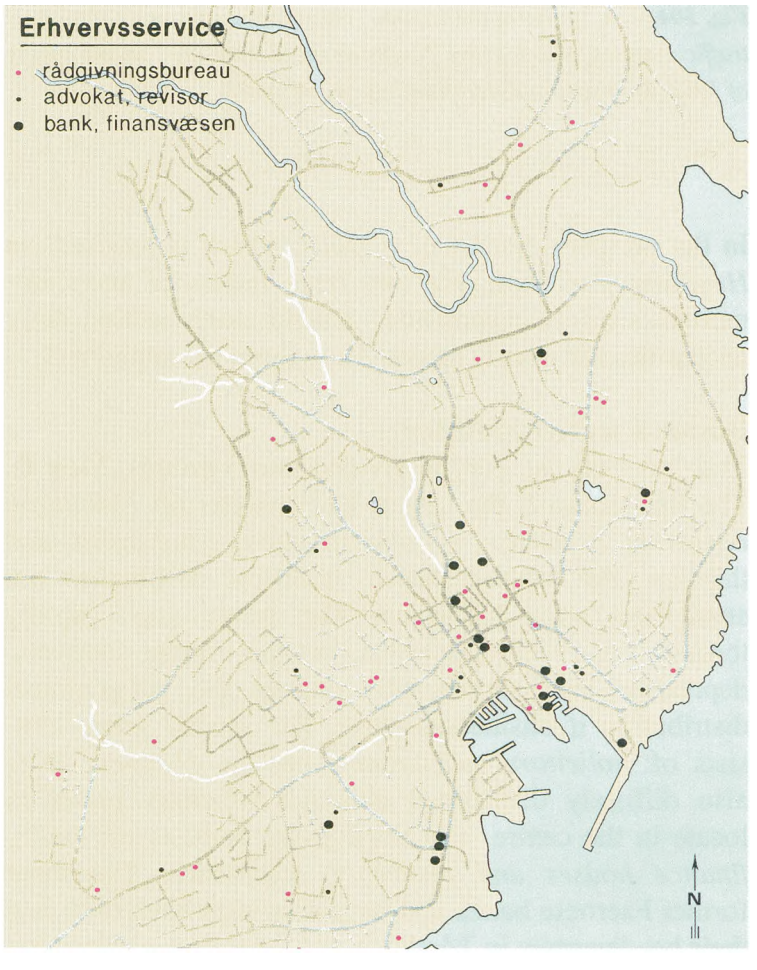
When district planning became part of the town planning policy in the 1970s, certain large sites were allocated specific functions. The *SMS company* leased a whole site in *R. C. Effersøesgøta,* northeast of the former main street, and built a shopping centre, now rented by 20 private enterprises. The central location is ideal for mobile customers travelling from other parts of town or the outerlying villages. The shopping centre is flanked at one end by the large drugstore, *Landsapotekið,* while a large bank headquarters is situated at the other end. Apart from this centralization of commercial activity, small concentrations are to be found in the southeast neighbourhood, in the vicinity of *Jonas Broncksgøta.*





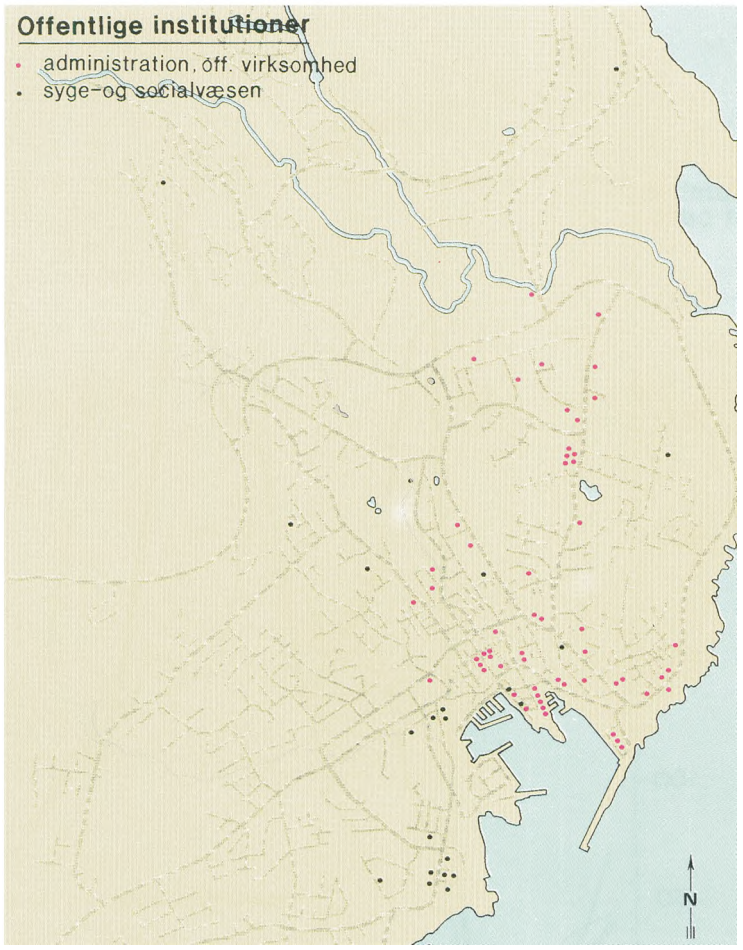
A: Retailers.

Handel: *Commerce.* ***Detailforretning:*** *Retail shop.*



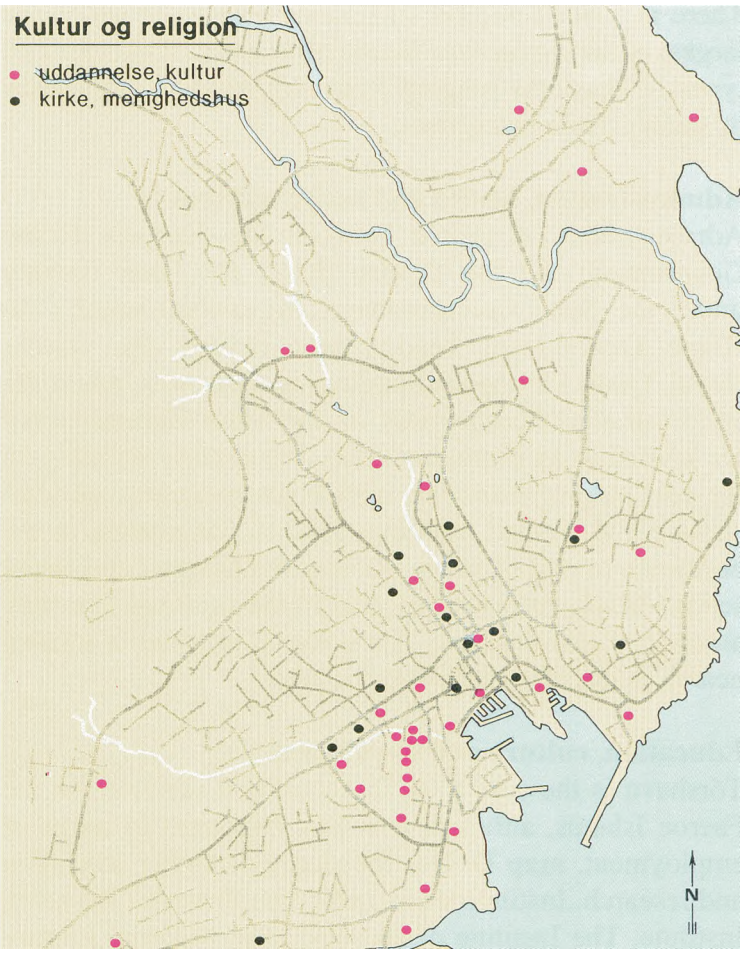
B: Business services.

Erhvervsservice: *Business services.* ***Rådgivningsbureau:*** *Consultants.* ***Advokat, revisor:*** *Solicitor, accountant.* ***Bank, finansvæsen:*** *Banks, financial concerns.*



C: State and public institutions.

Offentlige institutioner: *Public institutions.* ***Administration, offentlig virksomhed:*** *Administrative and governmental services.* ***Syge- og socialvæsen:*** *Hospital and social services.*



D: Cultural and religious institutions.

Kultur og religion: *Culture and religion.* ***Uddannelse, kultur:*** *Education, culture.* ***Kirke, menighedshus:*** *Church, church hall.*

Fig. 104: *The "pulse of the capital " expressed as the daily rhythm of traffic entering and leaving Tórshavn on normal days in the spring of 1989. Source: Landsverkfrødingurin. RG part.*

Fig. 105: *Aerial photo extract of Tórshavn showing Tinganes and the port.Also shown are; the village of Argir, Sandágerði Bay and Havncidalur Valley (bottom left); the hamlet of Hoydalar (top right); Húsareyn Hill (top left). Route 8493-D, no. 206. Date 18.05.84, time 13.40. Scale approx. 1:12,000. GI, Copenhagen.*

In the northern district of á *Hálsi,* which is reached via *Hoydalsvegur,* there are two large industrial and commercial sites. In conclusion, general stores selling daily necessities are evenly spread throughout the settlement.

Business service industry

This business category is divided into 3 groups, **Map B.** The first group is the largest and consists of; *consulting engineers, architects, economists, advertizing agents* and the like. The location pattern is diffuse. Businesses are small and often home-run. The group grew rapidly through the 1970s and 1980s, but the current economic depression will significantly change the geographical distribution if businesses close. The second group consists of; *solicitors, accountants and bookkeepers.* It is also diffusely distributed although solicitors prefer to locate in the centre. The third group consists of; *banks, finance houses and insurance companies.* The three former Faeroese banks and largest savings bank once had their headquarters in Tórshavn and a network of branches throughout the islands in settlements with more than 300 inhabitants. All the insurance companies are owned by one national company with special departments. The headquarters is centrally located, close to Eystaravág. There is a small number of finance houses, of which the largest is the *Færøernes Realkreditinstitut.* It finances all types of concerns ranging from shipbuilding companies to small private enterprises.

Administration, health and social services

Administration is shared between the Faeroese Home Government and the Danish State; the latter coming under the State Commissioner, *Rigsombudsmand.* The Home Government headquarters occupy the former Royal Trade Monopoly building on *Tinganes,* while the administrative headquarters of the State Commissioner are housed in an impressive late 19th century building on the east side of *Áarvegur.* Other governmental, administrative and council buildings tend to concentrate in the northeastern part of town, whereas the hospital and social service headquarters are located in the southwestern part, along *J. C. Svabosgøta.* The national hospital is located near *Sandagerdi* in the southern part.

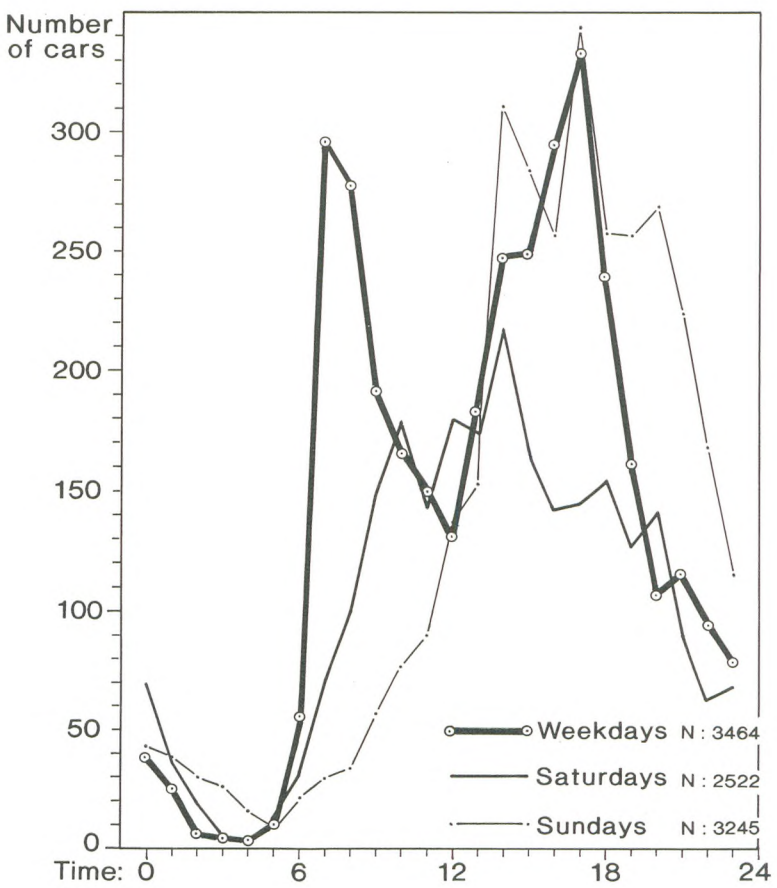
Education, culture and the Church

Tórshavn is the centre for these cultural activities in the Faeroe Islands, although it is less important in terms of employment, **map D.** It is the centre of higher education and research. Institutions include; The Fisheries Research Institute, The Institute of Hygiene, The National Library and Archive, and The University Of The Faeroe Islands. They are all located along *V. U. Hammershaimsgøta* in the western district of *Debessarttrøð.* In 1970, Tórshavn was divided into two parishes. The cathedral, *Havnar Kirkja,* represents one parish, while *Vesturkirkjan,* which is a new church on the west-bound *Landavegur,* represents the other. Roman Catholic and Adventist churches are also to be found, as well as parish halls for several denominations. The map shows that the various religious activities tend to be widely dispersed.

The pulse of the capital

Daily activities and journeys to and from work generate much traffic in Tórshavn. It stems partly from commuters living in the north of Streymoy and on Eysturoy. Much of the traffic is connected with deliveries and errands to the numerous shops and offices. Figure 104 shows the daily rhythm of the traffic during one week in the spring of 1989. The midday lull in the traffic is apparent, while the normal work-day pulse contrasts sharply with that of the weekend.

Rolf Guttesen



31 Mapping the Faeroe Islands in Modern Times

Mapping the Faeroe Islands would appear to have a life-cycle of approximately 100 years. The first proper survey and mapping of the islands was undertaken by *Captain Born* in 1790-95. It was not replaced until 1895 when an entirely new survey was required to satisfy the increasing demand for accuracy at the end of the 19th Century. The new map was given the scale 1:20,000. Published between 1897-1901, the map had been constructed through the application of plane tables. It was still being used as the groundwork for much later editions in 1941-43 and 1972-74. Its use continued until 1981 when the renewed demand for greater accuracy necessitated a completely new survey of the islands; which has now been been accomplished with the publication of the third edition. The third edition represents the very latest mapping of the Faeroe Islands, and the final map-sheets in the series are expected to be published in 1997.

The decision in 1981 to produce a new base map followed a scrutinous evaluation of the 1972-74 edition which was based on the original groundwork of 1895-99. It was decided to retain the scale of 1:20,000.

During the course of this century, the groundwork map material has been subjected to various kinds of treatment. The 1941-43 edition saw the conversion of the original tall-format 75-sheet series into a wide-format 53-sheet series. The groundwork map material underwent diverse repro-processes, all according to the different techniques used throughout the course of the century; culminating in the late 1960s when it was transferred from printing plates to astralon duplicates, with a combined duplicate for each colour. After 1979, map publication included the superimposition of the UTM-grid.

The scrutiny revealed that the groundwork map material was beginning to reveal flaws; irrespective of its fine and elaborate detail. The accuracy of its measurements, notably the situational inter-relationship between the different Faeroese islands, was shown to be poor on the basis of the latest geodetic survey. The map-sheet dimensions were found to be deformed, some quite badly, and this led to uncertainty regarding the superimposition of the UTM-grid. The technical formation of the groundwork map material when using astralon duplicates made updating and modernizing the contents extremely complicated and laborious, and, moreover, it was impossible to separate the map material into its individual elements; such as, linear features, place-names and masks, and precluded any possibility of their recombination. Map descriptions and place-names were primarily in Danish, whereas the Faeroese language was very secondary. The legend was also entirely in Danish.

All these faults spurred the decision to produce a new base map despite the knowledge that such a task would require substantial resources. The new mapping has been undertaken by Kort & Matrikelstyrelsen in collaboration with relevant Faeroese authorities and institutions, of which the most important are; *Matrikulstovan* (The Matriculation Register Office) and *Froðskaparsetur* (The University Of the Faeroe Islands). Matrikulstovan has not only assisted with the aerial photography and been responsible for the control point indication, it has also supplied manuscripts to show the position of outfield boundaries and cairns selected for inclusion on the map, as well as providing complete place-name manuscripts through its collaboration with Froðskaparsetur. All in all, Matrikulstovan has been a very valuable partner throughout the whole project.

"The weather conditions in 1898 were by no means more clement than those of bygone years", reported first lieutenant *J.P. Lomholt* to the topographic department at the Generalstaben. Since that date, many cartographers have had first-hand experience of this apparently eternal truth in their efforts to survey and map the Faeroe Islands. The mentioning of a specific year, 1898, appears amusing, but Lomholt probably intended its inclusion as a means of dating his report. A century later, aerial photography took longer than 3 years to accomplish, 1982-84. This was again due to unfavourable weather conditions. Total area coverage using black and white photography, scale 1:30,000, was completed in 1982-83, whereas total area coverage using colour photography, scale 1:15,000, was first completed in 1984. The original intention was to publish the map as a "traditional" printed edition. The aerial photography was programmed in order to produce the usual photogrammetric plotting at scale 1:15,000 using photographs based on the prior aero-triangulation of photographs at scale 1:30,000. However, as it is not common practice to embark on a completely new mapping assignment, it was decided instead to employ the very latest digital production methods with the use of analytical photogrammetry. The aim was not to construct a digital map, or database, but to gain valuable experience in the use of these new methods as elements in total production. Thus this particular mapping of the Faeroe Islands would be acknowledged as a landmark in the evolution of Danish mapping methods.

Particular care and attention to ensure geometric accuracy and valid contemporary content during the map-making process was essential because they are classical parameters. A map reflects an era as much as it does a culture. Map content will always be dependent on the production methods and conditions. Especially in bygone times, the occupational opportunities were dictated by nature. This dependence on nature was expressed in the unusual variety of place-names and landscape descriptions on the first Faerose maps. The 1895 survey was particularly labour-intensive because of the limitations

***Fig. 107a**: The Faeroe Islands 1:200,000. Southern part of Eysturoy and surrounding islands. Survey 1895-99, issued 1938.*

***Fig. 107b**: Same map extract. Amended 1938, further amendments 1966, issued 1967.*

***Fig. 107c**: Same map extract. Accomplished 1988, amended 1994, issued 1995.*

inherent in the measuring methods at the time. At the height of the campaign, the summer workforce would total two hundred men, albeit recruits and porters were among the number. In times of inclement weather, surveying was postponed and replaced by detailed terrain description, so that early maps are cluttered with this information.

In bygone times, a substantial amount of travelling was undertaken on foot, and so footpath systems formed a very important part of the infrastructure. Moreover, cairns alongside the paths were vital to finding the way. They enabled the inhabitants to follow the footpaths in times of poor visibility and indicated the points along routes where ascents or descents were necessary in order to cross ridges or steep terrain. Today, an evaluation of what is integral to map content would consider the importance of these factors differently. Modern Faeroese infrastructure is based on an efficient road network, and irrespective of the fact that sheep still have to be tended far out in the outfield, the ancient footpath systems have lost their former importance. Nonetheless, certain tracks and cairns are now being used by tourists and might therefore regain their importance.

As previously stated, the mapping has been accomplished with the aid of analytical photogrammetry. Measurements are made using black and white photographs at scale 1:30,000, supplemented by colour images at scale 1:15,000. Certain details are difficult or impossible to spot when scanning images. This is true of cairns and landscape features such as isolated rocks and wetlands. Similarly, it is difficult to identify peat turves, sheep-houses, electricity pylons, water basins etc. After accepting the limitations of modern measurement methods in relation to the peculiarity of the Faeroese landscape, the decision was made to complete the mapping using the "traditional" approach i.e. photogrammetric plotting followed by on-the-spot, supplementary field inclusions. The supplementary information has been plotted onto the map manuscript with the assistance of ortho-photographs, scale 1:10,000.

The map series is drawn at scale 1:20,000. Contour intervals are at 10m; apart from infield areas where 5m contour intervals are employed. The map series comprises 37 map-sheets; each map-sheet covers an area of 11 km by 9 km. The map series uses European Datum 1950, ED50, UTM zone 29. It is published with the UTM-grid and geographic ticks in the margins. Relief shading has been chosen to facilitate the topographical interpretation. The first map-sheets in the series were published in 1984. The last map-sheets, which cover the southern region, will be published in 1997.

Tord Bengtsson

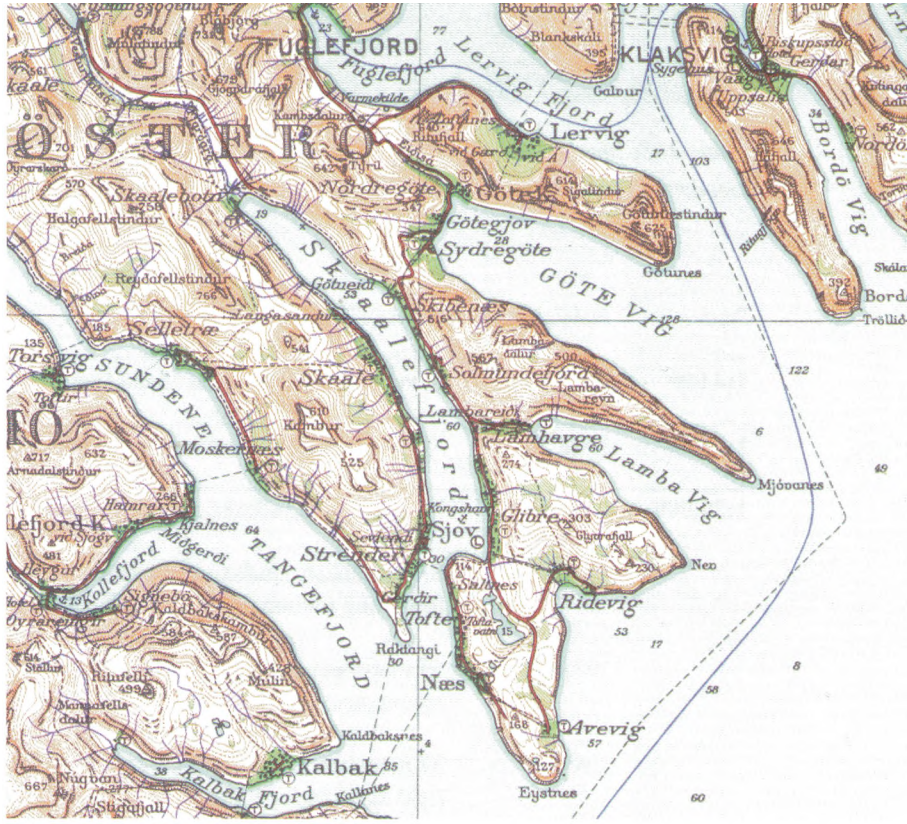


Table 108: *Important maps of the Faeroe Islands produced by the Topographic Department of the Generalstaben, Geodætisk Institut, and Kort & Matrikelstyrelsen.*

Scale:	*Published:*	*Description:*
1:4,000	1910	"Tvøroyri Indmark" and "Sand Indmark", Both maps based on plane tables. Scalel:5,000 from 1899, published in 1910.
1:5,000	1901	"Tórshavn med omliggende Trøer." Based on plane tables from 1895 preliminary to the real measurement at scale1:20,000.
1:20,000	1897-1901	75 mapsheets, indexed alphabetically and numerically. This 1st edition is based on plane tables from 1895-99.
	1941-43	53 mapsheets, indexed numerically and by name. This principally amended 2nd edition is based on the 1st edition following reconnaissance fieldwork in 1938.
	1972-74	53 mapsheets, indexed numerically and by name. This amended 2nd edition is based on the above-stated map after reconnaissance fieldwork in 1971 and partial photogrammetric plotting. Published 1979 with superimposed UTM-grid
	1984-97	37 mapsheets, indexed numerically and by name. This 3rd edition is based on photogrammetrc plotting and subsequent field surveys for each mapsheet.
1:100,000	1916	2 mapsheets, indexed "Nord" and "Syd". This 1st edititon is based on the 1st edition of the plane table mapsheets as well as surmisary reconnaissance fieldwork in 1915. Retracted in 1926.
	1932	4 mapsheets (including 1 fold-out sheet), indexed NE etc. This principally amended 2nd edition is based on the same material as the one above.
	1975	2 mapsheets, indexed as halves "Nordl." and "Sydl.". This principally amended 3rd edition is based on the very same material as the amended 2nd edition plane table mapsheets, but on a new geodetic basis as the applied projection is UTM, zone 29, Faeroese Datum 1954. Previous maps were based on true meridian distance conical projection.
	1978	2 mapsheets, as above because the datum is now European Datum 1950; the datum to which Faeroese measurements were adjusted shortly before.
	1983	2 mapsheets, "Nordari partur" and "Sydri partur". This principally amended 4th edition is based on the 3rd edition, and is updated by means of a field survey reconnaissance in 1982. Complete with relief shading and Faeroes place-names.
	1989	1 mapsheet, reworked edition of the one above.
	1989	"Føroyar, Topografisk Atlas 1:100,000". 6 mapsheets in bookform based on the 4th edition.
1:200,000	1910	1 mapsheet, "Oversigt over Sogne og Havger på Færøerne". Based on material for a general topographic map. Printed at a later date, but now out-of-print.
	1932	1 mapsheet, general topographic map.
	1957	1 mapsheet, general topographic map, as the one above, but a principally amended edition.
	1988	1 mapsheet, general topographic map. Based on the 4th edition at scale 1:100,000. Complete with relief shading and Faeroese place-names.
1:320,000	1920	1 mapsheet; general topographic map. Issued as; unfolding display mapsheets, a book, and the map "Kort over Opmålingsdistrikter". Now out-of-print, but appears as an inset, at scale 1:300,000 on complementary maps of Denmark from 1950 and 1966.
1:500,000	1915	Map inset in the once regularly published map "Kongeriget Danmark i 1:500,000". Out-of-print.
	1989	Map inset in "Føroyar, Topografisk Atlas 1:100,000".
1:750,000	1931	Map inset in the general geographic map: "Danmark 1:750,000".Out-of-print.
1:1 million	1926	Part of "International Map of the World", mapsheet N.P-29, Tórshavn. Out-of-print, but replaced by those listed below.
	1953	Mapsheet 2106 in the ICAO series.
	1982	Amended edition of the mapsheet above.

Fig. 109a: *Faeroe Islands 1:100,000. Southern part of Eysturoy and part of Streymoy. Survey 1895-99. Amended 1915, further amendments 1932, issued 1932.*

Fig. 109b: *Same map extract. Amended 1971, issued 1975.*

Fig. 109c: *Same map extract. Accomplished 1982, amended 1993-94, issued 1995.*

Fig. 110a: *Plane table map. Scale 1:20,000. Extract from map E 12, Næs. Survey 1896-97, drawn 1900.*

Fig. 110b: *Plane table map. Scale 1:20,000. Extract from map M 28, Næs. Survey 1896-97, amended 1938. Copenhagen 1941.*

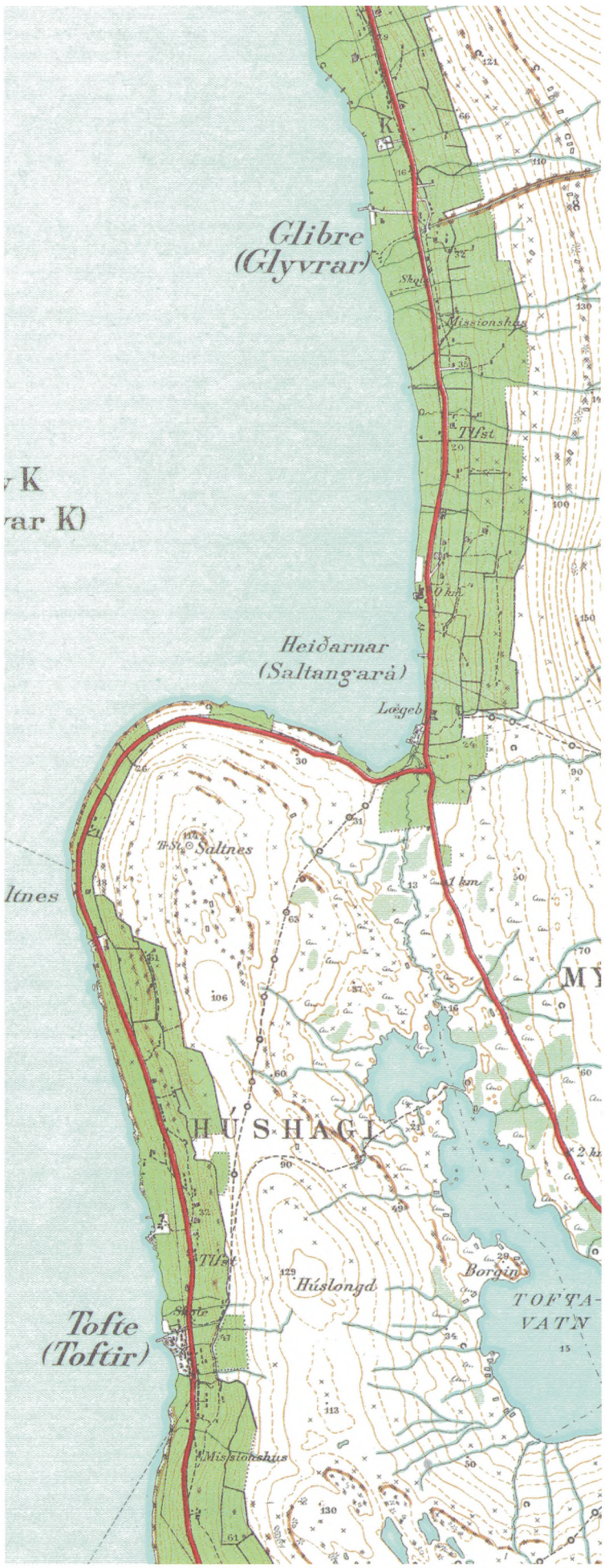
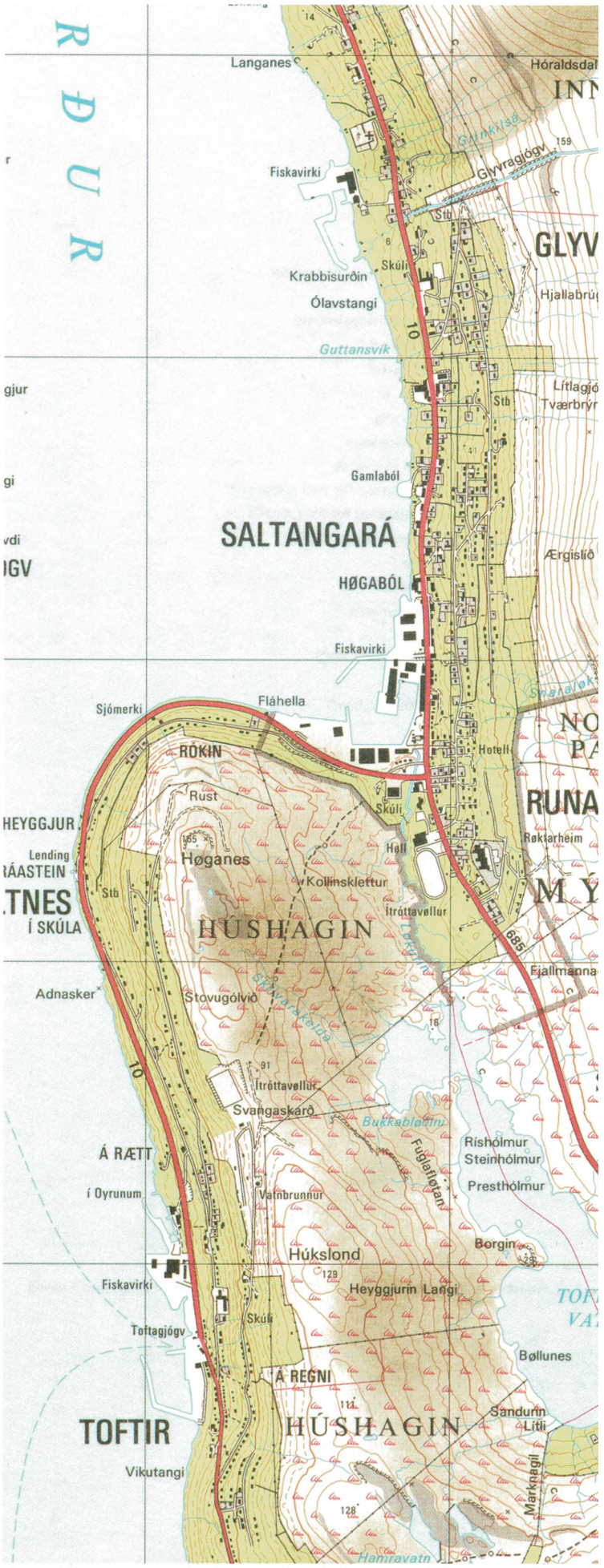


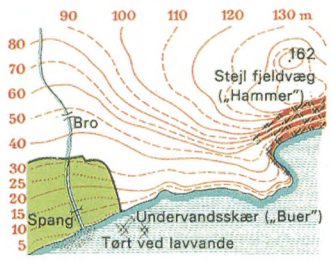
Fig. 111a: *Plane table map. Scale 1:20,000. Extract from map M 28, Næs. Survey 1896-97, amendedl971, issued 1974.*

Fig. 111b: *Topographie map. Scale 1:20,000. Extract from map 510 Runavík. Photographically drawn, based on aerial photography 1982-84. Field survey 1987. KMS 1994.*



Legends used for the different map types

Map-sheets 1:20.000
1900 – 1984

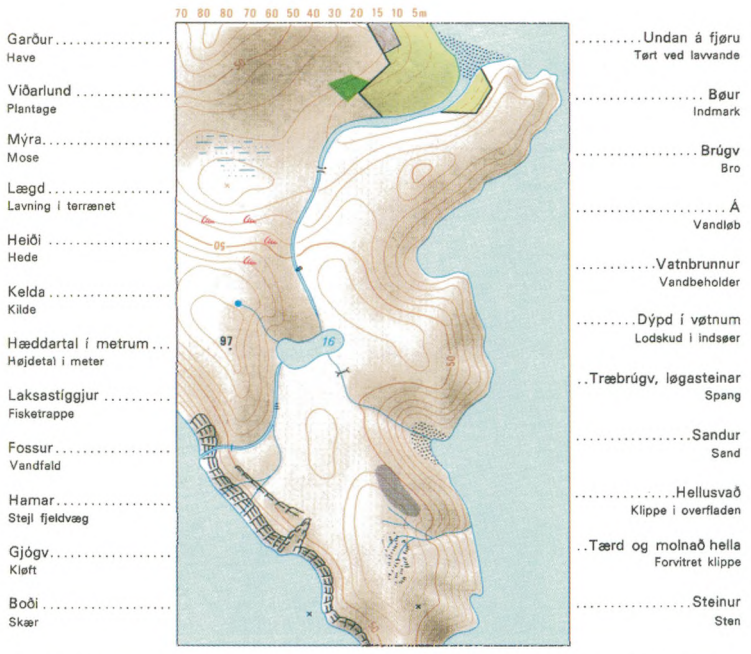


Højdetal i meter. Højdeforskellen mellem kurverne er 10 meter (i dyrket land 5 meter)

Forkortelser

Fj - Fjord
S - Sogn
Trsf - Transformator
Vandv - Vandværk
Vml - Vandmølle
Forsamlhs - Forsamlingshus
Kommkont - Kommunekontor

Topographic maps 1:20.000
1984



Hæddir roknaðar frá hálvfjaraðum sjógv og givnar í metrum. 10 m millum hæddarstrikur, í bø 5 m.
Højder er regnet fra middelvandstand og angivet i meter. Kurveinterval: 10 m, i indmark 5 m.

ORÐALISTI
ORDLISTE

Avtoftað bygd..... Ubeboet bygd
Bing .....Silo
Brennievnistangi..... Brændstofbeholder
Brennistød..... Forbrændingsanstalt
Ferðslustød..... Terminal
Fiskavirki..... Fiskeindustri
Flogvøllur..... Flyveplads
Fólkaháskúli.....Højskole
Friðingarøki..... Reservat
Høll.....Hal
i ggrð.....Under anlæg
itróttavøllur..... Idrætsplads
Lending..... Landingsplads
Loranstød.....Loranstation
Læknahús..... Lægehus
Læknamiðstød.....Lægecenter
Løgreglustød.....Politistation
Mjólkarvirki..... Mejeri
Nám..... Mine
Orkustød.....Kraftværk
Ravmagnsverk.....Elværk
Ruskdungi..... Losseplads
Røktarheim..... Plejehjem
Savn..... Museum
Sjúkrahús..... Sygehus
Skansi..... Skanse
Skipasmidja..... Skibsværft
Skúli.....Skole
Sláturvirki ..... Slagteri
Stb (Streymbroytil)..... Transformer (-station)
Stovnur..... Institution
Tjaldstaður..... Campingplads
Tlf (Telefonendursendingarstød)....Telefonrelæstation
Ullvirki..... Uldspinderi
Vallaraheim.....Vandrerhjem
Vatnverk.....Vandværk
Verksmioja..... Fabrik
Yrkisskúli.....Fagskole

Topographic maps 1:100.000
1982

TEKNLÝSING

SIGNATURFORKLARING - LEGEND - ZEICHENERKLÄRUNG

10
Landsvegur við nr., tvibreytaður
Landsvej med nr., tosporet
Main road with No., two lanes
Hauptstrasse mit Nr., zwei Fahrbahnen

452
Landsvegur við nr., einbreytaður
Landsvej med nr., ensporet
Main road with No., one lane

Hauptstrasse mit Nr., eine Fahrbahn
Bygdarvegur
Bygdevej
Secondary road

Nebenstrasse
Annar vegur
Anden vej
Other road

Fahrweg
Gøta
Sti
Path

Pfad
Berghol
Vejtunnel
Road tunnel

8
Tunnel
Longd í km
Afstand i km
Distance in km

Entfernung in km
Bilferja
Bilfærge
Car ferry

Wagenfähre
Ferja
Personfærge
Ferry

Personenfähre
Háspenningur 60kV
Højspændingsledning 60kV
Power transmission line

Hochspannungsleitung
Rørleiðningur
Rørledning
Pipe line

Rohleitung
Stik
Hegn
Fence

Zaun
Byrging
Dæmning
Dam

Damm
Kommunumark
Kommunegrænse
Municipality boundary

Gemeindegrenze
Trikantstöð (GI-merki)
Trigonometrisk station
Triangulation station

Trig Punkt
Grótbrot
Brud
Pit

Flogvøllur
Flyveplads
Airport
Flugplatz

Tyrlupallur
Heliport
Heliport
Hubschrauber-Landeplatz

Hús
Hus
House
Haus

Nevndur bygningur
Benævnt bygning
Annotated building
Erläutertes Gebäude

Kirkja
Kirke
Church
Kirche

Vindmylla
Vindkraftanlæg
Windmill
Windkraftanlage

Vatnmylla
Vandmølle
Water-mill
Wassermühle

Torn, bing
Tårn, beholder
Tower, tank
Turm, Behälter

Viti
Fyr
Light
Leuchtturm

Mastur
Telemast
Mast
Funkmast

Fornminni
Fortidsminde
Relics of the past
Altertümer

Tjaldstaður
Campinplads
Camping ground
Zeltplatz

Nám
Mine
Mine
Bergwerk

Vallaraheim
Vandrerhjem
Youth hostel
Jugendherberge

Savn
Museum
Museum
Museum

Ferðamannastova
Turistinformation
Tourist information
Fremdenverkehrsamt

Grube
Bøur
Indmark
Cultivated area

Ackerland
Viðarlund
Plantage
Plantation

Pflanzung
Myra
Mose
Peat bog

Moor
Sandur
Sand
Sand

Sand
Undan á fjøru
Tørt ved lavvande
Tidal flat
Watt

Steinur
Sten
Stones
Steine

Boðar
Skær
Rocks
Scharе

Gjógv
Kløft
Crevice
Kluft

Kelda
Kilde
Spring
Quelle

Hæddartal i metrum
Højdetal i meter
Spot height in metres
Höhenangabe in Metern

ORÐALISTI

ORDLISTE - GLOSSARY - WÖRTERVERZEICHNIS

Loranstöð
Loranstation
Loran station
Loran station

Orkustöð
Kraftværk
Power station
Kraftwerk

Hotell, Motell
Hotel, Motel

Hotel, Motel
Hotel, Motel

Versmiðja
Fabrik
Factory
Fabrik

Sjúkrahús
Sygehus
Hospital
Krankenhaus

Glossary

Faeroese words that constitute parts of local place-names

á	river, stream, beck
bakki	slope, steep foreshore, fowling cliffs
barð	promontory, headland
barmur	overhanging seacliff or headland
boði	submarine skerry rocks
ból	sheep shelter in the outfield
botnur	corrie, cirque, cwm, head of fjord
brekka	brink, edge
brúgv	exposed bench cliff-faces
bugur	bay, cove, indention in coast
bust	mountain ridge or shoulder
byrgi	fenced off area, pound, allotment as in tröð
bøur	the cultivated infield surrounding village
dalur	dale, valley
drangur	sea stack, large sea-rock
dys	small rocky hill
egg	edge, brink
eiði	isthmus
enni	cliff face, rock wall
eyga	pot-hole scoured in wave-cut platform or river bed
felli, fjall	mountain, fell
flat, flati	flat, flat expanse
fles	low inshore rocks usually submerged
fløta	plateau, flat even expanse or field
fløttur	even field, grass-covered patch on cliff ledge
fjørður	fjord, sound, strait
fossur	waterfall
galvur	end wall, gable, broad steep ness or headland
garður	farm, dry-stone dike
gerði	field or allotment within stone dike as in tröð
gil	small glen, grass covered depression
gjógv	inland or coastal ravine, gorge, gully or geo
gjóta	elongated hollow, short ravine or little gjógv
grógv	depression, hollow
grót	stone, stony wastes, block fields
hagi	the uncultivated outfield, scathold, scattald
heiði	peatmoor, heath
hálsur	saddle, broad mountain col
hamari	scar, free-face, exposed bench cliff-face
hella	large flat stones or flat rocks
heyggjur	hill
heygur	hill as in heyggjur
hjalli	top surface of bench i.e. on a hamari
hol, hola	hole, hollow, cave
hólmur, hólmi	island, islet
hólur	knoll, earth mound as in válur
hópur	cove, little bay
horn	corner, mountain peak or horn
hvilvt	small grass-covered depression or valley
hválur	as in válur or hólur
hylur	puddle, pond, tarn, small lake, kettle-hole
høvdi	promontory or headland
kambur	mountain ridge, arrete
kassur	depression, small valley
kelda	spring, source
ker	basin, fen, marsh
kinn	mountain slope or cleft
kjálki	steep mountain slope or cliff section
kjølur	mountain ridge or edge
klettur	rock pinnacle, massive or large stone
kliv	cliff
klubbi	rounded hill
kluft	cleft, fracture
knópur	protrusion in mountainside
knubbi	knoll, rise
knúkur	large mountain summit
koppur	small depression, dale
krógv	unroofed drystone cleit for peat storage
lág	hollow, depression
leiti	rounded mountain spur
líð	even-sloping mountainside
lægd	hollow, depression
múli	mull, promontory
munni	rivermouth, protrusion
mýri	moorland
møl	pebble or cobble beach
nakkur	sharp-edged promontory
nes	ness, point, headland
nev	tiny ness or point
nípa	protruding mountain ridge or cliff section
nøs	prominent cliff section or spur
nøv, nøva	prominent cliff section or promontory
oy, oyggj	island, islet
oyri	ear, gravel deposition
partur	part of outfield as in hagapartur
pollur	cove, haven, anchorage
rani	rill
reyn	stony expanse
rók	ledge in steep mountainside
rust	straight mountain ridge or protrusion
ryggur	ridge, hill-line
rætt	sheep pen or fold
sandur	sand, sandy beach
setur	sitting-place, shieling, shelter in the outfield
síða	side, mountainside
skarð	narrow mountain col
sker	skerry
skor	grassy mountain slope
skúti	hollow or cave below overhang
snati	protruding rock
snið	slanting or sloping
stakkur	sea-stack, sea-rock or pinnacle
stapi	precipitous cliff as in klettur, hamari, drangur
steinur	stone, rock
stígur, stíggjur	mountain path or track
sund	sound
tangi	low eroded headland or tongue of land
tindur	pyramidal peak, mountain horn
tjørn	small lake, tarn
trøð	allotment as in gerði or byrgi
túgva	knoll, rise in landscape, mound
tunga	narrow field strip or plot
urð	fallen rock debris, scree, talus
vágur	cove, small bay or inlet
vál, válur	hill, rise in landscape
varði	cairn
vatn	large lake as opposed to tjørn
vík	V-shaped bay or inlet, wick
vøllur	pasture, patches of grass in cliff-face

Rolf Guttesen

Literature

♦ In English

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Key map of the localities

Numbers correspond with the numbering of the articles