

INSTITUTE OF CURRENT WORLD AFFAIRS

WGM-10
Greenland - Hunting III
Sealing and Income

Akandevøj 7
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Dear Dick,

Seal hunting in Greenland has been adversely affected since 1860 by a combination of factors which are impossible to unravel. Large numbers of harp and hooded seals, which pass Greenland on migration, have been slaughtered off Canada's east coast and between Greenland and Jan Mayen. Climatic changes in the early 1900's altered ice conditions so much off Newfoundland that the hooded seal no longer found suitable breeding grounds there. The same climatic warming limited the southward appearance of the ringed seal in Greenland and diverted northward the migratory harp seal's destination on Greenland's west coast after calving on the pack ice off Newfoundland. Increasing use of the rifle for seal hunting in Greenland undoubtedly also had its effect in wounding or killing many seals which could not be recovered.

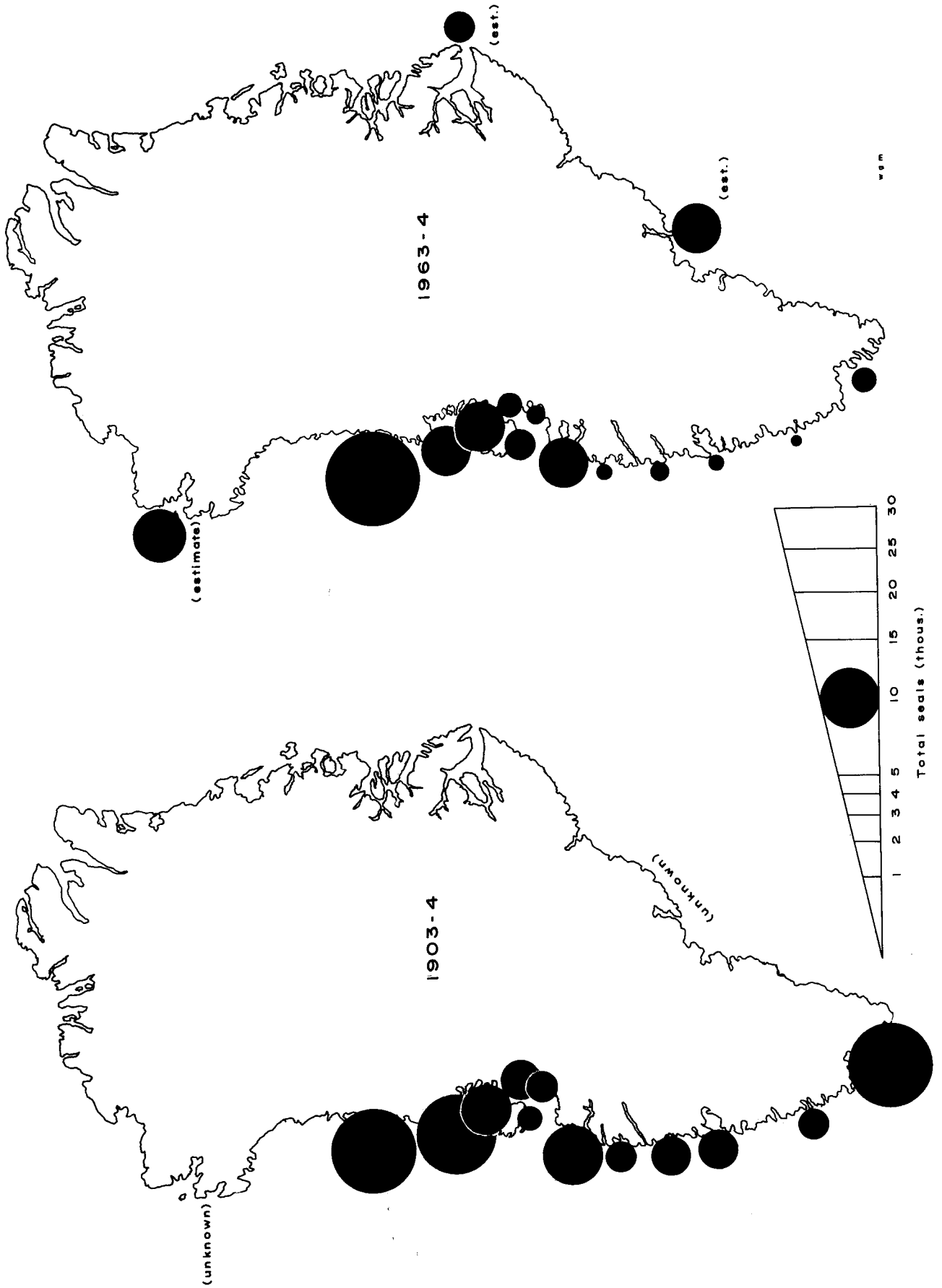
Whatever the uncertainty of causes, their cumulative effect is clear: the seal hunt has declined rapidly in Greenland in the past 60 years. Hinrich Rink estimated that the number of seals taken annually in South Greenland (south of Kangatsiaq district) around 1850 was 40,000, and a total of 50,000 in North Greenland. Thus the total Greenland seal hunt was around 90,000 seals, or about 9.3 seals yearly per inhabitant. From 1850, the number of seals taken increased gradually (at about the same rate as the population) with a maximum just before 1900 in South Greenland. In the early 1900's, the ringed seal began disappearing from the southern areas of its range. The peak of the seal hunt in North Greenland was around 1912.

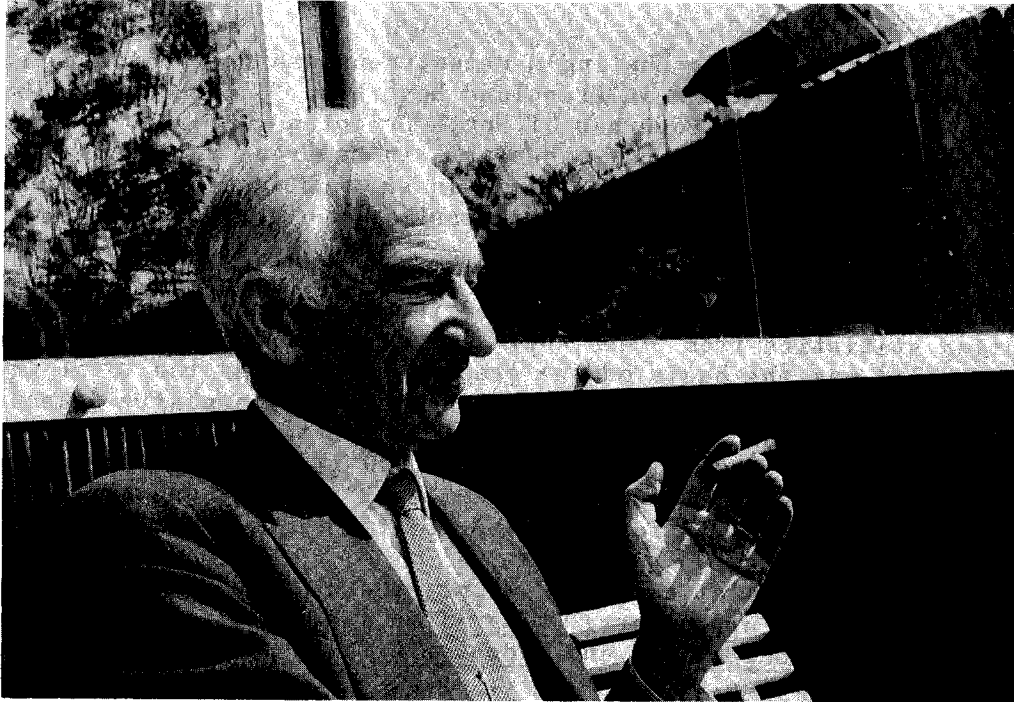
When deteriorating ice conditions off Newfoundland around 1918 caused a shift in breeding locality for the big hooded seal, it began to be seen with less and less frequency in southwest Greenland.

The decline in seal hunting in Greenland in our century is illustrated by the comparative maps on page 2.* The most dramatic decline

* District boundary changes have occurred since 1903 in Greenland. In order to compare directly with 1903-04, the map for 1963-64 was drawn by using the old district boundaries and is therefore not comparable to other maps for 1963-64 in this letter and in WGM-9. The present Nanortalik, Julianehaab, and Narssaq districts were all one district (Julianehaab) in 1903. Kangatsiaq in 1903 was a part of Egedesminde district, and Jakobshavn and Vaigat (the former Ritenbenk colony) have recently experienced some local areal changes.

SEAL HUNTING RESULTS IN GREENLAND





Ph. Rosendahl--former Governor of North Greenland

took place in Julianehaab district, with similar ones along the coast up to Disko Bay. The two maps on page 2 are based on absolute figures from the hunting lists. Per capita figures, if used, would have shown even more vividly how catastrophic the decline has been. Greenland's population nearly tripled from 1903 to 1963; the annual per capita catch of 8.77 in 1903-04 decreased to 1.87 in 1963-64. The seal hunt in Thule district and in East Greenland in 1903-04 is unknown; the Scoresbysund area was not settled until 1926. These areas, therefore, have not been included in the comparison.

The maps show an absolute increase of seals taken in Godhavn and Upernavik since 1903-04, but because of population growth, both districts suffered sharp drops in per capita catches. The two best seal hunting districts in 1963-64 (Thule--16.4 per capita and Upernavik--15.6 per capita) were both below 1903-04's best district (Upernavik, 20.8 per capita).

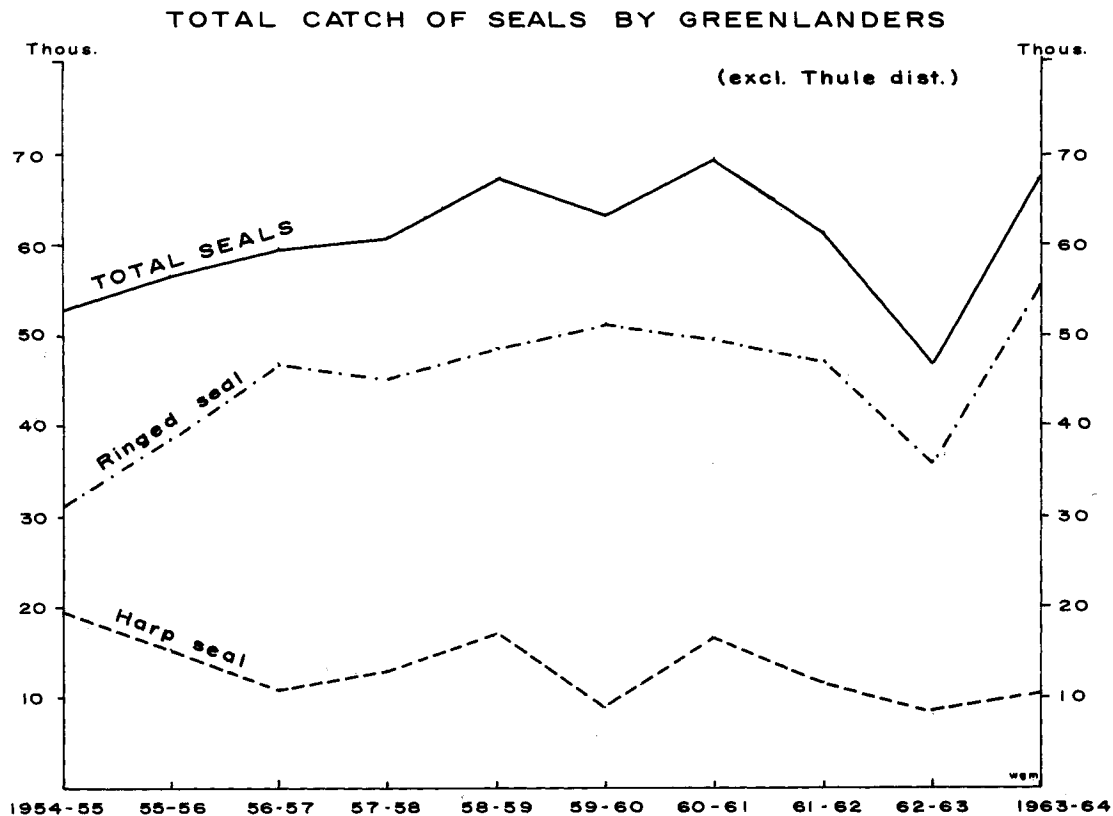
Total seals taken in 1903-04 was 101,163; in 1963-64, the total was 56,974 (excluding Thule and East Greenland). In short, in the past 60 years, seal hunting results declined by one half while the population tripled.

Despite these discouraging statistics, which many people are all too aware of, seal hunting has, since 1945, experienced a minor comeback which has all but escaped notice under the shadow of fishing's booming

presence in Greenland. Hunting's recent renaissance and the potentialities it offers for the future in Greenland have been followed most closely by Ph. Rosendahl, former Governor of North Greenland, presently living in retirement near Copenhagen. Rosendahl, in numerous publications*, has presented exhaustive studies of life in the hunting districts in Greenland. He is, however, almost alone in his task; few other scholars have bothered to write about hunting in Greenland.

Rosendahl is also to be credited for the present status of printed hunting statistics from Greenland. The new series of hunting lists (1954-55 to present) was the basis of the graph below showing the total catch of seals by Greenlanders. The seal catch has varied annually depending on the whims of ice and weather. Since 1954 the total catch has increased from 52,763 to 67,710 seals (or over 76,000 if Thule is included). This has occurred despite a decline in harp seal catch by one half. The ringed seal has been the basis for the good results since 1954; its total in the

* Rosendahl's publications have, among others, appeared in the following periodicals and newspapers: Geografisk Tidsskrift, Grønland, Atuagagd-luitit/Grønlandsposten, and Tidsskrift for den grønlandske Tjenestemandforeningen.





Hunter and kayak

hunting result has almost doubled in 10 years. Three other seals are also taken in Greenland, but not in important numbers compared with the ringed and harp seals. They are: harbor seal (about 200 a year), bearded seal (700 yearly), and hooded seal (1,200 yearly).

Methods for taking seals have changed gradually. The kayak-and-harpoon method, used during the summer months, is gradually being replaced by rifles either from cutter or kayak. A Royal Greenland Trade Department (KGH) official recently told me that not over 10 per cent of the seals taken in Greenland are from kayak hunting, but I cannot confirm this from present statistics. Large numbers of seals are taken in nets placed under the ice in northwest Greenland, some are still taken by harpoon through the blowholes, and some are shot by rifle from the ice in winter, but how many are taken by each method is uncertain.

One innovation to hunting which modernization has brought to north-west Greenland is the increase of kayak range through transport by fishing cutter of several kayaks out to seal hunting grounds. How many kayaks are found today in Greenland is unknown because they have not been counted since 1959 (at which time there were 1,438). The number of kayaks is probably decreasing, but they are still of paramount importance in Thule and Upernavik districts.

The modernization of Greenland now under way will have its effects in the hunting districts, despite a concentration of effort in the fishing towns of the southwest coast.

One of the most far-reaching effects of proposed investment in the hunting districts could well be caused by the establishment of boarding schools. For the educational program in the hunting districts to keep pace with the rest of Greenland, children will attend boarding schools away from their families for a good part of the year. This system certainly threatens the future of hunting: fathers will no longer be able to train their sons to be effective hunters. In addition, there is also the risk that young men, after their formal education ends, will reject life in the small settlements in favor of wage employment in the larger fishing towns. It is ironical, therefore, that the dispersed population, so necessary for successful hunting, creates the need for boarding schools which in turn will probably cause a decline in hunting interest among the young.

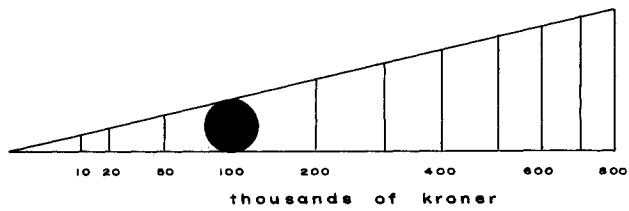
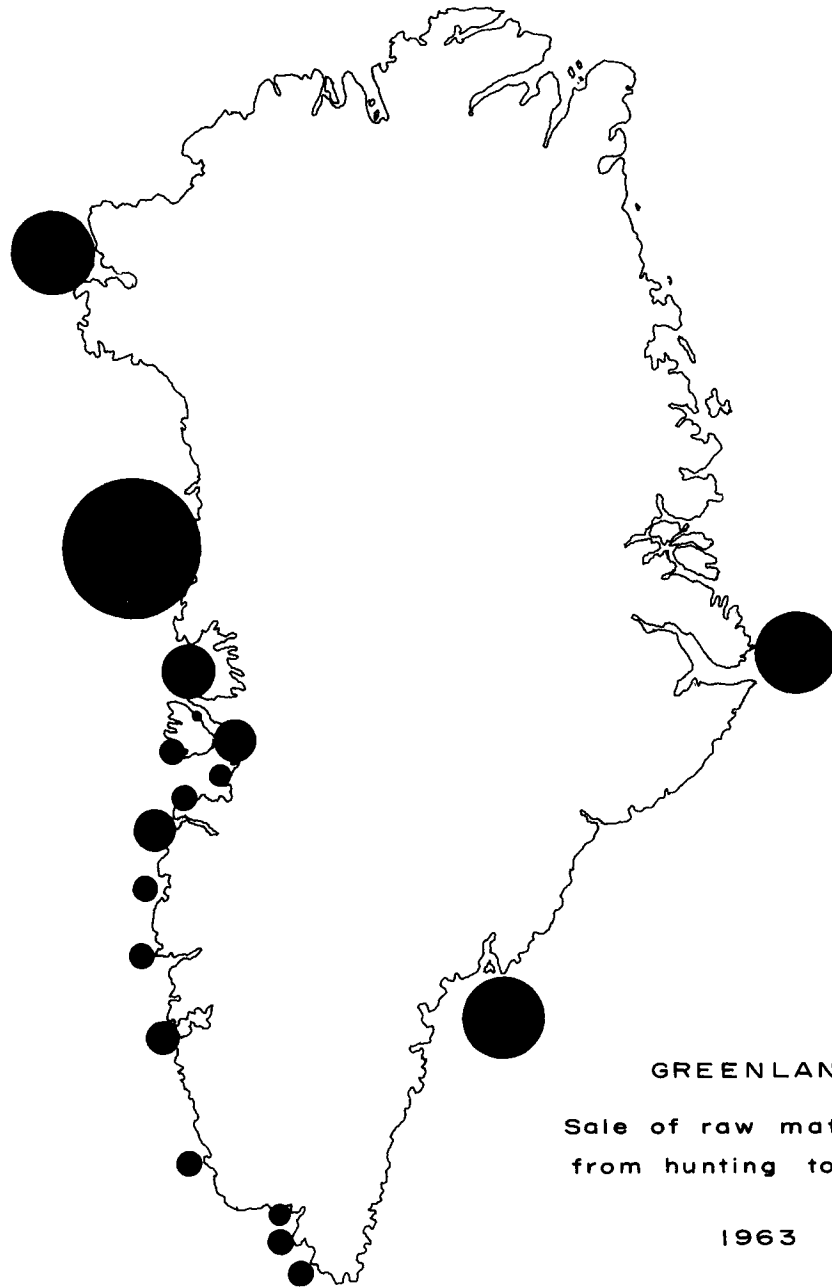
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What is the income situation in Greenland and what part do hunting and fishing play in the total picture? What is hunting's importance as a source of cash income? What portion of total sale of raw products to KGH comes from the hunting areas? An accurate answer to some of these questions is difficult to reach. Many hunters have part-time employment, some also are full-time fishermen during certain seasons of the year. Many wage employees supplement their incomes by spare-time hunting. The situation, therefore, is not clear-cut, but certainly a few general observations may be made.

The latest statistics available show that, in 1960, the total cash income of Greenlanders was 53.4 million kroner* (1,760 kr. or \$255 per inhabitant). The following table shows a rough breakdown of cash income by categories:

<u>Cash Income in Greenland - 1960</u>		
	<u>Mill. kr.</u>	<u>%</u>
wages, state employees.....	32.7	61
wages, employment or sale of goods to private	4.6	9
sale of hunting, fishing and sheep products to KGH	13.1	24
social aid	<u>3.0</u>	<u>6</u>
Total	53.4	100

* 1 Danish kr. = 14¢ or 1 US\$ = 6.9 kr.



Employment for various state institutions accounts for the bulk of cash income in Greenland. Of the 13 million kroner cash income from sale of raw products to KGH in 1960, about 10.6 million kroner were from fishing, 1.9 mill. kr. from hunting, and the remainder (.8 mill. kr.) from sheep farming.

In total sale of raw products to KGH, the hunting districts account for a disproportionately low share. In 1961, 25 per cent of the total population of Greenland lived in the hunting areas of Vaigat, Umanak, Upernavik, North Greenland (Thule), and East Greenland (Scoresbysund and Angmagssalik). (Hunters are also found in the remaining parts of Greenland, so that probably nearer 30 per cent of the population lives from hunting.) While the true hunting areas listed above accounted for 25 per cent of the population in 1961, their income from sale of raw products to KGH was only 12 per cent of the total, and the value of goods purchased at KGH's shops in the hunting districts was 17 per cent of Greenland's total.¹⁾

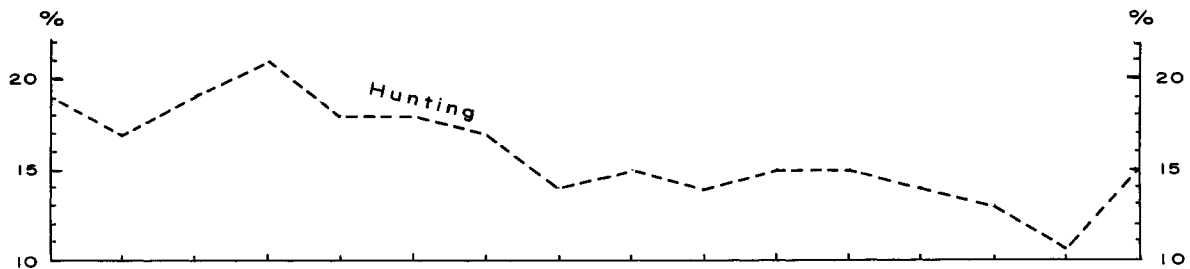
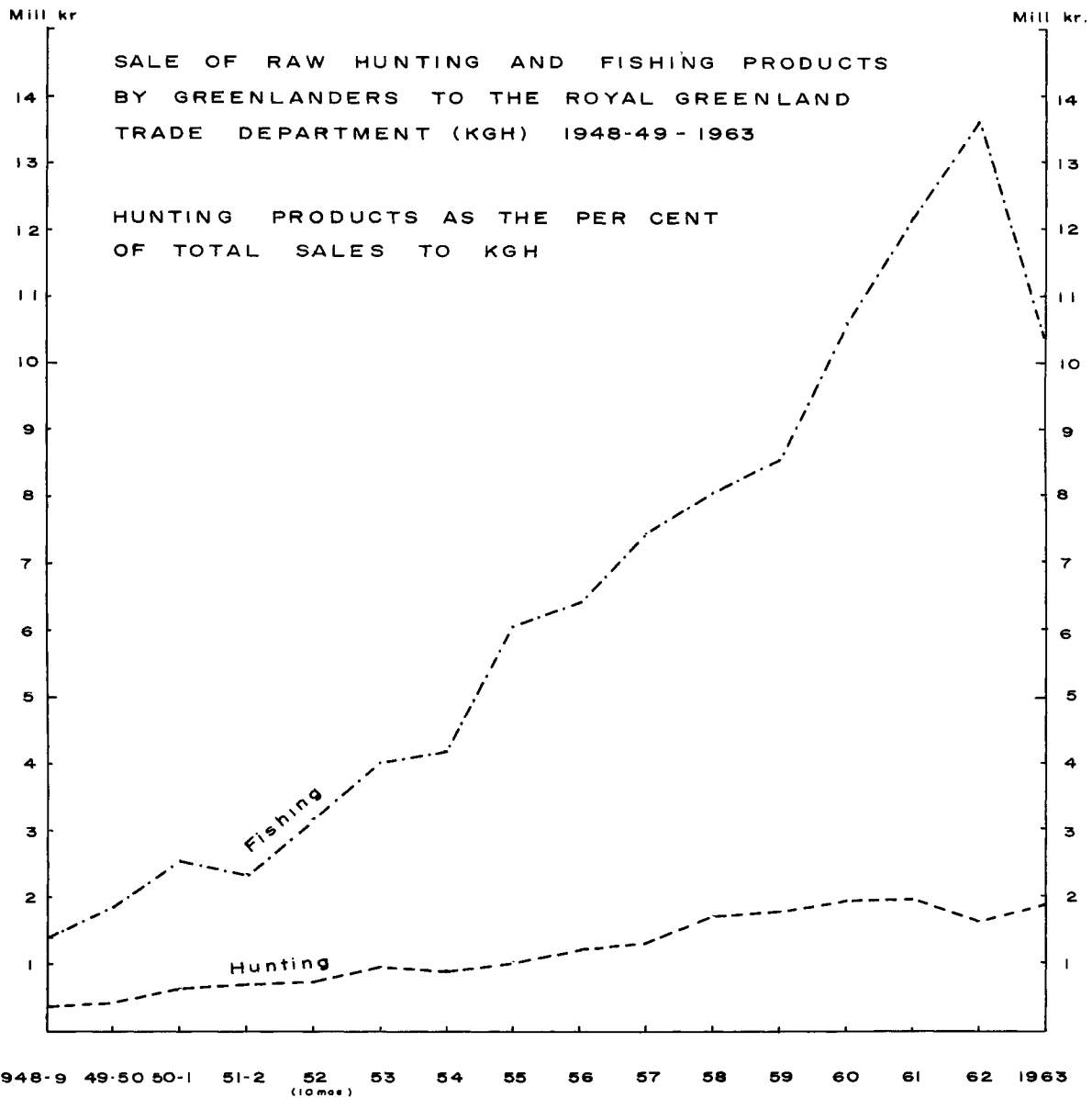
Although total income statistics are available only as late as 1960, more recent figures can be found showing the income of Greenlanders through sale of raw fishing and hunting products to KGH. Distribution of cash income from sale of raw hunting products to KGH is shown by the map on page 7. The map is based on statistics published in the hunting list summary for 1963-64. Upernavik is the overwhelming leader in cash income from hunting; purchases of raw hunting products from Upernavik by KGH totaled 723,000 kroner in 1963. East Greenland districts have the next largest sale of hunting products with Scoresbysund and Angmagssalik each having sales of 275,000 kroner. Angmagssalik, however, has five times the population of Scoresbysund.

The diagram on page 9 illustrates the rapid expansion of fishing as a source of income for the Greenlanders in the period 1948-49 to 1963. Hunting's share of total income from sales to KGH during the period was highest in 1951-52 with 21 per cent, but has declined steadily since that time to a low of 11 per cent in 1962. The increase in 1963 resulted from poor fishing conditions and not from any spurt of hunting activity. An obvious discrepancy exists, therefore, if only 11 per cent of the total income from sales to KGH is from sale of hunting products when 25-30 per cent of Greenland's people live mainly from hunting. This discrepancy is minimized somewhat when one considers important fish landings in the hunting districts of Umanak and Angmagssalik, but, on the other hand, there are also significant amounts of hunting products sold in the fishing districts.

Another mitigating feature of hunting which adds to the overall income picture is called natural income. Natural income is the value of meat gained through the hunt which can be sold or consumed by the hunter himself thereby reducing cash expenditures for store-bought food. Recent studies in connection with the 1960 Greenland Commission²⁾ and by Ph.

1) Beretninger vedrørende Grønland, 1962 no. 1, and 1963 no. 6.

2) Boserup, M. and V. Svendsen 1963. Økonomiske Politik i Grønland København, 507 p.



Rosendahl¹⁾ have estimated the proportion of natural income to cash income through wage earnings and sale of raw hunting goods to KGH.

In general, natural income has decreased markedly in the past 15 years. On the basis of the hunting list summaries, natural income per capita decreased by 20 per cent from 1947-48 to 1956. Also, natural income, which in 1947 was calculated at 25 per cent of the total income by Greenlanders (wages and services), had decreased to 10 per cent by 1960.

Since 1956, the per capita natural income has remained static while cash incomes have increased by 50 per cent. Unfortunately, the hunting lists do not include eggs and meat from birds, nor is private fish consumption (or cash from local sales of fish to private households) by Greenlanders known. Very likely, these have also remained constant on a per capita basis. Natural income plays a more important role than realized in Greenland's standard of living because of unrecorded sale of fish locally and fish consumption among Greenlandic families.

Studies of cash incomes (sale to KGH and salaries) for G-60 show that the per capita income in the fishing districts was 1,650 kr. in 1960. During the same year, the cash income in the hunting districts of northwest Greenland (Kangatsiaq to Upernavik) was 1,255 kr. per capita. Incomes for Thule and East Greenland were below northwest Greenland. These figures include only net income (after costs of equipment and operation) from sale of raw products to KGH, plus wages earned from the State, and not sale to private persons, social help, or natural income. They are therefore below the per capita 1960 cash income of 1,760 kr. stated on page 6. When natural income is added, annual income in northwest Greenland increases by about 300 kr. per person and by about 100 kr. in the southwest. By adding consumption and private sale of fish, however, total natural income in the southwest would not be much lower than in the hunting districts.

How is the value of natural income determined? Rosendahl has established an amount of 2.50 kr. (ca. 35¢) per kilogram as the value of meat from hunting, based on the last price of whale meat at Tovqussaq before the station closed in 1958. This value is debatable, since no normal market exists in Greenland where all the meat a hunter collects can be offered for sale. The estimated value is, however, probably acceptable if one thinks of meat from the hunt in comparison with prices paid for food purchased in place of seal meat in KGH shops in the southwest. As mentioned before, the fish consumption part of natural income is unknown. The amount of meat available from the hunt, as published in the hunting lists, however, is a valuable supplement to income worth (at the hypothetical rate of 2.50 kr. a kilo) almost \$1 million in 1963-64 (6.88 million kr.).

When including natural income, therefore, the standard of living in the hunting districts compares favorably with that in the remaining parts of Greenland. The per capita income in 1960 in Umanak and Upernavik districts (excluding the two administrative centers of Umanak and Upernavik

1) Rosendahl, Ph. 1961 Grønlands jagt- og fangststatistik. Geografisk Tidsskrift, bd. 60, 16-38.

themselves) was higher than the average of Frederikshaab and Sukkertoppen districts. Comparing the administrative centers themselves results in a higher total income for the two southern districts.¹⁾ As stated earlier, hunting results in the two towns Umanak and Upernavik are very low because of high population, so that cash income by sale of hunting products to KGH and natural income of meat available must be very low.

Although natural income through meat gained by hunting is an important supplement to the standard of living in the hunting districts, the full potential of the meat source is not being realized. Unknown quantities of meat are lost through spoilage in those areas where the hunting result is good. Lack of freezing facilities in the smaller places prevents maximum use of meat from the hunt and hinders effective distribution of surplus meat to areas farther south. Great quantities of meat are also fed to dog teams, when a cheaper ration would be just as suitable.

Despite utilization well under its potential, natural income in the hunting areas does have one advantage which is impossible to equate in cash: health. In medical investigations since 1962, Danish doctors have reached preliminary conclusions about certain aspects of health in Greenland which strongly indicate that the diet in the hunting areas is far superior to that in the more modernized parts of Greenland.

The doctors chose for study the Godthaab district, plus Umanak and Angmagssalik in the hunting areas. The towns of Godthaab and Umanak themselves were excluded from the study, but nearly every person in all the remaining settlements in each district was studied--1100 people each in Godthaab and Umanak and 2200 in Angmagssalik district.

When beginning their study, the doctors were aware of the present health theories about diet and the amount of saturated and unsaturated fatty acids in food. According to one theory, a high concentration of cholesterol in the blood serum could lead to arteriosclerosis and coronary thrombosis. Because of the high fat intake (seal blubber) which contributes a higher percentage of total calories to the diet in the hunting areas than in the southwest fishing areas, the doctors expected to find high cholesterol levels with associated arteriosclerosis and coronary thrombosis in the hunting districts. It appears, however, that seal blubber contains large amounts of linoleic acid, a substance which is now believed to prevent arteriosclerosis. Instead of the expected high cholesterol content in the blood of the hunting people, the opposite was found.

In southwest Greenland, where the diet more closely resembles the Danish one which is high in saturated fatty acids, the doctors likewise expected to find a higher incidence of coronaries than they did. No record of coronary thrombosis was discovered at all in Greenland! Although no noticeable effects have been recorded thus far, blood cholesterol levels in south Greenland are much higher than in the hunting areas. Seal blubber, anyone?

1) Boserup 1963, p. 317.

If there are health advantages to living in the hunting areas of Greenland, the income discrepancy noted above still exists. The desire to raise the prices paid for the hunting products by KGH is, therefore, a very realistic one. When this is done, not only will the population of the hunting districts be earning more of their share of the total income through sales of raw products in Greenland, but their purchases in shops will go up as well.

Prices paid for landings by Greenlandic hunters are not the sole result of government policy but are reached after negotiations with the Greenlanders' own organization: The Association of Fishermen and Hunters in Greenland (Landsforeningen af fiskere og fangere i Grønland, known as KNAPP, the abbreviation for the Association's Greenlandic name). KNAPP has been able to play a very active role in price negotiations and right now has a very solid bargaining position: preliminary figures indicate that KGH's total sale of Greenlandic products (export value) in 1965 was 65.2 million kr., a whopping 70 per cent increase over 1964's 38.4 million kr.

One feature of life in the hunting districts which is rather unsettling today is the high rate of population increase. The overall population growth rate of 3.5 per cent in Greenland is usually thought to be found only in the expanding fish centers of the southwest coast. In some of the years since 1960, the hunting areas had growth rates which were Greenland's highest. Fortunately this trend seems to be yielding to faster growth rates in the southwest, but the population growth in the hunting areas is still of concern to Danish authorities. Rosendahl has shown how the population growth in hunting areas threatens the basis of a hunting economy. He suggests that the main towns in the hunting areas in Greenland are already at their limit or even overpopulated.

Unlike the fishing areas where greater efficiency is assured through population concentration, people in the hunting districts must be discouraged from moving from the smaller settlements to the main centers within the hunting areas themselves. Interestingly enough, this is as important for women as for men, since the woman (whether wife, sister, or mother) is an integral and absolutely necessary part of success in hunting. Without a woman to prepare his skins and furs for sale, a hunter would soon lose his effectiveness. His time must be spent in the chase; any effort he devotes to skin cleaning is to the detriment of his hunting result.

Although fishing in Greenland seems destined to play the leading part in modern development there, hunting is a profitable and promising economic part of the scene. Moreover, any cooling of the present climate in Greenland would profit the hunting economy at the expense of fishing.

Sincerely,

Bill Mattox

W. G. Mattox