# Studies in Settlement Development and Evolution of the Economy in the Eastern Central Canadian Arctic*

by

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## 1. Introduction

The term Central Arctic is here understood to mean an area encompassing Victoria, King William, Prince of Wales and Somerset islands, as well as a coastal strip on the mainland from about Tinney Point in the west to Cape James Anderson in the east (Figure 1). In terms of the frequently used bipartite division of northern Canada into the Western and Eastern Arctic, based on the direction of approach by sea, we are concerned with the eastern part of the Western Arctic, together with Prince of Wales and Somerset islands, both reckoned to be part of the Eastern Arctic. In the interests of a more strongly differentiated spatial division, however, it seems more sensible to emphasize the cultural-geographical unity of this area, by employing the term Central Arctic.

The eastern Central Arctic indicated here is identical with the settlement area of the Netsilik Eskimo; thus its western boundary runs approximately through Johnson Point, to the east of Perry River. In a similar fashion to the Copper Eskimo of the western Central Arctic, until well into this century, the Netsilik manifested in the organization of their economy a combination of inland-oriented caribou hunting, and marine mammal hunting along the coast. Their sojourns at the coast were restricted to the winter months, during which period they built large camps on the sea ice, in order to hunt seals at the *agluit* (breathing holes). From summer, through to early winter they lived by hunting caribou and fishing.[1] The local group on the lower Back River (Utkuhikhalimmiut) assumed a special economic orientation; they had probably reached this area from the north early in the nineteenth century, and over the years had completely abandoned hunting sea mammals.[2] Apart from the Netsilik Eskimo, there is a second Eskimo group, which arrived only very recently from Baffin Island. Today the eastern Central Arctic encompasses the settlements of Gjoa Haven, Spence Bay and Pelly Bay and their hinterlands, with a total of 814 Eskimo and about 40 Euro-Canadian inhabitants (1971). The adjoining area to the west as far as Bathurst Inlet will be partly included in the following discussion by way of some supplementary observations.

## 2. The influence of the fur trade, 1920-1950

The study area represents that part of the Canadian Arctic whose inhabitants were the last to come into close contact with Euro-Canadians. The area was not reached by the whalers of the late nineteenth century. Thus it was the fur traders who first penetrated into this area in the second decade of this century and who, in their attempts to expand the subsistence economy of the Eskimo into a market-oriented one, fundamentally reshaped the pattern of their economy and settlement. In this first phase of development, two factors were of critical significance. One, the introduction of rifles, was technological; the other, the adoption of trapping, was economic.

By the beginning of the twentieth century, the trading posts of the Hudson's Bay Company and the rival Canalaska Trading Company were pushing into the eastern Central Arctic from the west. They reached the south coast of King William Island in 1923; four years later the establishment built here was moved to Gjoa Haven (Figure 1). With the founding of Repulse Bay in 1920, an outpost had been established on the eastern flank, which was visited by the most easterly of the Netsilik bands. Further penetration by the fur trade from this direction was prevented by difficult ice conditions. Penetration from the north, around Baffin Island, was more feasible; after a shortlived attempt to gain a foothold, with the founding of Port Leopold at the northern end of Somerset Island, a post was established at Fort Ross in 1937. In 1948 it had to be abandoned for reasons of difficulty of supply, and was replaced by Spence Bay, which could be reached more regularly and more easily by sea, from the west. When the Catholic mission at Pelly Bay, founded as early as 1935, opened a small store in 1947, receiving its supplies overland from Repulse Bay, the mercantile opening-up of the eastern Central Arctic was complete (Figure 1 and Table 1).

The building of trading posts did not result in an immediate and total adoption of trapping into the Eskimo economy. Due to the high prices paid for white fox pelts, a small number of pelts was quite adequate to cover the needs for European goods, especially rifles, ammunition, tobacco, etc. Thus at first, trapping represented only a sort of auxiliary occupation, which was pursued with only a few traps during the winter seal hunt on the sea ice.

Prior to contact, apart from the natural constraints of the area, it was particularly the technological equipment of the Eskimo which decided the yield capacity of the individual branches of the economy. The introduction of the rifle brought a considerable expansion, but simultaneously, in one sector at least, it destroyed the balance developed over the centuries, between the size of the population and the natural resources supporting it. Unrestricted use of rifles admittedly led initially to an increased yield from caribou hunting, but, it has been alleged, its ultimate result was a far-reaching diminution in the stocks. In the mid-thirties the seasonal migrations of the caribou to Victoria Island, King William Island and Boothia Peninsula suddenly ceased, so that in the majority of cases the Eskimo population was reduced to utilizing limited resident populations. Thereby, there had to be, of necessity, an intensification of seal hunting, and both a temporal and spatial expansion of this branch of the economy. Encouraged by the use of the rifle, the vastly more productive floe-edge hunting in the zone between the land-fast ice and the pack, largely replaced winter *agluit* hunting. A further new development was the substitution of open water seal hunting for the summer caribou hunt, which had become extremely limited, and even totally insignificant in particular parts of the study area. But here, as with floe-edge hunting, there was the pre-requisite that one

*This article first appeared as "Studien zur Siedlungs-und Wirtschaftsentwicklung in der östlichen kanadischen Zentralarktis" in *Die Erde* 1973, 104(3-4): 247-276, and is published here with the permission of the editor of that journal. Translated by William Barr.

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The author's sojourn in the eastern Central Arctic in 1971 was made possible by a travel grant from the Deutsche Forschungsgemeinschaft.

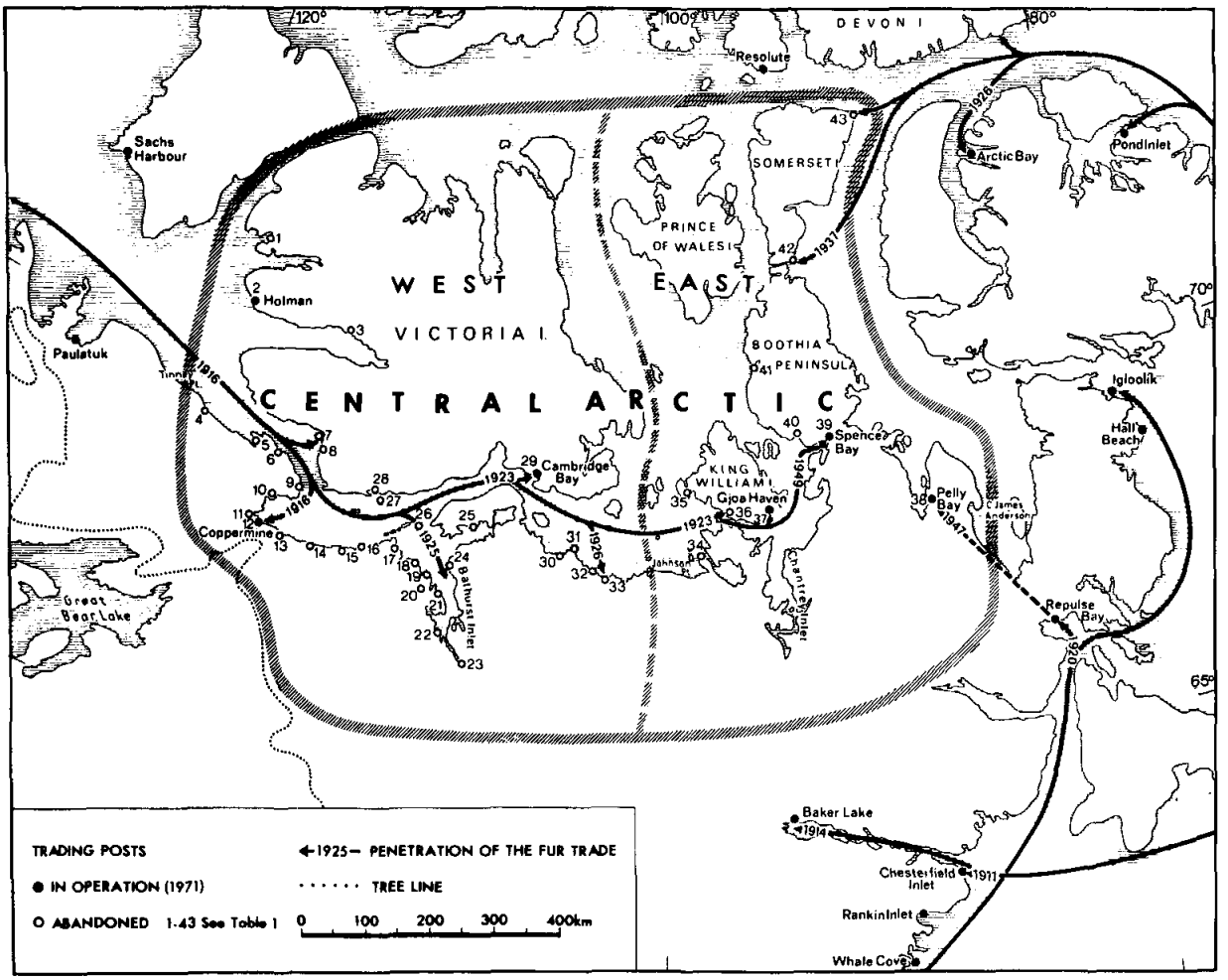


Figure 1. Trading posts in the Central Arctic (after Usher 1971).

must have a suitable boat at one's disposal, since the kayak, which earlier had been used largely for pursuing swimming caribou on inland lakes, had already become superfluous in part due to the introduction of the rifle and the resulting changes in hunting potential. As a result the kayak had disappeared.

Parallel to this dislocation within the Eskimo economy, there occurred a gradual intensification of fur trapping. The productivity of trapping is dependent on two factors; one is internal — the cyclic fluctuations in the stocks of foxes; the other is external — the movements of world market prices. While the former can be predicted to some degree, the latter defy any prediction. As the result of the Depression, a price collapse occurred at the end of the twenties; this was a severe blow to the Eskimo economy in Nouveau-Québec and in the Mackenzie, where by this time a monolithic reliance on trapping had already developed. Even although trapping was not the dominant branch of the Central Arctic Eskimo economy, events on the world market were still capable of influencing developments. Three, or possibly even four motivating factors contributed to this:

1) The adoption of European weapons and implements, once effected, could not be reversed. The position achieved could thereafter only be maintained in the face of changing conditions, if the recession in prices could be offset by an increased yield in furs.

2) Contemporaneously with the recession in fur prices, a general increase in the price of articles of consumption manifested itself, and this, too, had to be counteracted.

3) It may be noted that the profit-motivated trading companies were anxious, even in the eastern Central Arctic, to create new demands through an enticing, if somewhat limited, array of wares, and thereby to create an incitement for increased activity. The differing intensities with which trapping was pursued in Gjoa Haven and Spence Bay on the one hand, and in Pelly Bay on the other hand, might well prove this, in that the missionaries at Pelly Bay had always striven to keep the demand for European goods among the Eskimo belonging to their congregation, to a minimum.

The great significance of trapping lay in the fact that it was the only branch of the economy which was in a position to provide a product which might be exchanged for European goods. When one considers that this was the only way in which rifles, ammunition, canvas, clothes, etc. could be acquired, items without which execution of the other branches of the economy was scarcely possible, one might say that even in the eastern Central Arctic, despite its relatively small scale compared to that in other arctic regions, trapping supplied the basis of the Eskimo economy. It was undoubtedly pursued most intensively by the Eskimo who originated from Baffin Island and hence:

4) It may be deduced from this that their economic activities strongly influenced one section of the Netsilik Eskimo.

The incursion of this Baffin Island group dates back to a government programme of the early thirties, which provided for the relocation of Eskimo from those areas of the Eastern Arctic affected by a reduction in wildlife and by collapse of prices, to the uninhabited, and hence unused archipelago. This

**Table 1**

Trading posts in the Central Arctic

| *No. (see Fig. 1)* | *Name* | *Occupancy* | *Operator* |
|---|---|---|---|
| 1. | Walker Bay | 1928-1939 | HBC, CTC |
| 2. | Holman | 1939- | HBC |
| 3. | Prince Albert Sound | 1923-1928 | HBC |
| 4. | Inman River | 1926-1932 | HBC, Private |
| 5. | Stapylton Bay | 1921-1943* | Private |
| 6. | Bernard Harbour | 1916-1932 | HBC |
| 7. | Read Island | 1929-1962 | HBC, CTC, Private |
| 8. | Rymer Point | 1919-1936 | Private, HBC |
| 9. | Cape Krusenstern | 1926-1946 | HBC, CTC, Private |
| 10. | Basil Bay | 1934-1938 | Private |
| 11. | Richardson Bay | 1935-1938 | Private |
| 12. | Coppermine | 1916- * | Private, HBC |
| 13. | Asiak River | 1926-1930 | Private, HBC |
| 14. | Kugaryuak River | 1927-1940 | HBC, Private |
| 15. | Tree River | 1917-1929 | Private, HBC |
| 16. | Agiak | 1917-1918 | HBC |
| 17. | Detention Harbour | 1927-1928 | CTC |
| 18. | Kater Point | 1927-1929 | Private |
| 19. | Arctic Sound | 1931-1934 | Private |
| 20. | Hood River | 1936-1941 | Private |
| 21. | Banks Peninsula | 1926-1937 | CTC |
| 22. | Burnside River | 1930-1964 | HBC |
| 23. | Western River | 1925-1927 | HBC |
| 24. | Baychimo | 1964-1970 | HBC |
| 25. | Kent Peninsula | 1920-1927 | HBC |
| 26. | Wilmot Islands | 1925-1941 | Private |
| 27. | Richardson Island | 1926-1943* | Private, HBC |
| 28. | "Mackenzie River" | 1946-1948 | Private |
| 29. | Cambridge Bay | 1923- | HBC, CTC, Private |
| 30. | Ellice River | 1926-1927 | HBC |
| 31. | White Bear Point | 1926-1927 | CTC |
| 32. | Perry River | 1926-1957 | HBC, Private |
| 33. | Perry Island | 1957-1967 | HBC |
| 34. | Sherman Inlet | 1947-1955 | Private |
| 35. | Terror Bay | 1940-1944 | Private |
| 36. | Simpson Strait | 1923-1927 | HBC |
| 37. | Gjoa Haven | 1927- | HBC |
| 38. | Pelly Bay | 1947- * | Mission, Coop |
| 39. | Spence Bay | 1949- | HBC |
| 40. | Oscar Bay | 1928-1930 | HBC |
| 41. | Pasley Bay | 1939-1940 | HBC |
| 42. | Fort Ross | 1937-1948 | HBC |
| 43. | Port Leopold | 1926-1940* | HBC |

HBC: Hudson's Bay Company
CTC: Canalaska Trading Company
*: with interruptions
Source: after Usher, 1971

was thus a precursor of the measures of the fifties, to which Grise Fiord and Resolute owe their existence. In 1934 the H.B.C. moved four families from Cape Dorset (Southern Baffin), two families from Pangnirtung (Eastern Baffin) and four families from Pond Inlet (North Baffin), 52 persons in total, to Dundas Harbour on the southeast coast of Devon Island, where a new trading post was established. In 1936 ice conditions, which severely hampered hunting and sledge travel, forced the abandonment of the establishment, and the relocation of the Eskimo to Arctic Bay. When Fort Ross was founded in 1937, the four Dorset families were moved there, and in 1938 a further three families came there directly from Cape Dorset. With the closure of Fort Ross and the opening of Spence Bay in 1949, the economic supply point of this group shifted farther south.

Since the natural resources of any one area were unable to offer an assured existence all year round, frequent changes of campsite, depending on the temporal and spatial variations in optimal yield, were inevitable. After the introduction of the rifle, these often widely separated hunting areas could be linked together by an efficient means of transport; with the increase in productivity from caribou and later seal hunting, the number of sledge dogs could be increased. Around Pelly Bay they increased from an average of 1.5 to 3.5 dogs per hunter (Balikci 1964:48), while in the adjoining area to the west, where by this same time trapping had achieved greater significance, 6-8 dogs per hunter were recorded.

Along with the already mentioned changes in the economic structure, the adoption of the rifle simultaneously resulted in a re-orientation of the socio-economic fabric; communal seal hunting at the *agluit* and communal caribou hunting were abandoned in favour of more individual-oriented economic activities. In lieu of the winter camp on the sea ice, involving the entire band, with the adoption of floe-edge hunting smaller winter camps based on the extended family became the rule. The commonly respected rule in siting these coastal camps, which would consist of several snow houses, was that they should be close to waters with rich fisheries and also to the floe-edge, or to places kept open by currents. A further impetus for their scattered distribution was the possibility of running long traplines which could be tended by dog sledge.

This extensive distribution of the population during the winter was in the interests of the traders, in that their objective was to achieve the best possible utilization of the available stocks of furbearers. Within this settlement structure, the trading posts were able to develop as central-place settlements, which the Eskimo would visit for short periods at irregular intervals in order to transact their trading business. Pelly Bay was in a different situation, however; here trapping had always been pursued more sporadically. On the basis of its mission station, it soon formed a regional focus, where at the turn of the year the Eskimo would interrupt their wanderings, and the nucleus of a settlement, around which a temporary community of snow houses developed in winter.

When the prices paid for fox totally collapsed again during the war years after a short-term rise, trapping lost the primacy it had just gained (see Figure 2). The average price paid in the Northwest Territories dropped from almost $36.00 in 1936 to $8.16 in 1951-52, and according to old trappers, even as low as $3.50 within the study area. While the Eskimo of the eastern Central Arctic had been able to offset the first price decline at the beginning of the thirties with relatively small effort, through an intensification of their trapping, this second price collapse led to catastrophic consequences, particularly since the economic situation had been aggravated by a sharp rise in the price of consumer goods. This economic crisis, which

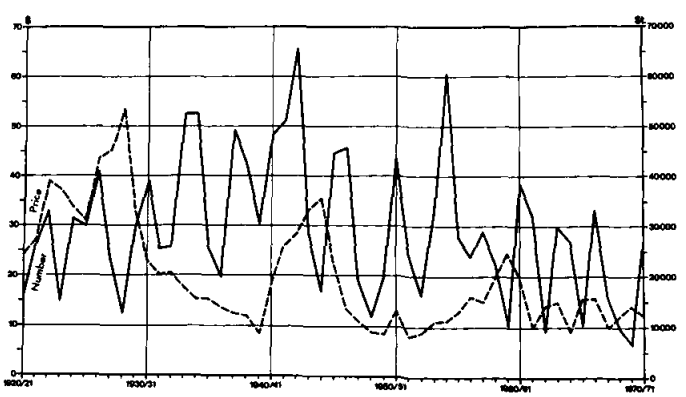


Figure 2. Yield of arctic fox in the Northwest Territories 1920/21-1970/71, showing fluctuations in numbers and price. Source: Game Management Service files, Yellowknife, N.W.T.

struck the whole of the Canadian Arctic equally, forced the government to recognize that it had greater responsibilities for this area than those of issuing trading licences and of demonstrating the right of possession by establishing police posts. Thereby the first development phase, based on trade, led into another, which was completely dominated by government measures.

### 3. Government measures: 1950-1970

Although the beginning of the adoption of the new government measures occurred in the period prior to 1950, this year will be taken as the beginning of the second, developmental phase; it was not until this point that a revitalization of government activity was perceptible in the eastern Central Arctic.

The way was led by social measures, which in view of the prevailing living conditions, were of marked economic significance. The payment of family allowances was legislated in 1945, and was put into operation throughout the Canadian Arctic in the next few years. The monthly contribution increased with age from $5.00 for every child under six years to $8.00 for 13-15 year olds. The importance of this measure becomes apparent from a breakdown of the total cash income of a Central Arctic Eskimo family at this period. For the four-year period 1948-1951, the average income totalled $337 per year, of which 39.2% was derived from trapping, 16.9% from wage employment, 4.1% from welfare payments, and 39.7% from family allowances (Christensen 1953:22). In 1948 the old age pension was introduced, first at $8.00 per month for Eskimo aged 70 and over, but subsequently raised to $40.00 per month in 1951. This meant that children and old people, who previously when emergency situations arose had even been considered liabilities in the traditional economic pattern, had suddenly become economic assets, in terms of cash income.

In the late fifties, a third source of income was introduced: the welfare programme which had been operated earlier, was now intensified. This type of support was not really an innovation, since Eskimo who were in need had earlier been provided with provisions, ammunition, clothes, etc. by the Hudson Bay Company traders. The cost of these items was then refunded by the State. In an effort to take care of the administrative duties themselves, the government now entrusted this responsibility to the police (who had been established in a post at Spence Bay since 1949), or to other civil servants. In contrast to the traders, however, in most cases these officials had no knowledge of the actual economic conditions of an Eskimo family. Thereby assistance was often accorded more easily and more liberally; in complete contrast to family allowances and old age pension, the amounts of which were fixed legally, the amount of welfare payments to a considerable degree was (and is) left to the personal assessment of the government representative who disburses them, even although nowadays there are at least rough guidelines. It can certainly not be disputed that a real situation of economic need had existed in innumerable cases; yet it should not be overlooked that the readiness and the extent to which this assistance was accorded produced a negative effect on the intensity with which the available natural resources were utilized, and in some cases may have eliminated any drive towards economic initiative.

The new emphasis on the health and education sectors reached the eastern Central Arctic relatively late. Admittedly this area had been visited regularly in summer by a team of doctors since 1947; their major task consisted in identifying cases of tuberculosis. The construction of nursing stations, legislated in 1947, was put into effect in Coppermine in 1948, in Cambridge Bay in 1955, but was accomplished only in 1962 in Spence Bay and in 1969 in Gjoa Haven and Pelly Bay. A government programme of school building also dates back to 1947, and here the same time lags are in evidence as with the construction of nursing stations; day schools were built in Coppermine in 1950; in Cambridge Bay in 1957; in Spence Bay in 1958; and in Gjoa Haven and Pelly Bay in 1962.

In 1955 construction began on the DEW (Distant Early Warning) Line; in accordance with the military-strategic concepts of the time, this system was to provide protection to the open northern flank of America by means of a chain of radar stations along the 68th parallel. In the eastern Central Arctic a total of seven of these stations, spaced at intervals of 50 miles, was erected (Figure 3). These extensive building projects opened previously unknown employment possibilities to the Eskimo, and thereby, since the chain of stations touched the actual occupancy areas of the Eskimo bands only marginally, stimulated them to move their place of residence to the nearest sites. Thus members of the Perry River band and the Adelaide Peninsula-Sherman Inlet bands, both belonging to the Copper Eskimo, moved to Jenny Lind Island, while members of the Adelaide Peninsula and King William Island bands moved to Gladman Point. For the Pelly Bay Eskimo, however, the building of the DEW Line station 12 km south of the mission was of no significance, since the priest had admonished them against taking up employment there, on the grounds that the Eskimo working on the DEW Line received no proper training, but were entrusted exclusively with assistant's jobs. Data on the extent of employment for 1956 at the four westernmost of the seven sites are available (Ferguson 1957:33). According to these, a total of 32 positions had been allocated to Eskimo; 11 of these were held by single men (including four from Bathurst Inlet), who lived in quarters on the sites. The remainder lived in camps established in the vicinity and totalling 76 persons in 22 families. Since the men had to provide for the maintenance of their families themselves, and since supplies could only be flown in to a limited extent, they were obliged to spend 20 to 25% of the month in hunting and fishing. The construction company was liberal enough to accept these absences as a necessity. This procedure permitted the physical and psychological burdens inevitably associated with adaptation to a completely new type of work and a fixed rhythm of working to be kept to a minimum. The significance of the radar sites for the economic development of the area must be seen in two lights. On the one hand they introduced a relatively large number of people to wage employment (the total of approximately 100 people, who were for a while dependent on the construction work within the study area, represented about 20% of the total population, quite apart from those who worked at the sites only for short periods), and brought in cash income at a level never known previously. This was available, at least in part, for investment in improved hunting and trapping equipment, for example, outboard motors. On the other hand they exposed the Eskimo in the site workshops for the first time to the complexities of modern communications and construction technology, i.e. an aspect which had not been imparted to them in earlier contacts. With the completion of the construction work, and with the sites going into operation, the number of full-time jobs which could be filled with properly trained Eskimo dropped to two at each of the major sites (three in the eastern Central Arctic), and to only one at the smaller intermediate sites. In 1963 the intermediate sites were abandoned, and in 1969 the number of positions at the remaining establishments was reduced to one each. Thereby the radar sites were no longer a significant economic factor in the eastern Central Arctic.

During the process of building the DEW Line, Cambridge Bay assumed the role of a supply base for all the other radar sites in the Central Arctic. In 1955 the government recognized this development with an administrative move, when they stationed one of their newly appointed administrative officials, or Northern Service Officers there (renamed Area Administrators in 1956). Initially he counted among his duties the role of liaison officer between the DEW Line and the Indigenous population. In 1962 his administrative area was split up, and a separate Area Administrator was appointed for the eastern Central Arctic, with his base at Spence Bay.

Through the disbursement of various social assistance allowances, and the creation of other centralized establishments in the central place settlements, a gradual abandonment

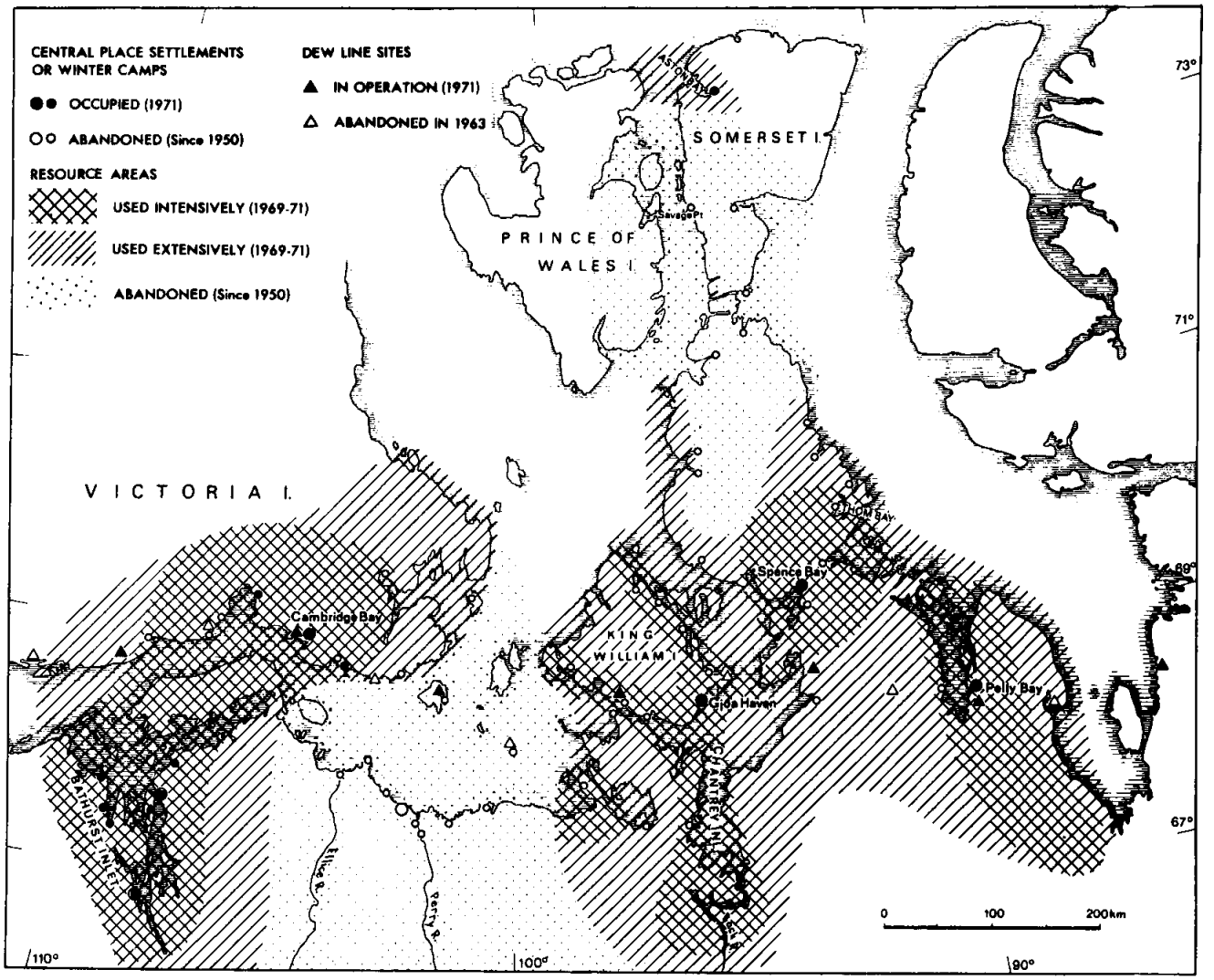


Figure 3. Development of settlement and of the economy in the eastern Central Arctic (after Usher 1971).

of the winter settlements with their limited populations, was provoked. The centralization of the population in Gjoa Haven and Spence Bay began in 1956, and reached its peak in the late sixties. By 1965 the last winter camp in the Sherman Inlet-Adelaide Peninsula area had already been abandoned; thereby a settlement vacuum had been created between Back River and Perry River, the latter area being considered to be part of the western Central Arctic. In 1967 the Hudson Bay Company closed their Perry Island post, whereby six families moved to Gjoa Haven, and a few others to Cambridge Bay, so that this area, still supporting nineteen families totalling 77 people in 1963 (Abrahamson 1964:133) had become empty of settlement. In 1956 there were still over 100 Eskimo on the Back River, but by 1963-64 only eight families with a total of 38 persons were counted (Briggs 1970:15). Movement away from this traditional settlement area proceeded at an accelerated rate after 1958, when the caribou did not appear in the spring. Fish caches had not been established either, with the result that six people starved to death. After the movement of three families to Gjoa Haven in 1970, only a small remnant of the former winter population could be encountered here. The depopulation of Boothia Peninsula and Somerset Island proceeded in stages; before the families finally moved to Spence Bay, some of them first spent some years in intermediate settlement sites. In 1968 Thom Bay, with 10 families totalling about 50 people, the most populous settlement outside of Spence Bay, was abandoned. With the movement of the last families from Fort Ross in 1970, the coast north from Spence Bay as far as the campsite at Aston Bay became depopulated.[3] Since about 1957/58 the majority of the Pelly Bay Eskimo have spent the winter exclusively at the mission; by 1960 only two small winter camps still existed, apart from the settlement around the mission (Balikci 1964:61), and in 1967 these families moved in also. An attempt is made in Figure 3 to represent the evolution of settlement and of the economy since 1950. All winter settlement sites which were used for at least two consecutive years, have been marked.

In the case of Spence Bay, one should mention an attempt to counteract this settlement evolution, and to end the contraction of the resource area resulting from the movement of the population to Spence Bay; in the spring of 1968 three families from Spence Bay were moved to Savage Point on the northeast coast of Prince of Wales Island, in order to utilize the largely untouched stocks of game there. However, the government-supported "Savage Point Relocation Project" was not a success; by the following spring the families were back in Spence Bay. The real reason for the abandonment of the project lay in the total isolation of the locality selected; Savage Point lies about 360 km from Spence Bay and can be reached only by air or by sledge across the sea ice. The choice of this site is incomprehensible. It would undoubtedly have been more promising, if one had supported closer sites on the east coast of Boothia Peninsula, definitely known to be equally productive. If the reports of various informants are correct, the government showed little interest in maintaining Thom Bay as a settlement site, and was unwilling to undertake the supply of heating fuel to that location.

In Cambridge Bay the movements of population have followed a similar pattern. They started relatively early; thus in 1946-47 during construction of the LORAN (Long Range) navigation facility, about 20 Eskimo found jobs and a total of about 100 people lived in Cambridge Bay. When the station went into operation, however, the number of Eskimo inhabitants dropped very sharply. In 1955 the population climbed again, due to the construction of a DEW Line site in the immediate vicinity of the settlement, and by 1956 had already reached 114 people in 26 families (Ferguson 1957:11). By 1963 there were 44 families totalling 198 people, who lived in segregated groups within the settlement on the basis of their area of origin: the immediate hinterland of Cambridge Bay, Ellice River, Bathurst Inlet or Perry River. At the same time, a further 13 families (67 people) occupied 10 winter camps within the area of influence of the Cambridge Bay trading post (Abrahamson 1964:125). Today, now that Cambridge Bay has developed into an important administrative and service center for the Western Arctic, there exist only two winter camps in the local hinterland.

Gjoa Haven and Spence Bay owe their existence to the Hudson Bay Company, which built trading posts which were central to a number of subordinate settlement areas and camps, and which could be easily supplied by sea. It was not necessary that the locations selected should be particularly endowed with natural resources. The R.C.M.P. and the missions allowed themselves to be swayed by similar considerations; furthermore, they were also able to profit from the significance which both localities already possessed for the Eskimo of the surrounding areas, from the presence of the trading posts. In 1949 the R.C.M.P. opened a police post at Spence Bay; in 1950 and 1951 respectively Catholic missions were established at Spence Bay and Gjoa Haven, followed by Anglican missions in 1955 and 1956 respectively. Later schools and nursing stations were added to these central settlements without any critical investigation of the choice of site as regards productivity, in view of the already evident population growth. Hence two settlements have recently developed, without any productive resource area in their immediate vicinities. It is about 180 km from Gjoa Haven to Back River, while in the case of Spence Bay the most favourable known hunting areas lie on the east side of the peninsula around Lord Mayor Bay and Thom Bay. Only Pelly Bay lies in the middle of a multi-purpose productive resource area; but here one must consider the circumstance that the site cannot be reached by sea, an aspect which nowadays, with increasing air traffic, has markedly lost its significance.

If the numerous buildings of the trading posts, missions, schools and administrative offices, not to mention the nursing stations, in Gjoa Haven, Spence Bay and Pelly Bay are indicative of the widening functions of these old central place settlements, the single-storey houses of the Eskimo which now dominate the settlement-scape are indicative of the changes in population and settlement distributions.

The first government house-building programme, the Low Cost Housing Programme, was passed in 1956. It stipulated that the houses to be erected would be sold to their Eskimo occupants by low annual installments, and would be given free only to families which were exclusively dependent on social assistance, i.e. the elderly, the sick, widows, etc. Not until 1962, when a house type larger than the original model was already available, were the first of these prefabricated, one-roomed houses, with a floor area of 27 m², built in the eastern Central Arctic (Table 2). Hitherto, there had been nothing but snowhouses and tents and a few dwellings built of scrap lumber, apart from five small, round, stone houses in Gjoa Haven, built by the Catholic mission for members of the congregation.

When it became evident over the years that only a very few Eskimo were, or would be in the future, in a position to buy their houses themselves, and when at the same time, the one-roomed houses proved to be too small for the generally large families, late in 1965 the Low Cost Housing Programme was replaced by a new concept, the Northern Rental Housing Programme. The houses built by the Government were now rented, whereby the costs of fuel oil, water and electricity, as well as garbage and sewage disposal, were included in the rent. At the same time, new house types were developed, first of all with two rooms, then, from 1967, with four rooms, i.e. one living and dining room, including kitchen, with three bedrooms, totalling 59 m² floor area; basic equipment was included. The earlier one-roomed houses were to be replaced by the larger structures over the next few years. By late 1969 houses were available in adequate numbers, so that in the eastern Central Arctic snowhouses were used for the last time as regular accommodation in the winter of 1968-69. Since then they have been built only during the winter hunt or while travelling.

**Table 2**

Government housing construction in the eastern Central Arctic

| *Year* | *Number of houses built* | | |
|---|---|---|---|
| | *Gjoa Haven* | *Spence Bay* | *Pelly Bay* |
| 1962-63 | 2 | 2 | |
| 1963-64 | | | |
| 1964-65 | 2 | 16 | 2 |
| 1965-66 | 12 | 4 | 3 |
| 1966-67 | | | |
| 1967-68 | 5 | 6 | 32 |
| 1968-69 | 15 | 18 | |
| 1969-70 | 10 | 18 | |
| 1970-71 | 2 | 6 | |
| 1971-72 | 8 | | |
| | *Number of occupied houses* | | |
| 1971 | 37 | 54 | 35 |

Source: personal surveys

This building activity, stretching over several years offered a large number of Eskimo in the three settlements employment opportunities, albeit limited to the summer months. Simultaneously essential maintenance of the buildings created a number of permanent jobs (Table 5). Due to lack of detailed information, it cannot be determined precisely when income from wage labour exceeded that from fur trapping on a settlement basis. It may be noted, however, that this situation, which may already have existed for a short period in 1955-57 during the building of the DEW Line, was achieved again in Gjoa Haven and Spence Bay sometime after 1965. In Pelly Bay employment opportunities had been available to a fairly extensive degree since 1967, but here a comparison with the revenue from trapping is unrewarding, since this latter branch of the economy was scarcely of any significance.

In recognition of the fact that despite the growing number of Eskimo of employable age, permanent jobs could only be created on a piece-meal basis, attempts were made by the Government to improve the possibilities for an increase in the yield from hunting and fishing by means of appropriate measures. In the late fifties, by means of the Eskimo Loan Fund, opportunities were offered to negotiate loans of up to $10,000, at an interest rate of 5%, in order to acquire tools and items of equipment and vehicles, and to purchase houses. For the purpose of forming co-operatives, loans of up to $50,000 might be negotiated. In 1967 the regulations were reviewed, and significant contributions in the form of down-payments were introduced. The amount of these runs at 20% of the total cost for durable items of equipment such as rifles, traps and boat engines, and at 25% for less durable purchases such as outboard motors, and motor-toboggans. To what extent advantage has been taken of these opportunities in individual cases cannot be accurately determined; the only thing for sure

is the purchase of two canoes and four seal nets at Spence Bay and the surrounding camps, and one seal net at Pelly Bay.

With the aim of remedying the lack of suitable boats larger than 26 feet, in 1963 the Eskimo Small Boat Assistance Programme was introduced. The purchaser had to put up 20% of the total price himself; 40% came from the Eskimo Loan Fund as a loan; and the Government contributed the remaining 40% as a hidden subsidy. Three diesel-powered vessels, 31, 35 and 40 feet in length were ordered in 1964 and delivered to Gjoa Haven in 1966. Here, due to the widely separated nature of the resource areas, which, however, are easy to reach by sea, they were (and are) especially needed.

With the provision of substantial means, it was hoped that along with an intensification of hunting and fishing the income situation of the Eskimo might be improved by the introduction of new branches of the economy, and that the crisis-prone, shaky nature of the economy might be eliminated. Projects of this type were initiated by the Government on an increasing scale from 1950 onwards. Thus in about 1950 the commercial production of soapstone sculptures was introduced to Port Harrison (now Inoucdjouac) in Northern Quebec, and, when this art form had developed into a sought-after collector's item in North America and Europe, it was extended to other Eskimo settlements. In 1959 a market-oriented char fishery was initiated at George River (now Port-Nouveau-Québec) and Port Burwell. While, hitherto, the planning and execution of projects of this kind had remained in the hands of government departments, now Eskimo co-operatives were formed for this purpose, and were entrusted with the continuation of the government-promoted undertaking on their own responsibility (Treude, 1972). Such co-operatives developed in Gjoa Haven and Pelly Bay in 1966 and in Spence Bay in 1970. The formation of co-ops offered the opportunity for co-determination and self initiative in the economic area; next there ensued, by means of the election of settlement councils, a transferral of the lowest administrative functions to representatives of the local population. These councils, first elected in Pelly Bay in 1970, and in Gjoa Haven and Spence Bay in 1971, decide autonomously on, among other things, the spending of government allocations at a level of $20 per head of population.

In summation one can assert that the increased government activity during the period 1950-1970 has led to fundamental changes in the Eskimo settlement pattern and economic structure. Three phenomena are of critical significance for this period of development:

1) Knowledge of the payment of family allowances, old age pension and welfare assistance, and the desire for educational and religious services and medical care provoked a gradual abandonment of the isolated camps, and a movement to the central establishments which had, in the meantime, clustered around the trading posts.

2) The increased presence of government establishments and the execution of extensive construction projects led to the creation of a number of permanent jobs and a larger number of part-time job opportunities. Thereby the basis of the Eskimo economy was transferred from trapping to wage employment. Simultaneously, through the introduction of new government-promoted, market-oriented branches of the economy, further income opportunities were created.

3) Through the formation of co-operatives and the election of settlement councils, committees were formed, with whose help the Eskimos should themselves be able to make a decisive impact on the development of the area.

## 4. Present settlement distribution and economic structure

The concentration of population in Gjoa Haven, Spence Bay and Pelly Bay can now, by and large, be considered to be complete. In the winter of 1970-71 a total of only three winter camps were still occupied in the whole of the eastern Central Arctic. One family of seven people had moved from Creswell Bay to Aston Bay at the northwest tip of Somerset Island in 1969. Since, however, they were supplied from the store at Resolute Bay, and in the meantime are also looked after administratively from there, they will not be considered further in the following discussion. One family and a 60-year old man lived at separate spots on the Back River in Chantrey Inlet. The proportion of these Eskimo still living in outcamps to the total population of the study area (814 people), represents only 0.5%, and this percentage will decrease even more, since the last-mentioned family intended spending the winter of 1971-72 in Gjoa Haven.

In the Cambridge Bay area the relationships are similar, comparatively speaking; of a total of 586 Eskimo, 10 lived in two winter outcamps, i.e. 1.7%. However, if one also includes Bathurst Inlet with its 93 Eskimo, who, since the closing of the H.B.C. post in 1970, have been supplied at irregular intervals from Cambridge Bay, the percentage rises to 15.2% and the number of outcamps to eight.

Houses could be supplied to the incoming Eskimo in the three centres in adequate numbers through the Northern Rental Housing Programme, but now the living space provided in Gjoa Haven and Spence Bay is proving too small. In Gjoa Haven 13 out of a total of 37 houses, and in Spence Bay 13 out of 54 are one-roomed houses, which are to be replaced by larger units in the next few years, since this house style is now considered to be large enough for only a couple without children. A further two-three houses per year should suffice to accommodate the anticipated population growth.

Since the gradual abandonment of the outcamps and construction of the houses extended over several years, there was no opportunity in Gjoa Haven and Spence Bay for a spatial clustering of families who had moved in from the same area. Only in Pelly Bay, where in 1967, 32 houses were built in one year, is there clustering around each of the two traditional leaders; in each case close relatives all live concentrated at one end of the settlement. However, the antagonisms which existed until only a few years ago, today seem to be becoming eliminated by the first marriages between the two groups.

According to the stipulations of the Northern Rental Housing Programme, in return for the payment of rent, the provision of fuel oil, water and electricity as well as sewage and garbage disposal are undertaken by the Government. The level of rent is established by a committee of Eskimos, the Housing Committee, according to the income of the tenant. Tenants who hold a permanent job pay one-fifth of their income; in this category, the highest rents reach from $37 for a one-room house up to $67 for a three-bedroom unit. Families totally dependent on government social assistance pay a more or less token rent of $2; trappers, hunters and part-time workers likewise pay one-fifth of their income. In Gjoa Haven, until April, 1971 the average rent was $8.50, and since a new assessment in May, 1971, $13.80; in Spence Bay the average rent as of 1 August, 1971 was $16.90. At that same time the average rent paid by Eskimos for the 360 Northern Rental houses in the whole of the Central Arctic was $14.60.

Calculated on the basis of data for seven months (January-July, 1971) the average cost per house of the services provided by the State to the tenants, per month, assuming an extremely low oil consumption, are about $88.80 in Gjoa Haven, $178.80 in Spence Bay, and $218.50 in Pelly Bay. The critical factor in the differential between these amounts is the price of fuel, determined in turn by transport costs; in Gjoa Haven the cost of oil was 58c, Spence Bay 74c, and in Pelly Bay $1.37 per gallon (4.54 litres). After deduction of annual rents (in the case of Gjoa Haven those applicable after the increase), the yearly subsidy paid by the Government thus works out to $33,300 for Gjoa Haven and $104,911 for Spence Bay. Data for monthly

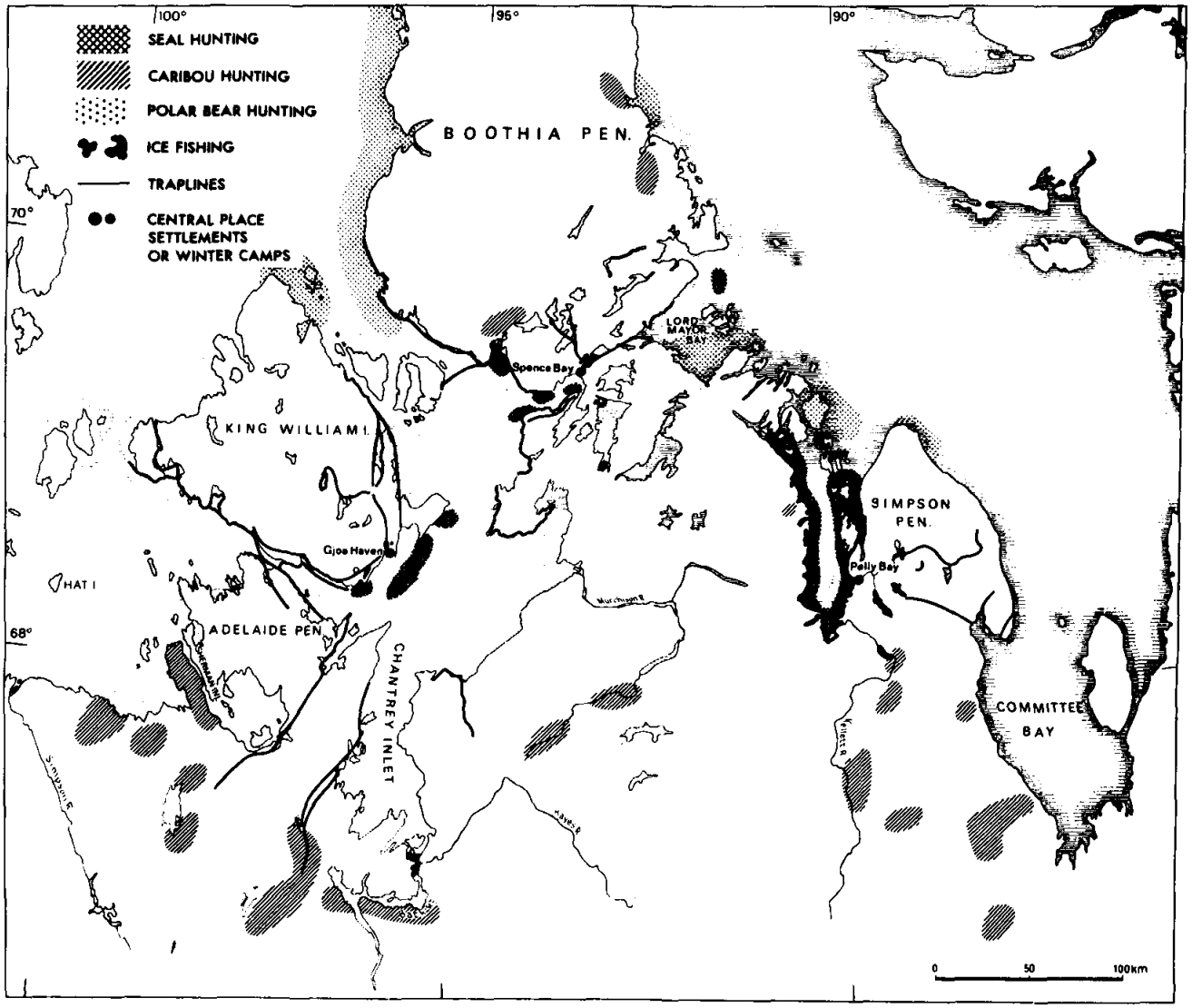


Figure 4. Eastern Central Arctic: land use, winter 1970-71 (October 1970-June 1971).

rents are not available for Pelly Bay; but if one uses the Central Arctic means, the costs footed by the State would run at $85,638 per year. With the anticipated higher consumption of heating oil in Gjoa Haven, one must thus reckon in terms of over $250,000 per year for the eastern Central Arctic.

Both with regard to their significance in terms of home consumption, and to their market value, hunting and fishing still play a significant role in the Eskimo economy. In the following discussions, the stress will be particularly on the seasonal sequence and the yield of the individual branches of the economy, since the areal distribution should be manifest from Figures 4 and 5.

Seal hunting nowadays is concentrated in the period from mid-May until the beginning of October: from mid-May until the end of June on the ice; from the beginning of July along the leads; and from the end of July with boats in the open water. From mid-June nets are also set in the leads, and after the ice goes out, at favourable spots along the coast. Traditional *aglu* hunting was still practised by two men in each of Gjoa Haven and Pelly Bay from January to April 1971, but it was no longer practised in Spence Bay. Practically every owner of a dog team hunted along the ice edge east of Gjoa Haven in November as soon as the ice was bearing; motor toboggans were too heavy for this task. For this purpose people lived in tents on King William Island or on off-lying islands for two-three days, up to a maximum of a week. During the winter of 1970-71 only one Eskimo hunted out of Spence Bay in this manner, at the floe edge off Lord Mayor Bay, while that same winter this style of hunting was not pursued at all around Pelly Bay. *Aglu* hunting and floe edge hunting could be abandoned there since dog food was not required in large quantities. In 1971 in Pelly Bay one could count 46 motor toboggans but only 30 dogs, whereas four years earlier there had been eight motor toboggans and about 250 dogs. In Gjoa Haven in 1971 there were about 150 dogs and 25 toboggans, and in Spence Bay about 120 dogs and 40 motor toboggans. The average yield from seal hunting in 1971 was about 600 ringed seal per year in Gjoa Haven, about 1200 in Spence Bay, and about 500 in Pelly Bay, i.e. a total of about 2,300 animals[4] for the eastern Central Arctic, to which over 10 bearded seal should be added. With a usable portion of about 35 lbs. per ringed seal, this would provide 80,500 lbs. of meat and edible inner parts for human consumption, as well as an even larger quantity of dog food. In point of fact, however, the potential yield of meat from seal hunting is only partially utilized, especially in Pelly Bay.

In 1963 the cash proceeds from the sale of sealskins suddenly rose from $3.00 to $14.00 per skin, mainly due to the sudden demand from the European winter-fashions industry, so that in a very short time this branch of the economy was able to outstrip fur trapping. But in 1965 sealskin prices fell again, as worldwide protests began against the allegedly cruel prac-

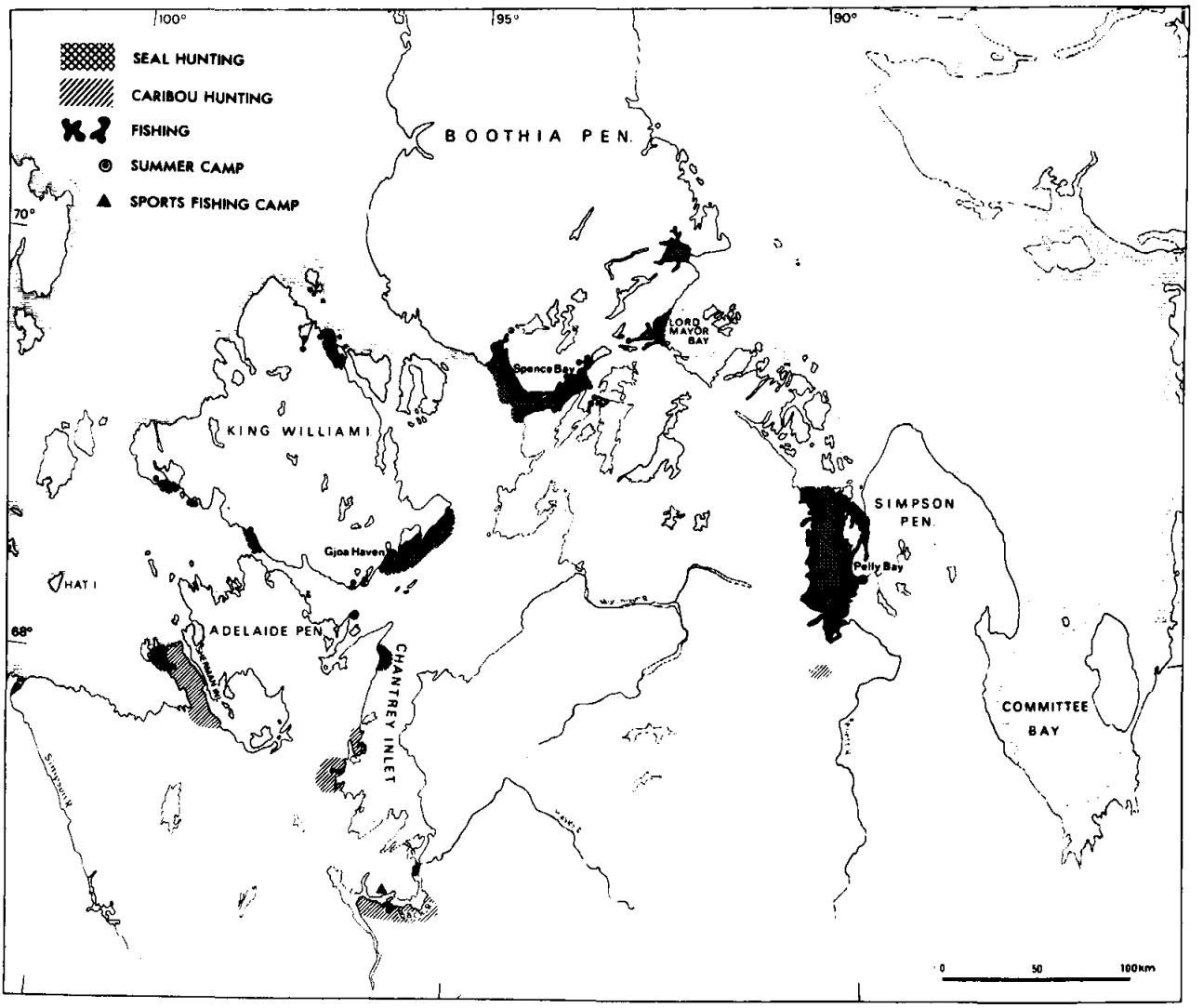


Figure 5. Eastern Central Arctic: land use, summer 1971 (July-September 1971).

tises of the seal hunters in the Gulf of St. Lawrence, and the demand choked off. Since about 1968 a further price rise has been observable, with the price now oscillating at around $10. In the study area a total of 1,738 sealskins were purchased by the trading posts in the period 1 July, 1970 until 30 June, 1971, which produced cash receipts of $16,000. The number of people actively involved in seal hunting is relatively large; there is scarcely a man who does not pursue seal hunting in one form or another. One feature that is striking however, is that the wage earners are amongst the most successful seal hunters. The cause is perhaps to be sought in the fact that means are more readily available to them for buying fuel for motor toboggans and boat motors, as well as ammunition in adequate amounts.

Caribou hunting takes place in early winter in October and November, and in late winter from March to May. Until about 1960 summer hunting was still pursued intensively from Pelly Bay, but in July 1971 only two men hunted south of Pelly Bay. Caribou can be hunted in Chantrey Inlet and Sherman Inlet almost all year round; families from Gjoa Haven moved here in the summer of 1971 in order to fish, and to hunt seal and caribou at the same time. The combination of caribou hunting and trapping can be observed relatively frequently. There are fewer caribou hunters than seal hunters, which may easily be explained by the greater distances that must be covered. In Pelly Bay and Spence Bay caribou hunters number about 15, and in Gjoa Haven more than 20.

**Table 3**

Yield from caribou hunting 1966/67 - 1970/71

| *Year* | *Gjoa Haven* | *Spence Bay* | *Pelly Bay* |
|---|---|---|---|
| | *Number of caribou* | | |
| 1966/67 | 150 | 120 | 114 |
| 1967/68 | 250 | 200 | 350 |
| 1968/69 | 250 | 310 | 350 |
| 1969/70 | 250 | 250 | 200 |
| 1970/71 | 210 | 50 | 50 |
| Mean | 222 | 186 | 213 |
| Mean yield of meat (lbs.) | | | |
| Per settlement | 22,200 | 18,600 | 21,300 |
| Per head | 81 | 55 | 103 |

Source: R.C.M.P. files, Spence Bay.

In Spence Bay caribou hunts were promoted and financed in May 1970 by the Social Development Officer, and in March 1971 by the Settlement Council; in 1970 six men killed 68 caribou, and in 1971 17 caribou, the meat being shared among the settlement. In 1970 the cost worked out at $1,120 for aircraft charter, ammunition and food, and the following year,

when motor toboggans were used, at $2,026. Since February 1971 another course has been attempted in Gjoa Haven. In order to utilize the clearly inevitable welfare payments in a meaningful way, 21 Eskimo were elected as community hunters and were paid an average $150 per month, rising to $265 per month from August 1. In return they are obliged to make available half of the yield of meat from caribou hunting, and to reimburse half their income from the sale of sealskins. In addition to their wages the hunters also received gasoline or dogfood, ammunition, naphtha, and a bounty of $5 for each caribou killed. As of 1 October, 1971 these additional perquisites were to be reduced to the supply of gasoline and small amounts of food. From mid-February to mid-August, 1971 the wages amounted to $19,065, and the other perquisites to $3,468. To this must be added $1,015 for the bounties for the 203 caribou killed.

Polar bear hunting, which for a long time had been carried out more as a supplementary activity while trapping or hunting at the floe edge, has become economically attractive since 1968 with the abrupt rise in the price for pelts, to up to $500 per pelt. An extension of this hunting, however, is prevented by the quota established for every arctic settlement in 1969: Gjoa Haven was allotted eight animals, Spence Bay 22, and Pelly Bay 10.

Fishing, and by this term the reference is to fishing aimed at subsistence consumption rather than to market-oriented fishing, begins at the beginning of June on the inland lakes, and to some extent along the coast, as soon as the first open water appears, so that nets can be set or fishspears can be used.

After breakup, fishing is carried out from summer camps at various places along the coast, partly in association with seal hunting, and also, in the Sherman Inlet-Back River area, in association with caribou hunting.

With the beginning of the char runs the traditional stone weirs are still established to some degree on the rivers; in 1971 Gjoa Haven, Spence Bay and Pelly Bay each had one in operation. Disused weirs are to be found in large numbers on predominantly gentle rivers throughout the study area.

From mid-October the ice on Kellett River is strong enough to permit nets to be set beneath the ice. In past years entire families moved there from Pelly Bay, but in the winter of 1970-71 only three families and the majority of the men made the move; they fished here from one to three weeks. With the drop in the number of sledge dogs, this fishery has lost much of its significance, however, since there is no longer the same compulsion to establish fish caches for winter feed.

Data on the extent and yield of fishing and especially char fishing cannot readily be established. However, one gains the impression that it is of greater significance in Pelly Bay than in the other two settlements, a hypothesis which, however, cannot be supported by numerical data. Char have been fished commercially in Cambridge Bay by the local co-op and marketed frozen since 1961. Since 1967 the co-ops in Pelly Bay and Gjoa Haven have frequently sponsored fishing on the Kellett and Back Rivers, but the catches were mainly consumed in the settlements themselves; only in 1967 were 2,000 lbs. of char flown from Pelly Bay to Yellowknife. A freezing plant was built in Pelly Bay in 1971 and in the first year had processed 35,000 lbs. for export and about the same amount for local use.

Trapping occurs during the period November 1 until March 15, but is pursued with less intensity from January to March than in November and December because of the unfavourable weather. Of the yields quoted in Table 4, about 99% represent arctic fox, and only about 1% the blue mutation and the occasional red fox. From the yields shown in the table, certain statements are possible despite the shortness of the period for which data on the recent development of this branch of the economy are available. Firstly the data presented reflect the differing intensities with which trapping is pursued in Gjoa Haven and Spence Bay on the one hand, and in Pelly Bay on the other. Further, the data for Spence Bay appear to manifact a recessive trend which cannot be explained by cyclic fluctuation in stocks. It is much more likely that the progressive constriction of the resource area can be identified as the probable cause of this development, particularly since Boothia Peninsula is less productive than King William Island from the point of view of trapping, for reasons of differing geomorphology. This disadvantage could in the past be counteracted by a wider dispersal of the population over the area. And finally it should be noted that the slight increase in fur production from Pelly Bay is founded in an economic reorganization that was introduced with the information of the co-operatives.

**Table 4**

Sales of fox pelts in the eastern Central Arctic
1958/59 - 1970/71

| *Year* | *Gjoa Haven* | *Spence Bay* | *Pelly Bay* |
|---|---|---|---|
| 1958/59 | 675 | 3,450 | 220 |
| 1959/60 | 3 | 371 | 22 |
| 1960/61 | 2,169 | 2,769 | 4 |
| 1961/62 | 1,693 | 1,912 | 242 |
| 1962/63 | 257 | 282 | 159 |
| 1963/64 | 1,464 | 1,415 | 134 |
| 1964/65 | 697 | 1,566 | 223 |
| 1965/66 | 496 | 597 | 28 |
| 1966/67 | 1,456 | 2,250 | 55 |
| 1967/68 | 587 | 1,325 | 173 |
| 1968/69 | 498 | 728 | 173 |
| 1969/70 | 62 | 135 | 33 |
| 1970/71 | 1,807 | 795 | 479 |

Source: Game Management Service files, Yellowknife, N.W.T.

Tabulation of production for the winter of 1970-71 shows that a total of 41 Eskimo sold pelts in Pelly Bay, of whom eight men sold more than 20 pelts, to a maximum of 56. In Spence Bay 64 men were involved in trapping; 15 caught more than 20 foxes, and the best trapper 45. 51 trappers were enumerated in Gjoa Haven; of these 26 sold more than 20 pelts, and four more than 100. The maximum here was 152 pelts.

Cash income from trapping stood at about $31,000 in 1970/71, i.e. double that from sealskins. One must, however, take into consideration that seal hunting simultaneously provides a significant contribution in terms of supplying the population with meat.

In all three settlements in the study area, the purchasing of handicraft items is handled by the co-operatives. Quite apart from its general contribution to the income, the great significance of this new branch of the economy lies in the fact that for the first time it gave the women the opportunity to participate productively in contributing to the income. Thus, of the 30 carvers in Pelly Bay, 20 are women; in Spence Bay, of about 80, half are women; and in Gjoa Haven around 30 out of about 40. Accurate figures cannot be extracted from the sales receipts, since the women also sell articles produced by their husbands along with their own. Pelly Bay produces particularly ivory ornaments, the ivory being imported at irregular intervals from Igloolik, and also small soapstone sculptures and traditional Eskimo objects. Spence Bay is a centre for the production of carvings in whalebone, which is taken from the Thule houses around Fort Ross and flown in to Spence Bay; apart from this the carvers also work in caribou antler and soapstone. Finally, in Gjoa Haven soapstone items are produced in much smaller numbers as compared to the other two centres. The extent of commercial production of items of clothing from sealskin is scarcely worthy of mention in any of the settlements. During the winter of 1972-73 the production of sealskin wall hangings, textile printing and batik were begun experimentally in Spence Bay and Gjoa Haven.

The co-operatives were originally founded to handle these handicraft projects, but within a few years have managed to expand considerably their range of activities by undertaking other assignments; these multi-purpose co-ops, distinguished by a combination of very varied tasks, which, however, are generally not all complimentary, have in the meantime become a typical phenomenon in the Canadian Arctic. To the purchasing and marketing of handicraft articles has been added, by way of government contracts, responsibility for the supply of domestic water and fuel, as well as garbage and sewage disposal. Furthermore, in Gjoa Haven and Pelly Bay the co-operatives are active in the production sector, in that they organize fisheries, and in the case of Pelly Bay handle the preparation of the catch for export. Both co-operatives also operate their own stores; of these, however, the store in Gjoa Haven can compete only with difficulty against the established Hudson's Bay Company. In both settlements, the co-operatives operate the local post office. As can be seen from Table 5, due to the extent of the tasks they undertake, the co-operatives are jointly the most important employer in the eastern Central Arctic, followed by the department of Education, which, apart from janitors and school cooks, also employs Eskimo teaching aides. Apart from these permanent jobs, all the institutions represented offer short term job opportunities, especially in connection with building projects. In 1971 three men and four women were employed in Pelly Bay in the transport and handling of fish, and six men from Spence Bay were recruited by a sports-fishing camp on Victoria Island. To those can be added job opportunities which are limited to only a few days, such as unloading ships or the "clean-up" of the settlements which is undertaken in the spring. The present position of wage employment as a component of total cash income, and *per capita* income among the Eskimo population can be seen from Table 6.

As compared to the data compiled for 1967 (Villiers 1969:146 ff), the 1970-71 *per capita* income shows an increase of 6% for Gjoa Haven, 34.5% for Spence Bay and 50.0% for Pelly Bay, but during the same period income from government social assistance rose by 80.5%, 64.8% and 15.3% respectively. This means that while in Spence Bay and especially Pelly Bay income from the creation of new employment and income opportunities, and particularly from an intensification of the production of handicraft items, increased, in Gjoa Haven the level reached in 1967 as a result of wages from the building of the Great Slave Lake Railway,[5] could only be maintained by increased welfare receipts. Despite this, these contributions are not sufficient to bring the *per capita* income of Gjoa Haven up to that of the two other settlements.

**Table 5**

Permanent jobs held by Eskimos in the east Central Arctic, 1 August, 1971

| *Employer* | *Gjoa Haven* | | *Spence Bay* | | *Pelly Bay* | |
|---|---|---|---|---|---|---|
| | *Female* | *Male* | *Female* | *Male* | *Female* | *Male* |
| N.W.T. Dept. of Social Dev. | | | | 1 | | |
| N.W.T. Dept. of Local Govt. | | 1 | | 2 | | |
| N.W.T. Dept. of Education | 2 | 1 | 4 | 1 | 1 | 2 |
| Dept. of Nat. Health & Welfare | 1 | 1 | 1 | 2 | 1 | 1 |
| Northern Canada Power Commission | | 1 | | 1 | | 1 |
| R.C.M.P. | | | | 1 | | |
| Hudson's Bay Company | | 1 | 1 | 1 | | |
| Co-operatives | | 3 | | 8 | | 8 |
| Churches | | 2 | | 1 | | 4 |
| Total | 3 | 10 | 6 | 18 | 2 | 16 |

Source: personal surveys.

It is scarcely possible to include the yield from hunting and fishing in this comparative study, since precise data are not to be had. Observations would indicate, however, that their contribution is significantly larger in Pelly Bay than in the two other settlements; apart from a higher *per capita* yield from caribou hunting, there is particularly heavy stress on char fishing. This circumstance would also explain the higher level of mechanization in Pelly Bay, which can only be achieved because a large part of the cash income is made available for this type of investment.

For a comparison of the income data I gathered in the eastern Central Arctic with those from other arctic areas, corresponding material for 1967-68 is available from the Keewatin Region, which adjoins the study area on the southeast, and with a total of 2,424 Eskimo in seven fairly large settlements (Preston 1969:24, Table 23). According to these data the average *per capita* income of the eastern Central Arctic, at $624, is fractionally in excess of the Keewatin average of $610, but when one juxtaposes these cash incomes clear differences become apparent. While in Keewatin 81.6% of the income is earned, i.e. derived from employment and sales, and only 18.4% originates from government social assistance, i.e. unearned income, in the eastern Central Arctic the ratio is 65.2% :34.8% . In the case of two of the Keewatin settlements, Repulse Bay and Eskimo Point, admittedly, the earned income at $334 and $461 *per capita* respectively, clearly is exceeded by Gjoa Haven's income, but at the same time social assistance payments in both settlements ($181 or 24.3% and $119 or 27.0% respectively) both absolutely and percentage wise are just as clearly exceeded by those for the Central Arctic communities. In comparison to the income situation in Keewatin, the contribution from government social assistance payments in Gjoa Haven and Spence Bay are above average; this means that the clearly inadequate yields from hunting and fishing cannot be compensated for by "earned" income.

## OUTLOOK

The future economic development of the eastern Central Arctic depends largely upon whether one succeeds in intensification of the use of the available natural resources of the area, and/or in the introduction of new branches of the economy. The number of permanent jobs can only be increased to a very small extent, even if it should be possible to fill with Eskimos those positions which at present, for reasons of educational levels, are reserved for Euro-Canadians, i.e. the positions of nurses, teachers, and administrators. The Eskimo population of the Central Arctic is extraordinarily young (52.8% are younger than 16 years of age, *cf.* Table 7), so that in a few years new solutions must be found, if an even greater dependence on welfare payments, or emigration of the majority of the population are to be avoided. A comprehensive development programme has so far not been proposed by the authorities; any deliberations entertained so far in this direction were based more on the significance of the arctic area for the development of the Canadian economy as a whole, i.e. on its role as a supplier of oil, gas and minerals. However, whether the opening-up of the Arctic's treasure house of raw materials, none of which so far have been discovered in the eastern Central Arctic, can in fact create a large number of permanent jobs for the indigenous people, is somewhat questionable. The choice of opportunities for the economic development of the area is relatively small: handicrafts, trapping, char fishing, seal hunting and tourism. A stronger emphasis on handicrafts involves the inherent danger of the uncertainty of rapidly changing market conditions. It should not be forgotten that these articles are today produced with government support in 35 arctic settlements. Trapping, susceptible both to cyclic fluctuations in stocks, and to unpredictable changes in the market situation, could be made more productive by using modern methods, as has been achieved in Banks Island, at least on King William Island. The waters around Pelly Bay and on the east side of Boothia Peninsula are reputed to be particularly rich in seals. Suitable rivers for commercial char fishing are to be found near both Pelly Bay and Spence

**Table 6.**

Cash income of the Eskimo population of the eastern Central Arctic, 1 April 1970 until 31 March 1971

| | *Gjoa Haven* | | | *Pelly Bay* | | | *Spence Bay* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *$* | *%* | *$ per cap.* | *$* | *%* | *$ per cap.* | *$* | *%* | *$ per cap.* |
| **Government social assistance** | | | | | | | | | |
| Welfare | 57,219 | | | 7,063 | | | 59,965 | | |
| Old age pensions | 5,371 | | | 9,857 | | | 5,828 | | |
| Family allowances | 10,572 | | | 7,808 | | | 12,944 | | |
| Total | 73,162 | 47.5 | 269 | 24,728 | 19.1 | 120 | 78,737 | 35.2 | 234 |
| **Wages and salaries** | 58,247 | 37.8 | 214 | 67,547 | 53.0 | 328 | 108,940 | 48.6 | 324 |
| **Production/sales** | | | | | | | | | |
| Skins & pelts | 20,194 | | | 9,844 | | | 23,645 | | |
| Handicrafts | 1,920 | | | 25,000 | | | 12,655 | | |
| Fish and meat | 500 | | | 2,700 | | | | | |
| Total | 22,614 | 14.7 | 83 | 37,544 | 28.9 | 182 | 36,300 | 16.2 | 108 |
| Overall Total | 154,023 | 100.0 | 566 | 129,819 | 100.0 | 630 | 223,977 | 100.0 | 666 |

Source: personal surveys.

Bay and also on the Back River. In 1969 the co-operative at Pelly Bay experimented in the area of tourism for the first time, offering accommodation to sports-fishermen. However, a sports fishing camp on the Back River is operated from Churchill, and the Eskimo employed as guides here are flown in from Rankin Inlet. Polar bear hunting might possibly also be attractive to tourists. None of the possibilities indicated here is capable of ensuring reliable development on its own; for this, rather, the broadest possible base is required, as can only be achieved by the intensification of all branches of the economy.

**Table 7.**

Age composition of the Eskimo population in the eastern Central Arctic, 1 August 1971

| | *Total Population* | | *<16* | | *16-65* | | *>65* | |
|---|---|---|---|---|---|---|---|---|
| | *Persons* | *Families* | *f* | *m* | *f* | *m* | *f* | *m* |
| Gjoa Haven | 262 | 53 | 74 | 72 | 60 | 57 | 3 | 6 |
| Spence Bay | 336 | 61 | 76 | 98 | 72 | 82 | 1 | 7 |
| Pelly Bay | 206 | 43 | 49 | 61 | 41 | 49 | 3 | 3 |
| Total | 814 | 157 | 199 | 231 | 173 | 188 | 7 | 16 |
| Percentages | 100.0 | | 52.8 | | 44.4 | | 2.8 | |

Source: Social Development Officer's files, Spence Bay.

The initiative in the economic development of the eastern Central Arctic comes from Pelly Bay; it was here that the first co-operative emerged in 1966; it was here that export-oriented char fishing and processing were first practised; and that sports fishing accommodation was first organized. The initiative in this case comes not from the government, but from the Catholic Church. Pelly Bay, which had to pay extremely heavy air freight rates due to its marginal position in terms of traffic, has owned a DC-4 aircraft belonging to the co-operative since the summer of 1971. With this aircraft the supply of the settlement itself is assured, since freight rates from Edmonton to Pelly Bay were cut from 87c per lb. to 25c per lb. Moreover, the aircraft is also operated on charter to the Canadian Arctic Co-operative Federation, founded in February 1971. Pelly Bay was largely involved in the union of the twenty-six separate co-operatives of the Northwest Territories into this central co-operative, and the local Catholic priest was elected its first president. By reason of the number of operations which it combines, the Pelly Bay co-operative represents something of a model for the other co-ops in the Northwest Territories.

Parallel with this co-operation through the co-operatives there is also the phenomenon of co-operation by the settlement councils on a regional basis; in December 1972 representatives of the six Central Arctic settlement councils resolved at the Arctic Coastal Conference, held in Coppermine, to form a regional council in order to provide political representation for the six settlements (Figure 1). Simultaneously they demanded the expansion of the present nursing station at Cambridge Bay into an efficient hospital, as well as construction of a high school (Government of the Northwest Territories, 1973). Cambridge Bay already forms the administrative and transport centre of the Central Arctic; since 1968 the eastern Central Arctic has been linked by two flights per week with the Yellowknife-Resolute service which stops at Cambridge Bay. Thus, if Cambridge Bay's functions were to grow in importance in the manner outlined, it would achieve approximately the status of Frobisher Bay in the Baffin Region. The final step would be the liberation of the Central Arctic from the Fort Smith Region, which has clearly become too large, and the achievement of its independence as an administrative unit.

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## FOOTNOTES

[1]Detailed representations of the traditional Netsilik culture can be found in Boas (1888), Rasmussen (1931) and Balikci (1964).

[2]Discussion in Briggs (1970:12-14).

[3]Investigations at Resolute in 1973 indicated that, in conflict with Figure 3, Creswell Bay and the southeast coast of Somerset Island are regularly visited for a few weeks in summer by two families from Resolute, in order to fish for char and hunt walrus.

[4]According to the calculations of the Fisheries Research Board, Arctic Unit, annual kills of 2,600 ringed seals for Gjoa Haven and 3,200 for Spence Bay, would be quite feasible without endangering the stocks.

[5]In the summer of 1967, 71 Inuit and Indians from Fort Franklin, Inuvik, Holman and the Cambridge Bay area were employed on the Great Slave Lake Railway, linking Pine Point with the Alberta railway network. For further details see: Stevenson, D. 1968. *Problems of Eskimo relocation for industrial employment: a preliminary study.* Ottawa, Northern Science Research Group, Department of Indian Affairs and Northern Development. NSRG 68-1 *(Ed.)*.

## ABSTRACT

The history of development of the area is dealt with in two parts. 1. 1920-1950: Since the whalers had not reached this area, the Netsilik Eskimo did not come into close contact with Euro-Canadians until after 1920, when the fur traders invaded the country. The introduction of the rifle, and the gradual adoption of fur trapping deeply affected the traditional economy, until it finally collapsed when the fox prices broke down after World War II. 2. 1950-1970: This period is characterized by the abandonment of the isolated winter settlements in favour of the larger communities of Gjoa Haven, Spence Bay and Pelly Bay, providing a wide range of services and facilities. At the same time, opportunities for wage employment were offered on a wider scale. The formation of co-operatives on the one hand and of settlement councils on the other, enabled the local people to take a more active part in their economic and political development. In a final section, the present (1971) structure of the settlement pattern and of the economy is described, and data are provided on total local cash income for each of the settlements.

## RÉSUMÉ

On traite l'histoire du développement de la région en deux parties: 1) 1920-1950. Puisque les baleiniers n'avaient pas atteint cette région, les esquimaux Netsilik n'étaient pas mis en contact direct avec les euro-canadiens qu'après 1920, quand les traiteurs aux fourrures envahirent le pays. L'introduction de la carabine et la trappe affectèrent profondement l'économie traditionelle. Elle s'écroula enfin quand les prix des fourrures de renard blanc tombèrent après la Deuxième Guerre Mondiale; 2) 1950-1970. Cette période se charactérise par l'abandonnement des camps d'hiver isolés en faveur des plus grandes communautés de Gjoa Haven, Spence Bay et Pelly Bay. Celles-ci fournissent une variété considerable de services et d'équipement. Parallélement, les opportunités de travail pour le salarié sont considerable. La formation de co-opératives d'une part, et de conseils municipaux de l'autre, donnèrent aux gens les moyens de prendre une partie plus active dans leur développement économique et politique. Finalement, on décrit la structure actuelle (1971) de la distribution de la population et de l'économie, en fournissant des données sur les revenus totaux en argent pour chacune des communautés.

## APPENDIX

COMMUNITY DATA FOR PELLY BAY, GJOA HAVEN AND SPENCE BAY, 1975*

| | Pelly Bay | Spence Bay | Gjoa Haven |
|---|---|---|---|
| *Population* | 250 | 411 | 387 |
| *Languages spoken* | Eskimo and English | Eskimo and English | Eskimo and English |
| *Community structure* | | | |
| Status | Hamlet | Settlement | Settlement |
| *Infrastructure* | | | |
| *Power* | | | |
| Generator type | Diesel 160 kw | Diesel 1300 kw | Diesel 430 kw |
| Rate domestic | 13c per kwh | 12c per kwh | 12c per kwh |
| Rate commercial | 15c per kwh | 12c per kwh | 12c kwh |
| Operator | Northern Canada Power Commission | N.C.P.C. | N.C.P.C. |
| *Water* | Truck: Co-op contract | Truck distribution from nearby lake | Tractor and wagon: Co-op contract |
| *Sanitation* | Truck: Co-op contract | Tractor and trailer; pump-out system to begin soon | Tractor and wagon: Co-op contract |
| *Police* | None; served from Spence Bay, 108 air miles | R.C.M.P.; two-man detachment | None; served from Spence Bay, 88 air miles |

| | | | |
|---|---|---|---|
| *Justice of the Peace* | No | No | Yes |
| *Fire department* | Volunteer, 18 men, Water tank and tractor; extinguishers. | Volunteer, 14 men; extinguishers. | Volunteer, 10 men. Dry chemical and water. Fire truck: Bombardier Muskeg tractor |
| *Facilities and services* | | | |
| *Fuel* | | | |
| Bulk capacity, fuel oil | 105,000 gals. | | 236,000 gals. |
| Bulk capacity, gasoline | | | 40,000 gals. |
| Bulk capacity, both | | 270,000 gals. | |
| Price, gasoline | $2 per gal. | $1.10 per gal. | $1.05 per gal. |
| Price, fuel oil | $2 per gal. | 89c per gal. | 88c per gal. |
| Price, diesel | n.a. | 89c per gal. | n.a. |
| *Medical* | | | |
| Facility | Nursing station | Nursing station | Nursing station |
| Staff | 1 nurse | 2 nurses | 2 nurses |
| Nearest hospital | Churchill, 665 air miles | Thule, Greenland, 688 air miles. | Yellowknife, 679 air miles. |
| *Education* | | | |
| Facility | Primary school | Primary school | Primary school; 5 classrooms |
| Grades | Kindergarten - 7 | Kindergarten - 8 | Kindergarten - 7 |
| Students | 139 | 120 | 122 |
| Teachers | 4 | 6 | 6 |
| Teachers aides | n.a. | n.a. | 2 |
| *Churches* | Roman Catholic | Anglican and Roman Catholic | Anglican and Roman Catholic |
| *Community centre* | Yes; capacity 150 | Under construction; capacity 150 | Yes; capacity 100 |
| *Bank* | Co-op bank | None | None |
| *Accommodation* | Transit centre, capacity 8 Tent cabins (summer only), capacity 20. | Transient centre, 11 rooms | Co-op transient centre. |
| *Meals* | None | None | Available at transient centre. |
| *Transport and communications* | | | |
| *Main resupply* | Charter, N.W.T. Airways, from Edmonton via Yellowknife | Barge from Hay River | Barge from Hay River |
| *Air facilities* | | | |
| Landing strip | 4,400 x 100 ft., gravel, lighted | 3,000 x 75 ft., gravel; non-directional beacon, | 3,500 x 500 ft., gravel. |
| Regular service | 1 flight weekly. Also charter service by N.W.T. Airways | 4 flights weekly | 4 flights weekly |
| Routing | Cambridge Bay | Cambridge Bay | Cambridge Bay |
| Carrier | Northward Airlines | Northward Airlines | Northward Airlines |
| Fare | $150 one-way to Cambridge Bay | $115 one-way to Cambridge Bay; $203 to Yellowknife | $94 one-way to Cambridge Bay |
| Freight | n.a. | 40c per lb. | 35c per lb. |
| Equipment | Twin Otter | Twin Otter | Twin Otter |
| *Water transport* | None | | |
| Operator | | Northern Transportation Company Limited | N.T.C.L. |
| Equipment | | Barge | Barge |
| Season | | August | September |
| Route | | Via Hay River | Via Hay River |
| *Local transport* | 3 trucks; 2 tractors and wagons; 2 D-8's; 2 front end loaders | Co-op tractor and trailer | Co-op taxi: $2.25 per person Pick-up truck 2 Bombardiers (government owned) 2 tractors (Co-op owned) |
| *Communications* | Radio: tropospheric scatter wave system. C.N.T. | Telephone, C.N.T., via Hay River. Telex. R.C.M.P. radio | Telephone: C.N.T. |
| *Mail service* | Co-op, weekly | 3 times weekly | Post-office, 4 times weekly |
| *Companies* | Koomiut Co-operatives Association Limited C.N.T. | Hudson's Bay Company; Paleajook Eskimo Co-op Ltd.; C.N.T. | Hudson's Bay Company; Kekertak Co-op; C.N.T. |

*This information is derived from the Canada North Almanac, vol. 1, 1975, to be published by the Research Institute of Northern Canada, Yellowknife. Permission to use as-yet-unpublished data is gratefully acknowledged *(ed.)*