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REGIONAL ABANDONING OF RURAL SETTLEMENT IN NORTHERN SWEDEN

With 3 figures, 4 photos und 6 tables

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Zusammenfassung: Siedlungswüstungen in Nordschweden

Das weitständige Streusiedlungsgebiet Nordschwedens weist in neuerer Zeit in zunehmendem Maße Siedlungswüstungen auf. Mit Hilfe zweier Profile, in denen 1948 und 1958 Kartierungen der aufgelaassenen Bauernhöfe durchgeführt wurden, wird die Verbreitung genauer analysiert. Besonders betroffen sind die Kleinsiedlungen von 1-3 Höfen; doch gibt es auch Wüstungen von 7-9 Höfen. Dieser Vorgang wird von einer generellen Bevölkerungsabnahme begleitet. Die gleiche Erscheinung konnte bei kombinierten Land- und Forstwirtschaftsbetrieben beobachtet werden. Die Entvölkerung bedeutet eine schwere finanzielle Belastung für die Kommunalbehörden und für die Landesregierung. Die Ursachen sind einmal die im späten 18. Jh. und frühen 19. Jh. vom schwedischen Staat gesteuerte, relativ dichte Besiedlung des Raumes, andererseits die zunehmende Industrialisierung Schwedens, die Auflehnung der Jugend gegen die Weltabgelegenheit, die Verbesserung der allgemeinen Kommunikationsverhältnisse. Es ist anzunehmen, daß die Entsiedlung weiter fortschreiten wird.

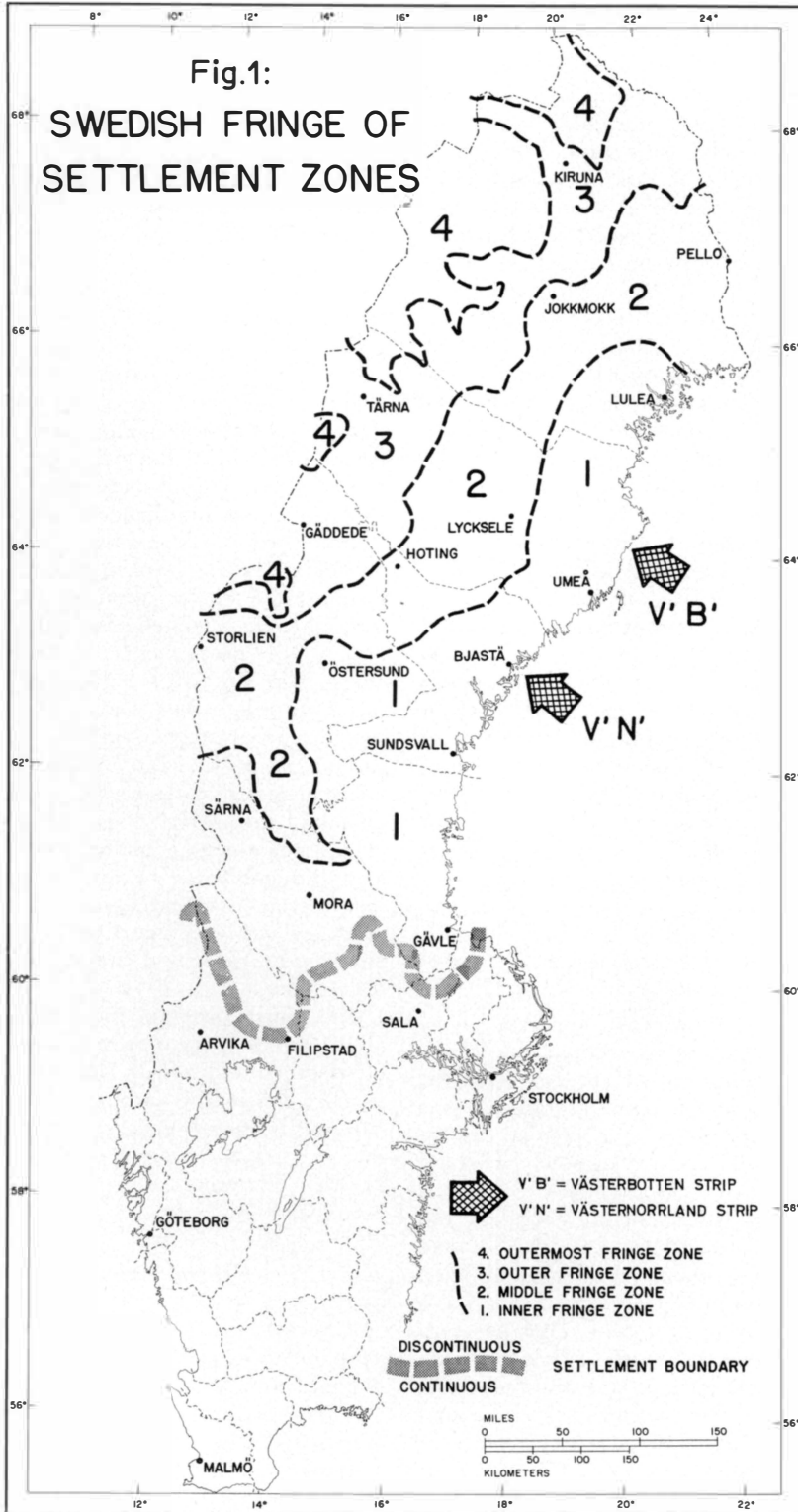
A geographical analysis of rural settlement is readily divisible into two parts. One is a study of form. The other is reasoning about the dynamics underlying that form; for it the terms settling, stability, and abandoning have been suggested. These refer, respectively, to increased numbers of rural dwellings, to a balance of increase and decrease in the numbers of such, and to a decline in the count of rural homes (STONE, 1965). Further subdivision should be by scale of study as each of the three words may refer to these changes in local, regional, or continental areas (STONE, 1968). Herein attention is directed to the extent and causes of abandoning in northern Sweden to disclose positive and negative guides in planning for rural settlement.

The scale of recent rural abandoning in northern Sweden has been extraordinary for Europe and, probably, for the world. Within Norden the north Swedish widespread desertion contrasts sharply with regional settling in Finland (STONE, 1966, 1971), spot

settling in Norway (STONE, 1970), and spot abandoning in Iceland (STONE, 1971). These differences reflect variations in stage of economic development as well as contrasts in involvement in international affairs. Also, within Sweden there have been three major population changes during the 19th and 20th centuries. One was great emigration, especially from the southern provinces, to North America. Another was an internal northward movement which was an over-extension, perhaps purposeful, of agriculture, industry, and mining. And the third was a national rural-urban migration accompanying rapid industrialization (WALLANDER, 1948; AHLBERG, 1953). It was largely this last which provoked the uncommon retreat of rural population (RUDBERG, 1957; NORLING 1960; HANNERBERG 1957).

Hundreds of dwellings were abandoned in an area of tens of thousands of square miles. For so large a task both small-scale and large-scale analyses are used. The latter is based on two sample strips for which detailed data are representative of differences and similarities in abandoning; these cross northern Sweden in NW-SE orientations (Fig. 2). The smaller scale regional considerations are based on extrapolations from these strips as well as summaries of national actions and northern Swedish characteristics.

One summarization is the division of the region into four fringe of settlement zones (STONE 1962). These represent a basic concept for planning. It is the increasing degrees of both regional and local isolation as one goes inland from a coastal Inner Fringe Zone (IFZ) through a Middle Fringe Zone (MFZ) and an Outer Fringe Zone (OFZ) to, at four places along the Norwegian border, an Outermost Fringe Zone (OMFZ) (Fig. 1). Each of the zones is characterized by a distinctive combination of distributional patterns of rural residences and inter-regional and local transport lines. Both of the sample strips cross all zones at right angles to provide representative variation in degrees of isolation (Fig. 3).



General: Population Change

Northern Swedish initial settling took place along the coast in the late 16th and early 17th centuries. Movement inland was slowly northwestward along the rivers and by 1750 only a few people were thinly scattered to the Norwegian border (LUNDQVIST 1960, plates 52 and 53). Thereafter the government favored settling and population all over Norrland (Northern Sweden) continued to increase until the start of the 20th century (LUNDQVIST 1942; LUNDQVIST 1960, plates 53 and 54; RUDBERG 1957, maps 6–8). By that time the decline in numbers of rural people, all ready well started in southern and middle Sweden, was starting in the north. Since 1915 the growth in total population there has been only in small percentages.

Many parishes to the latitude of Östersund (Fig. 1) reached their maxima of population between 1880 and 1920 (NORLING 1960, Fig. 1; BODVALL 1957). Most of the rest of Norrland had its greatest numbers of people in 1930 and 1940 and a few parishes as recently as 1960. In this respect the Västernorrland Strip is typical but the Västernorrland Strip is not. Most of the latter's population peaks came in 1950 and since 1955 it has been in the area of Norrland's biggest population losses. Thus, the region's major tendencies have been losses in rural population for the recent 15–35 years (paralleled by growth in the larger coastal cities and inland centers). Meanwhile, however, some rural settling took place there as a result of the nation's economic, political and military desires (RUDBERG 1957, map 10; HEDBOM-NORLING 1965).

General: Support of Settling

Though this new settling was supported by a number of programs, two early governmental actions restricted settling geographically. The first was the establishment in 1751 of "Lappmarksgränsen" (the Lapp Region Boundary) to create a national reserve of land to the north and west of it, now the inland three-quarters of the two northernmost provinces; there is a strong correspondence of this boundary and the IFZ/MFZ line for about 290 km. The second restriction was "Odlingsgränsen" (the Cultivation Boundary). This was set in 1867 because farmers and Lapps were clashing over the use of inner northern Norrland. Northwestward of the boundary only limited new agricultural settling was allowed thereafter in order to favor the movement of the Lapps' reindeer; here, too, is very strong correspondence of an old line and the modern MFZ/OFZ limits for about 370 km.

Direct support of settling since World War I has been by four programs. Many were to discourage emigration to the U.S.A. First, and the only one involving planned colonizing, established the "kolo-

nat" (colony). Begun during World War I, but not named until 1925, every colony was formed by a group of settlers moving in at about the same time and to small farms. Possibly the program began to produce food in a country somewhat continentally isolated by its policy of neutrality in war time.

In 1916 the "fjällägenheter" program was started. Also called "Kronotorp" 50 it was a subsidy to people who had already settled west of the "Odlingsgränsen". Approximately 80 % of a settler's costs were absorbed by the state in a contract for 50 years. In 1948 the "Norrlandsk fjällägenheter", or "Kronotorp" 43, was added under which a settler got 100 % support but was expected to pay back 300–500 Swedish Kronor a year at the discretion of the administering agency. Encouragement was really given by the "fjällägenheter" program to individual settling in places with high degrees of local and regional isolation. Reasons for sponsoring this have been given as: protection against forest fires, provision of emergency aid for outsiders in the area (e. g., hikers, skiers), sustaining people for work in forested parts, and as an aid to Swedish military intelligence (the settlers under this program did prove most useful in several ways during World War II). A few hundred of these small remote farms are still present. Though new ones are no longer contracted for there is usually a number of applications for any one that becomes available so there is no abandoning of them even though they are in the OFZ and the OMFZ. Even though no cost estimates of the program are available the places are expensive; many administrators were pleased that the name of the program disappeared in July 1962. A final balance sheet on such settling depends on the valuation a government places on non-agricultural activities of the settlers.

The fourth program fostered the "Kronotorp" (a small farm settlement on state-owned land). The date of its origin is debated. This was a national form of support designed to encourage one or more new agriculturalists to settle on state-owned forest land, in part to form a labor force to work in the woods there. In the Västernorrland Strip Norrbygden is an example.

General: Subsidies and Loans

A number of subsidies and loans have been available to encourage farming in Sweden. They were designed to help raise the national standard of living, to stimulate farmers to produce more economically, and to increase total production. To be eligible for most of the aid a farmer needs to have a net worth of less than 80,000 sk (\$15,500 USA at current exchange rates), his family's taxable income must be less than 6,000 sk a year (with modifications due to the number of dependents), and his farm should be manageable by two families. The aid is a direct

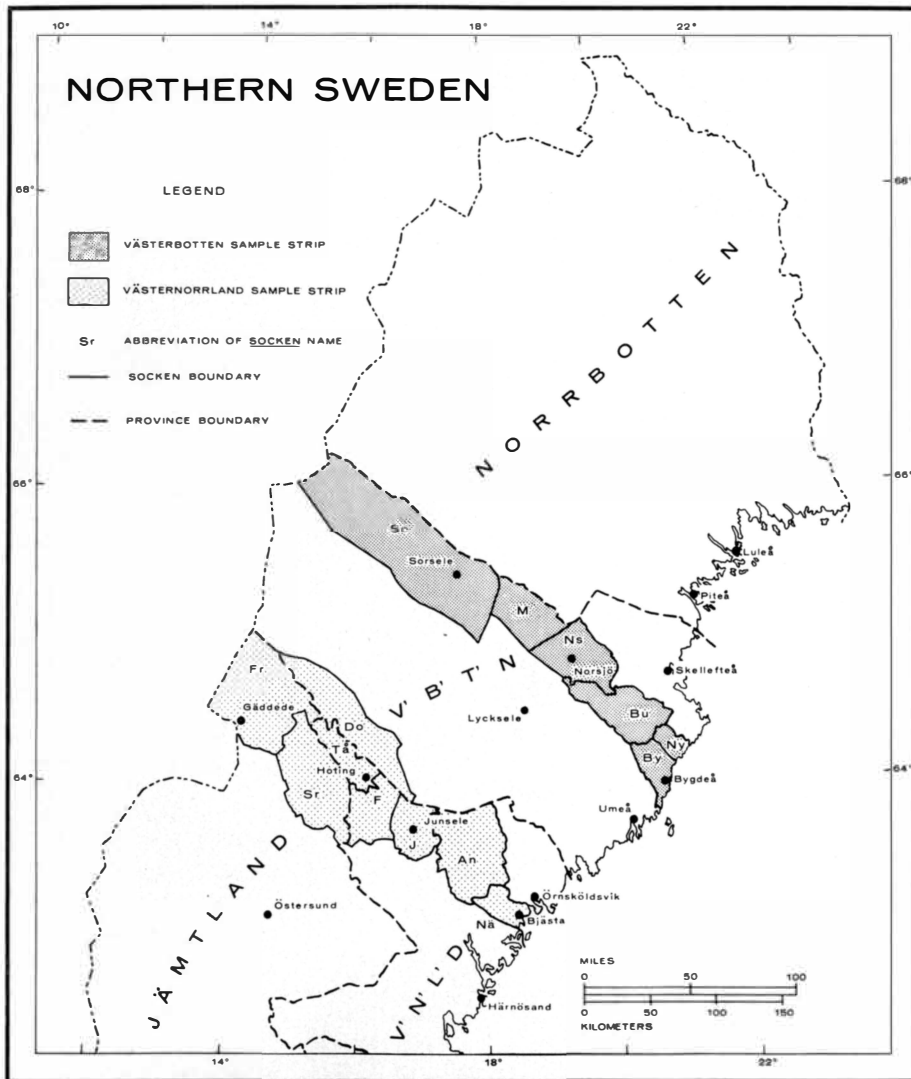


Fig. 2: Northern Sweden and the sample strips for analyses of rural abandoning

subsidy or loan; if the later it is interest-free and installment-free and usually is to be written off over a 10-year period. Grants can normally be had to cover 25 % of the estimated cost of investment. Loaning is done when maintenance requirements are costly or when the government wishes to be sure a farmer does not make an excessive profit upon selling his farm. However, there usually are restrictions on the sale of Swedish farms. Taxable agricultural property generally cannot be acquired without approval of the provincial agricultural commission; exceptions are the state, a municipality, an owner's immediate family, and a few other specified cases. Permission usually is not granted if a prospective purchaser is simply investing capital or if the action would endanger or break up one or more existing farming units.

Loans to buy farms are administered by private banks but guaranteed by the government, a successful method. The total purchase price may be obtained and at lowest interest of the lending bank. Loans for the purchase of livestock and machinery are limited to less than 20,000 sk. For the construction of a dwelling a farmer may borrow up to 90 % of the estimated cost, first obtaining aid from a private bank and the rest from the government; interest on such is subsidized so that the charge on the bank's funds is 3.5 % and on the rest is 4 %. Loans for home building are limited to less than 55,000 sk, the house or apartment be within a certain range in size, it must have certain facilities (e. g., central heating, electricity), and the construction must be of high quality. However, the annual cost of operating such a home must not exceed

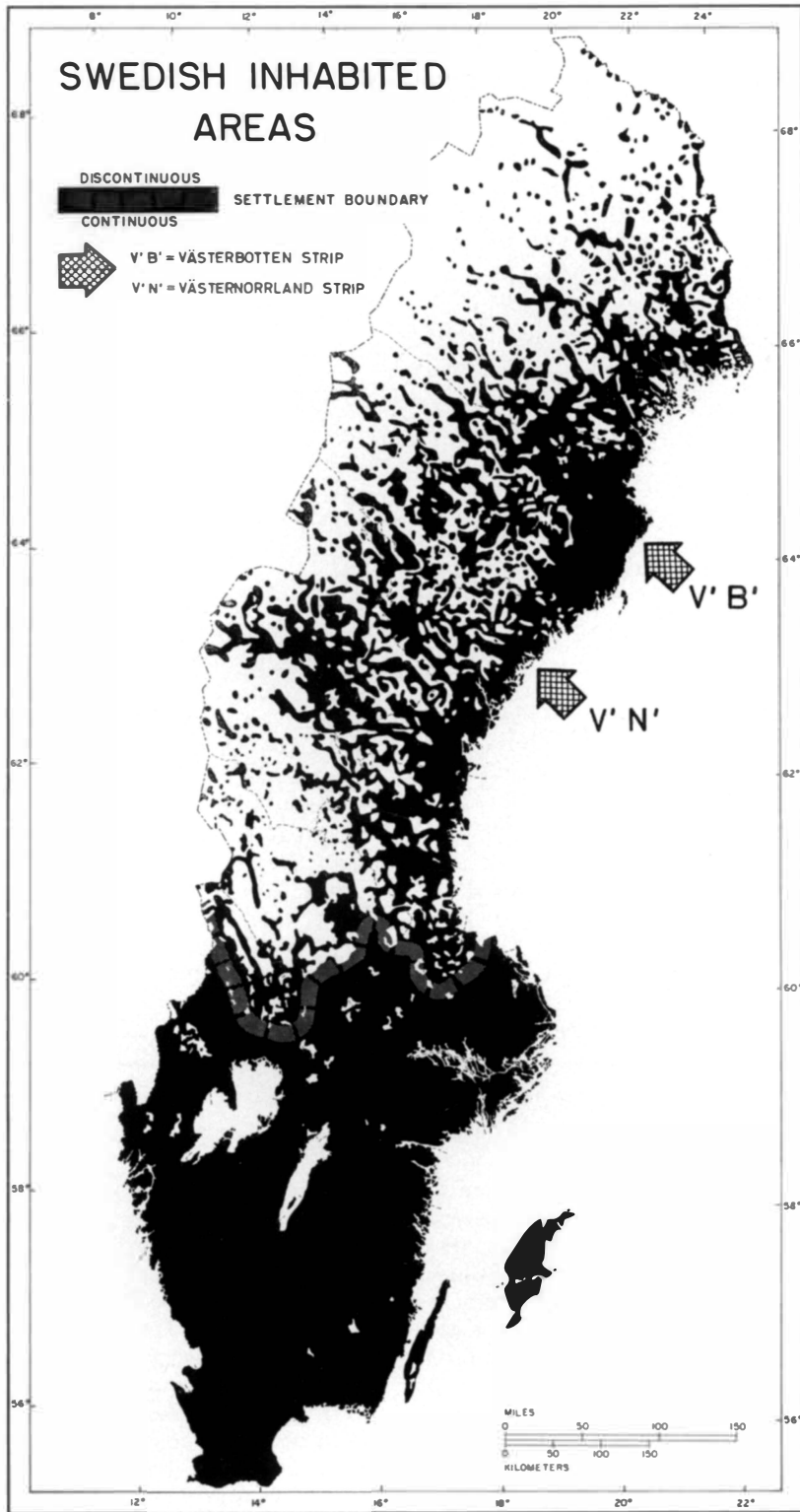


Fig. 3: Swedish Inhabited Areas. Black portions represent areas within 2,5 km. of permanently occupied residences.

one-fourth the owner's annual income. Improvements on a residence are subsidized to 2,400 and in special cases can be for as much as 10,000 sk. In addition, a Swedish citizen eligible for the above aid and having two children less than 16 years old may get a rental allowance of 150sk a year per child and a fuel allowance of 200 sk a year.

Acreage subsidies, the most recent type to be put in force (started in 1960), were designed to aid the small farmer. Formerly funding was based on milk production but with this program eligibility depends on a cultivated area of between 2 and 10 hectares, property value, income, and certain provincial allowances; grants are 200–400 sk a year. However, the value of this subsidy in northern Sweden has declined since 1960. In that year the government intensified efforts to produce agricultural goods in the four northernmost provinces and agricultural effort was to be concentrated in certain districts; subsidies were set to be as much as 60 % of total costs (GULBRANDSEN).

Other loans and subsidies have been described as the progressive type. Some are designed to increase farm size and consolidate the separated parcels of any one farm. (The fractionation of some northern Swedish farms, even after two major national consolidation programs in the last two centuries, has resulted in some farms having tens of parcels, some of which may be only one meter wide and a kilometer long [DAHL 1961; PORENIUS 1956]). Other aid is to improve land by ditching or building roads. And some aimed at the improvement of techniques in raising crops and animals.

Most recently national policies have contributed to abandoning. Up to about 1955 small-farm settling was encouraged. Then things changed. A big hydroelectric developmental program began. In 1963 the provincial agricultural commissions began carrying out directives to focus subsidies on farms which were probably sound economically and to emphasize developing of farms only in certain districts. These actions make it harder for small farms to be subsidized and as forestry is so specialized the future for small farms in northern Sweden darkens. Thus, forecasts are for further depopulation of areas with poorer small farms, consolidation of small places into a few larger farms in the better farming districts, more specialization in forestry and more localization of services in the bigger central places.

General: Decline and Abandoning

Out-migration in Norrland is strong. In numbers of people any province may have an annual net loss of as many as 3,000. In the coastal sectors the decline and abandoning tends to be concentrated between the bigger cities, especially where local isolation is high

for one or two farms; still many of the dwellings have become summer places so abandoning is incomplete. Inland the pattern is different. Decline and abandoning is going on all over, not in just the most isolated places. There, too, it is often one or two farms but clusters of seven to ten farms have been deserted. It appears that if there are more than about ten farms the abandoning of a few leads to consolidation and strengthening of the others but only if local isolation is not too great and public facilities (such as, schools, hospitals, and churches) are nearby.

This abandoning has at least four causes. They are: 1) the change in governmental support discussed above, 2) younger people migrating from the farms, especially the more remote ones, leaving the elderly with no one to carry on after their retirement or death, 3) specialization of equipment and labor in the woods work producing a reduction in the need for workers, and 4) improved farming techniques, associated with larger farms where machinery can be employed profitably, causing a reduction in the requirement for farm labor. The various strengths and combinations of these reasons are more clearly observable in the larger scale studies of the sample strips.

The Västernorrland Strip

Since 1956 the total population of Västernorrland Strip has been decreasing and in more recent years at an accelerating rate. The sample strip through the province reflects this, excepting the parishes at the ends (Y 70, 1962). At the coast there has been a steady increase since 1800, a direct product of the growth of villages like Bjästa. Immediately inland steady or small declines have been the order since 1900–1930. In the middle of the strip parish populations have been about the same or gently declining since 1930. But next to the Norwegian border the number of people was about the same after 1920 with a slight increase in the early 50s; then decline set in.

These trends continued after World War II. Parish populations decreased excepting ones like Junsele and Tåsjö where hydroelectric development took place (Table 1). The losses were rural people leaving single places, clusters, and hamlets. This is supported by total farm population decreases since 1940 and 1950, the proportion of total parish population on farms declining 6–15 % between 1930 and 1950, and the amount of farmed and improved farm land lessening since 1944. Thus, the discontinuity of settlement is becoming greater.

Some specific migration characteristics in the strip are clear. Females, for example, had the greater net migrational losses in nearly every parish between 1948 and 1958 (Table 1). During this time women dominated the movements in both directions in all but two parishes; the dominance was greater in the coastal

Table 1: *Västernorrland Strip, Population Changes, 1948-1958*

Parish		Absolute Change		Per Cent Change		Net Migration		
		48-58	53-58	48-58	53-58	Male ¹⁾	Female ²⁾	Total ³⁾
Nätra	(Y)	+102	+19	+1.7	+0.3	-2.9	-5.3	-4.4
Sidensjö ⁴⁾	(Y)	-265	-152	-13.5	-7.8	-14.1	-17.4	-15.8
Skorped ⁵⁾	(Y)	-213	-78	-12.2	-4.9	-20.3	-18.9	-19.8
Anundsjö	(Y)	-392	-312	-6.5	-5.2	-9.0	-11.1	-10.0
Solberg ⁵⁾	(Y)	-106	-101	-5.9	-5.6	-11.9	-19.0	-15.0
Junsele	(Y)	+218	-367	+5.6	-8.6	+3.0	-2.0	+0.7
Fjällsjö	(Y)	-163	-108	-6.4	-4.3	-13.6	-13.6	-13.6
Bodum ⁶⁾	(Y)	-68	-98	-4.6	-6.1	-8.9	-16.8	-12.9
Ström	(Z)	+20	-72	+0.2	-1.2	-4.9	-9.0	-6.8
Alanäs ⁷⁾	(Z)	-150	-65	-8.8	-4.2	-9.8	-13.4	-11.3
Tåsjo	(Y)	-55	+73	-1.3	+1.7	-10.1	-9.3	-9.9
Dorotea	(AC)	-45	-33	-2.9	-2.7	-11.7	-14.9	-13.2
Risbäck ⁸⁾	(AC)	-31	-25	-1.8	-3.1	-20.6	-26.7	-22.8
Frostviken	(Z)	+12	-231	+0.8	-7.2	-9.0	-7.6	-8.5

Y - Västernorrland Province Z - Jämtland Province AC - Västerbotten Province

Source: Official data collected from the records of the 14 parish churches.

- ¹⁾ Male net migration divided by total male population
²⁾ Female net migration divided by total female population
³⁾ Net migration as per cent of total population
⁴⁾ Part of Nätra "socken"

- ⁵⁾ Part of Anundsjö "socken"
⁶⁾ Part of Fjällsjö "socken"
⁷⁾ Part of Ström "socken"
⁸⁾ Part of Dorotea "socken"

areas (54 and 59 % of the totals of in- and out-migration) than way inland (52-55 %) but some of this may have been due to a higher proportion of males inland (54-55 % of the total population near the border versus 51 % in the coastal parishes). Too, it is certain that the migrants were the younger people. These were women in their late teens and 20s who could find little work and were unlikely to inherit the parent's farm as well as men of the same age who either were opposed to their degree of isolation, "outranked" by a senior brother in potential inheritance, or attracted to the steadiness of industrial wages.

The geographic qualities of the migration varied. In-migration in the coastal part originated mostly within 48 km. of the shore. Between 1948 and 1958 the numbers of in-migrants from all directions decreased sharply. In the middle of the strip in-migrants were fewer than in the coastal part and varied little in distance and numbers involved in the two sample years. At the northwestern end, in-migrants dropped between 1948 and 1958 but clearly in both years came mostly from the province in which Frostviken belongs, rather than from Västernorrland (Fig. 2).

Out-migration differed, especially because the distances were shorter. Out-migrants usually moved only 16-32 km., usually to the nearest central place and there was much intra-parish exchange over still shorter distances that went unrecorded in church records. On the coast the city of Örnsköldvik attracted some people from the southeastern end of the strip in 1948 but by 1958 was an overwhelming attraction. In the

middle of the strip most of the people in 1948 went short distances to the south and west but ten years later this changed to mostly south and southeast. Farthest inland the attraction in 1948 was southward towards Östersund and southeastward but in 1958 it was reversed and concentrated to the latter, probably for the hydroelectric project in Tåsjo.

In general, between 1948 and 1958 one main cause of abandoning in the Västernorrland Strip was attraction to a nearby central place of about 500 or more people. In-migration dominated within 20-30 km. of such places and out-migration dominated the parishes without such. But in direction of migration there was a division: within about 100 km. of the coast the movement was southeastward toward it, in the middle of the strip there was a mixture of directions, while inland the pull was southwards toward Östersund. Actually there was little direct exchange between the inland and coastal parishes.

Abandoning most often was related to short moves (Table 2). That is, people leaving a farm went only to a local center, later other persons moved from there to a nearby but bigger one. From this, later, still other people migrated to a larger place. Each movement was perhaps a maximum of 40 km. The progression has not always been to the coast and thence to Stockholm but the proposed creation at coastal points of such things as regional hospitals, (GODLUND 1958), probably will accelerate further depopulation of inland areas and increase migrants' distances.

Additional provincial depopulation is already

anticipated. The 1970 population of Västernorrland Province is estimated at either 1,100 more or 10,000 less than 285,620 people there in 1960; meanwhile the number of youngsters under 15 is expected to drop 8,000–10,000 (12–15 %), of persons between 15 and 25 years old to increase 350 or decrease 3,800, and of those over 65 to rise 9,650 (29 %) (x70, 1962). Agricultural-forestry workers were calculated to decline by 20–30 % (3800–5471 persons) by 1970. The social, financial, and political costs of such depopulation, and its certain attendant abandoning of rural places, may be great.

Abandoning was already a big and old process in Västernorrland by 1957. Then a preliminary official listing (made for this study by local "Lantbruksnämnden" officials) included 44 abandoned settlement units and 41 declining ones. By 1960 in just the strip were 42 abandoned and 63 declining settlement units. They were distributed throughout the strip (Table 3). In the Inner Fringe Zone (Nätra-Skorped Parishes), abandoning of whole units was small but decline was great. This was due to so many abandoned farms being taken over for recreation and some as rural-nonfarm residences. The sensitivity of the Middle Fringe Zone (Anundsjö-Tåsjö) showed with the sharp increase in its number of abandoned and declining places. The smaller numbers of units in the remaining zones was a reflection of fewer settlement units in total.

Explanations of abandoning are several. One is the small size of many farms. In 1955 most of the places in the Inner Fringe Zone had some full-time farms and at many the proportion was 10 to 20+ per cent; most notable were the larger villages with 20–35 %. But at the IFZ/MFZ separation the change was sharp. Within the Middle Fringe Zone less than 25 % of the places had full-time farms and in the larger villages they comprised only about 5–15 % of the total. Within the other two fringe zones, of course, the full-time farms were even fewer in numbers. And, in all zones, except parts of the Inner Fringe, they were so scattered that the potential of consolidation to increase farm size was low.

Increased accessibility has affected abandoning in various ways. In some areas, especially in the IFZ, the extension of roads to settlements more than 900 years old was marked by almost immediate abandoning; there the old age appeared to be less significant than the lack of sociological "cement" (Photo 1). Elsewhere in the zone the same thing happened when lumbering roads were run through old settlements on the way to new cutting operations. But in the other zones the building of new roads near abandoned settlements has been responsible for their being occupied again.

Ownership patterns have been both a cause and an effect of abandoning. In most of the Inner Fringe Zone in 1960 much of the land was privately owned

and that under company (usually a woods products organization) control was in small blocks (perhaps 2 by 5 km.) five or more kilometers apart or in narrow strips (possibly 500 meters by 4–5 km.) 500 meters or more apart. But near the IFZ/MFZ line the company-owned land was in blocks at least 5 by 10 km. and sometimes were adjoining. There, too, state-owned parcels occurred in larger numbers and were only slightly smaller than the company-owned. In total area the two occupied more than 75 % of the sample strip's MFZ but near the OFZ boundary this was nearer 90 %. With increasing distance inland and increasing elevation there was less privately-owned land, less company-owned, and more belonging to the state. But back in the Inner and Middle Fringes it is probable that these ownership patterns were more an effect of decline and abandoning of farms rather than a cause. Also, by 1964 the provincial agricultural commissions were buying abandoned farms and putting them back into forests (Photo 2) because the only prospective buyers were from middle Sweden who were not permitted to purchase for speculation.

Perhaps the quality of the land also contributed to abandoning. Most of northern Sweden is hills and low mountains, pine and spruce covered in lower elevations, and either glacially eroded or covered with materials deposited by glaciers or in glacial seas during the last period of glaciation (AHLMANN 1934; GULLERS and MUNTHE 1952; LUNDQVIST 1960). Though the region is dominated by great southeastward-flowing streams, drainage locally is often poor. In fact, the distributional patterns of most of the physical elements of the landscape are quite complex; soil, drainage, vegetal, meteorological, and surface configurational characteristics are commonly heterogeneously mixed and in small patches. Considerable knowledge and care is necessary to use them successfully.

Related to abandoning is the quality of the settlers. Here the variables are numerous, of course, and are made more difficult to estimate by changing conditions since first settling, by accidents, by variations in governmental policy, and by social and psychological differences in people. These have not been measured and evaluated in northern Sweden (nor hardly anywhere else in the world) so only recognition of a possible relationship can be given.

The Västerbotten Strip

In Västerbotten Province changes in population were similar to those in Västernorrland (Fig. 2). The settling history was parallel in both excepting that Västerbotten had the "Lappmarksgränsen" to slow down the settling process inland. Too its parishes had their population maxima more recently, along the coast in 1930 or 1940 but immediately inland in 1960 and in the remaining 60 % of the sample strip in 1950.

Table 2: *Declining and Abandoned Settlements in the Västernorrland Strip, Sweden**)

Name**)	Settlement Zone	Location Re Near Village	No. of Farms		Earlier Characteristics	More Recent Characteristics
			1920	1960		
Bäck	Inner	9 Km. E. Bjästa	10	2	3 full-time farms (29 Ha. cult., 102 Ha. woods cult'ble, 158 Ha. woods not cult'ble), 7 part-time farms (9 Ha. cult., 17 Ha. woods cult'ble, 31 Ha. woods not cult'ble).	Abandoning mostly 1945–1960 re small size of farms, most abandoned houses were summer residences in 1960.
Rossjö	Inner	11 Km. W. Bjästa	15	8	15 part-time farms (57 Ha. cult., 320 Ha. woods cult'ble, 118 Ha. woods not cult'ble), site occupied 300 yrs. min., telephone 1915, electricity 1921, road improved 1928.	Abandoned re small size of farms, old age, and migration to city or industry; in 1960 only about 10 children present and they felt isolated.
S. Långsele	Inner-Middle	15 Km. WNW. Bredbyn	5	0	5 part-time farms with aver. 3 Ha. cult., and 40 Ha. woods cult'ble, land in steep N-facing slopes, no electricity or telephone, poor road into.	Abandoning of 4 farms 1955–1960 but one house a summer residence, all farmers moved to Långsele 3 Km. N.
Högtjäl	Middle	28 Km. NNW. Bredbyn	5	4	Electricity and telephone to some farms in 1948, at end of road not improved until 1952.	One farm abandoned due wife's desire for more central location, other farms part-time and only 3 Ha. cult. land each, some dwellings without water and electricity and phone, only one person under 20 yrs. age, in center of large block of woods company land.
Stavarn-Stavsborg	Middle	8 Km. S. Solberg	4	1	At end of 9 Km. access road built by woods company in 1951, no electricity, no telephone.	All farms part-time with aver. of only 2.5 Ha. cult. and 9.5 Ha. woods cult'ble, telephone, one resident, abandoning 1940 to 1950, in large block of woods company land.
Hömyra	Middle	24 Km. NNE. Junsele	5	0	5 part-time farms with aver. 2 Ha. cult., 46 Ha. woods cult'ble, and 19 Ha. woods not cult'ble, site settled about 1860, no facilities.	Abandoning 1944–1951 for places like Junsele, no electricity, no telephone, no running water in most dwellings, no road.
Åkerbranna	Middle	23 Km. N. Junsele	10	4	Site settled about 1810, telephone 1930, road to in 1936.	All farms part-time with aver. of 10 Ha. cult., 47 Ha. wood cult'ble, and 320 Ha. woods not cult'ble, no electricity, no running water in some dwellings, younger people felt isolated and desired electricity, movement to Junsele and middle Sweden.

Tansjö	Middle	17 Km. NE. Bodum	5	0	Settled about 1850 with state support for subsistence in depression.	Abandoned about 1950 upon death of one owner and move of another to Jämtland Prov., one dwelling rebuilt for summer home of state forest watchman, no electricity or telephone, very poor road.
Granberget	Middle	18 Km. NE. Dorotea	10	2	Settled 1914 with state support, road in 1915 but poor many years, railroad in 1915, telephone 1920, electricity 1945.	Abandoning began before 1950 because farming could not be full-time (partly due frost susceptibility) and woods work declined, rail-road station and the one store closed about 1962.
Jerilvattnet	Middle	17 Km. NNE. Stromsund	5	0	Settled 1650–1700, all farms part-time with only small hay fields and gardens, no road until 1957–1959.	Abandoned 1952 because no road, one telephone, no electricity, at edge of area of mixed small privately owned and large company-owned parcels of land.
Nybäckriset	Middle-Outer	15 Km. NNW. Hoting	6	0	All farms part-time with only 3 Ha. of cult. land each.	Abandoning began 1948 due lake level rise re hydroelectric development, no electricity or telephone.
Norrbygden	Outer	14 Km. N. Tåsjö	8	0	Settled 1917 with state support, telephone 1940s, poor road ended there.	Main abandoning 1955 and four families to Tåsjö, no electricity, no running water at some dwellings, too much frost for barley or potatoes.
Fjällbranna	Outer	27 Km. NW. Dorotea	4	1	Settled about 1860 for summer pasturage and hunting, telephone.	Abandoned 1959, no electricity, no road suitable for trucks, surrounded by large company-owned and state blocks of land.
Lindmon	Outer	9 Km. W. Gäddede	4	1	Settled about 1850, road 1918, farming rather good for potatoes but woods work necessary.	Abandoning by young people and one ill settler, no electricity, road poor, no car present, houses without running water until 1950s, large blocks of company-owned land close by.
Lebbikmon	Outer-Outermost	45 Km. N. Gäddede	2	0	Both farms part-time.	Abandoning about 1947 due hydroelectric development of adjacent lake, one family to farm 15 Km. away and other to Gäddede.
Lebbikvattnet	Outer-Outermost	48 Km. N. Gäddede	3	2	All farms part-time.	Telephone, no electricity, at end of road, surrounded by state land.
Raukasjö	Outermost	51 Km. NE. Gäddede	3	2	All farms part-time.	One family to Gäddede 1956, no road, the two farms have special state support, in large area of state land.

*) The primary sources of data were interviews with provincial and parish officials, analyses of data in provincial agricultural commission offices (especially the 1955 inventory of “byar”), field observations, ground and air photography, and interviews with local farmers in or near the sites of study. Four other settlements in Västernorrland have been described by PORENIUS (1960).

**) Listed in geographical order going inland.

Table 3: *Västernorrland Strip, Abandoned and Declining Settlement Units, 1960*

Parish ¹⁾		Abandoned No. of Farms/Unit	Total Units	Declining No. of Farms/Unit ²⁾	Total Units
Nättra	(Y)		0	8, 8, 6, 11, 12, 8, 4, 5, 6, 5, 6	11
Sidensjö	(Y)	2, 1	2	8, 5, 5, 2, 15, 6	6
Skorped	(Y)	1, 2, 2	3	3, 5	2
Anundsjö	(Y)	2, 3, 3, 2, 1, 2, 3, 3, 1, 5, 1, 4, 1, 1, 2	15	3, 2, 5, 2, 6, 2, 5, 4, 2, 2, 1	11
Junsele	(Y)	7, 1, 2	3	5, 8, 6, 3, 7, 6, 6, 5, 10, 6, 6	11
Fjällsjö	(Y)		0	3, 4, 4	3
Bodum	(Y)	4, 5, 1	3	3, 5, 3	3
Ström	(Y)	3, 2, 5	3	25, 10, 15, 20, 3, 3	6
Tåsjö	(Y)	3, 4, 6, 7	4	4	1
Dorotea	(AC)	4, 1, 1, 1, 1	5	10, 8, 3, 5	4
Frostviken	(Z)	1, 1, 1, 2	4	3, 4, 3, 3, 3	5
Total			42		63

Y – Västernorrland Province Z – Jämtland Province AC – Västerbotten Province

Sources: Interviews and a study of records in "Lantbruksnämnden" offices in Härnosand, Östersund, and Umeå, from interviews with 11 "ombudsmänner" (parish secretaries), from analysis of air photos, and from field observations.

¹⁾ Here Anundsjö parish includes the Solberg parish in Table 1, Ström includes Alanäs, and Dorotea includes Risbäck

²⁾ This is the number of farms per unit still occupied in 1960; in each settlement unit included there has been an abandonment of at least one farm (in some as many as five or more).

Although provincial population has increased slowly in recent decades rural population losses have followed population maxima. Thus, in 1930–1940 they began showing in some parishes near the coast as 10–20% losses and in some others immediately inland as 2–4% decreases. By 1950 the losses for the decade were 4–10% at the coastal, less than 2% just inland, and 2–4% in the remainder; the percentage losses were even greater in the rest of the province. Further, since 1950 the trends continued. During the same time

the larger centers of population increased and the smaller decreased though this did not show as much in the strip as in the rest of Västerbotten Lappmark.

Population migration in 1948 and 1958 was similar to that in the Västernorrland Strip. All parishes had losses except in 1958 in the middle of the strip (Table 4). In both years women dominated each of the movements and most of the movement was by single people rather than families.

Table 4: *Västerbotten Strip, Population Changes, 1948 and 1958*

Parish	1948 Migration						Net	1958 Migration						Net
	Out			In				Out			In			
	M	F	Tot.	M	F	Tot.		M	F	Tot.	M	F	Tot.	
Bygdeå	54	95	149	31	55	86	—63	55	50	105	33	40	73	—32
Robertfors ¹⁾	77	90	167	68	86	154	—13	59	78	137	37	69	106	—31
Överklinten ¹⁾	44	48	92	29	40	69	—23	33	40	73	28	29	57	—16
Nysätra	114	104	218	75	80	155	—63	96	91	187	53	65	118	—69
Burträsk	149	205	354	129	173	302	—52	135	154	289	97	122	219	—70
Kalvträsk ²⁾	46	45	91	38	46	84	—7	19	25	44	6	8	14	—30
Bastuträsk ²⁾	77	93	170	53	82	135	—35	42	42	84	49	49	98	+14
Norsjö	127	173	300	88	146	234	—66	75	92	167	113	117	230	+63
Malå	134	158	292	126	146	272	—20	138	144	282	94	105	199	—83
Gargnäs ⁴⁾	67	72	139	36	52	88	—51	47	48	95	23	33	56	—39
Sorsele	81	99	180	66	76	142	—38	87	105	192	71	88	159	—33

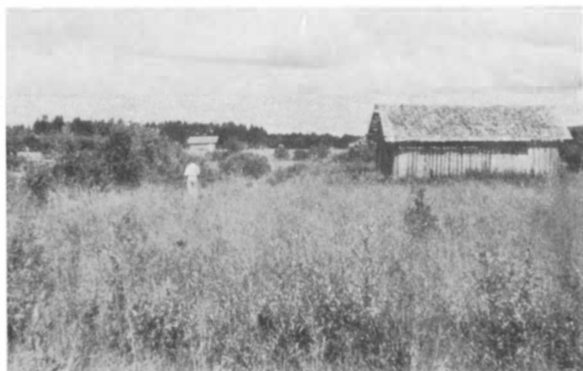
Source: Official data collected from the records of the 11 parish churches.

¹⁾ Part of Bygdeå "socken"

²⁾ Part of Burträsk "socken"

³⁾ Part of Norsjö "socken"

⁴⁾ Part of Sorsele "socken"



1



2



3



4

Photo 1: An abandoned field in the Inner Fringe Zone of the Västernorrland Strip. Exemplary of settlement at least 900 years old where abandoning began when a road was extended into the area to help the settlers. At Godmark, about 35 km. by road NE of Örnsköldsvik on 13 July 1956.

Photo 2: Abandoned fields at the boundary of the Middle and Outer Fringe Zones of the Västernorrland Strip. Exemplary of reforestation, in the area beyond the hay racks (by the provincial Agricultural Commission), of former agricultural land. At Norrbygden, about 21 km. NW of Hoting on 8 Aug. 1959.

Photo 3: An abandoned farmstead in the Outer Fringe Zone of the Västerbotten Strip. The small barn shows this to be one of the small farms which have proved to be not large enough to be viable. About 26 km. NW of Sorsele on 18 Aug. 1959.

Photo 4: An abandoned farm as a result of flooding in Sweden's Outer Fringe Zone. The encroaching water is in the left center in back of the line of bushes. At Baksvedjan, about 20 km. N of Hoting on 23 June 1960.

Table 5: Västerbotten Strip, Abandoned or Declining Settlement Units, 1960

Socken	Number of Settlement Units By Number of Abandoned Farms Per Unit ¹⁾									Total Settlement Units
	1	2	3	4	5	6	7	8	9	
Nysåtra	3	2	1	1			1			8
Bygdeå	19	13	6	3	2	1				44
Burträsk	10	5			1					16
Norsjö	7	11		1	1					20
Malå	79	2	2	1	1					85
Sorsele	69	3	3	1			1		1	78
Totals	187	36	12	7	5	1	2		1	251

Source: Interviews and study of records in the "Lantbruksnämnden" office in Umeå, from interviews with parish secretaries and settlers on or near the sites, and from field observations.

¹⁾ This is the number of abandoned farms in any settlement where at least one holding has been left to revert to forest. Thus, the total number of abandoned settlements cannot be determined from this table but that is not

considered significant here in as much as 74% of the abandoning in the strip was at single places and another 14% where there were only two houses.

Table 6: *Declining and Abandoned Settlements in the Västerbotten Strip, Sweden**)

Name**)	Settlement Zone	Location Re Near Village	No. of Farms		Earlier Characteristics	More Recent Characteristics
			1920	1960		
Krokvattnet	Inner	16 Km. NW. Ånäset	4	0	All farms part-time, had about 5 Ha. of hay land around settlement.	Abandoned late 1930s or early 1940s due to poor road, owners sold to parish.
Hösjöån	Inner	20 Km. NW. Ånäset	7	0	All farms part-time, had about 12 Ha. cult. total, electricity.	No telephone, road probably unsuitable for trucks.
Stenbrännet	Inner-Middle	3 Km. SW. Bastuträsk	3	2	All farms part-time, had about 3 Ha. cult. total.	Abandoning in 1950s, owners to Bastuträsk to home for aged or factory work, had electricity and telephone, had good road.
Norresträsk	Middle-Inner	15 Km. E. Norsjö	5	1	All farms part-time.	Abandoning began 1949 due death of a settler, two families in 1950 to Norsjö for better work and access to schools, farms probably too small, had telephone and electricity, at end of good road.
Bocken	Middle	18 Km. ESE. Lycksele	9	0	Settled with special state support ("kolonat"), each farm had 1/3 Ha. or less cult. land, poor site for farming, had electricity, adequate road.	Abandoning began 1947-1948 when two families to Arvan and Lycksele due to poor houses and farming, five families in 1955-1959 to Lycksele and Malåträsk due to old age or family problems, no telephone.
Stortjärnliden	Middle	11 Km. S. Malåträsk	4	0	Settled 1897, all part-time farms and small, possibly cool summer nights and much winter drifting of snow.	Abandoning mostly 1945-1950 due to old age or move to nearby larger settlements, no electricity or telephone, no road.
Stångträsk	Middle	18 Km. NE. Storuman	8	0	Settles with special state support ("kolonat"), all part-time farms, had telephone, adequate road, rough surface and high elevation (391 m.) for farming.	Abandoning about 1940 by four families to nearby settlements and three families 1950 to 1953 to Storuman due inability to grow crops, no electricity.
Storjuktan	Middle-Outer	30 Km. NNE. Storuman	9	0	All farms part-time, at end of 12 Km. access road separated by ferry from local road net.	All abandoning 1957-1958 due rising lake level re hydroelectric development, most settlers to woods work nearby.

Valträsk- Langängen- Stortjärnviden	Outer-Middle	15 Km. WNW. Storuman	24	6	Settled 1920s with special state support ("kolonat"), original parcels 40 Ha. of which 3-4 Ha. cult. each, many colonists factory or construction workers from western middle Sweden, high elevation (553 m.), had adequate road.	Many colonists abandoned in 5-6 years because unsuited to farming or area, abandoning 1951-1957 due low income re poor crops.
Häggs	Outer	41 Km. NW. Sorsele	3	1	All farms part-time, no road and area separated by lake from local road net.	Abandoning 1930-1950 by settlers who gave up farming and went to near Umeå on coast.
Gautträsk	Outer- Outermost	5 Km. ESE. Ammarnäs	1	0	No road.	Settler died 1952, daughter married and moved to husband's farm elsewhere.

*) The primary sources of data were interviews with provincial and parish officials, analyses of data in provincial agricultural commission offices (especially the 1955 inventory of "byar"), field observations, ground and air photography, and interviews with local farmers in or near the sites of study. Four other settlements in Västerbotten have been described by PORENIUS (1960).

***) Listed in geographical order going inland.

The expectation of future population numbers in the province is similar to that for Västerbotten. Much depends upon the state's policies as well as activities in wood products and mining industries. But it was estimated in 1959 by a local official that the population of Västerbottens Lappmark would drop from its 65,000 to about 40,000 by 1970. In general, such a decline will result from out-migration of young people and by the abandoning of the smaller and more locally isolated settlements while growth takes place in bigger cities toward and along the coast.

Västerbotten is out of the ordinary in that three other studies of abandoned settlements in its inland parts have been made (HARTIN 1960; NORLING 1960; RUDBERG 1957). From the Hartin study of the Lappmark section 156 houses were noted to have been abandoned between 1930 and 1959. These data and others for the period of 1920-1959 showed the sample strip had a total in 1960 of 379 abandoned residences in 251 different settlement units (Table 5).

About 64 % of the strip's abandoning was in the Lappmark part. In the IFZ (Nysätra, Bygdå, and Burträsk Parishes) the more isolated places between bigger centers were the ones abandoned or declining; about three-quarters of these were in units of one or two farms. They, as in the same part of Västerbotten, were left because of great local isolation coupled with the small size of the farms and the attraction of young and middle-aged people to nearby industrial opportunities (Table 6). In the MFZ (Norsjö and Malå Parishes) abandoning was greater in numbers but almost entirely at settlement units of one or two homes; there the people left the farms for similar reasons as in the coastal section but went mostly only short distances to the amenities and work in the villages of Norsjö and Malåträsk (each with about a thousand residents and growing [DAHL 1950]). Farthest inland (Sorsole Parish) the same generalizations applied excepting the addition of hydroelectric development as a cause of abandoning and the domination of industrial work by wood products rather than metal.

In general, the time of maximum abandoning in the strip varied with the date of maximum population. Most abandoning along the coast was in pre-World-War-II times. Farther inland it was more recent, particularly following trends in the processing of metallic ores, and farthest inland was most recent and depended on governmental policies. In all of Västerbotten Lappmark, the large inland part, the abandoning of houses took place between 1959 and 1930 as follows: 37 % in 1955-1959, 27 % in 1950 to 1954, 19 % in 1945-1949, 11 % in 1940-1944, 5 % in 1935-1939, and 2 % in 1930-1934 (NORLING 1960, p. 239). It is expected that these trends will continue into the 1970's.

No matter when the abandoning the causes were the same as in Västerbotten. In Västerbotten much

was in settlements of one or two places (Table 5, Photo 3). Sometimes abandoning resulted from a road built to or through a settlement without one. In recent years considerable encouragement has been given to Västerbotten "kronotorp" settlers to leave; families were paid an average of 5,000–10,000 sk, and a bonus of 2,000–3,000 sk if necessary, to move because it appeared possible to get woodwork more cheaply by importing the labor when needed. There also was much abandoning in inland Västerbotten as a result of water power developments (Photo 4) where that cause was 8% of the total (while the rest was 30% due to age, illness, or death, 20% because of low income, 20% on account of poor roads, and 15% due to poor houses) (NORLING 1960, p. 241). However, the migration from an abandoned place was initially for shorter distances than in Västernorrland because 50–55% of the Lappmark settlers were reported to have moved only within the "socken" (and 17% to Lycksele or Vilhelmina, 12–14% elsewhere in the province, and 5–10% elsewhere in Sweden).

Conclusion

Stress has been placed on the process of abandoning in northern Sweden to emphasize a unique scale of activity in Norden that would be useful in planning for rural settlement. But a discussion of abandoning in Norrland might be overdone. One needs to recall that at times in the late 19th and the 20th centuries the Swedish Government chose to encourage settling, directly or indirectly, in ways and areas which may now draw criticism. The encouragement that was given needs to be measured against conditions at the time it was extended. And Sweden's industrialization, its socialistic-democratic form of government, its strong nationalistic feelings, the desire to raise the standard of living coupled with its wish to remain neutral in time of war, and other national actions must all be taken into account.

Abandoning, as it is developing and is being encouraged in northern Sweden at the present time, is not necessarily bad. Of course, the leaving of farms causes adjustments and leaves emotionally-stirring scars on the landscape. But abandoning may be to a landscape what pruning is to a fruit tree; it helps it. When such pruning involves people it is likely to produce vocal reactions. So it has been in Sweden.

Properly done, the abandoning of farms in northern Sweden may prove to be healthful to Sweden's economy and inhabitants in the future. Planners in other areas may learn from this that there may be a place for planned temporary settlements which last only a few years or a few decades. Or they may gain evidence that there are parts of the Discontinuous Settlement Region, like the Middle Fringe Zone, where the development is far more difficult to guide

than is presently supposed and for which only a few studies are available (SCHWARZ 1961, pp. 518–553).

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KULTURRÄUMLICHE STRUKTURWANDLUNGEN AM VOLTA RIVER

Die Entwicklung eines neuen „Aktivraumes“ in Südostghana

Mit 3 Abbildungen und 4 Photos

ALFRED FRISCHEN und WALTHER MANSHARD

Summary: Economic and Cultural Changes as a result of Lake Volta (Ghana)

This paper outlines the changes in the pattern of human and economic geography that have occurred as a result of the construction of Lake Volta, biggest man-made lake of the earth. In a sketch of the ethnic and demographic "base-line" conditions of the middle-belt in South-Eastern Ghana in the decades before the flooding, emphasis is laid on agricultural migrations (particularly those of the Konkamba).

An account of recent developments in the Lake Volta region follows. The Ghana Government Resettlement Programme is described in connection with agricultural progress in the region. Conditions in a number of sample villages are analysed.

In a hitherto nearly uninhabited and rather remote region of economic stagnation, there are now prospects of more active economic growth which may lead to the development of a new "economic island" in Ghana.

Im September 1965 wurde am Volta-Staudamm (Akosombo) in Südostghana mit der Stromerzeugung begonnen. Seit der Unabhängigkeitserklärung der ehe-

maligen britischen Kolonie Goldküste im Jahre 1957 gab es kein Ereignis, das für die Zukunft des jungen westafrikanischen Landes von größerer Bedeutung gewesen wäre. Es kennzeichnete den erfolgreichen Abschluß der Arbeiten an dem wichtigsten Teilstück des Volta-Planes. Das den Nasser- und Karibastaudämmen vergleichbare Entwicklungsvorhaben soll gleichsam Ghanas Schlüssel für die zukünftige Modernisierung und Industrialisierung sein.

Ogleich der Volta nicht zu den größten Strömen Afrikas gehört, ist er mit einer Gesamtlänge von über 1600 km und einem Einzugsbereich von etwa 390 000 qkm – neben Niger, Benue, Senegal und Gambia – einer der bedeutendsten Flüsse im Westen des Kontinents. Er entsteht aus dem Zusammenfluß von Schwarzem und Weißem Volta, die beide ihre Quellen in der Republik Obervolta haben. Nachdem der Fluß die wechselfeuchten Savannen Nordghanas durchflossen hat, schuf er etwa 110 km vor seiner Mündung in den Golf von Guinea ein enges Durchbruchstal durch die Akwapim-Togo-Kette.