

Fig. 11. The map shows the importance of winter cereals in the different counties in Denmark for the years 1980 and 1985. The height of the columns indicates the level of winter cereals measured as a percentage of the area with cereals.

gional distribution. From being closely connected to the more fertile soils in the eastern part of the country, rape is becoming more common also on the sandy soils (the lowest percentage of the agricultural land is found in West-Jutland, where it amounts to only about 4 % on a county level).

CONCLUDING REMARKS

Based on these few considerations on the development in the last few years and the present status of the regional production pattern in Danish agriculture it can be summarized:

- that the keywords to characterize the development are specialization and decreasing diversification,
- but in this decade there are also obvious trends towards a more complex crop pattern with emphasis on winter cereals and on fodder crops rich in protein, trends which have to be seen as an essential element of a strategy containing also ecological considerations.

ACKNOWLEDGMENTS

The data used for the maps presented in this article have been financed by the Agricultural Science Research Council of Denmark. Stud.scient. Lasse Møller Jensen has kindly assisted with the computer based mapping, Jørgen Ulrich and John Jønsson have made the drawings and Kirsten Winther has improved the English language.

References

- Danmarks Statistik: Landbrugsstatistik, var. years.
 Jensen, Kr. M. (1984): Changes in diversity within Danish agriculture. *Geogr. Tidsskr.*
 Jensen, Kr. M. and A. Reenberg (eds.) (1986): *Landbrugsatlas Danmark. Atlas over Danmark ser. II, bd. 4.* Reitzel.
 Skriver, K. (ed.) (1987): *Oversigt over landsforsøgene, Beretning om Planteavlssarbejdet 1986.* Aarhus.

Two types of Danish rural population change based on natural resources – a long-term perspective (1769-1981)

Henning Mørch

Mørch, Henning: Two types of Danish rural population change based on natural resources – a long-term perspective (1769-1981). *Geografisk Tidsskrift* 88:13-20. Copenhagen. 1988.

The development of the rural population in Denmark during the last 200 years is examined. Two main types of development are revealed. The types are to be attributed to differences in the basis and utilization of resources, and of industrialization and urbanization.

Keywords: Rural population, Denmark (Denmark).

Henning Mørch, associate professor, Institute of Geography, University of Copenhagen, Øster Voldgade 10, DK-1 350 Copenhagen K.

The subject of this paper is the development of the rural population in Denmark – a demonstration of growth curves for the population in some typical regions and rural municipalities. The material for the study is the census populations of municipalities (subdivision before 1970). Censuses have been performed in more than two hundred years – the first ones in 1769, 1787, 1801, 1834, 1840, and since then every fifth or tenth year. The populations of the selected municipalities are presented by semi-logarithmic graphs so that the slope of curves are proportional to the rate of population growth; thus the population curves – at different times or in different places – are directly comparable.

Quite many studies have been carried out on the general development of population in larger regions and of the urban development – and especially for shorter periods. An extensive study of the Danish urban development is Matthiessen (1985). Studies of the longer course of rural population development appear to be few. Aagesen (1961) treats the population geography of Denmark. Illeris (1965) gives an examination of the rural population development in two typical regions of the country and especially the role of the demographic components of growth – including a map of the time of maximum population in the municipalities. Until quite recently there has been a close relationship between rural population and resources (measured by type of area) in two characteristic types of landscapes (Mørch, 1980).

Year	Agricultural			
	Population		Labour force	
	1000	%	1000	%
1801	628	67	no data	
1855	816	58	no data	
1901	1001	39	502	41
1930	1027	29	526	28
1950	906	21	470	21
1960	759	17	325	13
1970	475	10	201	9
1980	no data		154	6

Table 1. Agricultural population and labour force. (Source: Landøkonomisk oversigt)

GENERAL FEATURES

At the beginning of the 19th century more than two thirds of the Danish population were directly linked to agriculture by habitation and work. Now nearly two hundred years later the share is less than 10 %. The number and share depend on the way of defining "rural" and "agricultural" (cf. fig. 1 and table 1).

The agricultural population is the population depending on agriculture – i.e. the farmers and agricultural labourers with their families. Its share of the total population in Denmark has declined since 1801, but the agricultural population was increasing throughout the 19th century. In the first third of the 20th century the number levelled off and then declined – especially after 1950, to approximately 360,000 (7 %) in 1980 (judgement – no counting after 1970). The future development will be very closely related to the number of farms and their size, as almost all farms are supposed to be family farms without hired assistance.

The agricultural labour force includes those directly involved in agricultural activity, and this reflects more explicit the development of agriculture. But the actual labour force in Denmark was not registered in the statistics before 1901, and accurate statements were not available until after 1920. The size of the agricultural labour force is, of course, smaller than the agricultural population, but the trend of the former conforms to that of the latter. At the turn of the century still half a million (40 %) of the labour force were engaged in agriculture – now in the 1980s just 150,000 (5 %).

The labour force as such is not a precise registration of the actual work. Therefore, since 1920 man-years, related to the decreasing working hours per year and taking into account the share of income gained in agriculture, are

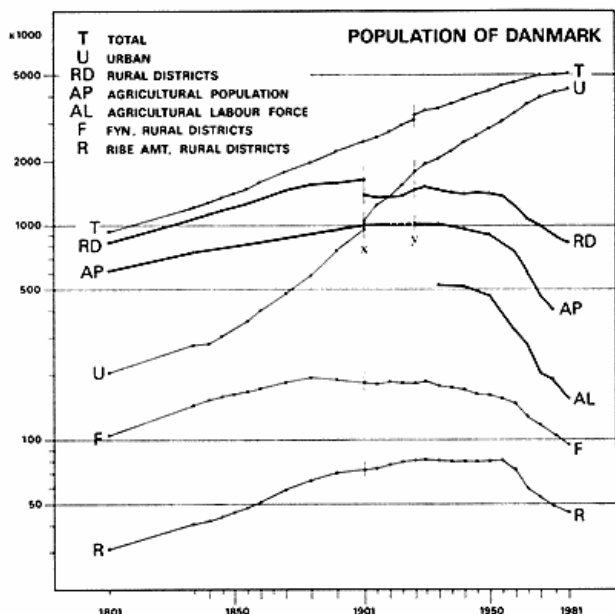


Fig. 1. Development of the Danish population 1801-1981. T: total population; U: urban; RD: rural districts; AP: agricultural population; AL: agricultural labour force; F & R: rural districts of Fyn & Ribe amter (provinces of Funen and R.). – The vertical axis is logarithmic, the slopes of curves equal to growth rates and thus are directly comparable. X and Y indicate changes in definitions and practice.

used for measurements. In the 1920s the total working effort in agriculture amounted to 500,000 man-years – the farmers and their families, i.e. wives and children, contributed with 33 %, grown-up children and other relatives with further 15, and thus more than half of the work was done by hired, salaried workers (fig. 2). In the 1980s, the work of the farmers with family is reduced to half of the size in the 1920s, but it constitutes 90 % of the total labour force. The hired labourer, who up to 1950 contributed with almost half of the work in agriculture, has almost disappeared.

The rural population – i.e. the population living in the rural districts, which is the object of this paper, is in Denmark not registered as such in the published statistics. Thus the rural population has to be found as the difference between total and urban population: the population not living in towns. Previously the major part of the rural population was directly engaged in, or depending on rural activities (agriculture). In the later decades – with the population's growing mobility due to automobilism, commuting, and urbanization of the rural population – an increasing share of the population in the rural districts is urban and not rural in function. Nonetheless the rural population mirrors essential trends of the agricultural development.

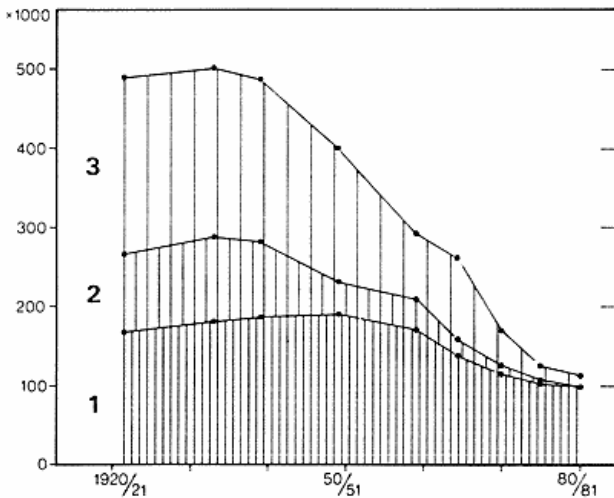


Fig. 2. Labour force (man-years) in Danish agriculture 1920-1981. 1: Farmer's family (farmer, wife, younger children); 2: other relatives (adult children & relatives); 3: hired labourers.

At the beginning of the 19th century, 80 % of the Danish population lived in the rural districts and had a growth rate similar to that of total population until the middle of the century. Then the growth rate declined along with the advancing process of urbanization. In the years just after the turn of the century the urban and rural part of the population in Danmark was of equal size. The number of the rural population levelled off, but not until 1930 a decline set in and to an increasing extent – especially from 1950. And now the rural population constitutes just 20 %.

TWO MAIN TYPES OF DEVELOPMENT OF THE RURAL POPULATION

The development of the rural population has not been uniform all over the country. Apart from the rise of suburbs around the provincial towns and in the metropolitan area of Copenhagen, there are two main types of development – an eastern and a western type.

The eastern type is found in the part of Danmark east of the main stationary line from the latest glaciation (Weichselian g.) – fig. 3, cf. Schou (1949). These parts of the country consist of moraine landscapes from the latest glaciation with comparatively fertile soil, which has been almost completely cultivated during the whole period of investigation. Here the rural population growth was similar to that of the whole population until the middle of the 19th century. In the last half of the century (around 1880) the population growth stopped and was soon after followed by a decline, which became heavy after about 1930. The development of the rural population of Fyn (fig. 1 F) gives an example.

This type of development has to be seen on the background of a series of factors acting from the mid-19th century. The land resources were almost fully utilized and

gave little space for further employment of the growing local population. The advancing industrialization in the towns gave good possibilities of higher income in cash, all year work, fixed working schedules etc. The migration from the rural districts matched the urban growth – the "flight from the countryside to the towns". The urban development was in favour of possibilities for the rural surplus population and generated the migration.

The western type is to be found in Jylland west of the main stationary line from the latest glaciation – cf. Schou (1949) and fig. 3. The landscapes of this part of the country consist of the sandy outwash plains from the latest glaciation and moraines from the former (Saalian g.), the latter is quite outwashed, and sandy too. The soils are rather poor. Before the middle of the 19th century a large part of the surface lay as heathlands, which were

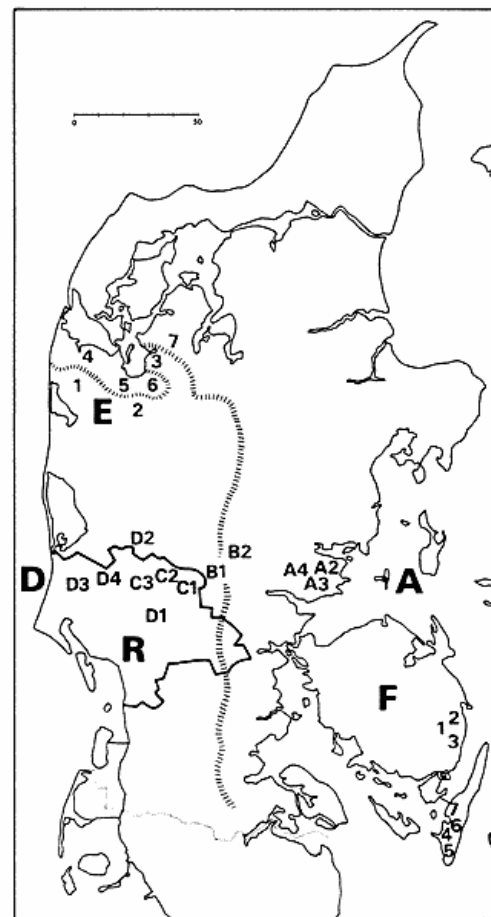


Fig. 3. Location of survey areas and sites mentioned. The hatched line indicates the main stationary line of the latest glaciation. East (and north) of this line the terrain consists mainly of Weichselian moraine, west of the line are the W. outwash plains and the Saalian moraines. F & R indicate Fyn and Ribe Amt (provinces of Funen and R.). The other letters and numbers refer to municipalities mentioned in the text.

reclaimed during the period of investigation (Jensen & Jensen, 1979). Here the rural population continued to increase until 1930, or even later, and not until after 1950 a decline began. The continuing growth is to be attributed to, what might be summarized as "the reclamation of the heathlands". The reclamation of a vast, idle land combined with technological progress extended the basis of resources and gave an extension of the possibilities for the population – i.e. continuing growth. The development of the rural population of Ribe Amt serves as an example of this western type (fig. 1 R).

The two provinces presented are typical for the provinces on each side of the stationary line (cf. Illeris, 1965; Mørch, 1980). The difference in development is attributed to their differences in the basis of resources, industrialization and the urban development. But no simple model of explanation is established (Illeris, 1965).

The emigration to the overseas countries – "the flight to America" – played its part in the development of the rural population. The emigration from Danmark was quite significant in the last part of the 19th century and until World War I – although not to the same extent as in neighbouring countries like Sweden, Norway, and England. Generally, the emigration was comparatively large from the eastern regions of the country and low from the western ones (Hvidt, 1971).

A transection of Jylland

To get more nuances of the development of the two types previously mentioned a transection of Jylland across the main stationary line from the last glaciation was examined. The section was arbitrarily selected from the island of Endelave and westwards (figs. 3 A-B-C). The municipalities (subdivision before 1970) in the section were inspected for the population change 1769-1981, and the types are demonstrated in the following. Two larger regions east and west of the stationary line have earlier been studied as regards the relationship of population versus areal resources (Mørch, 1980).

The rural population in all the municipalities east of the stationary line, on the Weichselian moraine, more or less doubled from the end of the 18th century to around 1860/70; and then the increase levelled off, and hereafter the municipalities experienced some decline or a slight increase (figs. 4 A 1,2,3). The fairly heavy decline after 1880 was probably due to the fact that the migration to the towns was supplemented by emigration. The smaller details of the curves are difficult to explain and may easily be over-interpreted. Nonetheless, the small increases seen just after 1901 and 1921 (A 1 & 2) are probably attributed to two land reforms. In 1899 and 1919 legislation opened up for quite many additional small family-farms, thus the economic basis in the rural districts locally was enlarged,

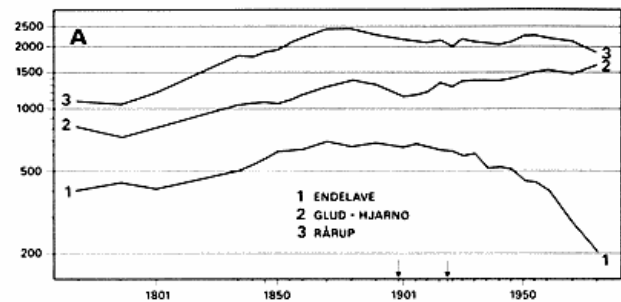


Fig. 4. Rural population growth 1769-1981 on the Weichselian moraine in East Jylland (Jutland). The arrows at the horizontal axis indicate the land reforms 1899 and 1919.

which weakened the out-migration for a time. This phenomenon is even more distinct in other municipalities than in the one presented here. The comparatively small growth in some rural municipalities (A 2) in the latest decades is probably a symptom of the functional urbanization of the population. The island of Endelave (A 3), which for a generation or two has experienced an actual depopulation, is typical for the smaller Danish islands. The physical isolation for some time may have had a restraining effect on the out-migration, which then set in more strongly.

A typical feature of the rural population in Danmark is the rise of small, rural towns – new service centers, often located according to railway stations. These emerged in the rural districts after a liberation of trade and business in 1857; for centuries, prior to that, formerly 88 statute towns (købstæder) had legislative privileges on most commerce, manufacturing industry, and crafts. In 1857, these privileges were abolished, and in the following decades a lot of new centers were established all over the rural districts – especially in connection with the increasing number of railway stations, but also at important roads and cross-roads (cf. Aagesen, 1949; Hansen, 1965 & 1971; Wichmann Matthiessen, 1986). Normally, the basis for these new towns was trades with connection to the agri-

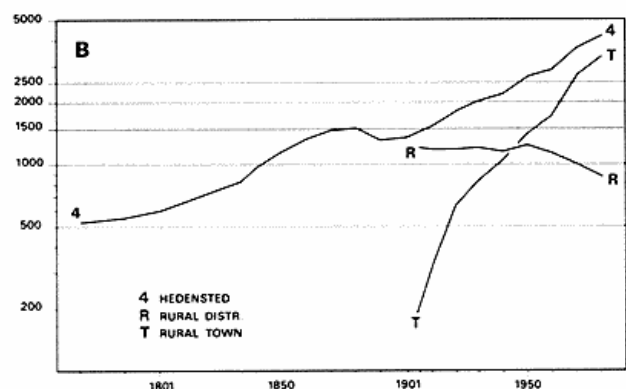


Fig. 5. Population growth in a municipality in E. Jylland with a rural town, Hedensted.

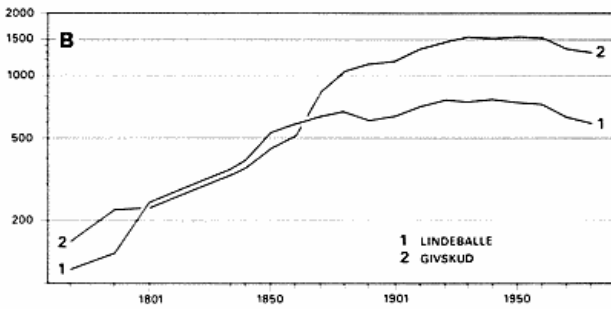


Fig. 6. Rural population growth at the main stationary line from the latest glaciation – a transitional landscape zone.

cultural activities and population: retail shops, craftsmen and maybe a dairy. Later, a spectrum of public functions was added – schools, the municipal administration, homes for the old-aged, physician etc. In many places later some manufacturing industries arose without any direct connection with agriculture. Gradually, these rural towns were incorporated in the total system of central places and got their share of the rural out-migration.

Hedensted is a characteristic example of one of these rural towns (fig. 5). Until the beginning of this century, the population growth of this municipality was similar to that of other municipalities in the eastern part of the section, such as demonstrated above, but hereafter an increase occurred, and this has continued until recently. The increase is – as it appears from the curves – a product of the rise and growth of the rural town Hedensted. It should be mentioned that the rural towns were not registered by census until 1906. The development of the rural population of Hedensted – i.e. the whole municipality until the end of the 19th century, and hereafter the residual between the municipality and the town (fig. 5, HC-HT = HR) – is similar to the development of other eastern rural populations. It might be argued, that the rural depopulation lately has been accentuated because of the town.

The development of the rural population along the main stationary line from the last glaciation – in the transition zone between the two types of physical landscape – is somewhat different (fig. 6). The population increase in

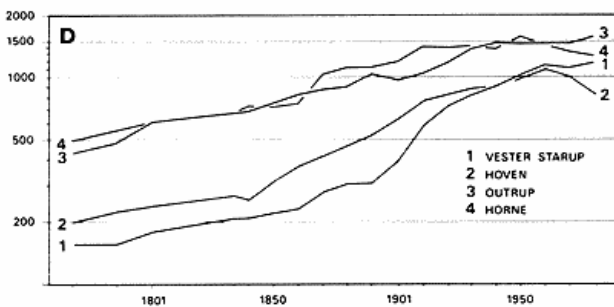


Fig. 7. Rural population development on the outwash plain (D 1 & 2) and on the Saalian moraine (D 3 & 4).

the first period was much stronger than in the eastern municipalities. In the transitional zone the population quadrupled from the end of the 18th century to 1870, for shorter periods the increase was even faster in some municipalities (a doubling in just 20 years), and the population growth continued until 1920, or even to around 1950 – though details in the trend similar to that of the eastern type are found. This development mirrors a different resource base. In the transition zone the soil and terrain are complex and difficult to cultivate. Initially the population density was comparatively low and the exploitation of areal resources extensive, the carrying capacity was low – cf. table 2. Changes in the agricultural system's utilization and technology, under influence of a population pressure, made the large expansion possible and gave subsistence for a much larger population (subsistence in an economic sense). These developments contrast those of the eastern region, where the areal resources comparatively early were "fully" exploited. A treatment of the changes in the agricultural system in the transitional zone is given in Jensen & Jensen (1977) – cf. also Jensen (1976 & 1986).

Further to the west – on the Saalian moraine and the Weichselian outwash plain – the development of population is again different (fig. 7).

On the outwash plain, with its low agricultural potential, the population density through the ages had been very low (table 2) and the agricultural system extensive – though the work of the farmers was troublesome and the life of the population was severe. Here the conspicuous expansion of the population began as late as in the mid-19th century, or even later (D 1 & 2), and the increase continued until recently at a fairly high rate – the population quadrupled in a hundred years.

Landscape - Municipality	Inhabitants per km ²		time of max.
	1801	max.	
Weichselian moraine Rårup (A 1)	28	57	1870-80
Main stationary line Lindeballe (C 1)	7	21	1920-60
Outwash plain Hoven (D 2)	4	15	1960
Saalian moraine Ovrup (D 4)	13	33	1940-80

Table 2. Examples of population density in 4 landscapes – at the beginning of the survey period (1801) and at the time of population maximum.

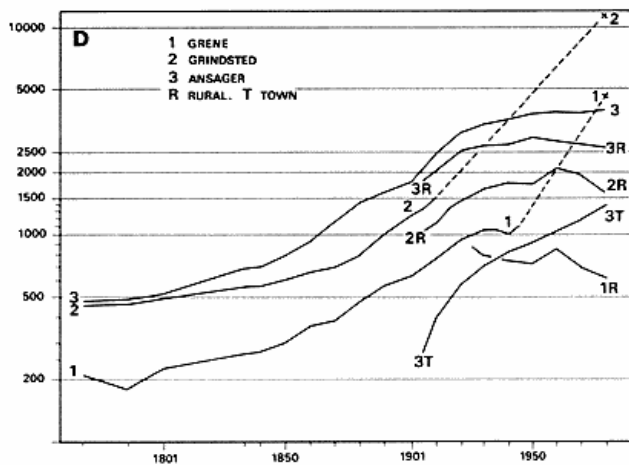


Fig. 8. Population growth in municipalities with rural towns in W. Jylland.

At the beginning of the survey period the Saalian moraine had a much higher population density than the outwash plain (3-4 times - table 2). In spite of a heavy outwashing this morainic terrain had a comparatively higher agricultural potential than the outwash plains - although by far not as high as the Weichselian moraine. The Saalian moraine has been relatively well exploited through millenaries, but in spite hereof changes in technology and agricultural system meant a more efficient utilization of the resources and thus enlarged the carrying capacity. The resulting population growth was not as high as on the outwash plain, but it continued almost throughout the survey period, and from the end of the 18th century to 1930/40 the population almost trebled (fig. 7 - D 3 & 4).

Also in these two last types of physical landscapes, or resources, the population development is only understandable by taking into account the agricultural systems and change in connection with the functional interplay with the physical conditions. A comprehensive treatment of the agricultural systems in these landscapes give Jensen & Jensen (1976).

West of the main stationary line, too, a large number of rural towns has emerged. In this part of the study area the largest rural town, Grindsted (fig. 8 - C 2), is situated. This town grew up in the beginning of the 20th century in the center of a fairly large zone, which was without any urban center, and the growth was sustained by the establishing of railways in six directions. This new town soon became an important local service center, which was later strengthened by a chemical plant (1924) and a slaughterhouse (1931); the two firms became after some time large in a Danish perspective. When registered in the statistics for the first time 1906, Grindsted had just 300 inhabitants compared with 10,000 in 1980; and it serves as a very good example how the rural towns draw their population

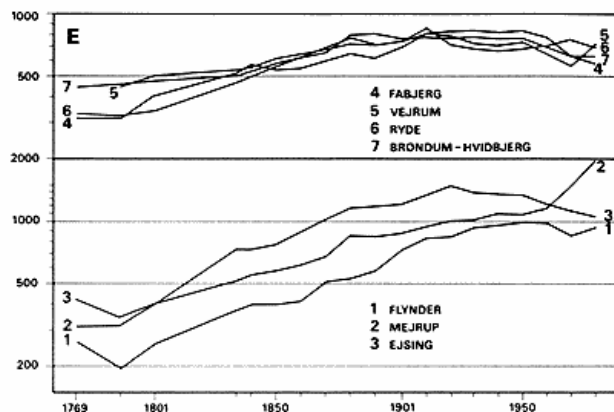


Fig. 9. Population development in rural municipalities along the northern part of the main stationary line from the last glaciation. 3 municipalities (E 1,2,3) on the outwash plain and 4 on the Weichselian moraine (E 4,5,6,7) - cf. fig. 3.

from the rural districts (cf. Mørch, 1968 & 1976).

In the neighbouring municipality to the south, Ansager (fig. 8 - C 1), a more "normal" rural town grew up with a smaller slaughterhouse. Within the last circa twenty years the other neighbouring small rural town (C3 - Billund) has grown much, from 500 inhabitants to 4,000 in 1980, this due to the growth of the large toy manufacturing plant, Lego.

The rural population in these municipalities demonstrates development similar to that in other parts of the outwash plain.

Two "deterministic" trials

To inspect the validity of the observations above, two somewhat deterministic trials were made - by selecting some municipalities after two criteria: natural resource and economic condition.

A. Some municipalities were selected along the northern part of the main stationary line from the latest glaciation. This location was chosen in order to be as distant as practicable from the transection described before - and so, it might be assumed that local economy, which might influence population growth, was as different as possible. Four municipalities were selected on the Weichselian moraine (fig. 3 & 9 - E 4, 5, 6, & 7) and three on the outwash plain (E 1, 2, & 3). The selection was made by the guidance of a geomorphological map (Schou, 1949) and topographic maps.

The municipalities on the young moraine have a population development similar to that of the other municipalities on the young moraine, described earlier. Correspondingly the municipalities, here on the northern part of the outwash plain, reveal a population development close to that found for other parts of the outwash plain. It should be mentioned

that the relatively high growth in two of the municipalities the last 10-20 years is caused by the upcoming of some suburbs to neighbouring towns.

B. The other trial was made by selecting municipalities on Fyn by two criteria: the number of small farms established in connection with the land reforms, and the size of emigration. The guidance for the selection was three sources: Møller (1987) has a map of "huse", i.e. small plots with houses for agricultural workers, erected 1805-1835 in succession of the enclosure movement in the last part of the 18th century; Kampp (1959) has maps of small, state-subsidized farms established 1904-1920 and 1920-1940 as a result of the subdivision acts of 1899 and 1919; and finally, Hvidt (1971) treats the large emigration 1868-1899. The establishing of "huse" and small farms could be expected to delay the out-migration, or even induce a periodical growth. The emigration, either high or low, might be expected to influence the growth correspondingly.

Two groups of municipalities were selected: one on the east coast of Fyn with low emigration in the last part of the 19th century (fig. 10 - F 1, 2, & 3), and another on the smaller island Langeland with high emigration (F 4, 5, 6, & 7).

Considering the establishing of "huse" at the beginning of the 18th century two municipalities on Langeland (Humble and Lindelse - F 4 & 6), where very few "huse" were established, had a population growth of 16 % and 47 % respectively 1801-1834, whereas another municipality (Skørbelev - F 7) had an intermediate population growth of only 32 % in the same period - in spite of a large increase in the number of "huse".

The relatively substantial population decline in three municipalities on Langeland (F 4, 5, & 6) around the turn of the 19th century and in the beginning of the 20th is probably due to the known high emigration rate. On the other hand, in spite of high emigration, one place (Skørbelev - F 7) only experienced a levelling off of the growth. The three municipalities on Fyn (F 1, 2, & 3) had some population growth in the last decades of the 19th century in accordance with the known small emigration.

Two of the municipalities - one on Fyn (Frørup - F 2) and one on Langeland (Tryggelev - F 5) - got many state-subsidized farms 1920-1940. This seems to appear from the population curve for Frørup, but only to have a small effect for Tryggelev. On the contrary, some of the other municipalities, which appear to have few such farms established, experienced growth just after 1899 and/or 1919.

The land reforms as well as the emigration may in some cases have a visible influence on the population curves, but in other cases the effects seem to be hidden by other factors. Whatever the causes might

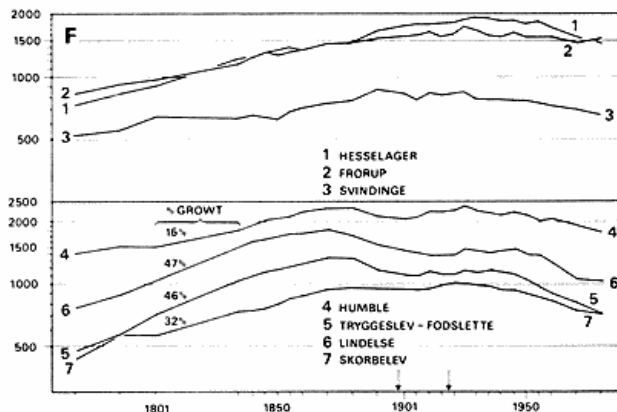


Fig. 10. Development in rural municipalities in the region Fyn. The municipalities are selected by two criteria: emigration and the establishing of small family farms. The arrows on the horizontal axis indicate the land reforms 1899 and 1919.

be for the lesser variations in the growth rates, the general pattern of population development in all these seven municipalities on Fyn and Langeland is similar to the eastern type described earlier.

CONCLUSION

There are two types of rural population development in Denmark - an eastern and a western. In the eastern one, the growth stopped in the last half of the 19th century, and soon after a decline occurred - especially after 1930 the decline has been heavy. Generally, the western type reveals increase until 1950-1960.

The two types are found on each side of the main stationary line from the last glaciation. To the east, including E.Jylland, Fyn, and - though not treated directly in this paper - Sjælland the land is mainly the comparatively fertile, young moraine from the latest glaciation (Weichselian g.). To the west, W.Jylland, the outwash plains from the latest glaciation and the old moraine from the earlier glaciation (Saalian g.) constitute a harsh and less fertile resource.

The different population development in these two rural zones are caused by differences and changes in agricultural systems of utilization. The the east, the agricultural resources were early fully utilized. The western region, whose resources at the beginning were more extensively utilized, gave space and possibilities for an expansion of the agricultural area and regular changes of the system of utilization. This is in W.Jylland emphasized by the divergent courses of growth according to environmental differences.

Factors like land reforms and emigration appears to have some effect on the population curves, but an effect which may be hidden by other factors.

In addition to the environmental factors and the system

of utilization, the levelling off in population growth and the later decline are to be seen in connection with the industrialization and urbanization processes, that matched the rural out-migration. To some extent, and especially in the eastern part of the country, emigration has played a part from the middle of the 19th century to World War I. And so, too, has the establishing of small farms, which in periods caused a continuation of growth, or weakened the decline.

Locally, all over the country, a continuation of population growth is found as a product of the rise of rural towns. This is a consequence of a change in the urban, economic system in the mid-19th century.

In a rural society the development of population is closely connected with the resources and the systems of utilization, including economic factors. Apparently the development of the Danish rural population is closely connected with the resource system. This may appear deterministic, but the point is that there is a functional relationship between the rural population and the environmental as well as the economic factors. The curves may easily be over-interpreted – even if some trends and relationships are evident. Systematic studies are lacking of rural population at the one side and on the other factors like resources, agricultural system, land use, demographic factors, urbanization etc. – The more urbanized and industrialized a society is growing, the weaker the connection between resources and rural population and its distribution.

ACKNOWLEDGMENTS

The paper is written in the connection with two earlier studies (Mørch 1975 & 1980) supported by the National Agricultural Research Foundation. Mrs. K. Winther has improved the English manuscript and Mr. J. Jønsson redrawn the diagrams.

Note

Throughout the paper Danish names are used. Denmark thus corresponds to the English Denmark, Jylland = Jutland, Fyn = Funen, and Sjælland = Zealand.

Literature

(AoD: Atlas of Denmark; GT: Geografisk Tidsskrift; KS: Kulturgeografiske Skrifter – all the Royal Danish Geographical Society / Reitzel, København/Copenhagen)
Aagesen, Aa. (1949): Geografiske Studier over Jernbanerne i Danmark. KS 5.

- Aagesen, Aa.* (1961): Befolkningen. AoD I, II.
Hansen, V. (1965): Den rurale by – de bymæssige bebyggelsers opståen og geografiske udbredelse. GT 64: 54-69.
Hansen, V. (1971): Den rurale bys rolle i urbaniseringsprocessen i Danmark. Ymer 21-33.
Illeris, S. (1965): Befolkningsudviklingen i landdistrikterne i Vestjylland og Sydsjælland. GT 64:18-35.
Hvidt, K. (1971): Flugten til Amerika. Jysk Selskab for Historie, Skrifter 22, Aarhus.
Jensen, Kr. M. (1964): A change in land use in Central Jutland. GT 63:130-145.
Jensen, Kr. M. (1976): Opgivne og tilplantede landbrugsarealer i Jylland. AoD II,1.
Jensen, Kr. M. (1986): Marginale landbrugsarealer. GT 86:69-73.
Jensen, Kr. M. & Jensen, R. H. (1976): Kulturlandskabet i Borris og Sdr. Felding. GT 78/79:61-99.
Jensen, Kr. M. & Jensen, R. H. (1977): En landbrugsgeografisk analyse af Gadbjerg og Givskud sogne. GT 76:35-51.
Jensen, Kr. M. & Reenberg, A. (1986): Landbrugsatlas Danmark. AoD II,4.
Kampp, Aa. H. (1959): Landbrugsgeografiske Studier over Danmark. KS 6.
Matthiessen, Chr. Wichmann (1985): Danske byers vækst. AoD II,3.
Møller, P. Grau (1987): Huse og husmænd. Bygd 18,3:28-31.
Mørch, H. (1968) Fødesteds- og indflytningsfeltet for Grindsted by. GT 67,1:19-49.
Mørch, H. (1975): Population and resources on the minor Danish islands. GT 74:21-35.
Mørch, H. (1976): Grindsted – en jysk stationsby. 30-31 in Jensen, R. H. & Jensen, Kr. M. (eds.): Topografisk Atlas Danmark. AoD II,2.
Mørch, H. (1980): Population and resources in two types of rural landscape – Danmark 1860, 1901, and 1960. GT 80:88-92.
Mørch, H. (1986): Landbefolkningen. 81-85 in Jensen & Reenberg 1986.
Schou, A. (1949): Landskabet. AoD I,1.

Sources of Data

- (Danmarks Statistik (DS) – formerly Det Statistiske Departement = Central Bureau of Statistics, København/Copenhagen)
DS (1905): Befolkningsforholdene i Danmark i det 19. Aarhundrede. Statistisk Tabelværk V,A5.
DS (1919): Folkemængden i det egentlige Danmark den 1. Februar 1911. Statistiske Meddelelser 4. Række, XXXVII.
DS (1964): Folketal, areal og klima (1901-1960). Statistiske Undersøgelser 10.
DS (1975): Folke- og boligtællingen 1970. Statistisk Tabelværk II,B3.
DS (1986): Folke- og boligtællingen 1981. Statistisk Tabelværk L3.
Landøkonomisk Oversigt. Samvirkende danske Landboforeninger, København, annual.

of utilization, the levelling off in population growth and the later decline are to be seen in connection with the industrialization and urbanization processes, that matched the rural out-migration. To some extent, and especially in the eastern part of the country, emigration has played a part from the middle of the 19th century to World War I. And so, too, has the establishing of small farms, which in periods caused a continuation of growth, or weakened the decline.

Locally, all over the country, a continuation of population growth is found as a product of the rise of rural towns. This is a consequence of a change in the urban, economic system in the mid-19th century.

In a rural society the development of population is closely connected with the resources and the systems of utilization, including economic factors. Apparently the development of the Danish rural population is closely connected with the resource system. This may appear deterministic, but the point is that there is a functional relationship between the rural population and the environmental as well as the economic factors. The curves may easily be over-interpreted – even if some trends and relationships are evident. Systematic studies are lacking of rural population at the one side and on the other factors like resources, agricultural system, land use, demographic factors, urbanization etc. – The more urbanized and industrialized a society is growing, the weaker the connection between resources and rural population and its distribution.

ACKNOWLEDGMENTS

The paper is written in the connection with two earlier studies (Mørch 1975 & 1980) supported by the National Agricultural Research Foundation. Mrs. K. Winther has improved the English manuscript and Mr. J. Jønsson redrawn the diagrams.

Note

Throughout the paper Danish names are used. Denmark thus corresponds to the English Denmark, Jylland = Jutland, Fyn = Funen, and Sjælland = Zealand.

Literature

(AoD: Atlas of Denmark; GT: Geografisk Tidsskrift; KS: Kulturgeografiske Skrifter – all the Royal Danish Geographical Society / Reitzel, København/Copenhagen)

Aagesen, Aa. (1949): Geografiske Studier over Jernbanerne i Danmark. KS 5.

Aagesen, Aa. (1961): Befolkningen. AoD I, II.

Hansen, V. (1965): Den rurale by – de bymæssige bebyggelsers opståen og geografiske udbredelse. GT 64: 54-69.

Hansen, V. (1971): Den rurale bys rolle i urbaniseringsprocessen i Danmark. Ymer 21-33.

Illeris, S. (1965): Befolkningsudviklingen i landdistrikterne i Vestjylland og Sydsjælland. GT 64:18-35.

Hvidt, K. (1971): Flugten til Amerika. Jysk Selskab for Historie, Skrifter 22, Aarhus.

Jensen, Kr. M. (1964): A change in land use in Central Jutland. GT 63:130-145.

Jensen, Kr. M. (1976): Opgivne og tilplantede landbrugsarealer i Jylland. AoD II,1.

Jensen, Kr. M. (1986): Marginale landbrugsarealer. GT 86:69-73.

Jensen, Kr. M. & Jensen, R. H. (1976): Kulturlandskabet i Borris og Sdr. Felding. GT 78/79:61-99.

Jensen, Kr. M. & Jensen, R. H. (1977): En landbrugsgeografisk analyse af Gadbjerg og Givskud sogne. GT 76:35-51.

Jensen, Kr. M. & Reenberg, A. (1986): Landbrugsatlas Danmark. AoD II,4.

Kampp, Aa. H. (1959): Landbrugsgeografiske Studier over Danmark. KS 6.

Matthiessen, Chr. Wichmann (1985): Danske byers vækst. AoD II,3.

Møller, P. Grau (1987): Huse og husmænd. Bygd 18,3:28-31.

Mørch, H. (1968): Fødesteds- og indflytningsfeltet for Grindsted by. GT 67,1:19-49.

Mørch, H. (1975): Population and resources on the minor Danish islands. GT 74:21-35.

Mørch, H. (1976): Grindsted – en jysk stationsby. 30-31 in Jensen, R. H. & Jensen, Kr. M. (eds.): Topografisk Atlas Danmark. AoD II,2.

Mørch, H. (1980): Population and resources in two types of rural landscape – Danmark 1860, 1901, and 1960. GT 80:88-92.

Mørch, H. (1986): Landbefolkningen. 81-85 in Jensen & Reenberg 1986.

Schou, A. (1949): Landskabet. AoD I,1.

Sources of Data

(Danmarks Statistik (DS) – formerly Det Statistiske Departement = Central Bureau of Statistics, København/Copenhagen)

DS (1905): Befolkningsforholdene i Danmark i det 19. Aarhundrede. Statistisk Tabelværk V,A5.

DS (1919): Folkemængden i det egentlige Danmark den 1. Februar 1911. Statistiske Meddelelser 4. Række, XXXVII.

DS (1964): Folketal, areal og klima (1901-1960). Statistiske Undersøgelser 10.

DS (1975): Folke- og boligtællingen 1970. Statistisk Tabelværk II,B3.

DS (1986): Folke- og boligtællingen 1981. Statistisk Tabelværk L3.

Landøkonomisk Oversigt. Samvirkende danske Landboforeninger, København, annual.