Farm size structure in Denmark
Regional pattern and development since the 1960s

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A description is given of the regional farm-size structure in Denmark during the last 25 years. The prevailing pattern and development tendencies are related to the historical background and to the physical conditions for agriculture in different parts of the country.

Keywords: *Farm-size, structural change, Denmark, agriculture*

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One of the most obvious features of the last 25 years of agricultural development in Denmark is the increasing size of holdings. Private ownership and the family farm has been the dominating organization for the last 200 years, but the technological progress and many job opportunities outside the agricultural sector (especially in the 1960s) have made it both necessary, and possible, to create bigger farms and to decrease the number of hired workers on farms. Although the main tendencies in the structural change are the same all over the country there are some significant regional variations in the holding -size structure and its development.

This paper will start with a brief introduction to the development from the reallotment period about 1800 on to the family-holding with mixed farming which became typical for Danish agriculture in the first half of the 20th century. This is done in order to give the necessary background for understanding today's agricultural structure. The main emphasis, however, will be laid on demonstrating and explaining the regional differences in the size structure and their change since the 1960s.

HISTORICAL BACKGROUND FOR THE SETTLEMENT PATTERN

The present rural settlement structure has been created over several hundred years. The change in total number of Danish holdings since c. 1800 is shown in Fig. 1; it can roughly be characterized as a steady increase up till 1925, a stable period of approximately 20 years, and a rapid decrease from 1960. However, it is fruitful further to distinguish between a typical East-Danish and a typical West-Danish settlement structure as well as their historical background.

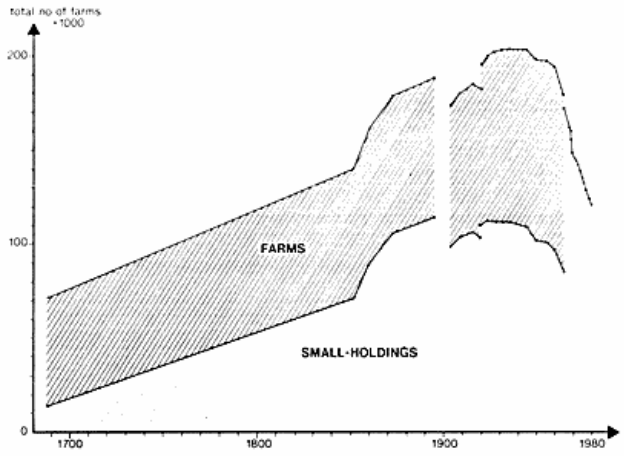

Fig. 1. Total number of farms 1688 to 1980 and number of small farms (less than 1 tønde hartkorn) 1688 to 1960. The breaks are due to change in statistic sources, area expansion (1920), and enumeration practise (1960: change from property unit to functional unit).
Fig. 1. Det samlede brugsantal i perioden 1688 til 1980 og antal landbrugshuse (mindre end 1 tønde hartkorn) fra 1688 til 1960.

The young moraines in the east have been cultivated for centuries, and the settlement patterns therefore mirror three main stages in the development of the agricultural sector: 1) Up till c. 1800 the medium-sized village farms were the dominating element. 2) Following the reallotment c. 1800 a lot of small houses with a few hectares of land was established on the common grazing areas of the village in order to give the former land-less agricultural workers some land in replacement of their grazing rights. The most distinct feature of these small holdings is their location on marginal agricultural land, or in the periphery of the parish. 3) An additional number of small farms was established at the turn of the 19th century when agricultural reforms aimed at creating small state-subsidized family holdings by means of different types of loan arrangements. The result was almost 30.000 new holdings with a locational emphasis on the eastern part of the country,

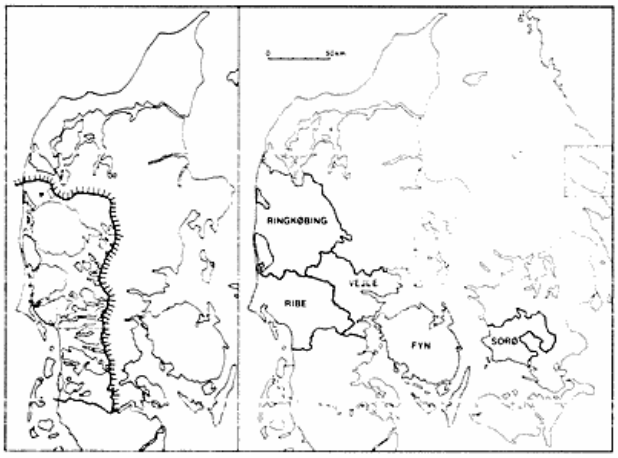

Fig. 2. To the left is shown the approximate location of the Main Stationary Line for the ice masses during the last glaciation. The map to the right indicates the location of the areas used as examples in fig. 3.
Fig. 2. Isens hovedstilstandslinje under sidste nedisningsperiode er omtrentligt angivet til venstre, mens kortet til højre viser lokaliseringen af eksemplerne i fig. 3.

because a substantial part of the land to these holdings originated from big estates, which were a typical element of the old rural settlement pattern.

The area west of the Main Stationary Line (Fig. 2) has a much shorter agricultural settlement history. The sandy outwash plains and old moraines were less suited for agricultural purposes without manuring and irrigation, and up to this century only the river valleys were used as meadow, and small, adjacent areas cultivated and fertilized by dung, whereas the major parts of western Jutland were heathland. First at the beginning of this century a substantial cultivation was initiated, inspired by an increasing population's demand for land and made possible by technological progress in a broader sense.

To the size structure in the western part of Jutland this historical development implies that the relative amount of small holdings is modest compared to the eastern part of the country – partly because few holdings were established there at the time for the heavy increase in small holdings (late 1800 and early 1900), but also because the inferior quality of land demanded bigger areas to make a vital holding.

DEVELOPMENT TRENDS SINCE 1960

Some typical examples of size-of-holding structures in 1963 are given in Fig. 3, representing »western« as well as »eastern« types with their precise locations indicated in Fig. 2. The year 1963 has been chosen in order to show the structure prior to the massive amalgation of farms during the last 20 years, as it appears from Fig. 1. It deserves notice that in reality the reduction in number of farm-units started in the 1950s, but did not appear in the agricultural statistics until amalgation of two or more farms was legalized by amendments to the Act after 1960.

The marked difference in size structure caused a significant regional variation in the change of relative importance of holding sizes such as demonstrated in Fig. 4 for two ectreme examples: Fyn and Ribe counties. The eastern example (Fyn) should be noticed for 1) many very small holdings (under 5 ha), 2) a relatively late starting decrease in the size classes 5-10 ha (1963) and 10-15 ha (1971), and 3) a modest increase in the 15-30 and 30-60 ha groups. In contrast to this, Ribe has 1) very few small holdings, 2) an earlier starting decrease in the size class up to 15 ha, and 3) a decrease also for holdings under 30 ha from 1971 and a substantial increase for holdings bigger than 30 ha.

The different development paths must be seen as a result of several factors: The differences in historical background and in land quality has already been pointed at. The possibilities of finding employment outside agriculture is another factor of importance. In areas close to bigger cities small holdings will have a greater chance of surviving because the main income originates outside agriculture, especially after 1973 when holdings below 5 ha no longer serve only agricultural purpose. This tendency is very clear for example in Vestsjællands Amt (Table 1).

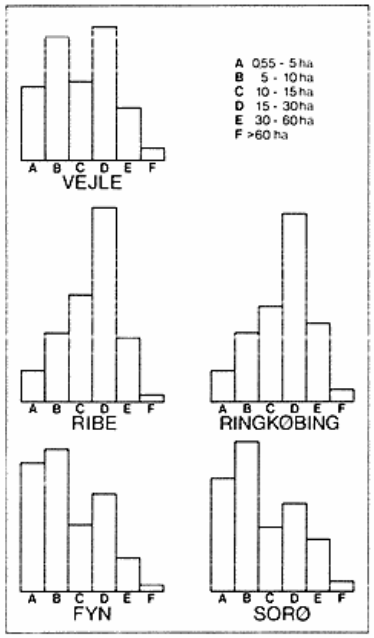

Fig. 3. The size-structure of farms 1963 in 5 selected areas as indicated in Fig. 2. The histograms show the percentage of farms in different size-classes. Notice the obvious change in sizestructure from west to east. Source: Landbrugsstatistik, 1963.
Fig. 3. Bedriftsstørrelsesstrukturen (1963) i 5 udvalgte områder. Histogrammerne viser den procentvise fordeling af brug på størrelsesklasser. Bemærk det markante skift i størrelsesstrukturen fra vest til øst.

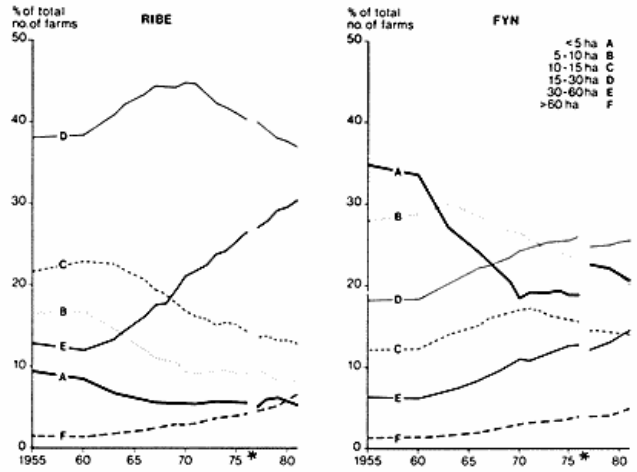

Fig. 4. Change in farm-size classes for Ribe and Fyn counties. Each class is shown as the percentage of the total number of farms which is for Ribe approx. 12,000 (1960) and 7,600 (1980) and for Fyn approx. 21,400 (1960) and 12,300 (1980).
NB: Due to change in the enumeration practise in 1977, when horticulture was included in the agricultural statistics, there was an increase in small farms. This causes a break in the curves showing the relative value of farm-size groups, most significant on Fyn, where horticulture is a dominating feature.
Fig. 4. Udviklingen i de enkelte bedriftsstørrelseskategorier for Ribe og Fyns Amt. Hver kategori er angivet som procent af det totale brugsantal.
(NB. Ændring i tællingspraksis i 1977).

The relative small reduction in the total amount of holdings must be seen as a result of the fact that they serve as homes for people working in the Copenhagen area.

Other selected examples in the table demonstrate, as expected, a slower decrease in the total number of farms in western Jutland (fewer small farms), and an earlier start of the amalgation process due to the less fertile land.

PREVAILING REGIONAL STRUCTURES

The last 20 years' reduction in number of farms due to amalgation has levelled some of the regional structural differences, but there are still substantial differences which also appear in the average size of holdings on the municipality level. As shown in Fig. 5, small averages are the general rule in eastern Denmark, with Lolland, southern Jutland, and northern Djursland as outstanding exceptions – the two first-mentioned can be explained by a tradition for big holdings in these areas, while the inferior quality of the soil must be the reason in northern Djursland. Even the variation within western Jutland mirrors to some extent local natural conditions: the average size of holdings tends to be smaller in the municipalities dominated by old moraines than in those dominated by outwash plains, and the big traditional holdings in the marsh areas are reflected in the pattern for south-west Jutland.

County	1965	1970*	1970*	1975	1980
Storstrøm	14 092	10 854	11 647	10 197	8 807
	129.8	*100*	*100*	*87.6*	*75.6*
Vestsjælland	13 738	10 708	11 310	10 571	9 510
	128.3	*100*	*100*	*93.5*	*84.1*
Fyn	18 004	14 051	16 180	14 623	12 805
	128.1	*100*	*100*	*90.4*	*79.1*
Århus	18 208	15 034	15 876	14 488	12 665
	121.1	*100*	*100*	*91.3*	*79.8*
Nordjylland	26 021	21 445	22 012	19 719	17 676
	121.3	*100*	*100*	*89.6*	*80.3*
Ringkøbing	15 926	13 729	14 013	12 817	11 598
	116.0	*100*	*100*	*91.5*	*82.8*
Ribe	10 953	9 333	9 639	8 689	7 727
	117.3	*100*	*100*	*90.1*	*80.1*

Table 1. Development in number of farms for selected counties (units as after the major change in the municipality system 1970). The figures in italics indicate the index when 1970 is 100. Besides the general decrease one can observe a marked difference between east and west: typical West-Danish counties, such as Ribe and Ringkøbing, experience a smaller change than other counties. Furthermore, the amalgation process starts earlier and with bigger strength in the eastern counties.
* OBS. The two alternative numbers for 1970 are caused by a change in the enumeration practise (horticulture is included in the agricultural statistics). Sources: Landbrugsstatistik 1970. Landbrugsstatistik 1980.
Tabel 1. Brugsantallet i udvalgte amter (inddelingen som efter 1970). Index er angivet med kursiv, 1970 er sat til 100. Foruden en generel nedgang kan man konstatere en markant forskel mellem øst- og vestdanske amter; sammenlægningerne starter således tidligere og er af større omfang i de østlige egne.
OBS: Ændret tællingspraksis (gartneri indgår nu i landbrugstællingen) er årsag til afvigende opgørelse for 1970.

CONCLUDING REMARKS

The fact that more than 97% of the holdings are owned by the farmers implies that the structure change in Danish agriculture is almost exclusively a result of individual choices.

In spite of this fact the development trends and regional structures shown above will provide some reasonable guidelines for changes to come in the near future, provided that no major changes in economic and political conditions will occur. It should therefore be within the planning outhorities' field of interest to know and understand the prevailing structure and thereby the development frame for different regions.

Resumé

I artiklen analyseres udvikling og regionale forskelle i dansk landbrugs bedriftsstørrelsesstruktur.

De regionale variationers rod i såvel naturbetingede forhold som i den historiske baggrund behandles. Typiske eksempler fremdrages fra østdanske områder, hvor lang dyrkningstradition og gode jorde har givet mange småbrug, og fra mindre frugtbare vestdanske områder med kortere dyrkningstradition (fig. 2 og 3).

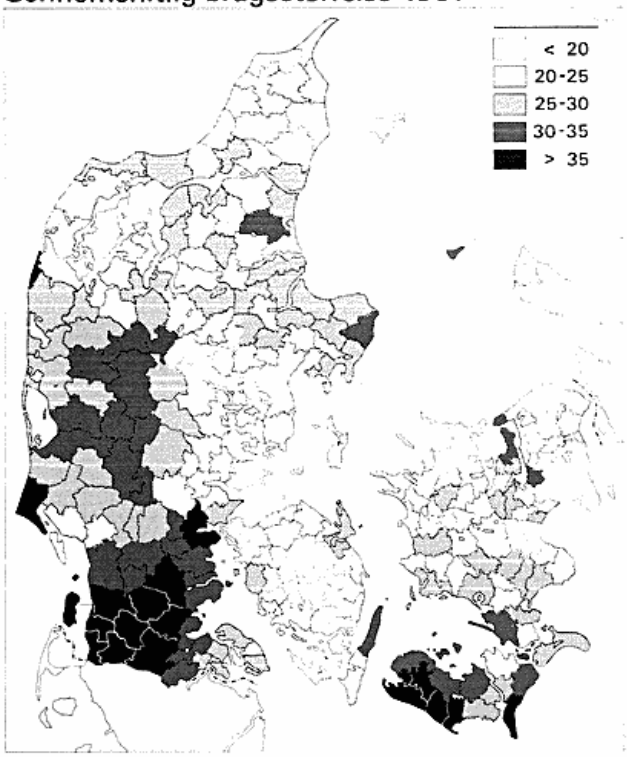

Fig. 5. Average farm size in hectars for municipalities in Denmark 1981 – the Copenhagen area excluded. The average figure for Denmark is about 25 heetares.
Source: Unpublished data from agricultural enumeration, Statistics of Denmark.
Fig. 5. Gennemsnitlig brugsstørrelse i de enkelte kommuner 1981 (Landsgennemsnit ca. 25 ha).

De seneste 25 års udviklingstendenser i retning af færre (fig. 1) men større brug udviser regionale forskelle, som i vid udstrækning skyldes, at udgangspunktet i 1960 varierede fra egn til egn (fig. 4), men også brugenes placering i forhold til større byer (især København) ses at spille ind (tabel 1).

På trods af at udviklingen har medført en vis udjævning af regionale forskelle, afspejler den gennemsnitlige brugsstørrelse i de enkelte kommuner tydeligt forskelle i naturgrundlag og historisk baggrund for egnens landbrug (fig. 5).

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Urban land-use in the Core Area of Medium-sized Danish towns

Sten Engelstoft

Engelstoft, Sten: Urban land-use in the Core-Area of Medium-sized Danish towns. Geografisk Tidsskrift 84: 47-50. Copenhagen, January 1984.

The paper attempts to discuss the dual relationship between urban land-use changes and the social processes; examples from two medium-sized Danish towns are demonstrated.

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Keywords: *Urban geography, land-use.*

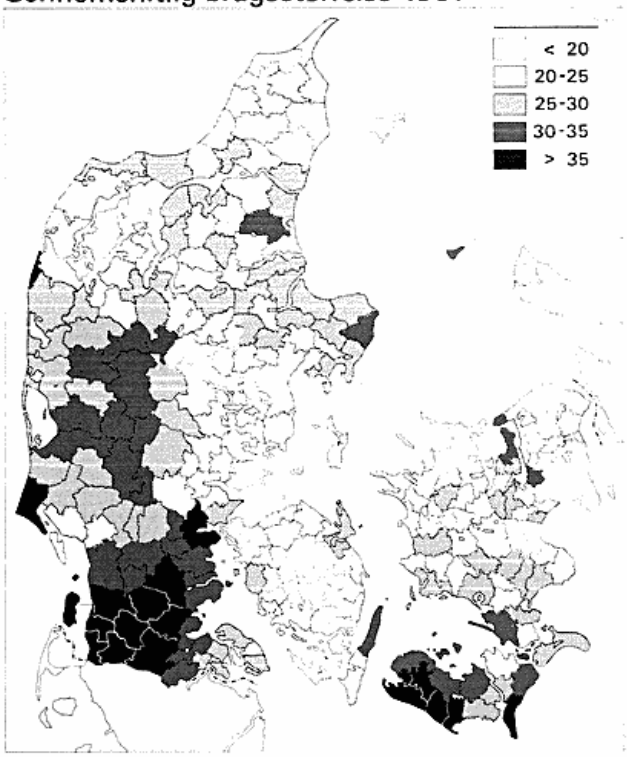
THE CONCEPT OF LAND-USE

A central concept within geography is land-use. The concept of land-use may be analysed by splitting up the words (Andersson, 1971): Land, representing property, real estate, and physical resources; and use, referring to human activities as they take place on a given location due to constraints set by the social development. Land-use, and in particular urban land-use, may thus be regarded as an appearance of processes in society.

The social development or processes of society and the human activities may be regarded as decisive for the land-use; however it is important to stress that land-use as such, should not merely be regarded as a reflection of the social processes (a deterministic view); on the contrary, land-use has to be seen as dialectically tied to the human activities and the social processes, (Engelstoft, 1982a).

Investments in a given type of urban land-use, once carried out, may to a certain extent act as a constraint imposed on a future use of the land.

A disproportion may thus occur between an actual land-use and actual social conditions, as the landuse may reflect earlier stages of the social development. A sufficiently large disproportion between actual land-use and actual social development may in turn create the necessary conditions for a change in the land-use. The dual relationship betwwen social processes and land-use is reflected in the qualities observable in a give piece of land, as those qualities may be characterized as either absolute or



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