ECONOMIC ASPECTS OF UNDEREMPLOYMENT IN AGRICULTURE

E.P.A.-project No. 7/14-II

Agricultural Economic Research Institute
in the Netherlands

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CONTENTS

PREFACE

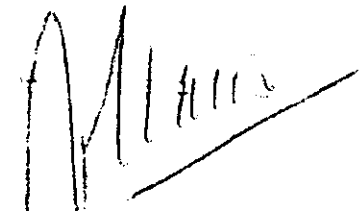
In the month of September 1960 the Agricultural Economics Research Institute in the Netherlands was requested by the Netherlands Ministry of Agriculture and Fisheries to contribute to the E.P.A.-Project No. 7/14-II, Economic Aspects of Under-employment in Agriculture.

The purpose of this project, that has been undertaken by the Division for Technical Action and Productivity in Agriculture and Food of the O.E.E.C. in Paris, is to carry out a comprehensive investigation of the problems of underemployment in agriculture and its various economic aspects.

The Co-ordinating Institute (Forschungsstelle für Bäuerliche Familienwirtschaft e.v., Frankfurt/Main) had drawn up an outline of the information required from countries for the compilation of documentation for the Seminar to be held under this activity.

This report aims at giving this documentation for the Netherlands.

DEPUTY-DIRECTOR OF THE
AGRICULTURAL ECONOMICS RESEARCH INSTITUTE
IN THE NETHERLANDS



(Dr. A. Maris)

INTRODUCTION

Under-employment in farming can be taken to indicate that the density of labour in a given scheme, and in given conditions, of production is too high. In such a situation the relative prices of the means of production render it desirable, while technical advance renders it possible, to reduce the amount of labour employed in farming.

That the economically desirable situation has not yet been brought about is due to that relative immobility of labour which is so characteristic a feature of the process of agricultural production. This relative immobility must be attributed primarily to the isolation in which farming has existed for many long years and to the large measure of continuity in the practice of the profession associated with this same isolation. The fact that the labour employed in farming is mainly family labour - and therefore subject to fluctuations in quantity - renders it difficult on many holdings to adapt employment opportunities in adequate measure to the demand for labour and vice versa. Furthermore, prior to the second world war, attention was mainly concentrated on problems concerned with the technique of crop-growing. Questions regarding the general structure of the farming industry - and particularly those to do with the use to which labour was put - attracted less attention in this period.

One is justified in claiming that since the war agriculture in the Netherlands has entered upon a new phase. Whereas before the war the level of production was raised by devoting attention to the technique of crop-growing and to increasing output per acre and per animal, since the war it has become clear that in order to raise the productivity of labour in farming still further attention has to be paid to reducing the number of persons employed in agriculture, and to this particularly.

In the 1947-1959 period the male population employed in agriculture decreased from over 530,000 to less than 400,000, a decline of roughly 25%. The relative number of persons employed in agriculture has been declining for a considerable time, but it is only since 1947 that an absolute decline has been witnessed. This process has caused farming to become a declining industry and it looks as though this is due to continue for some considerable time yet. The density of labour in the Netherlands is - still high - on average, approx. 6 hectares (15 acres) per man, the corresponding figure for Denmark being 10 hectares (25 acres). Chapter I presents a survey of the trend in the numbers of men employed in farming.

This postwar trend in farming is conditional, of course, on there being sufficient employment openings outside farming. A highly important factor here is the industrialization policy pursued by the government and particularly its regional aspect. For this can broaden the economic structure of the rural areas and thus facilitate the outflow from farming into other occupation. This matter is gone into in Chapter II.

But there is still more to done. Since the density of labour employed in agriculture is no isolated factor but, on the contrary, is closely bound up with other agricultural factors, a growing interest has been shown in the postwar period in problems to do with the general structure of agriculture. One can even go as far as to

say that in our country and in various others as well a "structural" policy is beginning to take shape side by side with a marketing and price policy, a structural policy aimed particularly at a different combination of the means of production. It is of importance in this connection that great attention should be paid to the use to which labour is put; to promoting an exodus of labour from farming; to education and vocational guidance for young people in rural areas; to expanding the size of holdings; to specialization in production and to the creation of conditions of production which promote mechanization, reduce the demand for labour and make possible a different scheme of production. This memorandum will go further into some of these factors.

In Chapter III attention is paid to education and the choice of occupation in respect of young people in farming. It is naturally of the highest importance that young people in the rural areas should be informed of the openings available outside agriculture and that they should receive the proper education. In Chapter IV attention is paid to a number of socio-economic aspects of the size-of-farm problem, one which is closely related to the size and composition of the labour employed. Finally, Chapter V indicates the significance of the re-parcelling of farmland and regional development schemes improvements in the general structure of the farming industry.

CHAPTER I

TREND IN THE NUMBER OF PERSONS EMPLOYED IN AGRICULTURE IN THE NETHERLANDS

The year 1947 represents a milestone in the trend in the number of persons employed in agriculture in the Netherlands during the past hundred years. Up to 1947 this number was increasing. In the period 1900-1940 especially, farming was still in the phase of increasing intensification, of rising outputs per acre and per animal and of expansion in the area under cultivation.

Labour was relatively cheap and inquiries showed that little attention was paid to its rational use. Since 1947 the number of persons employed in agriculture has declined sharply. Dutch farming is faced with the fact that nowadays it is necessary to look primarily to reduction in the amount of labour employed in farming in order to increase the productivity of labour. Table 1 gives an illustration of this trend.

Table 1

MALE LABOUR EMPLOYED IN FARMING
1849 - 1955

Year	Male labour employed in farming[1]	
	x 1000	in % of the entire male labour force
1849	385	44
1859	378	40
1889	452	35
1899	491	33
1909	506	29
1920	533	26
1930	530	22
1947	589	20
1955	480[2]	15

1) Central Bureau of Statistics - population and occupation census (incl. forestry, land-reclamation and the temporarily unemployed).
2) Agricultural Economics Research Institute.

If we now take a closer look at the trend and composition of the male population employed in farming in the 1947-1957 period, the decrease proved to be primarily due to the decline in the number of agricultural labourers (hired workers) employed on the farms. They, particularly, have seized the opportunities of finding work outside farming with both hands. The social circumstances of this occupational group had for long been far from enviable 1) for a

1) See: "De landarbeiders in Nederland, een beroepsgroep in beweging", Vol. 1 and 2; Agricultural Economics Research Institute 1954 and 1958.

variety of reasons. There was consequently little psychological resistance to transfer to non-agricultural occupations among a considerable number of the agricultural labourers. There can be no doubt that the increasing opening-up of the rural areas (geographically, economically and socially) has accelerated this process, and after the war apparently the time had come for a veritable exodus of agricultural labour from farming into the non-agricultural occupations.

There has also been a sharp decline in the number of farmers' sons working on their fathers' farms, especially on the small farms. Like the agricultural labourers, many of these sons evidently preferred a non-agricultural occupation. Thirdly, there has been a not inconsiderable decline in the number of heads of farm, particularly since 1956. The figures in table 2 provide the picture of this trend in numbers.

Table 2

SIZE OF THE FARMING POPULATION [1]
1947 - 1959

Category	1947		1956		1959	
	number	index	number	index	number	index
Heads of farms [2]	236,586	100	225,502	95	207,161	88
Sons working on farm [3]	110,201	100	87,831	80	80,374	73
Agricultural labourers [4]	185,500	100	117,300	63	110,250	59
Male population employed in agricultural population	532,287	100	430,633	82	397,785	75

1) On farm and market gardening undertakings (excluding forestry, landreclamation, etc.).
2) Farmers with undertakings larger than 1 ha (2½ acres) and market gardeners with undertakings larger than 0,01 ha according to the Central Bureau of Statistics Agricultural Census.
3) 1947: Central Bureau of Statistics Population and Occupation Census.
1956: Agricultural Economics Research Institute Inquiry.
1959: estimated by projecting the trend in the period 1947-1956.
4) 1947: Central Bureau of Statistics Population and occupation census, excluding forestry and land reclamation.
1956: Agricultural Economics Research Institute Inquiry.
1959: 1956-figures minus 6%; this percentage is based on data obtained from the agricultural pensions fund over the period 1956-1959.

Summarizing, it can be said that in the period 1947-1959 the number of agricultural labourers declined by 40%, the number of sons, working on their fathers' farms by more than 25% and the number of farmers themselves by 12%. This very drastic decline in the numbers employed in agriculture - averaging something more than 2% p.a. - has been made possible, among other things, by a high degree of mechanization 1), improvement in the methods of work employed and

1) In the period 1950-1960 the number of migrants from agriculture increased from 24,500 to 81,700 and the number of milking machines from 3,800 to 22,700.

by a vigorous industrialization policy, which has not left the retarded rural areas out of account.

What will be the trend of the population employed in agriculture in the 1960-1970 period? If we are to risk making a forecast of this, that forecast will be based on the assumption that in this coming period, too, it will be possible to pursue a policy of full employment.

The first thing to be said is that mechanization in agriculture has still a long way to go before reaching saturation-point. There are still wide differences in the degree of mechanization found on farms of the same type. Examples can be found in mechanical milking, fodder-production, animal care and harvesting and, in the case of the smaller farms, the introduction of motor power.

The removal of these differences itself offers great opportunities; yet already-mechanized activities can undoubtedly also be perfected. In addition to using mechanization, a great saving in labour can still be effected by employing better working methods, as a result of which the efficiency of labour can be raised to a higher level. It would be clear that the possibilities of introducing the mechanization and improving the working methods employed depend to an extent on the size of the farm and the conditions of production. It seems likely that large changes will come about in both these fields during the coming period.

In view of experience in the period now past - one in which the amount of labour employed has decreased by more than 2% p.a. - and bearing in mind the above mentioned latent possibilities of a saving in labour and also the possibility that working hours in farming will be shortened, we would estimate the decline in the numbers employed in farming in the coming decade at 1½-2% p.a. This means that the total population employed in agriculture will have declined by a further 15-20% by 1970.

How will this decline be reflected in the various categories of labour? It is perhaps as well to distinguish three phases in the decline in the numbers employed in farming. In the first phase we witness a sharp fall in the number of agricultural labourers, in the second the number of sons employed on their fathers' farms also declines sharply, especially on the small farms; and in the third phase there is also an appreciable decline in the number of heads of farms and in the sons working on their fathers' farms in the larger-farm category.

This last phase undoubtedly presents the greatest difficulties, since the resistance to migration from agriculture is strongest among the farmers themselves and their sons working on the larger farms; this is to an extent the reason why the reduction in the number of persons employed in agriculture to be expected in the coming ten years has been estimated at a rather lower figure than in the past period.

Women employed in agriculture have been left out of account in the above summary. There are various reasons why it is difficult to arrive at reliable figures in respect of them; censuses, too, have produced a very fluctuating impression. Roughly speaking, it can be

said that about 150,000 female workers are employed in agriculture as members of the farmer's family and 10-15,00 as wage-earners. Among those working as members of the farmers' families 3/4 take regular part in the work of the farm (on at least two days a week or three hours per day) while the others are employed at irregular intervals. The number of year-units of female labour in farming can be estimated at 40-45,000.

CHAPTER II

INDUSTRIALIZATION POLICY IN THE NETHERLANDS

Introduction

The key to success in any policy concerned with the structure of agriculture is industrialization. After all, a direct consequence of the structural policy we are referring to here is that farm workers are released from farming and these people have to be able to find jobs elsewhere. Regional industrialization is of particularly great significance in this respect, because this too helps to rescue agriculture from its isolation and also fosters contact with other branches of industry. If welfare in agriculture is to keep pace with welfare in other branches of industrial activity, farming will need to be freely linked to these other branches, as a result of which an increase can be brought about in the mobility of labour.

Thus regional industrialization is not only important because it increases employment openings and causes any eventual invisible or visible unemployment to disappear, but, and more particularly, it must be seen as a means of broadening the economic structure of the area and of improving the sub-structure. These provide the farmer and the agricultural labourer with opportunities in the immediate neighbourhood and also facilitate transfers to other occupations.

But regional industrialization does not create these possibilities for the farmer and agricultural labourer alone but for everybody living in the rural areas. This brings us to the significance of regional industrialization for the rural areas as a whole. Farming is going through a transitional phase but this is not all: the entire countryside is on the move.

In actual fact the rural areas are being "attacked" from two sides. From inside by structural changes in farming, resulting, among other things, in a considerable decline in the farming population. From the outside by growing industrialization, resulting, among other things, in a rise in the number of people living in rural areas.

This of course is only an approximate picture of the trend, which shows marked variations from region to region. To begin with, there are great divergencies in the economic and social structure of the different regions. For instance, we have the predominantly agricultural area, the more or less industrialized area (with or without short-distance commuters), and other areas which lie within the sphere of influence of the large industrial towns, where there are often a large number of long-distance commuters. These variations in economic structure explain for a large part the degree in which the number of people living in the various areas increases or decreases and also the occurrence or non-occurrence of unemployment there. In this respect it can be pointed out that in more than half the rural municipalities in the north of our country and in the south-west marine clay area the number of inhabitants has declined. Many rural municipalities in North-Brabant and Limburg, on the other hand, have witnessed a marked increase in population.

A second important trend in various rural areas is the shift taking place in the concentration of population. That is to say, the

larger centres are expanding at the expense of the smaller and of scattered building. This trend might be taken as an indication that we must begin to think in terms of larger units in the rural areas and of co-operation between larger and smaller centres of population.

Summarizing, it can be said that both farming and rural areas are involved in a process of technical development, economic growth and social change, a process which is being greatly accelerated by improved means of communication and which, as a result of this, it is impossible to bring to a halt. It seems to us that regional industrialization represents an indispensable link in this process of development and that it is of high importance as a means of helping farming and the rural areas to adapt themselves to changing circumstances.

National industrialization policy

A vigoreus policy of industrialization has been pursued in the Netherlands since the war, particularly in view of the rapid increase in the population. In the period 1947-1959 the total occupied population in our country has risen from 3.87 to 4.30 millions; corresponding figures for the male occupied population are: 2.92 and 3.28 million. The government's views regarding the need for industrialization and concerning the size of the problem can be found summarized in: "Memoranda concerning industrialization in the Netherlands", published by the Minister of Economic Affairs. So far seven of these memoranda have appeared, the last having been issued in October 1960. It is convenient to distinguish national and regional policy in the government's efforts to promote industrialization.

Proceeding from the fact that in the Netherlands industrial production takes place mainly in small and medium sized concerns and also that the decision to invest is taken by the entrepreneurs, who also bear the risks involved, it can be said that the fostering of initiative among these entrepreneurs forms an important section of the national government's policy.

Various measures have been taken in order to increase readiness to accept entrepreneurial risks: tax concessions, special investment arrangements, the stimulation of industrial research and the fostering of facilities for training workers and raising the level of their proficiency 1).

The principal tax concessions granted are the system of advance write-off for depreciation and investment deductions. Advanced write-off means that a larger amount can be written off in the early write-off periods than that normally written-off. This regulation is connected with the fact that the taxation authorities does not accept "replacement value" as the basis of write-off. Investment deduction renders it possible for a certain percentage of the net investments (amount of investments minus amount of write-off) to be deducted from the taxable profits. A flexible system is employed for these deductions

1) See Central Bureau of Statistics Document: "Het voortgezet onderwijs, regionaal bezien", 1953 and subsequent years.

so that their size can be adapted as far as possible to current economic conditions. This enables investment to be stimulated or checked, as necessary.

As regards the special financing arrangements, attention should be drawn to begin with to the Recovery Bank i.e. the National Recovery Financing Company. This organization, established by the State, Banks, large-scale investors and the business world - is designed to finance concerns established within the Kingdom by means of credit facilities, the granting of loans, the supply of security, the taking of a share in the capital and by acting as an intermediary. At the end of 1959 the credit granted amounted to 170 million guilders (approx. £ 17 million). The Export Financing Company, set up since the war, which company is concerned with the financing of capital goods for export, also stimulates industrialization indirectly.

Mention must also be made of the development credits which the government grants for the development of ideas and technical inventions to those undertakings which are not in a position to finance such products entirely from their own funds.

Finally, for the retail trades and small and medium-sized industrial firms regulations have been made in what is known as the "small trades credit regulation". The aim of these regulations is to enable the smaller undertakings to meet the relatively high initial costs involved in setting up a business and to increase the readiness of the suppliers of capital to grant credit. Withing this scheme we have the industrial equipment credit (max. 40,000 guilders - £ 4,000) intended for the acquisition, expansion, replacement, improvement or repair of industrial plant. The industrial credit (max. 100,000 guilders - £10,000) applies only to concerns of non-industrial character; while it may also be used for the erection of buildings. At the end of 1959 credit of this nature was held to the extent of almost 90 million guilders (£ 9 million). This credit is guaranteed by the government.

Regional industrialization policy

It proved necessary to stimulate the decentralization of industry, since outside traditional industrial centres - the West of the Netherlands, Twente, Southern Limburg and South-East Brabant - industry was not developing at the pace required. An attempt has not been made to bring about this decentralization by banning the establishment of new industries in already existing industrial centres but by improving conditions for the establishment of industry elsewhere. Typical means employed have been: the construction of industrial sites, the erection of buildings, the supply of public facilities, the supply of houses and the expansion of recreation facilities.

In deciding upon the degree of decentralization a balanced spread of industry over the rural areas was rejected on social and economic grounds. The slogan was: nation decentralization of industry by means of regional concentration.

In the beginning the principal aim of the policy of establishing industry in rural areas adopted since 1950 was to combat acute

structural unemployment in these areas. Nine "development areas" were designated on the basis of this criterion. Development plans were drawn up for these areas designed to improve the conditions influencing the establishment of industry there. Government aid was granted to the local authorities concerned for the construction of industrial sites and the buildings of roads etc. within the framework of these measures. In addition to this a premium was granted for the erection of buildings, while if the entrepreneur took the building upon himself, he was eligible for a prenium amounting to 25% of the costs involved.

During the period 1950-1957, 151 new concerns were established in the nine development areas, giving employment to a total of 16,000 persons. This brought about in these areas a 50% increase in the number of employment openings in industry.

During the same period employment openings in industry in the Netherlands as a whole increased by a 114,000. Of these about 23% were in the west of the country and about 77% in the rest of the Netherlands. For the country as a whole the number of employment openings in industry increased as a result of this by 12%; in the west of the country by 7% and in the rest of the Netherlands by 16%.

These figures show that within the development areas regional industrialization policy has had a great effect. At the same time they show that employment openings in industry in the rest of the Netherlands outside the development areas have increased to a greater degree than in the West. In this respect one could speak of an "autonomous" tendency for industry to become decentralized, a tendency which has undoubtedly been strengthened and stimulated by the policy of regional industrialization.

Experience has shown that this policy has not lead to satisfactory results everywhere within the development areas. Moreover, the criterion adopted, i.e. acute structural unemployment, has proved inadequate as a designation of the development areas. Accordingly, in the sixth memorandum on industrialization a new policy of regional industrialization was announced. Problem areas as a result are no longer confined to areas where there is a great deal of structural unemployment but also include areas where there is a large exodus surplus, a considerable growth in the population and important structural changes resulting from agricultural reconstruction plans. On the basis of these criteria the entire provinces of Groningen, Friesland, Drente and Zealand and a few regions in other provinces have been designated as problem areas.

In this new policy the Government's measures do not cover these problem areas as a whole but refer instead to a number of selected municipalities, known as development cores, numbering 44 in all. There is a preference for selecting only those municipalities where conditions favour the founding of industries or where these conditions can be improved at comparatively low costs and which at the same time already function not only as centres of industry but as social and cultural centres as well. Thus this policy continues to aim deliberately at the regional concentration of industry.

The measures taken to stimulate the founding of industry in these regions cover the following points.

1. Road-construction and hydraulic works to improve communications

The sum of 190 million guilders (£19 million) has been earmarked for these construction plans in the 1960-1963 period within the framework of what is known as a multi-year programme for improving the "infra-structure".

2. The premium- and price reduction arrangement for industrial buildings and sites

When purchasing municipal industrial sites in "core" municipalities, the entrepreneur obtains a reduction, since the State pays the municipality 50% of the price of the site involved. Under the new premium arrangements for buildings the entrepreneur can obtain a premium of f. 35,- to f. 75,- per square metre of effective floor space; the amount of the premium despends upon the area to be covered by the buildings. For extensions to existing buildings the premium amounts to about f. 35,-.

3. Migration arrangement

The State contributes to the cost of removing labour from one area to another.

4. The "training" grant

This grant makes it possible for an employer to receive compensation from the State in respect of unproductive labour costs resulting from his willingness to train an unemployed labourer in his enterprise in order to make a skilled worker of him.

5. Measures in the social, cultural and sanitary field

A sum of f. 400 million (£40 million) will be spent in the 1960-1963 period on measures of this kind, almost half of this sum being earmarked for improving the means of communication, mentioned under 1. above.

If we review regional industrialization policy during the past ten years, we are obliged to admit that unemployment is no longer the sole reason for promoting industrialization. Owing to the undesirable trend in areas with a large exodus surplus, regional industrialization policy has had to be put on a broader basis. The broadening of the economic structure and improvement in the "infra-structure" for the rural areas as a whole are now regarded as at least of equal importance. The broadening of the economic structure provides better opportunities for the entire rural population and facilitates transfer to other professions, while as a result of improvement in the infrastructure both material and cultural amenities can be raised to a higher level. This is not to say that it is essential to establish industry in the majority of rural municipalities.

What it does mean is that farming and the countryside are being enabled to profit from economic expansion and improvement in the infrastructure, and in order to achieve this goal it is as well to think in terms of larger units. The degree in which it will prove possible to allow farming and the rural areas to participate in this trend will be a factor determining the trend of labour productivity in farming and of the prosperity of the rural areas as a whole.

Vigorously pursued industrialization does not, of course, make a policy for the general structure of agriculture superfluous. Such a policy continues to be necessary to improve conditions in such a way that less labour will be required in farming and also to make people free and prepared to leave agriculture. Moreover, it should be said that a reduction in the number of people employed in farming does not lead automatically to the optimum combination of the means of production, i.e. of land and labour. It is essential, too, that the improvement in the structure of farming generally should take place within a limited period. It means that agrarian institutions and organizations should work in close co-operation with similar organizations which can broaden the general economic structure and equipment of the rural areas; this is the key to an effective regional policy.

CHAPTER III

CHOICE OF OCCUPATION AND CONTINUED EDUCATION AMONG FARMERS' SONS[1)]

A considerable part of the youth in agricultural areas will have to choose occupations outside agriculture if labour surpluses are to be prevented. It is also of importance that the choice should be made in good time, not only from an economic point of view, but also because those who leave agriculture at a later age have few prospects. Moreover, it is important not only that sufficient numbers leave agriculture early in life but also that these young people find suitable non-agrarian employment. Proper vocational training is necessary to ensure that they do. These are the subjects - the training choice of occupation , and the proportions of the outflow from agriculture - which will subsequently be discussed in respect of farmers' sons.

Taking, as a representative sample for the Netherlands, 11,850 farmers' sons of 15 years of age and older, on 1st January, 1957
59% were occupied in agriculture and
35% worked in other sectors.
5% were considered to be still studying and 1% was regarded as having no occupation.

In tables 3 and 4 a survey is given of the instruction received by those active both in agriculture and elsewhere.

Table 3

CONTINUED EDUCATION ENJOYED BY SONS WORKING IN AGRICULTURE AND BY HEADS OF UNDERTAKINGS

	Number of persons	Percentage of persons			
		enjoying agrarian		enjoying non-agrarian instruction	receiving no form of continued education
		daytime instruction	courses		
a. Sons working in agriculture from holdings of:					
< 10 ha	2,948	34	31	3	32
10- 20 ha	2,547	51	32	2	15
≥ 20 ha	1,489	69	18	2	11
Total number of sons	6,984	48	29	2	21
Age: younger than 30	4,952	56	24	3	17
30 and above	2,032	28	40	2	30
b. Heads of undertakings (with sons ≥ 12 years) from holdings of:					
< 10 ha	2,761	3	35	1	61
10- 20 ha	1,689	7	47	1	45
≥ 20 ha	922	22	48	3	27
Total number of heads of undertakings	5,372	7	42	1	50

1) a. The source of the figures given in Chapter III, unless otherwise stated, is the publication "Bedrijfsopvolging en beroepskeuze in land- en tuinbouw", 1959 of the Agricultural Economics Research Institute.
b. Females have not been included in this report.

The most striking fact revealed in table 3 is that farmers and sons from small holdings have enjoyed considerably less continued education than those from larger undertakings. Furthermore, it is remarkable that many more younger sons have received agricultural instruction than older ones, who in their turn have had more than the heads of undertakings. These figures therefore point to a considerable improvement in continued education among farmers' sons.

Table 4

CONTINUED EDUCATION ENJOYED BY SONS WORKING OUTSIDE AGRICULTURE

Nature of continued education	Percentage of sons	
	all age-groups	15-19 years old
Training for a specific occupation	36	62
General education	12	11
Total non-agrarian instruction	48	73
Agrarian instruction	25	9
Receiving no form of continued education	27	18

A big difference is again noticeable between the youngest and the older age-groups in connection with instruction received by farmers' sons working outside agriculture (table 4). Furthermore, quite a considerable percentage of these sons have had agricultural training. This shows that a number of farmers' sons began their working lives in agriculture, having received the relevant training, and did not discover that there was no future for them until later in their careers. As a result they enter non-agrarian occupations at a later age and with unsuitable training so that they mainly end up in the inskilled and lowest-paid category. This so-called secondary efflux has become an important element in agriculture, as can be seen from table 5, even though the primary influx has increased sharply.

Table 5

TYPE OF EFFLUX

Age at the time of the enquiry	Percentage of sons of 15 and older having left agriculture 1)		
	primary	secondary	total
15 - 19 years	31	3	34
20 - 24 "	24	13	37
25 - 29 "	18	23	41
30 - 34 "	13	28	41
35 - 39 "	12	28	40
≥ 40 "	9	22	31
All ages	21	17	38

1) Including students.

It is self-evident that this secondary outflow from agriculture is disadvantageous from an economic point of view and that it offers little prospect to the farmers' sons involved.

Table 6 gives a global picture of the occupations in which farmers' sons working outside agriculture are employed. It will be seen that it is especially among the sons of the smaller undertakings that a high percentage does in fact end up in unskilled occupations.

Table 6

SONS WORKING OUTSIDE AGRICULTURE

Size of the parental undertaking	Percentage of sons			Number of sons	Percentage of sons in unskilled occupations
	independent	wage-earning as			
		brain-workers	manual labourers		
10 ha	6	20	74	2,786	43
10 - 20 ha	10	33	57	973	30
20 ha	13	51	36	348	18
Total of undertakings	8	25	67	4,107	38

At the same time it appears from this table that sons from the larger undertakings more often than the rest have an independent occupation or are employed as brain-workers.

In this connection the social position of the farmers' sons who have found employment outside agriculture presents an interesting question. Some impression can be gained by making an appraisal of these occupations, i.e. by composing a so-called ladder of occupations and then considering to which rung of the ladder they belong. The figures given below are the result of an investigation into the place of the sons in respect to their fathers:

	primary outflow	secondary outflow
improvement	28%	4%
remained equal	55%	52%
retrogression	17%	44%

These figures also indicate that sons who leave agriculture at a later age end up in the lower categories of employment. The desirability of paying more attention to the possibilities of retraining these older sons must therefore be advanced here with great emphasis.

It is clear from the foregoing, how important it is that the correct choice of occupation is made in good time, i.e. on leaving the primary school. It is obvious that professional advice is of great importance for the correct choice of occupation. Yet the number of farmers' sons who seek advice in the matter is still very low.

It has appeared from an enquiry conducted among 5200 farming families with children from 10-24 years of age, that advice as to choice of occupation had been sought in 300 cases only. At the same time the investigation revealed that nearly 700 families had had one or more of their children tested. Our conclusion should be then that there is still much room for improvement in the information and guidance given to farmers' sons with regard to the various types of employment and correct choice of occupation. This sort of guidance in the choice of occupation has been adopted to a much lesser degree in the country than in the towns.

After the different points dealt with in the preceding paragraphs concerning the number of farmers' sons, their education and choice of occupation, the question arises: "Are there too many sons working in agriculture?" In this respect, 'too many' should be construed as 'too many in proportion to the opportunities forthcoming of taking over a holding'.

An attempt to answer this question can be made by applying the factor of "generation pressure". The generation pressure is the ratio of the number of potential successors, of 15 years of age and over, to the number of undertakings available to them. The generation pressure factor reaches 1.00 when all potential successors can start their own undertakings at a given age. The following method is often used to calculate the factor: 1/15 of the number of sons working in agriculture divided by 1/35 of the number of undertakings 1). For the purposes of this calculation it is assumed that all of the sons become independent farmers within a period of 15 years (1/15 per annum) and that the average duration of their tenancy is 35 years, so that 1/35 of the total number of undertakings becomes available every year. Since neither the number of potential successors nor the number of undertakings which become available can be determined exactly, it should be mentioned that conclusions cannot be drawn from any slight fluctuations in the generation pressure.

An impression of the generation pressure in the various size-groups is given in table 7.

Table 7

EFFLUX NECESSARY

Size-group	Number of undertakings registered	Number of sons in agriculture 1)	Generation pressure factor 2)	Efflux necessary
< 5 ha	1,890	621	0.77	..
5 - 10 ha	4,033	1,727	1.00	-
10 - 20 ha	3,462	2,302	1.55	36
≥ 20 ha	1,901	1,336	1.64	39
≥ 10 ha	5,363	3,638	1.58	37

1) Number of non-independent sons working in agriculture or horticulture.
2) 1/15 of the number of sons divided by 1/35 of the number of undertakings.

Although the number of farmers' sons decreased by about 20% in the period from 1947 to 1956, it seems that there are still far too many working on farms of 10 hectares and more. It is also noteworthy that there is considerably less ambition to become a farmer among sons on the smallest undertakings than among sons of larger holdings.

Besides the generation pressure, the so-called vocational choice index is also taken into consideration. This factor is the ratio of the younger sons of 15-19 only to the number of undertakings available to them. This factor produces substantially lower figures than the

1) See: "Bedrijfsopvolging en beroepskeuze in land- en tuinbouw", Chapter VI, Agricultural Economics Research Institute, 1959.

generation pressure, which indicates that the situation is taking a turn for the better with regard to outflow from agriculture, just as it is with regard to instruction in this sector.

Finally, the question arises of how outflow from agriculture can be fostered within the desired proportions and how it can be conducted along the right lines. For this purpose, guidance about training facilities, occupations and choice of occupation is essential. There should therefore be sufficient training facilities and guidance bureaux in rural areas. But even that is not enough. The population should also be informed of the opportunities that exist. One of the methods used in the Netherlands is socio-agrarian guidance. The aim of this guidance is to keep the public informed of changing conditions in agriculture and in rural areas, to prompt people to look for the solutions to their particular problems themselves and to refer them to those institutions and bodies which deal with the problem concerned.

CHAPTER IV

SOME ASPECTS OF THE SIZE-OF-FARM PROBLEM

Introduction

Since the area devoted to farming in our country has remained more or less the same, the sharp decline in the numbers employed in agriculture has caused the area of farmland per farm worker to rise by about 20% to a figure of almost 6 ha. The density of labour in farming nevertheless remains very high. A country like Denmark, where farming is also intensive, has a density of one man per 10 ha. One of the main causes of the high density of labour in farming lies in the large number of very small farms. For on the smallest farms the number of farm labourers per unit of farm land is roughly three times as high as on the larger farms, while the number of production units per ha on these farms is, on average, less than twice as large. It is obvious therefore that the productivity of labour on the small farms remains far behind that on the larger farms. It should thus be no cause for surprise that in the post-war period attention should have been focused on the size of farms.

In the first section of this chapter a survey will be given of the trend in the size-composition of farms in the Netherlands, after which attention will be paid, in section 2, to a piece of socio-economic research, based on a representative number of farms in the sandy soil regions, these investigations going by the name of small-farmer research.

1. Trend in the size-composition of farms

Between 1910 and 1947 the total number of farms in the Netherlands increased by more than 30%. The main increase took place in the group of farms varying between 5 and 20 ha; the number of farms in the 20-50 ha-group remained stationary, while there was even a decline in the number of farms larger than 50 ha.

In the post-1947 period, on the other hand, we see a decline in the total number of farms. This decline was most marked among the smallest farms, those belonging to the 1-5 ha sector; the number of farms in the 10-20 ha sector actually continued to increase in this period.

Table 8 provides a picture of these changes in number and size of farm; the percentage-figures for each size-group of farms indicates the effect of these changes. Comparing the year 1959 with 1910 one is forced to arrive at the conclusion that the change in the size-composition of farms has been considerable.

Table 8

FARMS IN THE NETHERLANDS[1)]
1910 - 1959
Area in hectares

Size group	Number of farms x 100 in				Percentage of farms in			
	1910	1930	1947	1959	1910	1930	1947	1959
1 - 5 ha	554	583	504	363	37	33	27	21
5 - 10 ha	373	508	617	571	25	29	33	33
10 - 20 ha	294	398	488	523	20	23	26	31
20 - 50 ha	233	236	238	239	15	14	13	14
50 ha	34	25	19	19	3	1	1	1
All groups	1488	1750	1866	1715	100	100	100	100

1) Farms larger than 1 ha of heads of farms whose main occupation lies in agriculture.

Table 9 gives a survey of the size-composition of farms in 1959 spread over the six farming areas. The percentage distribution of the number of farms and also of the area of farmland is given for three size-groups. The two extremes in this table are represented by the marine clay areas and the sandy soil regions. Particularly striking is the high percentage of farms between 1 and 10 ha in the sandy soil regions and the high percentage of farmland on farms larger than 20 ha in the marine clay areas.

Table 9

FARMS AND FARMLAND[1)]
1959

Regions	Number of farms x 100	Percentage of farms in the size-group			Area of farmland x100 ha	Percentage farmland in the size-group			Average size of farm in ha in	
		1-10 ha	10-20 ha	≥ 20 ha		1-10 ha	10-20 ha	≥ 20 ha	1947	1959
Marine clay	253	40	24	36	4876	10	18	72	17.6	19.3
River clay	174	65	23	12	1774	34	34	32	8.6	10.2
Pastureland	298	40	40	20	4112	18	40	42	14.2	13.8
Sandy soil	914	63	29	8	8985	38	41	21	8.6	9.8
Peatland	53	28	43	29	885	11	37	52	15.2	16.7
Market gardening	23	47	38	15	284	21	44	35	12.3	12.2
The Netherlands	1715	54	31	15	20916	26	35	39	11.0	12.2

1) Particulars of farms larger than 1 ha of heads of farms whose main occupation lies in agriculture.

This table also shows that the average size of farm in the period 1947-1959 has increased in all areas; for the Netherlands as a whole the increase is from 11-12,2 ha, more than 10%. The area of farmland per man increased in this period by more than 20%.

2. A socio-economic inquiry into the small-farmer problem in the sandy soil regions

We have already seen above that it is in the sandy soil regions that the small farms are the most numerous. Taking into account that in these regions only 14% of the population engaged in agriculture consists of agriculture labourers (1956), and further that in the pasture land regions this percentage is 28 and in the marine clay areas even as high as 50, it can also be concluded that in the sandy soil regions we are concerned mainly with family farms.

It will surprise no one to learn that the small family farms are becoming more and more a problem. We have already seen that increasing mechanization and improved working methods have considerably enlarged the area each man can work; this led in turn - and especially after the war - to a market decline in the number of persons employed in agriculture, since there was practically no change of expanding the acreage of farmland while the opportunities offered by the intensification of agriculture are also subject to limitations. This technical development naturally confronts the small family farm particularly with great difficulties, since on many of these undertakings the labour supply can scarcely decline any further. In principle, therefore, these farms must look to more intensified farming and the enlarging of the area devoted to farming for a solution. But the question is how far can these theoretical possibilities be turned into practical possibilities, or, to what extent can the requisite increase in labour productivity be achieved by reducing the amount of labour employed and/or by stepping up production, and/or enlarging the area under cultivation?

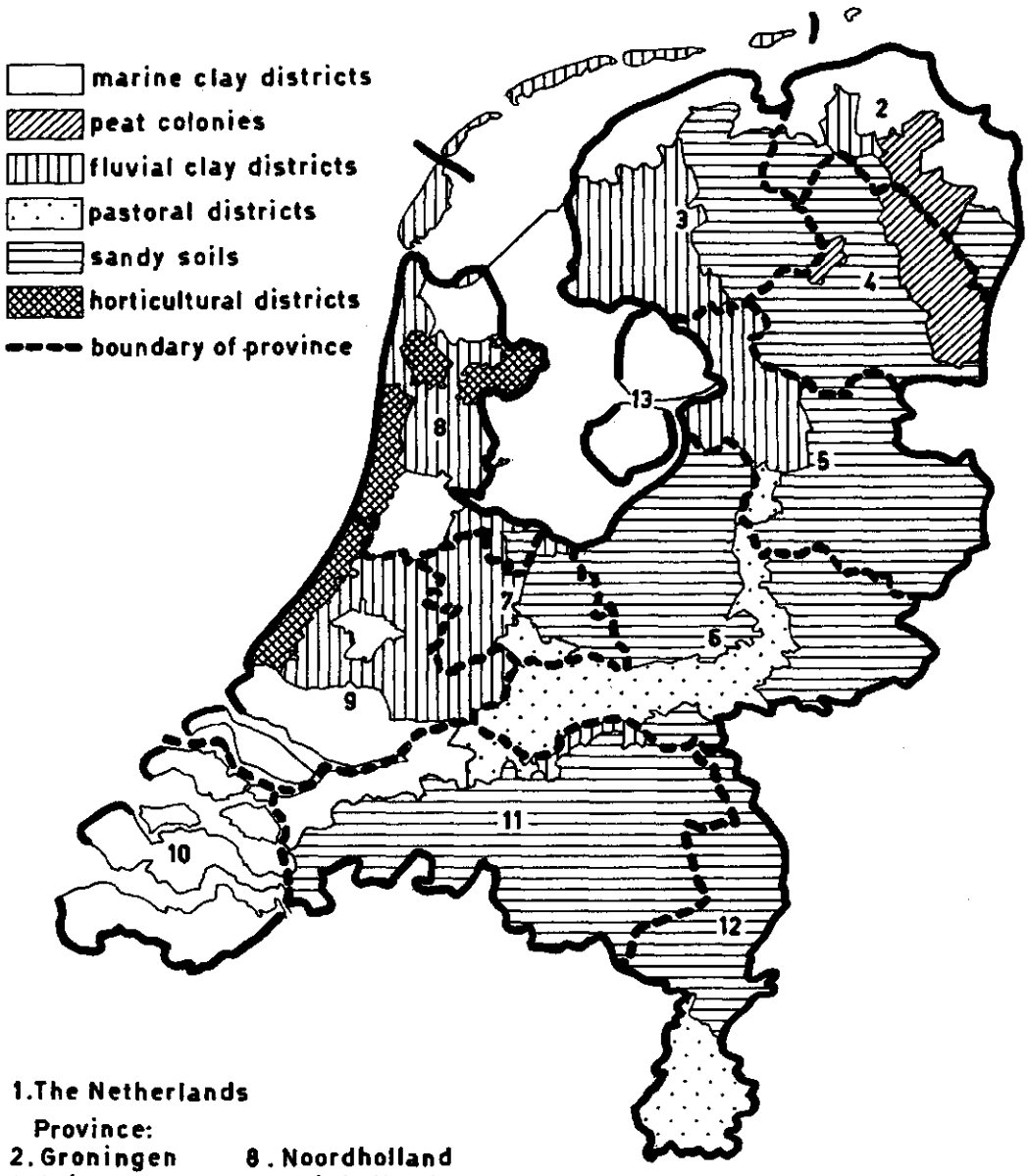
In view of the importance of this problem to Dutch agriculture the Institute of Agricultural Economics decided to do periodical research into the question of the small farmer in the sandy soil regions. The results of the third of these inquiries were published in May 1960 1). The most important of these will be found summarized below, while at the same time a comparison has been made with preceding research projects.

a. The "labour effect" as an indication of the productivity of labour

The core of the small-farm problem lies in the lack of proportion between the number of persons engaged in agriculture on one hand and the available acreages of farmland on the other; the per capita area of farmland is, as a result, small, or, to put it in other words, the density of labour is extremely high. An attempt has been made by using land intensively and by purchasing concentrated cattle feed - which made it possible to keep a large number of milking-cows and a considerable stock of chickens and pigs - to increase the value of production in order to reduce the disproportion in this way. The question is now: how far have these measures been successful, that is to say, whether the small farms in particular have seen an opportunity to expand production to such an extent as to permit us to speak of a successful adaptation to the high density of labour.

1) 'Het kleine-boerenvraagstuk op de zandgronden over de periode 1949-1958. (The small-farmer problem in the sandy soil areas, in the period 1949-1958); The Hague 1960.

PROVINCES AND GROUPS OF AGRICULTURAL DISTRICTS



1. The Netherlands

Province:

2. Groningen
3. Friesland
4. Drente
5. Overijsel
6. Gelderland
7. Utrecht
8. Noordholland
9. Zuidholland
10. Zeeland
11. Noordbrabant
12. Limburg
13. IJselmeerpolders

In other words, what is at present the position as regards labour productivity on small and large farms and what has the trend been during the period 1949-1958?

In order to measure this labour productivity it is necessary to reduce the divergent production we meet with on mixed farms to a common denominator, and to adjust the similarly varying composition of the labour employed to full labour units 1). Production has been reduced to a single denominator by multiplying the various crops and types of animal by ratios. These ratios have been derived from the quantities of labour required on the mixed farms of 10-15 ha during 1948 for the various crops and types of animal. The figures concerned are referred to as standard hours.

It is customary to refer to the quotient obtained by dividing the amount of product (physical product) by the amount of labour as labour productivity. Since, in this inquiry, production was measured in the form of standard hours, this quotient is referred to by the term "labour effect". Thus the aim of this "effect" is to measure labour productivity in a specific way and what it actually does is to indicate the number of production units produced by one man 2).

Although the figures relating to labour effect and its trend are of great significance in themselves, it nevertheless remains important to ask to what extent these data have anything to tell us about the incomes on smaller and larger farms. One may say that the labour effect is determined to a considerable degree by the efficiency of labour (rate of labour, division of labour and the methods employed) and the degree of mechanization, and these factors are in turn hardly influenced by the quality of the labour and the conditions of production. Now, it could be that the larger labour effect on the larger farms is achieved only by incurring considerably higher costs, particularly for machinery. Other things being equal, the result of this would be that the income per standard hour on the larger farms is lower than that on the smaller. But this does not prove to be so. The accounts of mixed farms, which are kept by the Agricultural Economics Research Institute, show that over a ten-year period the average income from labour per standard hour on small farms and large varies only slightly. In our opinion, one can accordingly conclude that the figures for differences in labour effect between small farms and large represent a good yardstick for measuring the differences in labour income as between the same farms.

Naturally there are considerable differences in labour income per standard hour as between individual farms, but these differences appear to be independent of the size of the farm and the labour effect.

1) 1 full labour unit = 1 valide male agricultural labourer at the age of 20-59 years, working a whole year.

2) The production calculated in this way does not take into account differences in the material output between the various size-groups of farm nor with the rise in production per ha and per animal in the past ten years. As regard the size-groups the differences in material output per ha and per animal are small. As a result of the rise in the level of production during the last decade the actual increase in productivity will be rahter larger than that shown in these figures. This is, however, immaterial as far as the determination of differences in productivity between the various size-groups is concerned.

b. Trend of the "labour effect"

Table 10 provides a survey of the trend of the labour effect, of the density of labour and of production, measured in standard hours.

Table 10

STANDARD HOURS, DENSITY OF LABOUR AND LABOUR EFFECT 1)

Size-groups in ha	Number of farms	Number of standard hours per ha of farmland 1957	Number of standard hours per farm 1957	Labour density in full labour units per 100 ha farmland 1957	Labour density in full labour units per farm 1957	Labour effect in 1957	Index figures 1948 = 100 of number of standard hours per ha of agricultural land 1952	1957	density of labour per 100 ha farmland 1952	1957	labour effect 1952	1957
1- 3	85	1007	2235	49.3	1.1	2004	122	156	84	88	145	177
3- 5	261	782	3190	31.2	1.3	2509	116	134	93	90	125	151
5- 7	402	728	4331	24.0	1.4	3037	113	137	94	88	121	156
7-10	595	636	5366	19.0	1.6	3351	117	130	98	89	118	146
10-12	277	581	6339	16.5	1.8	3524	117	126	95	86	123	146
12-15	241	558	7403	14.7	1.9	3805	116	126	94	83	123	153
15-20	208	533	9075	12.7	2.2	4214	114	127	97	83	118	153
20-30	107	524	12458	11.3	2.7	4619	110	128	97	84	114	152
≥30	31	417	17778	8.5	3.6	4929	112	118	100	85	111	140
All farms	2207	595	6012	16.9	1.7	3523	115	129	97	86	120	151

1) Inquiry carried out in five sandy soil regions, main occupation of head of farm: farmer without subsidiary occupation; 1948 norms.

During the period 1948-1958 the labour effect proves to have increased by 51% which can be said without any hesitation, to be a remarkable achievement. This marked increase is a result of intensified farming on one hand and a decline of a density of labour on the other; it should be said in this respect that on the small farms there has been a greater increase in the intensification of farming, while the density of labour has declined to a lesser degree than on the larger farms.

A further striking feature which emerges is that in the period concerned the labour effect on both small and large farms increased in practically the same degree. The differences in productivity and also in per capita income as between large and small farms have not diminished and the reduction of these differences is, of course, of the highest importance in seeking a solution to the small farms problem.

c. Causes of differences in labour effect

The inquiry has shown that the connection between labour effect, density of labour and sizes of farm especially is of great importance in the small-farm problem. This important feature will accordingly be gone into further.

Table 11

LABOUR EFFECT AND NUMBER OF FARMS ACCORDING TO SIZE-GROUP AND LABOUR DENSITY 1)

Criterion	Size-group in ha	Labour effect and number of farms with labour density in full labour units per 100 ha						Average labour effect	Number of farms
		≥ 30	25-29	20-24	15-19	12-14	< 12		
Labour-effect	1- 7	1,797	2,284	2,660	3,162	3,715	-	2,305	
	7-10	1,709	2,211	2,354	3,145	3,705	4,296	2,742	
	10-15	1,660	2,064	2,300	2,836	3,462	4,475	2,997	
	15-20	-	-	2,234	2,814	3,290	4,337	3,514	
	≥ 20	-	-	-	2,977	3,174	4,465	3,993	
	all size-groups 2)	1,771	2,219	2,415	2,998	3,447	4,364	2,901	
Farms	1- 7	252	139	175	129	23	2		720
	7-10	34	90	101	170	104	29		528
	10-15	7	24	53	153	118	113		468
	15-20	1	1	8	28	55	95		188
	≥ 20	1	-	-	11	22	84		118
	all size-groups	295	254	337	491	322	323		2022

1) Inquiry covering farms in 1952 and 1957 in five sandy soil regions; head of farm's main occupation: farmer; 1957 standards.
2) Weighted average.

This table shows that the spread of labour effect within a size-group is very large but small within a density of labour group. In other words, a reasonable standard of labour effect can be achieved on small farms as well, provided labour density on these farms is low. Thus the density of labour is indeed the main determinant of labour effect. Yet in spite of this wide spread of labour effect of every size group, we nevertheless see that there is a wide divergence in the average labour effect as between size groups. The explanation of these differences between size groups can be found in the lower half of table 11. This shows us that the farms with high labour density occur mainly in the smaller size groups and those with low labour density in the larger.

There is only one conclusion to be drawn on this and that is that with production on its present basis high labour density is the most important cause of a low labour effect and that it is the small farms on which labour is densest. The question arises: can the density of labour be reduced? In order to be able to answer this question it is necessary to study the size of the labour force and particularly its composition in the various size groups.

d. Analysis of the density of labour

Table 12 gives a picture of the percentage share of the various categories of labour in farm work.

Table 12

CATEGORIES OF LABOUR

Size-group	Percentage share of the categories in farm work						
	farmers[1]	farmers' wives 2)	sons	daughters	family living in	outside personnel living in	outside personnel living out
1-10 ha	59	2	19	4	5	0	1
10-20 ha	44	9	28	7	6	2	4
≥20 ha	29	5	35	6	5	5	15
All size-groups	51	10	24	5	5	2	3

1) Men only.
2) Including women who run their own farms.

The main share of the work is taken by the farmers themselves and their sons. It must be said, however, that the share taken by the farmers themselves on the larger farms declines whilst that of their sons increases. Labour taken on from outside the family circle plays a minor role only. Furthermore, its number is subject to increasing decline; there has been a sharp decline in the number of farm hands living in with the farmer, particularly in the last ten years.

In table 13 the main types of labour pattern on the farms have been given, while the table also shows how these types are distributed over the size groups and the density of labour employed according to main type and size-group. It should be mentioned that in each main type there is a considerable number of farms on which the farmers' wives and/or daughters help with the work.

Table 13

PATTERNS ON FARMS

Main type of labour patterns	Percentage of farms according to type in size-groups of			all farms	Average labour density in full labour units per farm in size-groups of			all farms
	1-10	10-20	≥20		1-10	10-20	≥20	
1. Farmer	56	24	6	44	1.2	1.4	1.3	1.2
2. Farmer and son(s)	28	44	42	34	1.8	2.3	3.0	2.1
3. Farmer and outside labour	7	20	39	13	1.5	1.9	2.9	2.0
4. Farmer and family living in	9	12	13	9	1.8	2.0	2.8	1.9
All types	100	100	100	100	1.4	2.0	2.8	1.7

This table shows how large the number of farms is on which the farmer himself provides the only male labour, and especially on farms smaller than 10 ha; there is also a large number of father-son farms, especially among the larger undertakings. The table shows us further that there is a considerable spread of the average labour density in main types 2 and 3 particularly.

Now, to what extent can labour density be diminished? Assuming that on an agricultural undertaking with a farmer who has no subsidiary occupation there must be at least one male worker, in principle the only farms on which the amount of labour employed can be decreased are those on which more than one male worker is employed. These are farms on which in addition to the farmer himself a son or outside labour is employed. Table 13 shows that on 28% of the farms of 1-10 ha a son works and on 7% outside labour. Thus, leaving out of account these using outside labour, it is only on 28% of the smaller farms that the density of labour can be decreased by putting the sons to work temporarily on large undertakings.

An important question is, however, whether there is sufficient work on the larger farms to enable these sons from small farms, who in due course will succeed their fathers, to be put to work for a temporary period. The farms specially suitable for this purpose are the larger farms on which two or more sons work. The inquiry shows that the number of farms of 1-10 ha on which sons work with the farmer is three times as large as the number of large farms where two or more sons work. Thus in the sandy soil regions in the Netherlands there are few larger farms able to employ the sons from smaller farms for a temporary period. In Denmark where this transfer of sons is a common practice, the ratio between small farms and large farms is far more favourable than in the sandy soil regions of the Netherlands.

We are forced, therefore, to the conclusion, that with the present size composition of farms the possibilities of reducing the density of labour on the smaller farms are slight. On these farms increased productivity will have to be achieved mainly by increasing the acreage under cultivation and/or by more intensified farming.

The larger farms offer greater opportunities for reducing the amount of labour employed; the average amount of labour on the farms larger than 10 ha is 2.1 full labour unit. A decrease could be achieved by reducing the number of sons, members of the family living in and/or outside labour. Outside labour is employed on almost one quarter of the number of farms larger than 10 ha; on about 1/5 two or more sons are employed and on 10% members of the farmer's family living in with him.

e. Intensity of production

In the period 1949-1958 farming has been considerably intensified mainly by keeping more lifestock. The number of standard hours per ha averaged 430 in 1948 as compared with the 595 in 1957, i.e. an increase of about 30%. This intensification has taken place mainly on the smaller farms. In studying the small-farm problem, it should not be forgotten that the level of intensity is one of the factors determining the size of the undertaking. The number of standard hours per ha is, on average, considerably higher on the smaller farms than on the larger. For farms of 3-5 ha the figure was 780 and for those of from 15-20 ha 530 standard hours per ha. Despite these differences in the intensity of farming, it is not possible to speak in the sandy soil regions of specialization on any large scale. The mixed farm in these regions does show some variation in the scheme of production:

in addition to farms on which cattle breeding is the most important activity (Friese Wouden), one meets with farms with a relatively large number of pigs, chickens, and market gardening crops (small farms in North Brabant). The differences in scheme of production on these farms can still best be indicated by referring to them as variants of the mixed farm type. For it has been found that as regard scheme of production the type of farm found in the sandy soil regions in 1957 did not show any specialization on one or two branches of production, not even on the smaller farms. Insufficient adaptation of the number of standard hours to the density of labour employed on the smaller farms is the reason for a relatively low labour effect.

An important question in this connection is why more smaller farms do not go over to highly intensive farming. If they were to, these farms would have to concentrate on keeping more chickens and pigs, since they already keep a large number of cattle. Why is specialization of this kind not found then in practice? Do, perhaps, opportunities lie here which could be exploited by means of more advice and information and greater credit facilities? Are, perhaps, limited market openings and the greater risks involved the reason why the small farms do not concentrate solely on chicken and pig-keeping?

It can be said with justice that the raising of the level of labour productivity is urgently necessary for all branches of industrial activity, agriculture included. In view of the desirability of reducing the differences in labour productivity as between small and large farms, the farmers on the small farms are confronted, as it were, with a double task.

Now, how far, will an increase in the productivity of labour lead to a rise in production in the sandy soil region. In answering this question it seems realistic to reckon with a further decline in the number of small farms and in the amount of labour used on the larger farms. On the basis of past trends the reduction in the amount of labour used owing to the reasons mentioned above can be estimated for the coming ten years at a figure of 16%. Thus on the basis of this method of calculation the increase in labour productivity is achieved not only by an expansion in production, but also to a considerable extent by a reduction in the amount of labour employed.

It can be assumed that labour productivity will increase at a rate of 5% p.a., as it has done in the past decade. Despite the anticipated decline in the amount of labour employed, this means that in the sandy soil regions taken as a whole the stock of beef-cattle will increase by 18%, the stock of pigs by 110% and that of poultry by 100%. Moreover, should in this period the labour effect on the small farms be raised to the level of farms of 12-15 ha, the rise in production will, of course, be even greater. In this case the total expansion in the stock of cattle can be calculated at 21% of pigs and poultry at a 165%. As a result of this accelerated rise in the productivity of labour on the small farms the average rise in productivity in the sandy soil regions will be not 5%, but 6.7% p.a. Going exclusively on the basis of the technical facilities at present available, the rise in the level of production could be considerably greater still.

f. Reduction in the density of labour, expansion of production and increase in the size of farms

It is difficult to say whether a profitable market could be found for this increase in production. But it can be said that a marked expansion in production on the small farms will have to go hand inhand with specialization and that this concentration on one specialized economic activity will increase the risks involved for the farmer. One could conclude from this that the exodus of labour from agriculture and the expansion in the size of farms at all times represent a safe path towards arriving at the necessary increase in labour productivity. The less one wishes to expand the volume of production, the more it will be necessary to bring about this increase by reducing the amount of labour used and by increasing the size of the individual farm. Here emphasis should be laid on the desirability of the mobility of both labour and land. In the first place in order to improve the man-land ratio. This can be obtained by the transfer of agricultural workers to non-agricultural employment and by using the land thus released to enlarge the remaining farms. In addition, it will be important to devote attention to increasing the mobility of labour within agriculture itself. An example of this is the case in which farmers' sons on small farms go to work for a temporary period on large farms.

Finally, a remark concerning the increase in the size of farms. As regard the extent to which small farms should be enlarged - in view of the continual decrease in the number of agricultural labourers and the demand heard everywhere that the family farm should continue to form the basis of agriculture - the number of farm workers provided by the farmer's family itself is a limiting factor. Accepting this, the only remaining question is: what should be understood by a healthy family farm? We can take a farm employing the farmer himself and his successor as the basis for determining the size of a farm. The amount of labour then used - dependent upon output, determined by age and any eventual subsidiary occupations - will vary between 1.5 and 2 full labour units. In view of the family cycle, however, on some of the farms the amount of labour employed will consist temporarily or permanently of one person i.e. the farmer himself. It accordingly seems desirable for the undersized small one-man undertakings to be increased to full-scale one-man farms.

Once the amount of labour employed has been determined, the corresponding size of farms can be calculated in ha, on the basis of a given scheme of production and given working method (use of labour). But it should be mentioned that it is not a method here of indicating a precise acreage but more particularly of determining a fairly wide field in which the farm can be efficiently organized - for all three determinants offer considerable tolerance. In the second place it should be said that measures taken to increase the size of farms do not need to meet the requirement that they should provide a permanent solution. In view of technical advance and economic expansion it is quite possible that the size of farms regarded nowadays as socially and economicaly justified might be

less so at some future date. It seems desirable therefore to anticipate such developments, as far as possible, when increasing the size of farms. The change in the combination of factors of production can then take place to begin with within the boundaries of the existing farm.

The way in which, and the extent to which, the exodus from agriculture and the increase in the size of farms are to be stimulated or the volume and the type of production changed and the conditions of production generally improved is a question of policy, policy concerned with the whole structure of agriculture. The inquiry merely seeks to indicate existing possibilities and the consequences that can be expected from the adoption of a given policy.

CHAPTER V

LAND CONSOLIDATION AND PILOT AREA PROGRAMS

Introduction

It has already been pointed out in the introduction that the amount of labour employed in agriculture is not an isolated problem but is closely bound up with other factors in the general structure of the farming industry. In view of the great significance of the density of labour in connection with the trend of labour productivity, it is not surprising that structural problems and structural policy have attracted far more attention since the war.

In the Netherlands we see how structural policy, via land consolidation and pilot area programs has moved from spasmodic measures to comprehensive development plans. Land consolidation, which began with the amalgamation of scattered parcels of farm land has developed, via a stage in which great attention was also paid to land reclamation and water control, into the "modern-style" land consolidation we know today. This last form includes soil improvement, slum clearance, removal of buildings to new sites, enlargement of farms and the provision of public utility amenities.

The farm extension service (advice and information) has grown from a system by which technical information was supplied from time to time to individual farmers - usually of the superior kind - into a pilot area program in which in addition to technico-economic advice attention is also paid to agrarian-social advice, including domestic advice - and to all the farmers in the region concerned. It should also be remembered that the term "advice and information" now refers to a host of activities which the expression itself does not truly indicate. Both "land consolidation" and "advice and information" are terms which have outgrown themselves, both having evolved into agrarian development plans in which emphasis is laid in the one on the conditions of production and in the other on the scheme or plan of production, farm management and farm equipment.

1. Land consolidation

The influence technical projects have on employment in farming is generally recognized. Few actual figures, however, are available as yet on this influence. But rather more is known about the saving of labour in various, individual branches of farming 1). It should be mentioned here that in practice adaption to technical improvement takes place in the form of changes in the scheme of production and farm management generally. It can, however, be said that the growing tightness of the labour market and the increase in mechanical (motor) power and machines in agriculture increase the significance of favourable land consolidation conditions.

1) See the publications of the Institute for Farming Technique and the Rationalization of Farming and of the Institute for Land Consolidation and Water Control Schemes.

a. Parcelling and accesibility

There is wide divergency in the parcelling of land from district to district in Dutch farming. The general situation as to parcelling is usually divided into the following items: distance from plot of land to buildings; the size and number of the plots belonging to a single farm; the shape of the plot. Accessibility also shows great differences from district to district. A distinction has to be made between farm roads and roads used for international, interprovincial and interdistrict traffic. The farm roads serve as lines of communication between farm buildings and the land, between different plots of land and between farms and villages.

The following particulars have been derived from the "Priority Scheme for Dutch Land Consolidation Projects".

The average distance between plots and farm is about 1100 metres, while the average number of plots per farm lies between 4 and 5. The average size of plot is 2.5 hectares, while almost 40% of the total number of plots are irregular in shape. More important than these figures is the way in which they are distributed over the different farms.

There are areas in the Netherlands where 65% of the farms have 5 or more plots and 30% with even more than 9.

Detailed particulars of this can be found in the publication mentioned above in addition to data on accessibility.

As regards accessibility, it is not only the density of the road network that is important but also, and more particularly, the condition of these roads. Several inquiries have revealed that about two-thirds of the farm roads have an unmetalled surface.

b. Farm buildings

The siting and condition of the farm buildings are also important factors influencing employment in farming. There are great divergencies as between the various agricultural areas in this respect in the Netherlands. There are areas of ribbon development, buildings scattered about the fields and with the farmhouses in the villages. It is possible in land consolidation schemes to move or rebuild the farmhouses on a fairly large scale. It is scarcely possible to estimate the extent to which such removal and rebuilding is necessary in such schemes. The Land Consolidation Service has calculated that 9,000 farms, i.e. 7% of the total number, will have to be removed elsewhere as part of its land consolidation schemes.

c. Water utilization

An improvement in water utilization eventually results in a reduced demand for labour, for one thing because it proves more opportunity for using modern machinery. Since the amount of surplus water not only depends on the level of the ground water but also in large degree on the type of soil and fluctuations in ground water levels from season to season, it is not possible to take one seasonal level, e.g. the winter level, as a guide. According to the Priority Scheme mentioned above about one quarter of the agricultural land in the Netherlands is troubled by surplus water, which figure takes into account the divergent demands of the different types of soil. The

figures for the various provinces show a wide degree of divergence.

d. Soil improvement

Generally speaking soil improvement in the narrower sense (the breaking-up of hard or difficult layers of soil, changes in the cross section ,levelling up) has no direct influence on the demand for labour, though it has, of course, on farm yields. In present-day land consolidation, "land forming" goes hand in hand with soil improvement. The aim of land forming is to render the conditions for mechanization as favourable as possible (clearing away of old plot boundaries, filling in of ditches, levelling of the soil).

In the Priority Scheme mentioned earlier on it was estimated that more than a quarter of the farmland covered by land consolidation schemes called for soil improvement and land forming action.

e. Reclamation

The reclamation of waste land has been so spasmodic in recent years that its influence on employment in agriculture can safely be ignored.

The land reclaimed in Lake Ysel (the former Zuyder Zee) and elsewhere will make up for the loss of farm land due to the expansion of towns, road construction etc., in the coming 25 years. In this respect, therefore, the employment situation in agriculture, seen as a whole, will change little, if at all. This, of course, leaves out of account changes in labour intensity and in soil utilized. The acquirement or reclamation of new land is not regarded as a source of agricultural employment.

One can gain an impression of the scope of land consolidation (technical improvement) measures in the Netherlands from the sums invested in such activity. In 1959 over 85 million guilders were invested in land consolidation schemes of other kinds. Of these sums 25% was spent on accessibility schemes, 30% on water utilization, 20% on land forming and 15% on soil improvement.

On December 31, 1959 almost 240,000 hectares were undergoing land consolidation, while more than 1.2 million hectares had been earmarked for the purpose. In 1949 on more than 41,000 hectares land consolidation was in progress.

2. Pilot area programs

In recent years the agricultural extension service (advice and information) has been evolved from a system of spasmodic advice, given in individual cases, on technical farming questions, into a system of comprehensive and temporarily stepped-up advice and information on agricultural, domestic-economical and agrarian-social matters within the scope of a co-ordinated pilot area program.

The incentive for rural development of this kind came from the "pilot villages" of the 1953-1956 period.

It was at more or less the same juncture that the rural development program for retarded agricultural areas was launched in the United States, a program which, in its essentials, shows a high degree of correspondence with Dutch pilot area programs.

The "zones témoins" in France and the "pilot areas" in the O.E.E.C. scheme have also evolved in recent years out of the pilot villages. The local population is given an important rôle to play in these schemes, which acts as an incentive to them to deploy their own initiative.

At the moment fifty pilot area programs are being carried out in the Netherlands, together involving an eighth of the total acreage of farmland. A further ten areas will be earmarked for such schemes during 1961.

The choice of these areas depends in large measure on whether changes are taking place in certain districts in the conditions of production as a result of drastic technical improvements (land consolidation) or the establishment of centres of industry. Accordingly two thirds of pilot area programs relate to areas where land consolidation is taking, or is due to take, place.

It is in these regions particularly that the scheme of production and farm management - labour management especially - call for close attention. The aim of the land consolidation is to produce the optimum corditions of production, while that of the pilot area programs is to put these changes in the plan of production to good use in farm management as quickly as possible.

It will be obvious that any agricultural scheme for rural improvement - whether it involves land consolidation or a pilot area program - must take differences in the agrarian and economic structure of the areas concerned into account. This the pilot area program does by dividing these areas into three types:

1. areas in which a considerable improvement can be brought about in farming under existing conditions;
2. areas in which only a small improvement can be brought about in farming in the absence of improvement in agrarian structure;
3. areas where both the agrarian and the economic structure is unfavourable.

The Priority Scheme for Land Consolidation emphasizes that for the time being it is necessary to tackle areas with a large number of small farms and high labour density in a different way from other areas where these problems do not occur. The scheme also points out that in areas where it is only the parcelling of the land that is bad, the other factors comprised in the agrarian structure being reasonably favourable, it may be possible to make do with administrative re-parcelling. If it is merely a matter of good roads of access or water control and utilization, then the required improvements can be carried out independent of any land consolidation scheme.

The agrarian development plans - if we may use this term for joint land consolidation and pilot area programs - are being adapted therefore in increasing measure to the variations in the structure of Dutch agriculture and in differences in economic structure from region to region. The high importance of this development cannot be sufficiently emphasized. For it will be obvious that there is little point in land consolidation in an area with many small farms and too high a density of labour, if the possibilities of reorganizing the small farms are too small and there are insufficient employment openings in the area of neighbouring districts. In this case it is definitely

better to devote all attention and efforts to begin with to the two questions mentioned, and to proceed to land consolidation at a later stage.

This trend at the same time implies that in districts where the structure of farming is bad, the economic structure one-sided and the land inadequate, agrarian institutions must work together with those which can broaden the economic basis and improve the equipment of the rural areas. In many areas co-operation of this kind has already been established, but in others the set-up is still too one-sidedly agrarian.

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Number of the table	Referring to EPA-project No. 7/14-II	
14b	B2.c.	Cultivation of ornamental plants. Per group of agricultural districts, 1959.
15	B3.	The number of the holdings and the agricultural area. By main profession of the occupier and by size class per group of agricultural districts.
16	B3.	Number of the holdings and the cultivated area. By size group since 1910.
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18	B4.	The fixed capital formation in agriculture, forestry and fishing, 1948-1959.
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23	B4.	Exports of agricultural machinery and parts, 1952-1959.
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27	B4.	Cattle. Per group of agricultural districts, 1959.
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29	B4.	Farm horses, sheep, fowls and ducks in the Netherlands. Per group of agricultural districts, 1959.
30	B6.	National accounts, 1948-1959. (x Dfl. 1,000,000)

Table 1

AVERAGE POPULATION OF THE NETHERLANDS
By age and sex, 1909-1959

Age (years)	Population[1] in 1909 male	1909 female	1920 male	1920 female	1930 male	1930 female	1947 male	1947 female	1950 male	1950 female	1956 male	1956 female	1959 male	1959 female
0-4	370,914	362,868	389,199	374,910	425,313	408,428	560,594	531,300	620,109	586,812	572,011	542,143	586,412	557,879
5-9	334,893	328,146	376,273	366,394	429,239	414,774	436,512	417,872	477,640	454,180	603,949	572,678	569,548	539,539
10-14	309,032	303,898	361,564	353,594	377,511	365,612	410,662	392,612	420,698	403,774	498,852	474,567	591,791	562,951
15-19	275,856	273,850	336,723	330,639	373,229	370,202	416,798	401,995	413,561	397,284	422,853	406,998	456,054	436,575
20-24	244,222	249,565	295,523	299,060	348,617	357,213	400,888	399,325	404,416	395,792	399,115	386,426	404,712	390,294
25-29	215,661	225,511	259,923	268,607	316,530	327,476	367,305	373,831	394,778	401,215	386,804	385,080	391,553	384,186
30-34	199,594	209,268	232,359	240,849	280,966	292,417	343,674	353,241	341,059	348,236	377,250	388,771	374,234	380,777
35-39	172,937	181,680	210,639	218,315	249,316	259,911	326,811	340,681	335,570	347,491	343,578	353,411	374,669	387,000
40-44	155,899	162,042	195,185	202,315	223,016	230,467	305,194	320,105	317,245	332,382	330,175	342,906	325,441	336,031
45-49	136,641	139,997	168,764	175,794	200,438	207,105	268,627	284,819	288,762	304,352	311,560	328,363	321,220	337,387
50-54	113,140	116,533	145,513	151,454	182,439	188,502	239,577	252,459	252,148	268,347	286,369	304,270	299,879	319,355
55-59	103,323	107,859	125,085	131,217	152,465	159,018	202,547	212,275	217,781	230,800	245,412	265,802	263,240	284,975
60-64	79,760	85,958	96,182	101,668	124,620	130,869	172,726	181,509	183,262	193,290	208,932	226,795	221,773	245,222
65-69	69,341	76,225	77,547	84,374	97,920	104,076	139,440	147,936	147,711	157,030	167,192	181,772	177,916	198,158
70-74	49,471	56,279	52,802	59,606	64,760	70,145	102,393	110,559	111,479	119,833	126,518	138,758	135,698	151,389
75-79	28,072	33,541	34,625	40,272	40,707	46,091	59,555	67,322	68,528	76,141	83,791	93,345	89,043	101,421
80-84	13,019	16,882	16,739	20,887	18,912	22,496	29,282	34,283	32,704	38,286	42,896	49,112	48,075	55,566
85-89	4,567	6,211	5,258	6,947	6,749	8,743	8,928	11,202	11,220	13,907	14,368	18,049	16,919	20,806
90-94	845	1,311	999	1,539	1,375	2,034	1,593	2,325	2,078	2,918	3,186	4,343	3,517	4,977
≥95	75	149	110	196	161	267	198	320	256	452	354	597	452	805
Total	2,877,262	2,937,773	3,381,012	3,428,637	3,914,283	3,965,846	4,793,304	4,835,971	5,041,005	5,072,522	5,425,165	5,464,186	5,652,346	5,695,293
	5,815,035		6,809,649		7,880,129		9,629,275		10,113,527		10,889,351		11,347,639	

1) Average population: $\frac{\text{number in January + number in December}}{2}$.

Source: The Netherlands Central Bureau of Statistics; population of the Netherlands.

Table 2

ECONOMICALLY ACTIVE POPULATION OF THE NETHERLANDS
According to class of industry and sex, 1909-1947

Class of industry		Economically active population in							
		1909		1920		1930		1947	
		x1000	in %	x1000	in %	x1000	in %	x1000	in %
Agriculture	male	506	29.4	533	25.5	530	21,9	589	20,2
	female	112	20.7	90	14.3	109	14.3	169	17.9
	total	618	27.3	623	22.9	639	20.1	758	19.6
Fishing and hunting	male	24	1.4	19	0.9	16	0.7	12	0.4
	female	0	0.0	0	0.0	0	0.0	0	0.0
	total	24	1.1	20	0.7	16	0.5	12	0.3
Manufacturing industries	male	661	38.4	855	40.9	1,033	42.8	1,241	42.5
	female	114	21.1	148	23.5	169	22.1	187	19.8
	total	776	34.3	1,003	36.9	1,202	37.8	1,428	36.9
Commerce, transport and communications	male	393	22.8	503	24.1	630	26.1	684	23.4
	female	63	11.6	102	16.2	148	19.4	231	24.5
	total	456	20.2	605	22.3	778	24.5	914	23.7
Other classes	male	137	8.0	178	8.5	207	8.6	397	13.6
	female	251	46.4	291	46.2	337	44.1	357	37.8
	total	388	17.2	469	17.2	544	17.1	754	19.5
All classes	male	1,721	100	2,090	100	2,415	100	2,923	100
	female	541	100	630	100	764	100	944	100
	total	2,262	100	2,719	100	3,179	100	3,866	100

Source: "Landbouwcijfers" 1959.

Table 3

EMPLOYMENT[1] AND UNEMPLOYMENT IN THE NETHERLANDS
According to class of industry
1909-1947

Class of industry	Employment and unemployment x 1000		full labour-unit in 1959
	1951	1956	
Agriculture, forestry	513	469	455
Fishing	11	11	
Mining and quarrying	55	61	1,720
Manufacturing industries	1,162	1,252	
Construction	314	364	
Electricity-, gas- and waterworks	34	37	
Commerce, banking, insurance	570	630	660
Transport, communications	261	288	291
Other services	562	616	653
All classes[3]	3,482	3,728	3,779
Government[3]	376	476	484
Total employment	3,858	4,204	4,263
Workers on complementary works	25	10	14
Unemployed	68	30	63
Total	3,951	4,244	4,340

1) Employment = all work, done in the Netherlands (including foreign borderworkers and foreign workers on Dutch ships and airplanes).
2) A full labour-unit = a male labourer at the age of 20-59 years, working a whole year (300 working days).
3) Public services are included in the various classes.

Source: The Netherlands Central Bureau of Statistics.

Table 4

THE ECONOMICALLY ACTIVE POPULATION
By age and sex, 1909-1947

Age-class	Percentage								
	1909			1930			1947		
	m	f	t	m	f	t	m	f	t
14-20 years	17.3	30.8	20.6	16.1	33.9	20.4	13.7	29.9	17.7
21-24 "	10.8	16.8	12.2	10.9	18.1	12.6	10.2	16.6	11.7
25-39 "				34.7	26.3	32.7	34.6	26.6	32.6
40-49 "	66.2	47.8	61.8	17.1	9.8	15.4	19.0	13.1	17.6
50-64 "				17.0	9.5	15.2	18.5	11.4	16.8
65-69 "	5.7	4.6	5.4	2,5	1.3	2.2	2.4	1.4	2.2
70 y.and more				1,7	1.1	1.5	1.6	1.0	1.4
Total %	100	100	100	100	100	100	100	100	100
in numbers	1,721,000	541,000	2,262,000	2,415,000	764,000	3,179,000	2,923,000	944,000	3,866,000

Source: The Netherlands Central Bureau of Statistics.

Table 5

PROGNOSIS OF THE POPULATION OF THE NETHERLANDS[1)]
age and sex, 1961-1981

Age-class	Numbers x 1000									
	January 1 st 1961		January 1 st 1966		January 1 st 1971		January 1 st 1976		1 January 1 st 1981	
	m	f	m	f	m	f	m	f	m	f
0- 4 years	571.6	541.1	589.8	558.1	629.0	595.0	657.2	621.6	576.9	546.3
5- 9 "	573.3	543.7	568.4	538.8	586.8	556.0	626.1	593.0	574.1	544.0
10-14 "	572.3	543.0	571.7	542.8	566.9	538.0	585.4	555.1	622.1	590.1
15-19 "	620.0	588.8	570.5	541.9	570.0	541.8	565.3	537.1	479.5	456.7
20-24 "	477.3	455.3	617.3	587.2	568.2	540.4	567.8	540.4	421.2	406.1
25-29 "	418.9	404.4	474.8	453.5	614.2	585.0	565.5	538.6	407.0	392.4
30-34 "	404.5	390.4	416.4	402.5	472.2	451.5	610.9	582.4	401.4	393.7
35-39 "	398.4	391.2	401.6	388.0	413.6	400.1	469.1	448.9	387.2	394.8
40-44 "	383.2	391.2	394.5	387.7	397.9	384.8	409.9	396.9	341.4	349.5
45-49 "	335.9	344.8	377.3	386.1	388.6	382.9	392.1	380.1	327.1	339.7
50-54 "	318.5	332.6	327.4	337.9	368.0	378.5	379.4	375.7	304.9	322.0
55-59 "	292.6	311.5	305.9	322.1	314.8	327.5	354.3	367.2	272.5	291.2
60-64 "	255.4	275.8	274.7	295.4	287.7	305.9	296.6	311.6	227.6	247.4
65-69 "	204.4	225.0	230.1	251.4	248.1	270.0	260.5	280.2	184.9	200.8
70-74 "	154.3	169.7	171.2	190.8	193.4	213.9	209.3	230.4	136.9	148.7
75 years and more	179.9	203.6	203.6	232.3	229.6	264.8	260.9	300.9	159.9	180.4
All ages	6,160.5	6,112.1	6,495.2	6,416.5	6,849.0	6,736.1	7,210.3	7,060.1	5,824.6	5,803.8
	12,272,6		12,911.7		13,585.1		14,270.4		11,628.4	

1) Average, without deduction for emigrants.

Source: Corrected calculation of the future course of the population in the Netherlands, 1951-1981.

Table 6

COMPOSITION OF THE HOUSEHOLD OF AGRICULTURAL OCCUPIERS CLASSIFICATION ACCORDING TO AGE-CLASSES AND TO MAIN PROFESSION OF THE OCCUPIER MAY 1958

Main profession of the occupier	Number of members of the household			Number of occupiers and wives		Number of children		Number of other relatives		Number of non-relative members of the household	
	total	males	females	males	females	males	females	males	females	males	females
Farmer											
< 15 years	270,002	138,622	131,380			131,764	124,988	6,463	6,126	395	266
15-19 years	79,791	41,785	38,006	51	43	38,573	36,220	830	748	2,331	995
20-24 years	68,575	37,539	31,036	1,058	1,865	33,856	27,163	1,083	1,110	1,542	898
25-29 years	52,738	29,864	22,874	7,081	9,739	20,362	11,419	1,591	1,395	830	321
30-39 years	92,762	48,561	44,201	32,535	34,379	12,536	7,058	2,749	2,365	741	399
40-64 years	229,639	121,210	108,429	109,246	97,849	4,037	2,376	6,654	7,205	1,273	999
≥65 years	62,966	36,455	26,511	24,048	14,685	21	18	11,796	11,490	590	318
all ages	856,473	454,036	402,437	174,019	158,560	241,149	209,242	31,166	30,439	7,702	4,196
Horticulturist											
<15 years	56,509	28,893	27,616	-	-	28,619	27,321	227	250	47	45
15-19 years	15,026	7,781	7,245	9	10	7,455	7,102	72	64	245	69
20-24 years	12,095	6,695	5,400	476	970	5,981	4,786	115	94	123	50
25-29 years	9,934	5,626	4,308	2,677	2,616	2,776	1,559	122	101	51	32
30-39 years	16,928	8,841	8,087	7,427	7,101	1,153	743	196	208	65	35
40-64 years	40,115	21,322	18,793	20,477	17,740	280	233	466	670	99	150
≥65 years	8,232	4,741	3,491	3,918	2,641	1	1	789	814	33	35
all ages	158,839	83,899	74,940	34,984	30,578	46,265	41,745	1,987	2,201	663	416
Other occupiers[1]	413,481	216,507	196,974	90,215	84,216	116,954	103,239	8,124	8,276	1,214	1,243
All occupiers	1428,793	754,442	674,351	299,218	273,354	404,368	354,226	41,277	40,916	9,579	5,855

1) All other occupiers - agricultural labourers and those with main occupation outside agriculture - with land utilization on own account.

Source: The Netherlands Central Bureau of Statistics.

Table 7

THE MALE AGRICULTURAL ECONOMICALLY ACTIVE POPULATION[1]

Development per group of agricultural districts, in the period 1947-1959, and the prognosis up to 1972

Groups of agricultural districts	Farmers and market-gardeners[7]			Sons[2]			Other agricultural workers[4]			Total			Prognosis up to 6) 1972
	1947	1956[8]	1959	1947[11]	1956[5]	1959[3]	1947[10]	1956[5]	1959[9]	1947	1956	1959	numbers x 1000
Marine clay districts	35,293	33,844	31,926	12,792	10,989	10,400	60,250	45,600	42,850	108,335	90,433	85,176	71
Fluvial clay districts	24,127	22,541	20,898	12,400	8,281	6,900	13,650	6,650	6,250	50,177	37,472	34,048	28
Pastoral districts	40,302	39,949	36,641	17,676	16,737	16,400	34,850	21,800	20,500	92,828	78,486	73,541	63
Sandy soils	114,972	107,712	98,216	58,373	42,739	37,550	50,100	24,300	22,850	223,445	174,751	158,616	124
Peat colonies	6,339	5,913	5,563	2,517	1,677	1,400	8,900	5,950	5,600	17,756	13,540	12,563	15
Horticultural districts	15,553	15,543	13,917	6,443	7,408	7,750	17,750	13,000	12,200	39,746	35,951	33,867	29
The Netherlands	236,586	225,502	207,161	110,201	87,831	80,400	185,500	117,300	110,250	532,287	430,633	397,811	330

1) Excluding forestry, land consoledation and reclamation.
2) Excluding the married sons and the sons in military service.
3) The number is based on the trend 1947-1956.
4) Working in agriculture or horticulture 3 months or longer.
5) An inquiry set up by the Agricultural Economics Research Institute in The Netherlands.
6) Computed by the Agricultural Economics Research Institute.
7) Source: The Netherlands Central Bureau of Statistics, the minimum area cultivated by a farmer is 1 ha, the minimum area cultivated by a market gardener is 0,01 ha.
8) Source: The Netherlands Central Bureau of Statistics 1955.
9) Source: The decrease is based on the number according to the Pension Fund for Agriculture, in the periode 1956-1958.
10) Source: The Netherlands Central Bureau of Statistics census of population and occupation.

Table 8

PERMANENT LABOUR FORCE IN 1956
Farm labour by category and age

Category and age	Number of persons working during ... on the same farm			
	the whole year	the average working time in		total
		4 à 5 days a week	2 à 3 days a week	
Unpaid family workers				
Males:				
< 21 years	22,793	6,273	8,589	37,655
≥ 21 "	239,497	11,240	58,426	309,163
21 - 22 "	8,846	492	1,283	10,621
23 - 39 "	78,899	3,101	12,890	94,890
40 - 64 "	127,459	4,960	28,303	160,722
≥ 65 "	24,293	2,687	15,950	42,930
Total	262,290	17,513	67,015	346,818
Females	4,783	9,161	109,186	123,130
Total family workers	267,073	26,674	176,201	469,948
Other permanent workers				
Males:				
< 21 years	14,236	1,188	1,837	17,261
≥ 21 "	62,184	2,577	5,149	69,910
21 - 22 "	3,304	163	348	3,815
23 - 39 "	28,509	1,041	2,147	31,697
40 - 64 "	27,979	1,109	1,954	31,042
≥ 65 "	2,392	264	700	3,356
Total	76,420	3,765	6,986	87,171
Females	501	295	1,917	2,713
Total paid workers	76,921	4,060	8,903	89,884
Permanent labour force				
Males	338,710	21,278	74,001	433,989
Females	5,284	9,476	111,103	125,843
Total	343,994	30,734	185,104	559,832

The definition of a permanent labour force is according to the Netherlands Central Bureau of Statistics a person who is permanently at work during the whole year, whether all the time or not, at the same farm. However, the minimum time of working at the same farm is 2 days a week or 3 hours a day.

9 Source: The Netherlans Bureau of Statistics, December 1956.

Table 9

PERMANENT LABOUR FORCE IN 1956
Farm labour by category and group of agricultural districts

Group of agricultural districts	Category		Number of persons working during ... on the same farm			total
			whole year	average working time is 4 à 5 days a week	average working time is 2 à 3 days a week	
Marine clay districts	Unpaid family workers	males	37,493	1,871	6,808	46,172
		females	549	425	6,008	6,982
		total	38,042	2,296	12,816	53,154
	Other permanent workers	males	31,072	936	1,116	33,124
		females	104	37	192	333
		total	31,176	973	1,308	33,457
Fluvial clay districts	Unpaid family workers	males	26,658	1,900	9,217	37,775
		females	948	1,379	10,672	12,999
		total	27,606	3,279	19,889	50,774
	Other permanent workers	males	4,621	268	768	5,657
		females	34	20	126	180
		total	4,655	288	894	5,837
Pastoral districts	Unpaid family workers	males	46,969	2,616	8,740	58,325
		females	540	1,409	12,488	14,437
		total	47,509	4,025	21,228	72,762
	Other permanent workers	males	14,846	887	1,272	17,005
		females	71	96	539	706
		total	14,917	983	1,811	17,711
Sandy soils	Unpaid family workers	males	126,389	9,945	38,974	175,308
		females	2,503	5,672	77,529	85,704
		total	128,892	15,617	116,503	261,012
	Other permanent workers	males	12,752	1,234	3,236	17,222
		females	245	130	1,039	1,414
		total	12,997	1,364	4,275	18,636
Peat colonies	Unpaid family workers	males	9,017	294	1,205	8,840
		females	619	186	1,987	2,258
		total	9,636	480	3,192	11,098
	Other permanent workers	males	2,623	179	124	2,926
		females	9	1	7	17
		total	2,632	180	131	2,943
Horticultural districts	Unpaid family workers	males	17,440	887	2,071	20,398
		females	158	90	502	750
		total	17,598	977	2,573	21,148
	Other permanent workers	males	10,506	261	470	11,237
		females	38	11	14	63
		total	10,544	272	484	11,300

Table 10

FARM LABOUR BY MAIN PROFESSION OF THE OCCUPIER AND BY FARM SIZE IN 1956

The permanent labour-force and the part-time workers together expressed in working years units.

ain profession	The number of holdings	Agricultural area	The number of working year units (w.y.u.)					The number of w.y.u per 100 ha
			unpaid family workers	paid workers	total	the division of labour about		
						males	female	
l occupations								
< 5 ha	169,866	264,095	120,797	25,191	145,988	132,008	13,980	55.3
5 - 10 "	65,234	477,750	97,901	11,447	109,348	95,241	14,107	22.9
10 - 15 "	32,326	392,957	56,418	10,257	66,675	58,751	7,924	17.0
15 - 20 "	18,482	317,417	34,121	11,073	45,194	40,759	4,435	14.2
20 - 30 "	15,620	373,926	28,228	18,861	47,089	43,888	3,201	12.6
30 - 50 "	8,552	319,031	14,114	23,022	37,136	35,773	1,363	11.6
≥ 50 "	2,045	154,279	2,960	14,373	17,333	16,940	393	11.2
l holdings	312,125	2299,455	354,539	114,224	468,763	423,360	45,403	20.4
Farmer								
< 5 ha	48,476	137,679	51,378	2,672	54,050	47,788	6,262	39.3
5 - 10 "	60,743	447,573	92,797	5,926	98,723	85,315	13,408	22.1
10 - 15 "	31,376	381,574	55,402	7,912	63,314	55,583	7,731	16.6
15 - 20 "	18,076	310,466	33,733	9,583	43,316	38,971	4,345	14.0
20 - 30 "	15,298	366,279	27,958	16,730	44,688	41,603	3,085	12.2
30 - 50 "	8,371	312,220	13,994	21,646	35,640	34,369	1,271	11.4
≥ 50 "	1,916	140,897	2,896	12,823	15,719	15,396	323	11.2
l holdings	184,256	2096,688	278,158	77,292	355,450	319,025	36,425	17.0
rket gardener								
< 5 ha	33,215	49,827	41,528	19,653	61,181	58,353	2,828	122.8
5 - 10 "	2,120	14,115	3,585	4,394	7,979	7,500	479	56.5
10 - 15 "	426	5,111	647	1,833	2,480	2,346	134	48.5
15 - 20 "	137	2,358	190	1,077	1,267	1,202	65	53.7
20 - 30 "	115	2,721	142	1,593	1,735	1,649	86	63.8
30 - 50 "	48	1,764	49	893	942	856	86	53.4
≥ 50 "	25	1,601	23	703	726	688	38	45.3
l holdings	36,086	77,497	46,164	30,146	76,310	72,594	3,716	98.5

Conversion factor
n: 1 labour force: 1/1 full labour-unit.
nen: 1 labour force: 2/3 full labour-unit.
à 5 days a week = 9/12 year; 3 days a week = 6/12 year;
days a week = 4/12 year; 1 year = 300 working days = 50 working weeks.

rce: The Netherlands Central Bureau of Statistics 1956.

Table 11

LAND UTILISATION
December 31, 1959 1)

Description	Area x 1000 ha (cadastral measurements)
Cultivated land[2]	2,552.2
Woodland	267.9
Reed and rushes	6.7
Waste land	228.9
Metalled roads, outside the centre of the municipality	70.6
Railway tracks	9.8
Waters, wider than 5 m.	250.2
Other areas	226.7
Total area	3,612.9

1) Area incorporated in the municipalities. Total area of the Netherlands including the non-municipal areas of IJsellake and the Groningen and Frisian shallows 4,110,000 ha.
2) Including ditches and verges (if not including under waters and roads) and the non-registered cultivated area; not including private gardens bordering on properties.

Source: The Netherlands Central Bureau of Statistics.

Table 12

UTILISATION OF CULTIVATED LAND
Per group of agricultural districts, 1959

Group of agricultural districts	Cultivated area[1], in ha				
	arable crops	grass	horticultural crops	total crops	deduction for bottom crops
Marine clay districts	356,996.04	139,025.77	33,007.27	529,029.08	1,608.49
Fluvial clay districts	61,198.70	129,880.12	32,406.19	223,485.01	15,620.17
Pastoral districts	32,955.10	397,071.22	13,493.66	443,519.98	1,927.40
Sandy soils	347,304.55	616,342.11	27,119.45	990,766.11	3,695.90
Peat colonies	70,309.48	20,664.26	565.89	91,539.63	12.82
Horticultural districts	4,485.97	28,586.79	21,603.66	54,676.42	339.05
The Netherlands	873,249.84	1331,570.27	128,196.12	2333,016.23	23,203.83

1) Excluding ditches, verges and private gardens bordering on properties.

Source: The Netherlands Central Bureau of Statistics, agricultural census May 1959.

ARABLE CROPS
Per group of agricultural districts, 1959

Crop	Cultivated area in ha in (cn)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Cereals:							
winterwheat	47,935	5,960	2,434	3,226	952	205	60,712
spring wheat	35,782	3,703	3,328	6,303	10,118	443	59,677
rye	2,667	8,839	3,148	118,630	10,495	47	143,826
winter barley	4,842	1,578	275	1,128	536	4	8,363
spring barley	43,414	4,504	3,301	11,418	1,044	293	63,974
oats	27,321	8,679	5,239	66,918	17,225	146	125,528
maize	92	21	19	471	10	7	620
mixed corn	359	5,559	566	36,090	357	3	42,934
all cereals	162,412	38,843	18,310	244,184	40,737	1,148	505,634
Pulse crops:							
field beans	1,647	24	56	30	50	6	1,813
small blue peas	20,613	679	826	1,641	59	161	23,979
marrow-fats	8,787	28	167	24	3	10	9,019
dun peas and gray peas	960	29	173	17	13	100	1,292
haricot beans	3,497	7	45	107	11	67	3,734
all pulse crops	35,504	767	1,267	1,819	136	344	39,837
Oil seed and fibre crops:							
winter rape	2,539	12	51	13	4	2	2,621
mustard seed	161	-	22	1	3	1	188
maw seed	5,084	43	102	115	1	30	5,375
caraway seed	2,453	-	98	45	9	22	2,627
canary seed	88	-	-	-	-	-	88
fibre flax	14,452	24	272	249	9	118	15,124
other crops	16	16	12	106	1	7	158
all oil seed and fibre crops	24,793	95	557	529	27	180	26,181

ARABLE CROPS

Per group of agricultural districts, 1959

Crop	Cultivated area in ha in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Field crops for seed:							
sugar and fodder-beet seeds	2,870	-	64	7	89	2	3,032
grass seeds	7,367	167	403	514	317	46	8,814
clovers seeds	221	35	20	132	19	3	430
other crops	379	59	163	529	61	19	1,210
all field crops for seed	10,837	261	650	1,182	486	70	13,486
Tuberous and root crops:							
ware and feed potatoes:							
on clay soils	44,318	5,182	3,098	998	15	1,238	54,849
on sandy and peaty soils	1,300	1,343	1,891	37,784	1,117	53	43,488
potatoes for processing	3,051	6	427	14,358	19,868	-	37,710
sugar-beet	55,661	6,473	2,849	20,884	6,839	273	92,979
fodder-beet	8,695	6,542	3,235	22,443	870	704	42,489
seedling beet	384	21	14	84	38	5	546
other crops	44	45	21	401	-	7	518
all tuberous and root crops	113,453	19,612	11,535	96,952	28,747	2,280	272,579
Greenfodder crops:							
lucerne	5,083	247	154	93	-	40	5,617
clovers	3,744	1,099	204	729	118	17	5,911
other crops	45	46	62	549	3	2	707
all greenfodder crops	8,872	1,392	420	1,371	121	59	12,235
Green manuring crops	32	10	17	238	-	37	334
Bare fallow	1,116	223	204	1,020	51	349	2,963
Total arable crops and bare fallow	357,019	61,203	32,960	347,295	70,305	4,467	873,249

Source: The Netherlands Central Bureau of Statistics.

Table 14a

AREA OF VEGETABLES AND FRUIT
Per group of agricultural districts, 1959

Crop	Area in ha in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Vegetables and early potatoes grown outdoor:							
strawberries:							
not yet bearing	283.52	32.74	25.04	892.18	5.55	33.37	1272.40
bearing	919.76	601.70	80.42	2356.70	2.78	115.88	4077.24
asparagus	82.96	12.80	8.16	3247.29	1.02	3.73	3355.96
gherkins	18.55	5.54	137.16	892.60	0.22	33.49	1087.56
cauliflower	435.95	54.48	366.15	220.69	24.65	791.45	1893.37
early yellow savoy	25.44	13.14	14.39	43.14	4.29	29.41	129.81
early red cabbage	45.26	23.04	26.80	35.06	1.83	51.31	183.30
early white cabbage	24.86	22.13	41.93	37.97	5.04	117.70	249.63
witloof chicory roots	1452.77	87.56	273.31	484.90	7.36	280.20	2586.10
spring sown onions	4695.25	24.42	143.22	37.27	0.01	400.83	5301.00
onions from autumn sown stock or sets	466.33	14.89	37.03	14.97	0.35	42.99	576.56
silverskin onions	305.21	7.18	12.91	30.15	0.10	30.52	386.07
other vegetables	5202.06	963.60	2422.41	3993.45	170.82	4445.17	17197.51
early potatoes	3154.82	362.54	943.71	500.66	38.62	4005.33	9005.68
all vegetables and early potatoes	17112.74	2225.76	4532.64	12787.03	262.64	10381.38	47302.19
Vegetables under glass:							
strawberries	8.44	65.88	29.35	16.77	0.71	4.28	125.43
cucumbers:							
glasshouses	48.84	7.31	66.63	8.18	8.25	26.58	165.79
frames	83.06	7.87	244.09	13.65	15.62	38.31	402.60
melons	23.96	0.72	30.97	2.31	0.46	124.04	182.46
tomatoes:							
heated	146.36	8.48	382.67	62.68	10.90	496.24	1107.33
cold	131.53	34.55	245.77	163.36	7.74	751.33	1334.28
other vegetables:							
glasshouses	28.46	16.61	47.48	19.67	0.19	45.34	157.55
frames	71.59	12.47	57.94	35.37	1.69	68.53	247.59
all vegetables under glass	542.24	153.69	1104.90	321.99	45.56	1554.65	3723.03
of which bottom crops	1.54	0.95	0.80	1.20	0.04	3.06	7.59

Table 14a(continuation)

AREA OF VEGETABLES AND FRUIT
Per group of agricultural districts, 1959

Crop	Area in ha in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Fruit under glass:							
grapes	38.85	9.68	18.76	5.29	0.36	323.92	396.86
other fruit	9.84	7.05	9.21	2.67	0.09	45.59	74.45
all fruit under glass	48.69	16.73	27.97	7.96	0.45	369.51	471.31
Top fruit:							
apples	5517.93	19445.80	3487.74	6659.96	58.98	747.98	35918.39
pears	2085.13	5414.22	1662.95	1098.15	12.15	511.79	10784.39
plums	277.48	1735.56	83.68	277.76	2.51	59.99	2436.98
cherries	82.89	2530.46	109.08	738.52	0.53	0.25	3461.73
other top fruit	11.68	55.77	4.50	167.43	0.04	1.52	240.94
all top fruit	7975.11	29181.81	5347.95	8941.82	74.21	1321.53	52842.43
Small fruit:							
raspberries	140.21	39.34	2.20	1170.31	1.87	0.55	1354.48
gooseberries	56.27	51.51	15.24	34.26	0.60	35.44	193.32
red and white currants	380.23	319.17	88.60	414.39	3.22	199.64	1405.25
black currants	310.68	133.80	44.13	759.27	4.40	83.67	1335.95
other small fruit	37.27	42.16	27.19	33.87	7.16	2.10	149.75
all small fruit	924.66	585.98	177.36	2412.10	17.25	321.40	4438.75

Source: The Netherlands Central Bureau of Statistics.

Table 14b

CULTIVATION OF ORNAMENTAL PLANTS
Per group of agricultural districts, 1959

Crop	Surface unit	Cultivated area in (on)						
		marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Floricultural products:								
grown outdoors								
cut flowers	m^2	593,376	61,171	1077,511	465,868	20,548	3030,747	5249,221
shrubs for forcing	m^2	1131,990	5,381	80,299	13,510	-	27,218	1258,398
other floricultural products	m^2	737,164	232,981	411,356	640,845	17,202	1309,917	3349,465
total grown outdoors	m^2	2462,530	299,533	1569,166	1120,223	37,750	4367,882	9857,084
	ha	246.47	30.12	157.06	112.15	3.80	437.18	986.78
under glass:								
in frames	m^2	82,839	87,812	95,398	144,919	6,577	58,954	476,499
in glasshouses:								
roses	m^2	704,143	1,554	53,534	13,949	-	19,865	793,045
carnations	m^2	697,672	13,310	234,094	16,968	7,500	157,649	1127,193
other cut flowers	m^2	141,281	7,801	185,143	25,099	500	691,308	1051,132
potted plants	m^2	244,290	58,154	99,058	114,185	5,409	50,195	571,291
other floricultural products	m^2	143,392	16,550	99,899	94,333	755	313,637	668,566
total under glass	m^2	2013,617	185,181	767,126	409,453	20,741	1291,608	4687,726
	ha	202.03	18.98	77.02	41.57	2.09	130.05	471.74
of which bottom crops	ha	-	-	0.06	0.06	-	0.14	0.26
all floricultural products	ha	448.50	49.10	234.08	153.72	5.89	567.23	1458.52

Table 14b(continuation)

CULTIVATION OF ORNAMENTAL PLANTS
Per group of agricultural districts, 1959

Crop	Surface unit	Cultivated area in (on) marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	The Nether-lands
Bulbs and corms:								
hyacinths	ha	55.29	0.03	22.98	0.19	0.08	510.02	588.59
tulips	ha	546.92	0.20	353.39	1.36	0.06	2601.67	3503.60
narcissi and daffodils	ha	182.19	0.10	227.11	0.86	0.27	742.11	1152.64
gladioli	ha	1032.79	3.22	121.76	173.90	1.89	1176.92	2510.48
other miscellaneous kinds of bulbs and corms	ha	261.84	1.09	323.21	9.86	0.11	957.48	1553.59
fallow bulb-land	ha	81.23	0.11	86.55	0.35	0.40	503.64	672.28
all bulbs and corms	ha	2160.26	4.75	1135.00	186.52	2.81	6491.84	9981.18
Woodynursery stock:								
grown outdoors	ha	265.08	180.68	731.91	1531.66	148.11	61.45	2918.89
under glass	ha	1.15	0.20	7.23	2.72	0.01	1.15	12.46
all woodynursery stock	ha	266.23	180.88	739.14	1534.38	148.12	62.60	2931.35
Horticultural crops intended for seed:								
vegetable seeds	ha	3282.34	7.20	181.88	769.36	8.96	368.45	4618.19
flower seeds	ha	246.50	0.28	12.74	4.58	-	165.07	429.17
all crops for seeds	ha	3528.84	7.48	194.62	773.94	8.96	533.52	5047.36

Table 15

THE NUMBER OF HOLDINGS AND THE AGRICULTURAL AREA
By main profession of the occupier and by size class per group of agricultural districts

Main profession of the occupier	Number of holdings						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horticultural districts	The Netherlands
Farmer							
0,01- 1 ha	469	304	395	1,167	49	84	2,468
1- 3 "	2,599	2,312	1,692	8,072	195	199	15,069
3- 5 "	2,662	2,902	2,467	12,659	278	272	21,240
5-10 "	4,820	5,995	7,856	36,819	1,010	618	57,118
10-15 "	3,532	2,948	6,599	18,823	1,282	490	33,674
15-20 "	2,422	1,432	4,966	8,433	1,007	387	18,647
20-30 "	3,717	1,130	4,342	4,924	1,012	272	15,397
30-50 "	4,140	611	1,718	1,514	419	79	8,481
50-100 "	1,297	113	111	176	80	10	1,787
≥100 "	76	5	11	27	6	-	125
≥ 1 ha	25,265	17,448	29,762	91,447	5,289	2,327	171,538
Market-gardener							
0,01- 1 ha	2,264	1,012	3,367	1,935	117	3,995	12,690
1- 2 "	1,706	1,050	2,059	1,901	106	3,908	10,730
2- 3 "	950	408	601	1,114	19	1,672	4,764
3- 5 "	889	393	478	1,077	13	1,343	4,193
5-10 "	602	341	292	592	12	552	2,391
≥10 "	250	246	82	150	7	120	855
0,01 ha	6,661	3,450	6,879	6,769	274	11,590	35,623
Agricultural labourer							
0,01- 1 ha	2,807	1,119	741	1,765	300	1,371	8,103
1- 2 "	1,188	247	315	1,209	198	92	3,249
2- 3 "	422	96	139	570	68	64	1,359
3- 5 "	201	44	87	339	39	5	715
≥ 0,01 ha	4,618	1,506	1,282	3,883	605	1,532	13,426
Other occupiers							
0,01- 1 ha	3,947	8,027	2,969	20,049	556	1,602	37,150
1- 2 "	1,602	2,148	1,399	9,245	234	205	14,833
2- 3 "	704	876	860	4,018	104	107	6,669
3- 5 "	603	648	746	2,731	78	99	4,905
5-10 "	357	377	556	1,324	20	63	2,697
≥10 "	250	215	287	607	21	34	1,414
≥ 0,01 ha	7,463	12,291	6,817	37,974	1,013	2,110	67,668
	Cultivated area						
Farmer	487,865	177,552	411,379	899,188	88,526	28,480	2,092,990
Market-gardener	.	11,293	11,048	16,995	552	22,937	80,564
Agricultural labourer	.	1,167	1,332	5,164	713	568	13,438
Other occupier	17,322	17,854	17,833	65,723	1,736	2,353	122,821

Table 16

NUMBER OF THE HOLDINGS AND THE CULTIVATED AREA BY SIZE GROUP, SINCE 1910

Main profession of the occupier	The number of holdings								Cultivated area x 1000 ha							
	1910	1921	1930	1947	1950	1955	1957	1959	1910	1921	1930	1947	1950	1955	1957	1959
Farmer																
1 - 3 ha	55,366	31,814	29,421	35,632	30,591	23,567	16,146	15,069	150.7	60.6	56.9	69.1	60.1	47.1	33.5	31.2
3 - 5 "		28,796	28,874	29,978	29,608	26,875	22,918	21,240		109.5	110.7	118.7	117.5	106.7	91.2	84.6
5 - 10 "	37,331	44,468	50,832	55,907	60,603	61,757	59,329	57,118	260.1	308.5	356.0	404.1	441.7	454.6	438.2	422.6
10 - 15 "	29,411	33,076	39,814	47,787	47,787	48,764	50,589	52,321	408.1	457.4	547.8	669.7	666.2	683.9	706.6	728.8
15 - 20 "																
20 - 50 "	23,331	22,182	23,572	26,066	24,011	23,768	23,780	23,878	689.3	651.5	681.7	749.5	689.8	681.5	682.0	685.3
≧ 50 "	3,405	2,739	2,512	2,234	1,991	1,906	1,936	1,912	227.0	188.5	170.3	171.8	163.5	143.6	137.2	139.0
≧ 1 ha	148,844	163,075	175,025	197,604	194,299	186,637	174,698	171,538	1735.2	1776.5	1923.5	2182.9	2138.8	2117.4	2088.8	2091.6
Market-gardener																
0,01 - 1 ha	4,709	5,233	7,446	14,733	14,616	15,866	13,666	12,690	2,331	2,708	3,971	8,295	8,196	8,011	7,373	7,125
1 - 2 "	4,746	5,830	8,158	12,202	11,715	11,142	10,669	10,730	6,469	8,043	11,138	17,050	16,377	15,633	14,965	15,002
2 - 3 "	2,587	3,323	3,878	5,097	4,968	5,032	4,851	4,764	6,041	7,779	9,083	12,258	11,978	12,108	11,753	11,493
3 - 5 "	2,098	2,663	2,927	4,073	3,856	3,997	4,124	4,193	7,706	9,826	10,866	15,413	14,582	15,180	15,564	15,918
5 -10 "	1,021	1,342	1,592	2,189	1,851	2,123	2,234	2,391	6,712	8,761	10,477	14,558	12,281	14,130	14,988	16,115
≧10 "	327	409	564	688	632	705	797	855	5,878	7,859	11,075	13,237	12,044	12,891	14,048	14,911
≧ 0,01 ha	15,488	18,800	24,565	38,982	37,638	38,865	36,341	35,623	35,138	44,968	56,607	80,810	75,458	77,952	78,691	80,564
All occupiers																
1 - 3 ha	75,923	74,353	71,973	70,006	65,002	59,667	57,767	56,673	130.8	129.9	126.8	126.0	117.4	107.9	104.0	101.7
3 - 5 "	33,697	38,254	38,673	37,293	36,735	34,574	32,507	31,053	125.8	144.0	146.7	146.2	144.0	135.6	127.2	121.4
5 -10 "	41,439	48,945	55,500	60,031	64,275	65,820	64,264	62,206	287.2	338.5	387.0	431.7	466.3	481.8	471.2	456.7
10 -20 "	30,821	34,509	41,256	49,068	48,693	50,050	52,132	53,884	426.6	476.3	566.7	686.9	682.4	701.2	727.4	749.8
20 -50 "	23,798	22,692	24,092	26,589	24,521	24,279	24,341	24,464	702.6	666.0	696.3	764.8	704.5	695.9	698.0	701.9
≧50 "	3,494	2,896	2,651	2,391	2,133	2,028	2,061	2,032	236.6	203.5	184.6	192.0	181.9	157.8	151.2	151.8
≧ 1 ha	209,172	221,649	234,145	245,378	241,359	236,418	233,072	230,312	1909.7	1958.2	2108.2	2347.6	2296.7	2280.4	2279.0	2283.3

Table 17

THE RELATION BETWEEN THE CULTIVATED AREAS, RENTED AND IN OWNERSHIP
Per group of agricultural districts and The Netherlands

Year	Size-group	Percentage of the cultivated area in ownership						
		marine clay districts	fluvial clay districts	pastoral districts	sandy-soils	peat colonies	horti-cultural districts	The Netherlands
1910	≥ 1 ha	37	45	39	60	66	42	47
1921	≥ 1 ha	44	46	44	63	61	49	52
1930	≥ 1 ha	40	45	42	63	55	50	51
1948	≥ 1 ha	32	39	34	55	38	39	43
1950	≥ 1 ha	34	40	35	55	39	40	44
1955	≥ 1 ha	34	44	40	58	45	45	47
1959	≥ 1 ha	35	44	42	58	44	47	48
1955	1- 5 ha	35	50	48	62	52	47	53
1955	5-10 ha	30	42	42	61	44	46	53
1955	10-20 ha	33	44	44	59	44	46	50
1955	20-50 ha	29	40	34	47	44	40	36
1955	50-100ha	36	44	37	54	47	28	39
1955	≥ 100ha	85	97	65	78	98	-	82

1910-1948, cadastral measurements
1950-1959, cultivated areas

Sources: Department of Agriculture (1910, 1921, 1930).
The Netherlands Central Bureau of Statistics (1948,1959).

Table 18

FIXED CAPITAL FORMATION[1] IN AGRICULTURE, FORESTRY AND FISHING (1948-1959)

Year	Gross capital	Depreciations	Net capital formation
1948	210	135	75
1949	198	141	57
1950	236	146	90
1951	248	173	75
1952	219	191	28
1953	244	190	54
1954	302	195	107
1955	334	205	129
1956	332	220	112
1957	310	235	75
1958[2]	290	239	51
1959[2]	350	242	108

1) Including small works of land development.
2) Provisional.

Source: The Netherlands Central Bureau of Statistics (National accounts).

Table 19

AGRICULTURAL AND HORTICULTURAL TRACTORS IN THE NETHERLANDS

Year	The number of tractors	The total number of h.p. (x 1,000)	The average number of h.p. per 100 ha of cultivated area
1950	24,481	551	24
1955	45,149	1,012	44
1958	66,590	1,478	64
1960	81,733	1,856	80

Source: The Netherlands Central Bureau of Statistics.

Table 20

NUMBER OF MOTORS IN THE NETHERLANDS
May 1959

H.p.	Electric motors	Petrol engines	Diesel engines	Total
< 1 h.p.	17,984		40	18,979
1 - < 4 h.p.	21,662	7,987	219	29,868
4 - < 8 h.p.	13,637	4,576	331	18,544
≥ 8 h.p.	2,725	811	528	4,064
Total 1959	56,008	14,329	1,118	71,455
1950	41,658	14,281	1,024	56,963

Source: The Netherlands Central Bureau of Statistics.

Table 21

TOTAL SALES OF AGRICULTURAL IMPLEMENTS
(No tools)
Produced in the Netherlands in factories with 25 employees or more, 1954-1958

Year	Value (x Dfl.1.000.000)
1954	9.-
1955	11.5
1956	11.8
1957	11.3
1958	16.1

Source: The Netherlands Central Bureau of Statistics.

Table 22

IMPORTS OF AGRICULTURAL MACHINERY AND PARTS
1952-1959

Description	1952		1954		1956		1958		1959	
	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000
Tractors	4,225	17,459	7,147	28,195	11,036	44,718	9,825	33,804	12,450	48,491
Machinery for soil tillage, fertilizing and cultivating	-	4,130	-	5,033	-	8,159	-	5,770	-	7,800
of which:										
ploughs	2,356	1,495	3,292	1,862	3,746	2,558	2,340	1,632	2,621	2,039
harrows	1,234	384	3,043	469	3,493	665	2,652	388	4,710	706
farm yard manure spreaders (incl.fertilizer distributors)	619	387	1,245	722	1,601	1,265	1,696	986	2,610	1,461
Planting and drilling machines	1,875	889	2,609	1,059	2,603	1,130	1,617	751	2,763	818
Harvesting machinery	-	9,607	-	12,517	-	20,620	-	16,963	-	21,942
of which:										
grain binders	500	1,422	777	1,751	1,351	3,079	710	1,825	688	1,965
combine harvesters	54	729	214	2,980	328	5,500	314	5,393	420	6,301
hay tedders and hay rakes	3,298	1,829	1,910	1,239	1,977	1,247	1,993	1,282	3,945	2,435
Milking machines	298	418	1,615	1,161	7,687	3,148	7,768	2,988	11,271	4,172
Other machinery	-	1,958	-	2,828	-	6,111	-	5,406	-	8,051
of which:										
farm waggons, trailers etc. without springs	13	332	14	225	15	2,880	402	1,753	851	3,132
Total value	-	34,043	-	49,632	-	80,738	-	62,694	-	87,102

Number: complete machinery excluding imported parts.
Value: complete machinery including imported parts.

Source: The Netherlands Central Bureau of Statistics.

EXPORTS OF AGRICULTURAL MACHINERY AND PARTS
1952-1959

Table 23

Description	1952		1954		1956		1958		1959	
	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000	number	value x Dfl.1000
Spraying and dusting implements	-	1,092	-	840	-	1,833	-	3,120	-	7,336
Farm yard manure spreaders	567	322	644	377	1,333	709	1,860	985	4,867	2,182
Drilling machines	71	39	35	23	70	29	152	87	152	119
Planting machines	42	66	22	49	94	109	98	124	58	108
Ploughs: horse drawn	81	14	90	22	50	9	43	10	40	10
tractor	456	565	411	202	242	165	266	218	256	162
Harrows	110	24	364	63	102	15	97	18	131	24
Disc harrows	121	97	38	27	7	9	16	15	25	27
Cultivators, hoes and rollers	976	76	405	118	370	39	614	108	357	165
Other machinery	78	84	52	10	47	51	114	66	208	214
Reapers and windrowers	269	257	181	166	160	143	138	138	162	102
Combine harvesters	4	47	15	156	20	349	25	451	23	334
Grain binders	31	70	52	79	69	113	48	72	29	32
Motor mowers	-	-	1	3	-	-	-	-	-	-
Hay tedders and hay rakes	308	410	4,240	2,726	4,895	2,714	12,407	6,480	18,695	9,871
Potato- and beet-lifters and harvesters, flax pullers etc.	64	112	146	322	154	374	205	444	132	400
Other harvesting machinery	64	65	18	62	14	20	135	110	184	184
Treshing machines	62	113	35	105	33	156	34	184	26	145
Seed cleaners	2	4	25	43	11	21	2	2	3	2
Sorters	187	407	358	796	404	1,236	499	1,397	597	1,413
Milking machines	48	90	76	70	30	51	51	138	112	166
Other implements and machinery for dairy farms	334	449	419	800	665	1,073	660	2,129	2,080	4,163
Track-laying tractors	6	115	2	6	7	58	7	40	3	51
Wheel tractors:										
with 4 wheels	74	397	-	-	-	-	-	-	-	-
others	15	24	-	-	-	-	-	-	-	-
with 1 or 2 wheels and rotary cultivators	-	-	11	18	34	52	89	105	237	175
with 3 or 4 wheels			135	896	147	632	158	515	344	1,063
Farm waggons, trailers etc. without springs	2,894	5,346	1,552	3,188	517	2,033	401	1,192	558	1,549
Total value	-	10,285	-	11,167	-	11,993	-	18,148	-	29,997

Number: complete machinery excluding exported parts.
Value: complete machinery including exported parts.
Source: The Netherlands Central Bureau of Statistics.

Table 24

FARM INVESTMENTS
In Dfl.per 100 ha

Group of agricultural districts	Object of investment[1]				
	tractors	transport machinery	other machinery[2]	object[3]	total
Marine clay districts					
1954-1955	3,582	2,514	2,895	865	9,856
1955-1956	4,450	2,822	3,432	768	11,472
1956-1957	3,392	2,565	3,137	530	9,624
1957-1958	3,197	2,296	2,838	608	8,939
Fluvial clay districts					
1954-1955	3,035	1,100	1,587	990	6,712
1955-1956	3,635	1,435	3,017	823	8,910
1956-1957	3,801	2,217	3,319	800	10,137
1957-1958	3,709	1,662	2,719	632	8,722
Pastoral districts					
1954-1955	1,245	1,095	1,286	681	4,307
1955-1956	1,512	1,450	1,447	684	5,093
1956-1957	1,531	1,801	2,130	794	6,256
1957-1958	1,953	1,995	2,315	953	7,216
Sandy soils					
1954-1955	1,209	1,007	1,721	690	4,627
1955-1956	1,972	1,418	2,190	827	6,407
1956-1957	1,662	1,443	2,585	894	6,584
1957-1958	1,378	1,544	2,378	948	6,248
Peat colonies					
1954-1955	1,885	516	1,998	136	4,535
1955-1956	2,636	1,183	2,520	183	6,522
1956-1957	2,789	1,093	2,603	356	6,841
1957-1958	1,907	1,691	2,528	230	6,356
Horticultural districts					
1954-1955	1,922	1,362	1,892	731	5,907
1955-1956	2,620	1,740	2,393	758	7,511
1956-1957	2,270	1,832	2,681	763	7,546
1957-1958	2,126	1,829	2,518	821	7,294
The Netherlands					
1954-1955	1,922	1,362	1,892	731	5,907
1955-1956	2,620	1,740	2,393	758	7,511
1956-1957	2,270	1,832	2,681	763	7,546
1957-1958	2,126	1,829	2,518	821	7,294

1) Dead stock only, bought directly outside the agrarian sector.
2) Including transportable milking machines.
3) Non - transportable dead stock, such as agricultural refrigerators, ventilation fans, silos, liquid manure, cellars.

Source: The Netherlands Bureau of Statistics.

LIVESTOCK CONVERTED TO ANIMAL UNITS
1938-1959

Year	Cattle			Pigs			Farm horses			Sheep			Fowls			Total livestock	
	real number x 1000	animal units x 1000	index (1938 =100)	real number x 1000	animal units x 1000	index (1938 =100)	real number x 1000	animal units x 1000	index (1938 =100)	real number x 1000	animal units x 1000	index (1938 =100)	real number x 1000	animal units x 1000	index (1938 =100)	animal units x 1000	index (1938 =100)
1938	2,763	2,304	100	1,538	441	100	312	334	100	654	75	100	29,646	308	100	3,462	100
1949	2,540	2,083	90	1,298	326	74	300	330	99	464	53	71	20,270	212	69	3,004	87
1950	2,723	2,223	96	1,860	521	118	252	281	84	390	45	60	23,443	242	79	3,312	96
1951	2,863	2,336	101	1,935	548	124	250	279	84	360	41	55	25,335	270	88	3,474	100
1952	2,858	2,331	101	1,843	514	117	241	268	80	383	44	59	23,803	255	83	3,412	99
1953	2,930	2,379	103	1,964	517	117	244	269	81	424	48	64	27,531	279	91	3,492	101
1954	3,025	2,445	106	1,945	518	117	241	267	80	407	46	61	31,446	328	108	3,604	104
1955	2,995	2,450	106	2,378	634	144	222	249	75	381	43	57	30,673	317	103	3,693	107
1956	2,962	2,416	105	2,332	611	139	210	236	71	433	49	65	35,557	347	113	3,659	106
1957	3,105	2,560	111	2,529	668	151	201	225	67	496	56	75	35,154	356	116	3,865	112
1958	3,204	2,644	115	2,472	658	149	195	217	65	543	62	83	37,797	373	121	3,954	114
1959	3,396	2,830	123	2,590	690	156	196	216	65	522	59	79	43,197	422	137	4,217	122

The number of animal units is the proportional figure of the feed requirements of an animal as compared with the feed requirements of a cow-in-milk. The number of animals contained in one animal unit per day is:

young cattle < 1 year	2,3	foals < 1 year	2,3
young cattle ≥ 1 year	1,6	farmhorses < 3 years	1,4
cows-in-milk and in-calf	1,0	farmhorses ≥ 3 years	0,8
bulls ≥ 1 year	1,2		
fattening calves	0,9	lambs[3]	10,0
fattening cattle	0,7	older sheep	7,8
pigs < 6 weeks[1]		chicks[4]	140,0
pigs 6 weeks old - < 60 kgs	4,1	older fowls	70,0
pigs 60 kgs - < 95 kgs	2,3		
pigs ≥ 95 kgs 2)	1,8		
sows for breeding and mature boars for service	2,3		

1) The feed requirements of this group are incorporated in a higher figure for the other groups of pigs.
2) Including fattening sows.
3) Wethers, born in year of registration, are reckoned to belong to older sheep.
4) Including pullets and cockerels, 6 weeks and older.

Source: The Netherlands Central Bureau of Statistics.

Table 26

LIVESTOCK
Per group of agricultural districts

Group of agricultural districts	Number of					
	cattle	pigs	farm-horses	sheep	fowls	ducks
Marine clay districts	407,251	85,066	33,345	125,983	1,875,468	7,324
Fluvial clay districts	338,211	256,079	18,964	22,507	3,452,262	15,748
Pastoral districts	906,771	451,468	29,491	283,743	3,064,425	172,066
Sandy soils	1,617,840	1,748,797	104,274	60,559	34,089,740	782,070
Peat colonies	58,852	14,927	7,678	3,311	413,903	616
Horticultural districts	67,191	33,924	2,354	25,661	302,985	1,748
The Netherlands	3,396,116	2,590,261	196,106	521,764	43,198,783	979,572

Table 27

CATTLE

Per group of agricultural districts, 1959

Category	Number in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	the Nether-lands
Calves under 1 year:							
female	75,478	61,824	168,326	331,183	12,069	11,319	660,199
male	10,740	7,876	18,777	32,586	2,678	835	73,492
Heifers, 1 year or older							
in-calf	21,020	25,013	29,766	108,566	3,783	2,689	190,837
barren	65,822	58,763	135,083	264,482	9,910	9,240	543,300
all calves and heifers	173,060	153,476	351,952	736,817	28,440	24,083	1,467,828
Cows-in-milk and in-calf	156,221	129,393	485,341	733,995	23,773	35,998	1,564,721
Bulls, 1 year or older	3,128	1,822	8,726	10,152	264	441	24,533
Fattening cattle:							
fattening calves	5,768	5,020	8,430	36,325	581	599	56,723
other young cattle for fattening (incl.oxen)	49,054	36,704	10,492	72,364	4,895	879	174,388
other fattening cattle	20,020	11,796	41,830	28,187	899	5,191	107,923
all fattening cattle	74,842	53,520	60,752	136,876	6,375	6,669	339,034
Total cattle	407,251	338,211	906,771	1,617,840	58,852	67,191	3,396,116

PIGS
Per group of agricultural districts, 1959

Category	Number in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	the Nether-lands
Young pigs (up to 25 kg):							
still with the sow	19,682	93,503	120,135	539,259	5,225	7,283	785,087
seperated from the sow	9,719	25,362	57,006	195,280	1,187	3,766	292,320
Fattening pigs:							
20 - < 60 kgs	21,569	51,646	100,440	409,170	2,997	8,043	593,865
60 - < 95 kgs	14,329	30,397	79,201	272,488	2,166	6,568	405,149
95 kgs and over (including fattening sows and fattening boars)	6,620	5,340	33,394	41,140	411	4,059	90,964
all fattening pigs	42,518	87,383	213,035	722,798	5,574	18,670	1,089,978
Sows for breeding:							
served sows and gilts showing no symptoms of being in pig	3,458	12,954	16,406	72,387	620	1,025	106,850
sows in an advanced stage of pregnancy	3,678	13,491	15,712	75,660	908	1,127	110,576
sows with farrow	2,367	10,838	13,864	62,388	643	844	90,944
gilts reared for breeding	2,502	8,613	10,675	58,269	526	850	81,435
other sows for breeding	836	3,045	3,375	17,808	187	278	25,529
all sows for breeding	12,841	48,941	60,032	286,512	2,884	4,124	415,334
Boars for breeding:							
mature boars for service	217	652	826	3,261	44	67	5,067
young boars reared for service	89	238	434	1,687	13	14	2,475
Total pigs	85,066	256,079	451,468	1,748,797	14,927	33,924	2,590,261

Table 29

FARM HORSES, SHEEP, FOWLS AND DUCKS IN THE NETHERLANDS
Per group of agricultural districts, 1959

Category	Number in (on)						
	marine clay districts	fluvial clay districts	pastoral districts	sandy soils	peat colonies	horti-cultural districts	the Nether-lands
Farm horses:							
under 1 year old	2,409	2,355	1,908	7,543	432	102	14,749
1 and 2 years old	3,449	2,556	3,043	11,416	661	164	21,289
3 years old and over	27,487	14,053	24,540	85,315	6,585	2,088	160,068
all farm horses	33,345	18,964	29,491	104,274	7,678	2,354	196,106
Sheep:							
lambs	66,387	11,834	152,950	29,882	1,685	13,128	275,866
other sheep	59,596	10,673	130,793	30,677	1,626	12,533	245,898
all sheep	125,983	22,507	283,743	60,559	3,311	25,661	521,764
Fowls:							
intended for slaughter	133,442	272,217	271,181	2,248,215	6,167	48,319	2,979,541
intended for laying:							
a. hen chicks and pullets(brood 1959)	944,447	1,890,829	1,535,129	19,663,522	226,971	132,094	24,392,992
b. laying hens (brood 1958)	643,240	1,111,335	1,063,963	11,024,773	149,175	100,016	14,092,502
c. older laying hens	154,339	177,881	194,152	1,153,230	31,590	22,556	1,733,748
all fowls	1,875,468	3,452,262	3,064,425	34,089,740	413,903	302,985	43,198,783
Ducks	7,324	15,748	172,066	782,070	616	1,748	979,572

Table 30

NATIONAL ACCOUNTS, 1948-1959
(xDfl. 1,000,000)

	Gross national product at current market-prices		Net national product at current market-prices		Net national product at factor costs	
	total	agriculture	total	agriculture	total	agriculture
1948	15,183	2,377	13,535	1,453	11,996	1,645
1949	17,174	2,780	15,432	1,706	13,283	1,892
1950	19,044	3,481	17,168	2,210	14,804	2,149
1951	21,728	3,858	19,513	2,402	16,716	2,327
1952	22,768	4,269	20,335	2,683	17,387	2,608
1953	24,269	4,049	21,836	2,404	18,726	2,318
1954	27,065	4,406	24,557	2,637	21,179	2,569
1955	30,300	4,682	27,568	2,757	24,006	2,740
1956	32,587	4,880	29,604	2,767	26,215	2,781
1957	35,323	5,210	32,036	2,975	28,842	3,173
1958[1)]	36,260	5,194	32,760	2,924	29,560	3,293
1959[1)]	38,700	5,555	35,120	3,064	31,330	3,275

1) Prelimanary figures.

Source: The Netherlands Central Bureau of Statistics.

Annex

METHOD FOR CALCULATING UNDEREMPLOYMENT IN AGRICULTURE

In conjunction with the text in Chapter IV, section 2a (pages 23 and 24) and based on the data of table 11 (page 26), a method for calculating underemployment is given here.

Underemployment was already defined as a situation in which labour density is too high at a given production plan and at certain conditions of production. How can this too high labour density be measured? Or, in other words, how great is underemployment at certain conditions of production and a given production plan?

By way of example we assume that the labour effect should be 2900 standard hours per full labour unit. This norm may e.g. be derived from data of well-managed farms. Then the farms which do not meet this norm, are underemployed. For those groups of farms, mentioned in table 11 (the farms are grouped according to labour density and area of cultivated land) on which the labour effect is below 2900, the degree of underemployment can be computed since the total labour requirement in standard hours and the number of full labour units employed for each group are also known.

On the farms with too low a labour effect (see table 11) 1550 full labour units are employed at present. At the fixed norm of 2900 standard hours per full labour unit this number would be 1175. So in this case the labour supply could decrease by about 25%, or in other words, underemployment on these farms amounts to about 25%.

If we put this underemployment against all enterprises, the figure would be about 11%.

It will be clear that this calculation of underemployment does not say that the labour surplus is directly available. In order to make this surplus free, mechanization and rationalization will have to be increased considerably. The possibility to do more work per man will undoubtedly be promoted by improving the conditions of production in agriculture.