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AGRICULTURE AND FORESTRY:
COMPETITION OR COEXISTENCE?

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SWEDEN

Historical retrospect. Sweden is a country of rich natural resources and small population. The people, who a century ago belonged economically speaking to Europe's proletarians, have in a few generations brought themselves into the economic upper class of north-western Europe. Although the development that has advanced Sweden to this position must be considered to fall outside the scope of this article, its main features may perhaps serve as a useful background to the following account of Swedish agriculture and forestry in collaboration and competition.

As already mentioned, Sweden possesses abundant natural resources. In the more southerly parts of the country there are plains on which the farming conditions are as advantageous as in Denmark. North of this the forest predominates, and covers most of the country. The farther north one goes the sparser are the settlements. In the mountains there, however, ore exists, and in the rivers there is potential water-power, and these together with the forest represent sources of raw material for Sweden's foremost export industries.

For a long time these sources of wealth remained undiscovered or unexploited. They existed, but were of benefit to only a few people living in those days. It was the magic wand of industrialism that awoke to life 'the slumbering millions of Norrland'. Nor must we forget that, while modern industry was making progress, husbandry—the mother of industries—was undergoing a revolutionary development. Above all, social progress has taken place under the aegis of uninterrupted peace.

Because of the splendid body of population statistics the growth of the Swedish nation can be traced from the middle of the eighteenth century. At that time the population engaged in 'agriculture and its ancillary occupations', that is all those who made a livelihood out of farming, cattle breeding and forestry, also hunting and fishing, comprised about 80 per cent. of the entire population. A hundred years later, i.e. by about 1850, scarcely any change had occurred in that respect. But from the middle of last century (see Fig. 1) development has proceeded more rapidly and the farming population (in the sense just indicated) has shown a steady decline, at first only in relation to

other groups in the community but also in absolute figures since about 1880. The flight from agriculture has taken place in two directions throughout the entire period under discussion: to the growing urban occupations at home and, before World War I, to farming and industry in the United States. At the present time the agricultural population represents not much more than 20 per cent. of the total. It will be shown later how 'agriculture and its ancillary occupations' are at present divided between farming and forestry. No such division is possible for the earlier years.

By the middle of the nineteenth century the land under cultivation is estimated to have comprised only about 5 per cent. of the land area as compared with nearly twice as much nowadays; the area of meadowland, however, was larger than now. The fields were mainly used for growing grain and clover. Rotation grasses, in our days the very foundation of all animal production, were deemed to be of secondary importance. Livestock obtained their food for the most part from natural meadows and from woodland and forest grazing grounds, in which in summer-time the animals wandered and grazed at liberty. Besides pasture, the forests yielded wood for building and fuel, while the timber industry was of very little importance.

It was, however, on forests and on charcoal that the ancient and noble iron-working industry was based which in the eighteenth century gave Sweden the position of the world's foremost exporter of iron. The days of the iron-works' prosperity passed when it was discovered in England and elsewhere that pit coal could be utilized in the production of iron. At longer range, however, the rapidly growing industrialism was to make the forests ever more and more valuable; the demand for timber increased in the British Isles and in other countries where the expansion of the acreage under cultivation had already decimated the forest. The first steam saw in Sweden was set up in 1850, and this paved the way for the initial phase in the building-up of the forest industry. At the same time, however, the seeds of conflict between agriculture and forestry were sown.

It would take too long to describe here the various phases in the growth of industry during the past century and the interaction that has taken place between industry, including the forest industry, and agriculture. Reference has already been made to the shifts in the occupational composition of the population. Turn now to the present position of agriculture and forestry in regard to production and also to foreign trade.

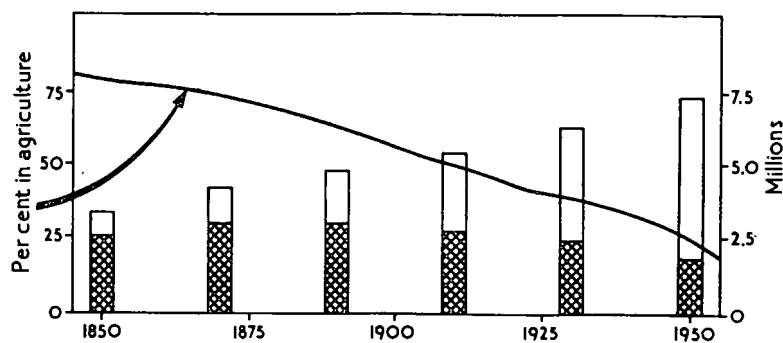
Historical diagrams

FIG. 1. Population Change

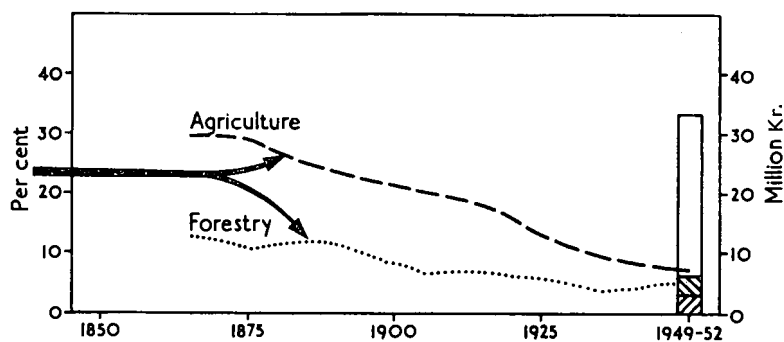


FIG. 2. National Product (1953 prices). [See text]

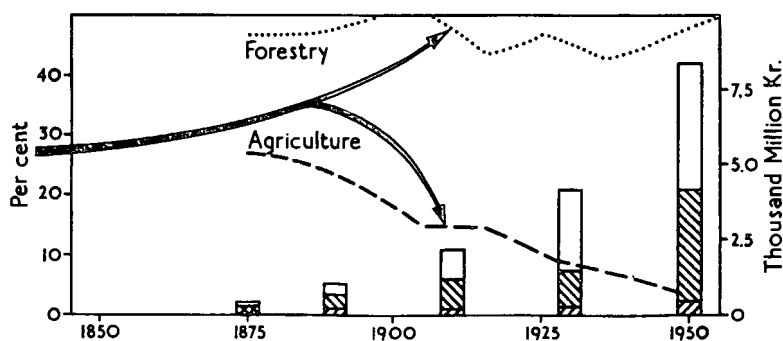


FIG. 3. Exports (1953 prices)



ERRATUM

In the Supplement to *International Journal of Agrarian Affairs*, Volume II,
No. 2, p. 189, Fig. 2:

for 'Million Kr.' read 'Thousand million Kr.'

There are good grounds for questioning the value of the estimates of the national product or of the national income in respect of earlier periods; in all the spheres of economic life conditions have been changed in only a few generations. In any case they cannot serve as a basis for judging the pace at which the country's prosperity or standard of living has increased. However, the data derived from national income estimates, on which Fig. 2 is based, throw some light on the main trends of the shifts that have taken place in the contributions made by different branches of industry to combined production during the past century.

In the 1860's agriculture yielded an addition to the national product corresponding to about 30 per cent. of its total value. For forestry the corresponding figure was 11 per cent. During the past few years the proportion of both branches has been some 6 or 7 per cent. It should be observed that the contributions made by agriculture and forestry do not cover processing nor, in the main, transport. If these links in the process of production are added larger shares are obtained, as will be found later. It is in the nature of things that the processing and transport of farm and forest products should nowadays require larger contributions of capital and labour than they did a hundred years ago—and this applies particularly to forest products. Only if we take this into account does the growing importance of the forest appear.

The difficulties experienced in gauging the development of production in agriculture and forestry during recent generations are no longer encountered when foreign trade in farm and forest products during the same period is studied. In Fig. 3 the development of exports since the beginning of the 1870's is shown. Exports during the period have increased, in terms of a constant value of money, from 500 to 8 or 10,000 million kr. per annum.¹ Eighty years ago agriculture accounted for 25 per cent. of the exports as against only 5 per cent. now, whereas the corresponding figures for forestry amount to between 40 and 50 per cent. at both periods. It may be added that initially exports of forest products consisted mainly of wooden goods, but now the principal article is paper pulp.

The figures for foreign trade given here at once reveal one clearly marked difference between agriculture and forestry today: the former is essentially concentrated upon the home market and the latter upon foreign markets. Agriculture ensures the country's supplies in an

¹ 1953 exchange rate £1 = 14.52 kr.

uneasy world, while forestry assumes a key position in a field of export that is vital to our progressive prosperity.

The ownership of land and forest. According to the general agricultural survey of 1951 the land area—the entire superficial area excluding lakes and water-courses—is divided up in the manner shown in Table 1 and in the summary figures quoted below. In the compilation of these and the succeeding comparative data the country has been divided into 'natural agricultural areas'. Of these the plains of south and central Sweden comprise 14 per cent., the forest and dale country in the same region 21 per cent., and north Sweden 65 per cent. of the entire land area.

| | South and central Sweden | | North Sweden | Entire kingdom |
|-------------------------|--------------------------|-------------------------|--------------|----------------|
| | Plain country | Forest and dale country | | |
| | Per cent. | | | |
| Arable and meadowland . | 40.5 | 16.3 | 2.5 | 10.6 |
| Forest | 42.9 | 64.2 | 54.2 | 54.8 |
| Other land | 16.6 | 19.5 | 43.3 | 34.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Cultivated ground, in which category are included arable and meadowland (though the latter not quite correctly), comprises only between 10 and 11 per cent. of the entire land area—a very small proportion by European standards. On the plains of south and central Sweden, however, it embraces 40 per cent. of the land area. The corresponding figure in north Sweden is very much less, and in the forest and dale country only a little over 16 per cent.

It is remarkable that even in the plains of south and central Sweden forest comprises no less than 43 per cent. of the land area—that is to say, a slightly larger area than the cultivated ground. In the forest and dale country in the same region the share of the forest rises to 64 per cent. In north Sweden 54 per cent. is forest; in that part of the country no less than 43 per cent. of the land area consists of mountainous regions above the tree-limit, bogs and other intractable land, i.e. regions of but small economic importance.

The answer to the question who owns the arable land and forest is that Sweden since time immemorial has been a peasant country, family farms being the predominant type of property, and forests of varying sizes have of old been associated with them. Table 2 shows how the arable land and the forest was divided up in 1951 amongst different categories of owner.

As the table shows, no less than 90 per cent. of the arable land is in private ownership. It may be added that about one-quarter of the combined arable area is leased out. The state's (and other communi-

TABLE 1. *Land area divided into kinds of property ('000 hectares¹)*

| | South and central Sweden | | North Sweden | Total |
|------------------------------------|--------------------------|-------------------------|--------------|--------|
| | Plain country | Forest and dale country | | |
| Arable and meadowland ² | 2,293 | 1,416 | 663 | 4,372 |
| Forest | 2,433 | 5,578 | 14,475 | 22,486 |
| Other land ³ | 942 | 1,694 | 11,563 | 14,199 |
| Total | 5,668 | 8,688 | 26,701 | 41,057 |

Source: Agricultural survey, 1951.

¹ 1 hectare = 2.47 acres.

² 'Meadowland' comprises cultivated pasturage and natural meadow. Of the total area of arable and meadowland given, arable comprises 83 per cent. Meadowland is of relatively greatest importance in north Sweden.

³ This includes primarily mountainous regions above the tree limit, bogs and other intractable land.

TABLE 2. *Arable land and forest divided into categories of owners*

| | South and central Sweden | | | | North Sweden | | Entire kingdom | |
|--|--------------------------|-------|-------------------------|-------|--------------|-------|----------------|-------|
| | Plain country | | Forest and dale country | | | | | |
| | '000 ha. | % | '000 ha. | % | '000 ha. | % | '000 ha. | % |
| Arable (excl. meadowland) | | | | | | | | |
| The state and other communities . . . | 172 | 8.5 | 61 | 5.6 | 17 | 3.3 | 250 | 6.9 |
| Corporations . . . | 50 | 2.5 | 53 | 4.9 | 19 | 3.7 | 122 | 3.4 |
| Private persons . . . | 1,817 | 89.0 | 979 | 89.5 | 479 | 93.0 | 3,275 | 89.7 |
| Total . . . | 2,039 | 100.0 | 1,093 | 100.0 | 515 | 100.0 | 3,647 | 100.0 |
| Forest | | | | | | | | |
| The state and other communities ¹ . . . | 383 | 15.8 | 714 | 12.8 | 4,492 | 31.0 | 5,589 | 24.9 |
| Corporations . . . | 271 | 11.1 | 1,059 | 18.9 | 4,248 | 29.3 | 5,578 | 24.8 |
| Private persons ² . . . | 1,779 | 73.1 | 3,807 | 68.3 | 5,734 | 39.7 | 11,320 | 50.3 |
| Total . . . | 2,433 | 100.0 | 5,580 | 100.0 | 14,474 | 100.0 | 22,487 | 100.0 |

Source: Agricultural survey, 1951 (preliminary figures).

¹ In forests belonging to communities are included, *inter alia*, church-owned forests, commonage and parish-owned common ground and forests owned by public institutions and foundations.

² Mainly peasant-owned forests.

ties') as well as the corporations' holdings of arable land are thus quite small. Proprietary rights in the forest are more split up. Precisely half of the forest land is held by private owners, mainly peasant proprietors, while the state and other communities, and corporations, each own about a quarter. Peasant-owned forest predominates particularly in the plain country in south and central

Sweden, though also in the forest and dale country in those regions. In north Sweden, on the other hand, the three principal categories of owner are fairly evenly divided. As will be seen later, the present-day distribution of forest is essentially a result of the development that took place during the latter half of the nineteenth century. It may be noticed that the picture would be somewhat changed if differences in productivity that characterize forests belonging to different categories of owner are considered. The Crown forests, as appears from the preceding pages, are mainly situated in northern Sweden where, owing to the climate and other reasons, growth is proportionately small, while in this respect the company-owned and especially the peasant-owned forests generally are better favoured. If this is taken into consideration and the yield is reckoned up, about two-thirds of the forests belong to the farmers, while the share of the state and other communities is sinking to about 12 or 13 per cent. The share of the companies, on the other hand, is not considerably changed by this comparison.

TABLE 3. *Agricultural properties above 2 ha. arable land in private ownership with and without forest*

| | Without forest | With forest | Those with a forest area of: hectares | | | | |
|---|-------------------|----------------|---------------------------------------|--------|--------|--------|--------|
| | | | > 10 | 10-25 | 25-50 | 50-100 | 100 < |
| The plains of south and central Sweden | 34,101 | 63,370 | 30,841 | 16,932 | 9,159 | 4,238 | 2,200 |
| Forest and dale country of south and central Sweden | 9,045 | 98,533 | 26,798 | 30,717 | 24,714 | 11,883 | 4,421 |
| North Sweden | 6,469 | 62,903 | 9,552 | 14,263 | 15,712 | 12,905 | 10,471 |
| Total | 49,615 | 224,806 | 67,191 | 61,912 | 49,585 | 29,026 | 17,092 |
| Of these, properties with: | | | | | | | |
| 2-5 ha. arable | 19,434 | 80,078 | 31,046 | 23,369 | 14,032 | 6,951 | 4,680 |
| 5-10 " " | 12,276 | 77,106 | 19,998 | 21,465 | 19,851 | 10,802 | 4,990 |
| 10-20 " " | 10,781 | 44,170 | 11,516 | 11,927 | 10,407 | 6,855 | 3,465 |
| 20-50 " " | 5,935 | 18,703 | 4,132 | 4,597 | 4,603 | 3,368 | 2,003 |
| Above 50 ha. arable | 1,189 | 4,749 | 499 | 554 | 692 | 1,050 | 1,954 |

Source: Agricultural survey, 1944.

Of the farm properties in private ownership the great majority comprise also forest land of various amounts. Unfortunately, the statistics of the forest holdings of these properties have not yet been completed for the agricultural survey of 1951 so that the figures given in Table 3 relate to the conditions at the 1944 survey. At that time it appears that part of the forest belonging to the leased properties—which is usually not included in the lease—was combined with the proprietary estate. For this reason probably the number of farms

without forest is actually larger than would appear from the table. It is further to be observed that between 1944 and 1951 there was a reduction in the number of holdings comprising less than 10 ha. of arable land.

From the foregoing tables it will be seen that forest is of immense importance to Swedish farmers. This is particularly so in the north where, on the basis of the area of arable land, smallholdings predominate. Of the farms in this area with more than 2 ha. of arable land 90 per cent. own forest. In the forest and dale country of south and central Sweden the proportion is about the same as in the north, though here the forest holdings are usually smaller. Finally, on the plains farther south about one-half of the farms are combined with forest. It should be noted, however, that to a large extent the forest merely provides for household needs (i.e. the timber for structural purposes and for fuel). Further, owing to the increasing yield a given area of forest in the south is usually of far greater value than the same area in the northern parts of the country.

There has always been, and still is, much contention about the farmers' forest holdings. As was mentioned in the introduction, in the initial phase of the building-up of the forest industry during the latter half of the nineteenth century, seeds of disagreement were sown between agriculture and forestry or, more correctly, between farmers and the forest industry. This antagonism became particularly conspicuous in north Sweden, where the expanding forest industry found it in its interest to buy forest land from farmers instead of being satisfied with such lumber as could be obtained by purchases from standing forest belonging to the Crown and to farmers. The timber companies' acquisition of agricultural estates or parts thereof—it was of course the forest trees that were the companies' primary interest—involved a political reaction, which gradually gave rise (in 1906) to a law prohibiting companies and commercial societies from acquiring real property in the rural districts of north Sweden. This so-called Company Prohibition Act has subsequently been extended to apply throughout the entire country. Its main object may be said to be to 'peg' the proprietorship conditions that prevailed at the time of its promulgation and to prevent a further reduction of the forests belonging to agriculturists. That is to say, its purpose has not been to restore a situation that had prevailed earlier.

Since then the right to acquire agricultural property has been still further restricted by the passing of the Land Acquisition Act (1945,

revised 1947). The object of this law is to prevent agricultural property from being acquired by persons who do not themselves operate it. The new law must be viewed against the background of the increasing extent to which town-dwellers and other members of the non-farming population, particularly during the late war and the emergency period, bought up real estate for the purpose of capital investment or in order to secure for themselves a supply of food or homes to which they could evacuate their families in the event of war. The discussion as to whether this Act should continue to be kept in force, however, falls outside the scope of our theme. On the other hand, our subject is concerned with the debate that has been going on in recent years as to whether an effort should be made through Government action to facilitate smallholders to increase their forest property or whether, on the contrary, the forest industries should be afforded greater possibilities of procuring forest land. An account of the public debate on this question follows.

According to the principles that govern agricultural policy (the ultimate aim of this policy is described later) an effort is to be made in the forest districts to reinforce agricultural properties with afforested land, so that those properties on which farming represents the principal occupation shall become as far as possible economically sound holdings on which any lack of earning capacity from agriculture shall be made up by recourse to the farmer's own forest. The effort expended so far on reinforcing incomplete farm property by adding forest has, however, been on a limited scale owing, among other things, to the high prices demanded for forest under the boom conditions of recent years. In order to investigate what can be done in various ways to facilitate this plan a government committee was appointed in the autumn of 1951, but it has not yet (January 1955) concluded its work.

The fact that opinions are divided as to the urgency and expediency of bringing about a larger allotment of forest to agricultural estates may be gathered from the lively discussion that went on around the turn of the year 1954-5. It was opened in trade union quarters—to be precise, by the chairman of the Timber Industry Employees' Trade Union, who stated that according to the evidence of forestry statistics the care of the forest was being neglected in the peasant-owned forests more than in Crown and company-owned forests. The reason for this was apparently that the peasant-owned forests consisted of units too small for rational forestry. From the economic

point of view the big corporations were the best form of enterprise for the purpose, and it was thanks to them that the employees had obtained higher incomes and more assured and regular employment. It might be questioned, therefore, whether the Company Prohibition Act should not be modified. It was also conceivable that the peasant-owned forests might be operated jointly. The advocates of the latter idea—most of whom are members of a national organization, the National Federation of Swedish Forest-Owners' Societies—held the view that it was impossible to draw the stated conclusions from statistics alone and that, on the whole, the cultivation of peasant-owned forests was no worse than that of other forests. Representatives of the Crown forests—the Forestry Commissioners—and the forestry industries also took part in the debate. Scientists engaged in forestry research likewise had their own way of interpreting forest statistics. It is not easy—many experts say it is impossible because of the lack of good statistics—to produce a summary judgement based on all the views expressed in different quarters, nor will any attempt be made to do so here.¹ Instead it may be mentioned that the representatives of peasant-forestry are fully aware that this type of forestry has its own special problems. In the report on an inquiry recently conducted by the National Federation of Swedish Forest-Owners' Societies it was stated that in order to create the highest possible degree of efficiency in peasant forestry, collaboration between the forest-owners appeared to be essential. This applied not merely to such obvious matters as road construction and the acquisition of certain kinds of machine, the employment of teams of workers to supplement the farmers' own available manpower, and so on, but also in regard to silviculture in general, including the employment of a staff trained in forestry and able to assist the forest-owners. Whether the attacks against peasant forestry on the ground of neglect are justified or not, its representatives, as we have seen, are aware that increased co-operation is necessary in order not to lag behind the progress made elsewhere. Finally, it should be mentioned that the increased profitability in forestry during the last few years has raised the question of turning bad agricultural land into forest land. In this way the increased over-production in agriculture could also be neutralized.

The labour force in agriculture and forestry. In the latest national

¹ In March 1955 the Minister of Agriculture ordered an investigation of the condition and culture of forests belonging to different categories of owner.

census, which records the position on 31 December 1950, the persons earning a livelihood from agriculture and its ancillary occupations are recorded as having numbered about 600,000, of whom 500,000 were engaged in agriculture and cattle breeding and 80,000 in forestry (in addition to 15,000 engaged in fishing). These population data do not, however, afford any real idea of the work carried out in agriculture and in forestry respectively. The main reason for this is that work in the forests is very largely done by people who, from the point of view of population statistics, are referred to as obtaining their livelihood from agriculture in a limited sense. This applies not only to the peasant-owned forests but also, though to a varying extent, to the Crown and company-owned forests. Farm and forestry work represent supplementary jobs for a large section of the rural population, especially in north Sweden. Sometimes agriculture and sometimes forestry is the more important source of income, so that from the point of view of population statistics the borderline between farmers and forest workers is somewhat vague.

However, even if population statistics do not give specific information about the work performed in agriculture and that carried out in the forest, calculations or estimates of the annual volume of labour engaged in both kinds of work are not wanting. According to the so-called agricultural computation (which is referred to in a later connexion), the volume of manpower in agriculture is calculated for the year 1954-5 at about 850 million man-hours which, assuming an annual output of work of 2,500 hours a man, corresponds to approximately 350,000 whole-time workers. With regard to forestry a number of estimates have also been made, though they are somewhat less reliable. According to these, however, work in the forests requires manpower corresponding to about 150,000 whole-time workers. It may be added that, owing to the progressive rationalization being carried out in agriculture and forestry (which is both a precondition for, and induced by, an increased demand for labour on the part of industry and a number of allied occupations) there is an outflow of manpower from these two occupational groups. So far as agriculture is concerned it has been estimated that for a number of years the volume of labour has suffered an annual reduction of about 3 per cent., and latterly the question has been raised whether this migration is not at present even greater. As to forestry, there are no equivalent calculations. There is, however, no doubt that here too the process of rationalization involves a gradual falling-off in the demand for

labour; even though the development in this field hitherto has not gone on as rapidly as in agriculture.

As the foregoing observations have shown, there are in the agricultural population a large number of people who also work in the forests. During the short period of growth, especially in north Sweden, the business of farming entirely preoccupies the farmer, while in the winter it is in the main only the animals that need tending. To a great extent this is a duty that is performed by the wife or by other female labour. The men are employed in felling and in transporting timber to the floating channels, a job that is best carried out in the winter, when sledges can be used. Work on the farm and in the forest is thus highly seasonal, so that fortunately the peak loads are reached at different seasons of the year. In fact, one could actually speak here of joint industries. The collaboration between agriculture and forestry is a considerable strength for both.

The very extensive flight from the land in recent decades has thinned out the rural population, thereby reducing the supply of labour available for agriculture and forestry. As a result the forest industries have experienced difficulties in obtaining people for work, and in order to safeguard themselves they have endeavoured on an ever-increasing scale to use whole-time forest workers—which has been considered advantageous from other points of view as well. Also the labour unions have worked in the same direction, and the declaration, previously referred to, about the desirability of giving the corporations possibilities to acquire still more forests is also explained by this fact. This development, however, is taking place quite slowly, owing among other things to the difficulty that has been found in inducing forest workers to settle down in those places in the forest districts that are most conveniently situated for their work. The result is that in many quarters efforts have been made to arrange for dwellings for forest workers in nearby populated districts and then to organize transport by car or bus to the places of work.

The soil and the forest as a source of income. The forest does not merely serve to bring in direct revenues to the state and to constitute the basis of the wooden goods and paper pulp industries; it is also, as the foregoing pages have shown, an important source of income for a large section of the agricultural population. Attention should be drawn here to the question of how far agriculture and forestry yield incomes for the property owners in rural districts, and this can be answered by reference to Table 4. This table shows the cash incomes

during the period 1948-52. The data given refer to the gross incomes; it would be impossible—and indeed unnecessary in this connexion—with any degree of certainty to account for the net income that may be deemed to be derived respectively from farming and forestry.

TABLE 4. *The cash incomes of farmers in 1948-52 (million Swedish kronor)*¹

| | <i>Farm produce sold</i> | <i>Forestry and transport</i> | <i>Sundry incomes</i> | <i>Total incomes</i> |
|---|--------------------------|-------------------------------|-----------------------|----------------------|
| 1952 | | | | |
| The plain country of south and central Sweden | 2,408 | 235 | 43 | 2,686 |
| Forest and dale country of south and central Sweden | 1,141 | 558 | 25 | 1,724 |
| North Sweden | 365 | 429 | 15 | 809 |
| Entire Kingdom | 3,914 | 1,222 | 83 | 5,219 |
| 1951 | 3,338 | 1,073 | 76 | 4,487 |
| 1950 | 3,118 | 547 | 72 | 3,737 |
| 1949 | 2,888 | 569 | 67 | 3,524 |
| 1948 | 2,590 | 601 | 60 | 3,251 |

Source: Investigations carried out by the Central Bureau of Statistics, based on about 8,000 income-tax returns.

¹ The cost of living index increased by 28 per cent. between 1948 and 1952.

In 1952, out of farmers' total cash incomes (which are not to be confused with net earnings), totalling Kr. 5,219 million, forestry, including transport of timber, accounted for Kr. 1,222 million, or 23 per cent. This transport of timber is mainly carried out on account of other forest owners, e.g. corporations. The conditions varied widely, however, as between different parts of the country. In the plains of south and central Sweden the corresponding percentage was 9, in the forest and dale country of the same region it was 32 and in north Sweden it was 53 per cent. That is to say, in the two last mentioned sections of the country farmers' incomes were divided more or less equally between farming and forestry. From this it appears that as far as those parts of the country are concerned agriculture might equally well be regarded as a secondary occupation to forestry as the other way round. In this case the term 'joint industries' is fully justified.

Forest-owners, however, enjoyed boom conditions in 1952 as in the immediately preceding year; as we see from the figures in the table, incomes from forestry approximately doubled between the years 1948 and 1952, while the earnings from marketed farm produce increased by only about 50 per cent. Whereas agriculture, largely on account of the agricultural policy pursued during the period under survey,

underwent a calm development, more or less independent of the international food market, forestry earnings were greatly affected by the foreign market situation as far as it concerned production.

The fact that for large sections of the peasant population farming and forestry thus constitute supplementary sources of income has frequently been brought up in discussions on agricultural policy in recent years. According to a decision of the Riksdag passed in 1947 the aim of this policy is to put the agricultural population, or to be more exact the owners of holdings of between 10 and 20 ha. of arable land, on an equal footing from the point of view of income with other comparable groups of the population. The base used for the fixing of prices has hitherto been a summary calculation of agricultural earnings and costs which has only covered farming operations but not forestry. While forestry has been booming in recent years certain consumer organizations have complained that no account has been taken in the annual price agreements of the farmers' incomes derived from forestry. To this criticism it has been objected that, if account were taken of incomes from forestry earned during a boom period, the consequence would be that in a recession demands might be raised for the higher pricing of farm produce—which would manifestly be unreasonable. A government committee of inquiry, known as the Agricultural Prices Committee, whose terms of reference were to examine the system of fixing prices, has stated its opinion that the aim of the government's agricultural policy—placing farmers on an equal footing with other occupational groups—has now in the main been achieved. This principally applied to the production year 1952-3. Since then the income level of farmers has undergone a deterioration compared with that of other groups of the population. Incomes from forestry have also been taken into account in this inquiry. The committee considers that when judging the question of the farmers' income level all the different kinds of income earned must be taken into account. On the other hand, when fixing the prices of the produce of agriculture only farming operations should, as hitherto, be considered.

The part played by agriculture and forestry in industrial life. In earlier times the farmers themselves were very largely responsible for manufacturing the final article at home on the farm and also, to a great extent, arranging for its transport to towns and other communities. Concurrently with the increasing urbanization that followed in the wake of industrialization these functions were taken over more

and more by especially established processing industries and also by provision dealers, while the farmers derived no benefit from this development.

Particularly in the dairying industry, however, the farmers' co-operative movement expanded rapidly at quite an early date. Nevertheless, it was not until the 1930's that producer co-operation in the dairy and other commodity trades really emerged. The subsequent development has been such that of the milk weighed in at the dairies almost the entire quantity is accounted for by producer co-operative enterprises, while about three-quarters of the slaughtered livestock is marketed through similar enterprises. In the milling industry, on the other hand, the farmers have no substantial economic interest.

As to forest industries, the peasant-owned enterprises represent only a very small proportion of the entire industry; if in agriculture we speak of a forward integration, in forestry there has taken place instead a backward integration, with the industry as its starting-point—a development which, as we have seen, has been checked by the attitude of government authorities, but which other forces are now in favour of promoting. It may be added that the farmers' economic interests in the forest industry are relatively strongest in south Sweden, where an expansion may be said to be taking place at present.

By way of introduction to this article some figures were given showing the net contributions of agriculture and forestry to the national income or, more properly, to the national product, which in 1952 was divided up as follows:

| | <i>Million Kr.</i> | <i>Per cent.</i> |
|---------------------------|--------------------|------------------|
| Total | 38,300 | 100 |
| of which: | | |
| Agriculture and fishing . | 2,700 | 7.0 |
| Forestry | 2,500 | 6.5 |
| Industry, &c. | 16,500 | 43.1 |
| Services | 13,800 | 36.0 |
| Other industries. | 2,800 | 7.4 |

The figures quoted above refer, as far as agriculture is concerned, to the value of the products at the farm (in the aggregate) and in the case of forestry to the value of timber in the processing industries. Thus the transport of raw materials is included in the values in respect of forestry but not in respect of agriculture. Processing and distribution come under the roughly computed figures for industry and services respectively and they should therefore not properly be accounted for separately.

In regard to agriculture there exist quite satisfactory estimates of

the aggregate gross value of production for the market and domestic consumption. This value is at present about 4,250 million kr. In the consumer group the value is, in round figures, 8,500 million kr. Thus, of the price which the consumer pays, the farmers get (gross) about half—a proportion that is shifting fairly slowly. In regard to forestry and the forest industry there are no figures as reliable as those just quoted. Some estimates, however, show that normally the stumpage value has only represented about one-fifth of the forest product that has been exported or sold on the home market. However, the proportion of the stumpage value may shift quite rapidly according to the changes in the forest market conditions, so that the ratio given can hardly be regarded as constant even during a short sequence of years. This, however, is clear, namely that the raw material corresponds on average to a smaller proportion of the value of the final product in the forest than in the food industry. In 1951, if we compare the figures of the contribution to the national product with the ratios just given, the forest and forest-products industries assume a somewhat more conspicuous place in the economy. It should be observed, however, that very good economic conditions prevailed in forestry and in the forest industries in that year; normally speaking, it is probable that the two industries are more or less evenly balanced. It is a striking fact that in 1948 and 1949 the value of the products marketed by the timber and paper industries was about 4,000 million kr. as against just under 4,500 million kr. in the case of the food industry. In 1951 the market value of the products of the forest industries was 7,500 million kr. as compared with well over 5,500 million kr. for the food industry.

When agriculture and forestry are placed side by side in order that their relative significance may be studied, their importance is not usually gauged by their contribution to the national product or the national income. Rather, it is customary to point out, as far as agriculture is concerned, that it has proved an immense asset, under the disturbed conditions in the world today, to have a basic industry capable of supplying the country's entire food requirements, as is now the case; actually, Swedish agriculture yields certain small surpluses for export (at present 6 or 7 per cent. of the volume of farm produce). On the other hand, the view is held in some quarters that agriculture is to some extent a burden on the economy on the very ground that the industry produces more than the country can consume and the surplus has to be sold at a loss on the foreign market. It is, however,

quite generally realized that at short term this export trade is a profitable one seeing that it relates to a marginal production which gets its variable costs covered. The significance of forestry and the forest industries is often gauged primarily by their degree of importance in the export field; during the past few years the forest industries have accounted for between one-third and one-half of the 8 or 10,000 million kr. representing the total value of exports. That is to say, the forest has earned for the nation large incomes in foreign exchange, which could be used to pay for imports and which have served as a vital foundation for the country's steadily increasing prosperity. The exports of agricultural products have been maintained at about 5 per cent. of the value of all exports combined. Sweden ranks as one of the world's leading exporters of forest products but holds a far more modest place as an exporter of food.

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