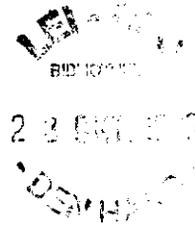


# AGRICULTURAL ECONOMIC REPORT 1996 OF THE NETHERLANDS

Summary



October 1996

Agricultural Economics Research Institute (LEI-DLO)  
The Hague  
The Netherlands

**ABSTRACT**

**AGRICULTURAL ECONOMIC REPORT 1996 OF THE NETHERLANDS; SUMMARY**

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This Periodical Report offers an English summary of the contents of the Agricultural Economic Report 1996 (194 p.), which is published in Dutch. A general survey is given of the economic situation of Dutch agriculture and horticulture for the past years. Among other subjects, attention is paid to the Common Agricultural Policy and developments in the agricultural production in the world, in the EU and especially in the Netherlands and to the processing, marketing, imports and exports of agricultural products. Furthermore an analysis is made of the development of profitability, income, investments and the financial situation of agricultural and horticultural holdings in the Netherlands. Next the report deals with developments in the production structure and in the rural area, and finally with agriculture and environment.

Agriculture/Agricultural Policy/Trade/Farm Structure/Agricultural Production/Farm results/Incomes/Environment/Netherlands

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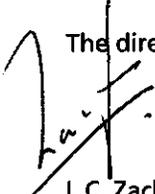
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# PREFACE

The Agricultural Economic Report (Landbouw-Economisch Bericht) is an annual publication of our Institute, offering a global survey of the economic and financial situation of Dutch agriculture and horticulture. Thereby the changing economic and political circumstances of the sector are taken into account explicitly. This (extended) English summary is published separately as part of the series 'Periodieke Rapportages' (Periodical Reports). The complete report is available only in Dutch.

The report is based on data and contributions from nearly all divisions of the Institute. The coordination and editorship of the report is conducted by the General Economics and Statistics Division. The final draft of the 1996 edition of the report was completed in the course of August 1996.

The director,  
  
L.C. Zachariasse

The Hague, October 1996

# 1. ECONOMIC AND POLITICAL DEVELOPMENTS

In 1995 the Dutch economy grew by approximately 2.5%, as in 1994. Though unemployment is decreasing to some extent, it is still persistent. Due to changes in policy, the number of persons receiving invalidity benefit is falling. Partly as a result of this the public sector is shrinking: in 1995 the share of public expenditure in national income was 47.4% as against some 55% in the second half of the eighties. The government deficit likewise displays a declining tendency, and is meanwhile so far reduced that the national debt is not increasing further as a percentage of national income. The fact that this is accompanied by a fall in interest rates is favourable to the agricultural sector. In real terms the interest rates have not changed much in past years, since inflation has fallen proportionately. The expectation is that the Dutch economy in the years to come will display moderate growth but that agricultural production will increase considerably less strongly than in the past. The principal causes of this are formed by greater foreign competition, above all for Dutch horticulture, the stricter environmental policy (see Chapter 7) and the GATT agreement, which restrains subsidized exports.

Dutch government policy yields both an increase and a reduction in the financial burden for the agricultural sector. The former proceeds from environmental policy and from general measures aimed at reducing the government deficit. The latter is intended partly as compensation for the former and partly to strengthen the competitive position of the sector. The cutbacks by the Ministry of Agriculture, Nature Management and Fisheries on the classic policy instruments for production agriculture are accompanied by expansion of the resources for nature and landscape. This illustrates a major shift of stress in the policy: from agricultural production policy to countryside policy. That shift is visible among other things in the proposed policy for research, education and information. This policy will be directed more at adjustment of agricultural production to the requirements of nature, environment and landscape, and the users of knowledge may pay an increasing share of the costs themselves.

As regards the reduction of the financial burden, this relates both to general fiscal measures and to specific burden-reducing measures for small and medium-sized business and the agricultural sector. In addition, resources have been made available for the restructuring of horticulture under glass and adaptation of (intensive) livestock farming to environmental policy. Livestock farming is confronted not only with environmental measures but also with increasing regulation regarding the welfare of animals, both on the farms and during transport.

The farmers and market gardeners of the Netherlands have long been organized on an ideological basis on the one hand and by region or province on the other. The whole is coordinated by the Agriculture Board, in which the

organizations of the farmers and the agricultural employees cooperate. The Agriculture Board, which dates from 1954, is a public body, which means that all farmers are obliged to pay to it and that it has statutory powers. In recent years the picture has changed radically. All kinds of mergers have taken place whereby both the provincial boundaries and the ideological frameworks were overstepped. This process resulted in the foundation of an agricultural federation of producer organizations, the Agricultural and Horticultural Organization (Dutch initials LTO). In connection with these developments the position of the Agriculture Board also entered into discussion. It has meanwhile been decided that this body will be abolished. The public tasks of the board will be taken up partly by the Ministry and partly by the Product Boards in agriculture.

## 2. AGRICULTURE IN THE WORLD

According to provisional data from the FAO, agricultural production in the world in 1995 was about the same size as in 1994. From 1989 there has been a stagnation in food production per head. Above all in Africa south of the Sahara, where the population increases by nearly 3% per year, the situation deteriorated in 1995. In Asia food production and population growth more or less kept pace with each other. The FAO expects that the world food situation will gradually improve in the period up to 2010, which does not alter the fact that even then there will still be large numbers of chronically undernourished people, above all in South Asia and the southern part of Africa.

In the countries of Central and Eastern Europe agricultural production fell sharply after the upheaval in 1989, but in various of these countries a recovery is meanwhile becoming apparent. According to calculations by the European Commission the volume of production in these countries will certainly not be back at the old level before 2005. This is of importance to the consequences of the accession to the EU desired by these countries. The prices of agricultural products in these countries are in general considerably lower than those in the EU, but in the future the differences will probably become smaller. According to the European Commission, emphasis must be laid in these countries on improvement of the agricultural structure.

In the past year the world market prices for various agricultural products rose sharply. It is expected that these prices will fall back in the years to come, but will still remain higher than at the beginning of the nineties. The GATT agreement has only a limited effect on this. It looks as if the countries in South-East Asia will proceed to import more agricultural products in the years to come. The net agricultural exports of the OECD countries could increase as a result, but the share of the EU in these will probably decrease.

The entry into effect of the new GATT agreement did not as yet display any obvious reduction of price and income support in 1995. However, the nature of the support has begun to change in recent years. In 1986-1988 nearly 80% of the total aid in OECD countries was given in the form of price support and in 1995 only 64%, whereas the share of direct payments has grown.

In 1996 the United States decided to reform its agricultural policy on a number of aspects. In the commodity programmes for among others cereals the deficiency payments have been replaced by fixed payments per acre. Because the latter are not linked to production, the United States has no further interest in exceptions in a WTO context for payments that are linked to production, such as the present Mac Sharry-payments in the EU. As a result this element of EU policy might well come under extra pressure in a following WTO round, the more so because Australia and New Zealand likewise want to bring these payments up for discussion.

## 3. AGRICULTURE IN THE EU

### 3.1 Production, incomes and budget

The volume of agricultural production in the EU-15 in 1995 was practically identical with that in the two preceding years. Above all by somewhat better prices and through a rise in the direct subsidies the net agricultural income of the total sector increased by an estimated 5%. Real farm income per worker also rose in 1995 by nearly 5%. Since the beginning of the nineties the development of real income in the Netherlands has lagged considerably behind the EU average. One of the causes of this is that the Netherlands profits relatively little from the payments under the Mac Sharry reform.

In addition the real selling prices in the Netherlands have fallen more strongly than in the rest of the EU and the number of workers has precisely declined more slowly.

Incidentally, Dutch incomes are still far above the EU average. The gross value added per worker, measured in purchasing power parities, in 1994 was nearly two thirds higher in the Netherlands than in the whole EU, but no longer the highest of all member states, as was the case up to a few years ago.

The expenditure on market and price policy in the EU rose in 1995 by over 3% to 34.5 billion ECU, above all through the further introduction of the Mac Sharry reform. For 1996, partly as a result of the problems in the beef sector, a sharp increase in the expenditure is expected, such that there is hardly any scope left in respect of the agreed agriculture guideline.

Since 1992 the Netherlands has been a net payer to the EU. In 1995 the net position of the Netherlands was -3.7 billion guilders. This is expected to increase to -6 billion guilders in 1999. Causes of this change are the considerable increase in the expenditure on regional development and the strong expansion of the payments for arable products and beef, of which the Netherlands in both cases receives a relatively small amount. Meanwhile cries are being heard in the Netherlands to renationalize EU agricultural policy in a financial respect, because that would be to the advantage of the Exchequer.

### 3.2 Institutional prices and agrimonetary developments

In conformity with the long-term agreements within the Mac Sharry reform, the intervention prices of cereals and of beef for the 1995-1996 season were reduced and the compensatory payments and premiums raised. For products that had been kept out of the reform, such as sugar, wine, and fruit and vegetables, constant ECU prices were set. The price decisions taken in July 1996 for the 1996/97 season were dominated by preservation of the reform that had

been realized. For practically all products unchanged ECU prices were set. The basic percentage for set-aside was put at 17.5% and the actual set-aside percentage for the 1997 harvest at 5%. For the beef sector, which is afflicted by the BSE ('mad cow disease') crisis, supplementary support measures were announced. Simultaneously with the price decisions an agreement was reached on a reform package for the fruit and vegetable sector.

As regards the agrimonetary development, it was remarkable that the green rates of the D Mark and the guilder had to be devalued several times in mid-1996, for the first time since these rates came into being. These were small (agricultural price-raising) adjustments, which offset to only a limited extent the (agricultural price-reducing) revaluations from 1995.

As part of the compensation scheme for considerable revaluations of green rates the Dutch agricultural sector receives for 1995 the sum of 109 million guilders and for 1996 and 1997 approximately 73 and 36 million guilders. This relates in full to Community resources; the Netherlands government is not availing itself of the possibility of supplementary national compensation.

### **3.3 The future of EU agricultural policy**

The increase in agricultural expenditure has in recent years remained within limits and incomes in EU agriculture are rising. There thus seem to be no convincing internal arguments why the Mac Sharry schemes could not be continued in broad outline. However, there are external developments that may form a reason for a further adaptation of EU agricultural policy. That relates above all to the expansion of the EU eastward and the coming new WTO negotiations. A certain degree of consensus seems to exist about the direction in which agricultural policy has to be adapted: less emphasis on price support and more (compensatory) direct payments. These payments will then be directed more strongly towards attaining objectives in the sphere of environment, nature and landscape ('cross-compliance'). A major point of discussion will be whether the existing production-limiting measures, such as set-aside of arable land and the milk quota system, will have to be abolished or not. Probably a drastic price reduction will leave too little budgetary room for full compensation of the income consequences for the European farmers.

In his strategy memorandum EU agriculture commissioner Fischler argued that a continuing liberalization of market and price policy must be flanked by an 'integrating countryside policy'. In such a policy the objectives of the various policy forms that affect the development of the countryside must be geared together. This proposal may be seen as a further intensification of the reform of the Structural Funds (1988) and the incorporation in this of the accompanying measures of the Mac Sharry reform. It incidentally proves that even in the predominantly rural regions in the EU the non-agricultural activities form the principal source of employment. Within the EU market for agricultural products and foodstuffs a tendency towards regionalization is visible, as emerges *inter alia* from the scheme for protecting the origin of certain regional products.

## 4. PRODUCTION, PRICE FORMATION AND MARKETING

### 4.1 Production and price formation

The volume of production of Dutch agriculture and horticulture in 1995 was somewhat greater than in 1994. The production value, however, decreased by some 3.5% through an average drop in price of nearly 4% (table 1). In this way the price increase that occurred in 1994 was almost entirely nullified. The percentages stated conceal various developments per product. Thus the production of arable products, milk and fruit and vegetables rose by more than 2%, whereas that of meat and eggs and ornamental products fell. For the arable products and for fruit and vegetables average drops in price occurred of respectively 16.5% and 6.5%, but for the other product groups they remained confined to 2%. A drop in price of more than 10% occurred with ware potatoes, onions, beef, tomatoes and pears, whereas for pork, cucumbers, lettuce and apples a price increase of more than 5% was recorded. The picture of the first six months of 1996 is dominated by low prices for beef and high ones for pigmeat and poultry meat, partly as a result of the BSE crisis. On the international markets the prices of cereals and oil seeds rose strongly.

*Table 1 Development of volume and prices of agricultural and horticultural production in the Netherlands*

Product(group)	Value (mln. DFL)	Changes in % in relation to previous year					
		volume			price		
		1994 (prov.)	1993 1994 (prov.)	1995 (est.)	1993 1994 (prov.)	1995 (est.)	
Arable products	3,737	2.0	-5.7	2.6	6.2	37.3	-16.4
Milk	8,400	1.0	-0.2	3.0	-1.7	-2.8	-2.0
Meat and eggs	12,571	2.1	-1.6	-1.5	-14.7	2.1	-2.0
Fruit and vegetables	4,992	1.2	-3.2	2.3	-3.9	13.4	-6.7
Ornamental products	7,439	0.5	4.0	-0.9	1.1	1.9	-1.1
<b>Total</b>	<b>37,139</b>	<b>1.4</b>	<b>-0.8</b>	<b>0.5</b>	<b>-5.9</b>	<b>5.1</b>	<b>-3.9</b>

The potato sector in the Netherlands was alarmed in the autumn of 1995 when the bacterial disease brown rot was encountered. Stringent measures were taken by the authorities to trace the infections and to eliminate them.

The affected growers receive compensation. It is feared that the brown rot infection will spread further via surface water, which would have dramatic consequences for the seed potato sector.

The beef sector has to contend with the BSE crisis. On the strength of calculations with the Beef Model of LEI-DLO it may be concluded that, without supplementary measures, the production of beef in the EU will fall by a few per cent. The consequences of BSE for the consumption of beef are probably stronger and likely to be still noticeable in a few years' time, so that the surpluses will grow. Because export to the world market comes up against the limits of the GATT agreement, a further reform of the EU beef policy is self-evident.

## **4.2 Marketing structure, processing and consumption**

The marketing structure of Dutch agricultural and horticultural products has been in a state of considerable flux in recent years. Increase in scale, concentration and internationalization are the most appropriate key words here. In the fruit and vegetable sector the discussion on a drastic concentration of the auctions attracted great attention.

At present the situation is that approximately 16,000 growers market their products via a score of auctions. About 500 wholesalers and 150 exporters then market the products at home and abroad. The retail trade is strongly concentrated: the EU market is dominated by some 25 retail chains. The latter have increasing objections to the Dutch auction system, among other things because the prices fluctuate too strongly and because the products have to be repackaged too often. On account of these objections the retail chains are gradually concluding more contracts with producers or producer groups.

These developments were the reason that plans were developed in the course of 1995 for a concentration of all fruit and vegetable auctions in the United Horticultural Auctions the Netherlands (Dutch initials VTN). In mid-1996 eight auctions, with together a share of 70% in the total auction turnover, decided to support the proposal for creation of the VTN. Specialized fruit auctions in particular are not participating in the new organization.

The two largest flower auctions, the United Flower Auctions Aalsmeer (VBA) and the Holland Auction, have relaxed their policy with regard to the auctioning of imported cut flowers. The new policy is not expected to lead to a decrease in international competition, but to contribute to a more stable price formation and a more reliable supply pattern.

About half the production value of Dutch agriculture and horticulture is bought by the food, drink and tobacco industry. The dairy industry and the meat industry (including slaughterhouses) are the largest business groups within this industry, which in recent years has been characterized by a growing value added and more or less stable employment (table 2). To reduce the existing overcapacity of the slaughterhouses plans have been developed to buy out a number of slaughterhouses. The funds for this were raised via a reorganization levy on slaughtered animals. Of the 20 cattle slaughterhouses, 16 are left and the slaughtering capacity has been reduced by 30%. Of the 30 pig slaugh-

terhouses, 23 remain, which together have about 20% less capacity than formerly. The contrasts between private agribusiness and the cooperatives, which have a relatively large significance in the Netherlands, are blurring. This is illustrated by the formation of the Dumeco slaughtering organization from two cooperatives and a private business. With a market share of 35% and a turnover of three billion guilders Dumeco is the largest slaughtering business in the Netherlands.

*Table 2 Some indicators of the food, drink and tobacco industry in the Netherlands, 1987-1993*

	1987	1990	1992	1993
Number of businesses a) in % of total industry	885 15.8	875 14.2	899 13.6	914 13.7
Number of employees in % of total industry	125,973 16.7	125,449 16.0	127,058 16.6	124,806 17.2
Industrial sales (f. million) In % of total industry	63,384 27.4	68,907 25.3	76,198 28.5	74,886 29.2
Gross value added (f. million) In % of total industry	14,962 21.1	17,089 20.8	19,008 22.8	19,227 23.3
Contribution to GDP in %	3.4	3.3	3.4	3.3

a) Businesses with 20 and more employees.

Source: Statistics Netherlands.

Sixty-nine percent of Dutch consumer spending on foodstuffs in 1995 took place at the supermarkets, as against 64% in 1993. The share of the specialist shop fell from 26% in 1993 to 23% in 1995. About 10% of the spending takes place at the market, in department stores or direct at the farmer's or market gardener's. In 1994 private persons in the Netherlands spent some 54 billion guilders on food, drink and tobacco and in addition over 16 billion on the provision of meals and drinks (catering trade) and 2 billion guilders on flowers and plants. Of the expenditure on food, drink and tobacco, 35% related to luxuries like drink, tobacco, sweets and ice cream, and 65% to food. The composition of the spending on food has slightly changed in recent years. Thereby the share of the group other foodstuffs, including potato products, snacks and ready-to-eat meals, rose from 21.5% in 1990 to 23.4% in 1994.

### **4.3 Agricultural imports and exports**

Revised figures from the Statistics Netherlands (CBS) on trade in 1994 and some estimates by LEI-DLO for 1995 indicate that imports of agricultural prod-

ucts and foodstuffs have risen from 42.5 billion guilders to nearly 43 billion guilders and agricultural exports from nearly 71 billion guilders to more than 72 billion guilders. The agricultural balance of trade has increased as a result by approximately 1 billion guilders.

In the agricultural trade of the EU the Netherlands occupies a leading position: in agricultural imports it had in 1994 a share of 12%, with which it occupied fifth place; as regards agricultural exports, the Netherlands, with a share of 21%, was in first place. Considered by product group, the Dutch share of exports varies from 7% for cereals and drinks to more than 50% for eggs and even more than 70% for ornamental products. More than 30% of the exports of agricultural products and foodstuffs go to Germany.

## 5. RESULTS OF SECTORS AND HOLDINGS

### 5.1 Sector accounts

According to the sector account of LEI-DLO the net value added of arable and livestock farming between the peak year 1989/90 and 1993/94 fell by over a third, above all as a result of lower selling prices. In 1994/95 there was for the first time since 1994 a recovery, namely through the strongly improved price ratio. However, in 1995/96 a sharp decline again occurred (table 3). The costs of arable and livestock farming have been fairly stable in recent years.

*Table 3 Sector account of arable and livestock farming*

	Value (mln. DFL.)			Changes in % in relation to previous year			
	1993/94	1994/95 (prov.)	1995/96 (est.)	volume		price	
				94/95 (prov.)	95/96 (est.)	94/95 (prov.)	95/96 (est.)
Returns	24,225	25,060	24,255	-0.5	1.0	4.0	-4.0
Non-factor costs	18,120	18,060	17,965	-0.5	-1.0	0.0	0.5
Net value added	6,105	7,000	6,290	-0.5	5.5	15.0	-15.0
Factor costs	12,420	12,540	12,460	-2.5	-0.5	3.5	0.0
Total costs	30,540	30,600	30,425	-1.0	-1.0	1.5	0.5

The sector account of horticulture under glass displays an increase in the net value added in 1994 of nearly 20% (table 4). In vegetable growing under glass the improvement in the net value added was no less than 50%. The increases in cut flower growing and pot plant growing were less considerable. In 1995, as a result of lower selling prices for the whole of horticulture under glass, a decline of over 10% occurred in value added. In vegetable growing under glass the decline was about 15%, in pot plant growing 10% and in cut flower growing 6%.

*Table 4 Sector account of horticulture under glass*

	Value (mln. DFL)			Changes in % in relation to previous year			
	1993	1994	1995 (est.)	volume		price	
				1994	1995 (est.)	1994	1995 (est.)
Returns	8,150	8,580	8,340	1.5	0.5	3.5	-3.0
Non-factor costs	5,825	5,800	5,840	-1.5	-1.0	1.0	2.0
Net value added	2,325	2,780	2,500	8.0	3.5	11.0	-13.0
Factor costs	3,480	3,455	3,440	-2.5	-1.5	2.0	1.0
Total costs	9,300	9,255	9,280	-1.5	-1.0	1.0	1.5

## 5.2 Results of arable and livestock farms

On the arable farms the family farm income in 1994/95 averaged 105,000 guilders per entrepreneur. That was considerably more than in the preceding years (table 5) and the highest result since 1983/84. For 1995/96 a clear decline in the prices of arable products is estimated, as a result of which the average family farm income falls.

*Table 5 Family farm income on farms, x 1,000 guilders per farm holder*

	Number of farms in 1994/95	Income				
		1991/92	1992/93	1993/94	1994/95	1995/96 (est.)
Arable farms	10,510	52.1	18.7	38.4	105.4	57.0
Dairy farms	31,800	56.8	64.0	57.7	58.4	49.0
Pig and poultry farms	8,800	121.5	40.3	-1.2	27.3	53.0

On the dairy farms the family farm income per entrepreneur remained practically constant in 1994/95; it lay on average somewhat above the average of the first half of the nineties. According to the estimate for 1995/96 this indicator will decline, above all through unfavourable price ratios.

The specialized pig and poultry farms attained better results in 1994/95 on average than in 1993/94. The family farm income per entrepreneur, which was even negative in 1993/94, rose by almost 30,000 guilders. On the pig farms in particular there was a strong recovery. The layer farms were, however, confronted with an enormous decline in family farm income, which became

strongly negative and worked out on average at -73,000 guilders per entrepreneur. The recovery of the selling prices of layer-keeping and to a less extent pig-keeping yields considerably better results for 1995/96.

### 5.3 Results of horticultural holdings

In 1994 the results of the horticultural holdings were relatively favourable, but according to the estimate they fell back again in 1995. The results incidentally differ per type of holding. In 1994 the incomes of the vegetables under glass holdings, which in 1993 were on average negative, displayed a clear revival, but in 1995 a sharp decline again (table 6). The incomes of the cut flower holdings have displayed fewer fluctuations in recent years and are on average more favourable than in vegetable growing under glass. On the pot plant holdings there is a trendwise decline of the incomes.

Table 6 Family farm income on horticultural holdings, x 1,000 guilders per holder

	Number of holdings in 1994	Income				
		1991	1992	1993	1994	1995 (est.)
Vegetables under glass holdings	3,200	125.2	5.8	-16.6	77.4	37.0
Cut flower holdings	3,350	81.5	48.5	60.6	73.6	63.0
Potplant holdings	950	103.1	78.7	89.4	90.9	72.0
Field vegetable growers	990	54.0	46.2	44.1	57.5	47.4
Flower bulb growers	1,800	93.9	109.5	153.4	155.5	133.3
Fruit growers	1,340	94.4	-25.0	1.8	15.8	62.5
Tree nurseries	990	107.1	106.3	70.4	89.7	-
Mushroom growers	640	51.6	31.6	62.9	141.1	44.0

The other horticultural holdings also displayed varying results (table 6). The outdoor vegetable holdings attained better results in 1994 than in the preceding years, but the revival was of short duration. On the flower-bulb holdings the family holding income per entrepreneur, which in 1993 and 1994 averaged over 150,000 guilders, worked out according to the estimate at some 20,000 guilders lower in 1995. The fruit growers attained an average family holding income in 1994 of only 16,000 guilders per entrepreneur. The estimate for 1995 gives a much more favourable picture. The tree nurseries displayed a recovery of the results in 1994. After the drop in income in 1993 the family holding income rose by nearly 20,000 guilders. The mushroom growers achieved favourable results in 1994 after a number of years with indifferent results. Through the considerably lower selling prices, however, the incomes fell back again strongly in 1995.

#### **5.4 Spread of incomes, savings, investments and financial position**

Around the average incomes stated above there is often a considerable spread. Thus in 1994/95 20% of the arable farmers had a family income of less than 25,000 guilders, whereas nearly 25% earned more than 150,000 guilders. On over a quarter of the pig and poultry farms incomes were then negative, but 12% arrived at more than 100,000 guilders. In 1994 nearly 20% of the market gardeners had a negative income and over 20% earned more than 150,000 guilders on the holding. In dairy farming the spread of the incomes is considerably less.

Not only the arable and livestock farms but also the horticulture under glass holdings had in 1994/95 on average 24,000 guilders in off-farm income. The business savings (that is to say the balance of income, taxes and family expenditure) averaged 20,000 guilders per year in dairy farming in the period 1991-1995. In arable farming in this period nearly 12,000 guilders was saved annually, but in horticulture under glass and intensive livestock farming the savings were nil or negative. Such a situation forms in the long run a great risk for the continuity of the businesses.

Thanks to the improvement of the incomes the savings in arable and livestock farming in 1994/95 were considerably higher than in the previous year. The same applies with regard to 1994 for horticulture under glass, which in 1993 was faced with negative savings. Through the higher savings over 5 billion guilders in financial resources became available from farm management in arable and livestock farming in 1994/95, as against less than 4 billion guilders in the previous year. Horticulture under glass disposed in 1994 of nearly 1.4 billion guilders in own financial resources, which was over 40% more than in 1993. Against this, the joint arable and livestock farmers acquired nearly 900 million guilders less in outside capital in 1994 than in the preceding year, while the glasshouse holders borrowed nearly 200 million guilders less. In particular the entrepreneurs in intensive livestock farming made a call on the furnishers of outside capital in 1994/95, whereas the arable and dairy farmers reduced their loans on balance. The latter was also the case in horticulture under glass in 1994. Both in arable and livestock farming and in horticulture under glass the liquidity position improved in 1994/95 and in 1994 respectively.

On the arable and livestock farms over 4.1 billion guilders was invested in 1994/95, which was approximately 5% less than the year before. Dairy farmers invested less, and arable farmers and pig farmers precisely more. The purchasing of milk and manure quota by livestock farmers declined further and has almost halved since 1992/93. The investments in land and soil improvement stabilized at 920 million guilders. Glasshouse holders were disinclined to invest in 1994; investments in glasshouses, buildings and installations fell by more than 10% and were lower than the depreciations for the second successive year. Through the lagging investments ageing of the glass coverings has been occurring in recent years.

On the arable and livestock farms 56% of the capital is tied up in land and farm buildings. On the horticultural holdings the implements and installations are important, with a share of 20% in the balance-sheet total. For the

*Table 7 Average balance sheet a) per farm type, x 1,000 guilders per farm*

	Arable farming	Dairy farming	Pig and poultry farming	Horticulture under glass
<b>ASSETS</b>				
intangible assets	34	130	20	-
fixed assets	1,164	1,540	1,284	1,349
financial fixed assets	16	34	9	42
current assets	298	149	258	342
<b>Total</b>	<b>1,512</b>	<b>1,853</b>	<b>1,571</b>	<b>1,733</b>
<b>LIABILITIES</b>				
net worth	1,208	1,355	913	909
long-term loans	288	485	622	740
short-term liabilities	16	13	36	84
<b>Total</b>	<b>1,512</b>	<b>1,853</b>	<b>1,571</b>	<b>1,733</b>
<b>Solvency (in %)</b>	<b>79</b>	<b>73</b>	<b>58</b>	<b>52</b>

a) Arable and livestock farming as at 30-4-1995, horticulture under glass as at 31-12-1994; calculated on the basis of the current business economic value.

business types stated in table 7 the total balance-sheet value lies at between 1.5 and 1.9 million guilders per business and is the highest on the dairy farms, followed by the horticulture under glass holdings. The share of net worth in the total balance-sheet value (the solvency) is the highest in arable farming with an average of nearly 80%. In horticulture under glass the solvency displays a falling trend: at the end of 1994 only 52% as against approximately 58% around 1990. Only the mushroom growers, who are not included in table 7, have had an even lower solvency in recent years.

## 6. DEVELOPMENTS IN THE PRODUCTION STRUCTURE AND IN THE RURAL AREA

### 6.1 Production capacity and number of holdings

The production capacity of Dutch agriculture and horticulture, measured in Dutch Size Units (dsu), increased somewhat between May 1994 and May 1995. In the preceding 10-year period a contraction occurred (table 8), under the influence of among other things the milk quota system and the reform of the EU policy for arable products. This development differs clearly from the constant expansion prior to 1985. The result is that the number of dsu per hectare and per unit of labour in the period 1985-1994 increased much less strongly than in the period before. In 1994-95 intensive livestock farming in particular displayed a contraction.

Table 8 Structural developments in Dutch agriculture and horticulture (in % per year)

	1976-1985	1985-1994	1994-1995
Total production capacity in dsu	1.3	-0.4	0.3
Number of full-time holdings	-2.0	-2.2	-2.8
Number of part-time holdings	-0.4	0.1	-1.3
Area per holding (all holdings)	1.4	1.5	1.8
Production capacity per hectare (full-time holdings)	1.6	-0.1	0.5
Total volume of work in working year units	-0.9	-0.7	-3.9
Production capacity per working year unit (full-time holdings)	2.7	0.3	4.1

Source: Statistics Netherlands; calculations by LEI-DLO.

In May 1995 the Netherlands numbered 113,327 registered agricultural and horticultural holdings of 3 dsu and larger. This was 2.5% less than in May 1994. Between 1976 and 1994 the number of holdings fell by on average 1.7% per year. The drop in the number of holdings has been proceeding somewhat more quickly in recent years than formerly (table 8). Of the total number of registered holdings in 1995, over 87,000 were full-time and nearly 26,000 part-time holdings. Within the full-time holdings the dairy farms and the other grazing farms, with a total of some 40,000, form the most important group. The number of arable farms was about 11,000 in 1995 and the number of intensive livestock farms over 9,000. There are nearly 19,000 horticultural holdings, of which less than half form part of horticulture under glass. In addition there are 8,000 combined holdings operated full-time. In 1994-95 the horticulture under glass and the combined holdings in particular declined relatively strongly in number, by over 4% and over 5% respectively.

## **6.2 Land and labour**

In May 1995 the total area under cultivation by the registered agricultural and horticultural holdings was 1,965,000 ha. That was 6,000 ha less than in May 1994. Above all the area under green maize has clearly declined, under the influence of the shrinking cattle population. The expansion of the area under cereals and potatoes, by 10,000 ha in total, was noteworthy. The Dutch area under glass, which grew from 1985 to 1993 by nearly 1,400 ha (15%), has in recent years displayed limited contraction.

In the past twenty years the number of holdings has declined much more strongly than the area of land under cultivation, 29% and 5% respectively. As a result the average area of the holdings has clearly increased: from 13 ha in 1976 to over 17 ha in 1995. In the past ten years the average holding area has increased somewhat more strongly than in the preceding period (table 8).

Apart from the temporary personnel, there were in 1995 a total of 276,000 persons, full-time or part-time, employed in Dutch agriculture and horticulture. The volume of work - the amount of work converted into full working years - was then 211,000 and fell in the period 1975-1995 by approximately 1% per year. In addition a shift took place from family labour to personnel. The share of personnel in the total volume of work rose from 15% in 1975 to 27% in 1995. In absolute terms too the personnel's volume of work has grown. This growth has occurred mainly in horticulture under glass, in which nearly half the total number of personnel regularly employed are to be found. The production capacity per unit of labour in agriculture and horticulture increased from 21 dsu in 1976 to 38 dsu in 1995.

## **6.3 Developments in the rural area**

Whereas in many other countries the drift from the land is high on the agenda, in the densely populated Netherlands rather the opposite is feared. An example of an area that according to government policy ought to remain 'green' is the Green Heart of the Randstad. This is the 'open' area within the belt of cities in the west of the country, of which Rotterdam, Utrecht, Amsterdam and The Hague are the most important ones. Agriculture and horticulture are the dominant users of space here.

The policy with regard to the rural area up to the nineties was chiefly directed towards sectors and facets: sector policy for agriculture, nature and recreation, and facet policy for the environment, the water and physical planning. In many green areas this separate approach sufficed. However, in the Green Heart this policy was deficient, because the problems there are too complex. It is being attempted to counter those drawbacks with a 'territory-oriented policy'. This makes tailor-made regional work possible, as also integrated weighing of interests. In the latest government memorandum on the physical planning of the Netherlands (VINEX) the Green Heart has been designated as a Physical Planning and Environment area (ROM). The emphasis here lies on integration of spatial problems and environmental questions. In Strategic

Green Projects the emphasis lies on reconciling the functions recreation and nature and in Valuable Man-made Landscapes on reconciling agriculture and nature.

The success of these integration attempts partly depends on the way in which the administration is organized. For the Green Heart, as from 1 July 1996 the Administrative Green Heart Platform and the Green Heart Team have been instituted. The Administrative Green Heart Platform has a broad composition: the various ministries, the three provinces involved, five intermunicipal consultative bodies, two district water boards, the agricultural sector, the recreation sector and the non-agricultural business world all form part of it.

The rural area will change further in the years to come. Nevertheless, the agricultural sector remains dominant in the Green Heart too; without this sector it is even financially unfeasible to keep the area open. However, the agricultural sector will have to take greater account of the other functions of the rural area.

ately working the manure into the ground) has meanwhile become fairly general. The policy in this field is being further intensified, whereby farms with more than two head of cattle per hectare will probably be obliged in the future to accommodate the animals in low-emission housing.

## 7.2 Costs and consequences of the agricultural environmental policy

The reduction of the environmental burden is accompanied by a fairly strong rise in costs for the farms (table 10). These costs have meanwhile risen to nearly 4% of the net value added.

Table 10 Environmental costs of Dutch agriculture and horticulture (in millions of guilders)

	1988	1989	1990	1991	1992	1993	1994
Own environmental costs	139	178	204	245	330	417	459
Environmental charges etc.	48	69	88	121	164	108	117
<b>Total</b>	<b>187</b>	<b>247</b>	<b>292</b>	<b>366</b>	<b>494</b>	<b>525</b>	<b>576</b>
Environmental subsidies	31	43	54	66	74	88	91
Net environmental costs	156	204	236	300	420	437	485
Ditto, in % net value added	1.3	1.4	1.6	2.1	3.2	4.0	3.6

Source: Statistics Netherlands; calculations by LEI-DLO.

Within the agricultural sector horticulture under glass and in particular intensive livestock farming are affected by the agricultural environmental policy. Above all for pig farming a stronger reduction of the number of farms is expected as a result of the manure and ammonia policy. This will probably be accompanied by a contraction of the cattle population and a fall in employment. The various studies are not unequivocal as regards the degree to which and the rate at which these processes will occur. That depends among other things on the (flanking) policy and on the availability of environment-saving technology. The government and business place strong emphasis on modernization and increase in scale as means of reducing the environmental problems. The idea behind this is that holdings can produce in a more environmentally friendly fashion according as they have more modern equipment. To encourage the adjustment process for pig farming the government has made 475 million guilders available.

# ANNEX

## Definitions

**Dutch Size Units (dsu):** A unit for the economic size of agricultural holdings. The dsu is based on the standard gross margins (sgm), which are calculated by deducting related specific costs from the gross returns per hectare or per animal. The sgm is expressed in ECU (current prices). On the EU level the size of farms is not measured in sgm, but in the more workable European Size Units (ESU). Dsu is the Dutch variant of the ESU. The dsu is recalculated frequently in such a manner that the average farm size in dsu corresponds with the development of the volume of the value added of the average farm. Some examples (on the basis of the dsu 1992): 1 ha winterwheat = 0.89 dsu; 1 ha sugarbeet = 1.95 dsu; 1 dairy cow = 1.333 dsu; 1 sow = 0.28 dsu and 1 ha tomatoes under glass = 151.52 dsu

**Entrepreneurial income:** the remuneration for the farmer's own labour and for his own capital and land; this income results after deduction of a remuneration for the labour of the other family workers from the family farm income

**Factor costs:** (imputed) costs of labour, capital and land

**Family farm income:** income of the farm family out of the farm business; this is a remuneration for the labour of all family members and the private capital and land

**Net value added:** gross returns minus non-factor costs

**Non-factor costs (intermediate consumption):** costs of goods and services purchased from other sectors (including depreciations)

**Total family income:** family farm income plus income from non-farm activities and social security of the farmer and his spouse.