

Modest Growth and Capital Drain in an Advanced Economy: the Case of Dutch Agriculture in the Nineteenth Century*

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Abstract

First a survey is provided of the main characteristics of Dutch agriculture in the nineteenth century, covering geographical and soil conditions, regional differences, price developments, and the periodicity of economic growth in agriculture. Agriculture's contribution to the economy as a whole is examined, as well as government policy, and the onset and reactions to the major crisis of the late 1870s and 1880s. Attention then concentrates on Zeeland, a rich agricultural province which suffered relative stagnation in the nineteenth century. Cyclical fluctuations in the percentage of owner-occupancy amongst farmers are identified; their effect was such that the constantly changing ownership of the land channelled agricultural profits out of the province and sometimes even out of the country.

THE Netherlands is by no means unknown to agricultural historians in Britain and the English-speaking world. During the early modern period The Netherlands and Flanders were the source of many of the agricultural innovations and improvements adopted elsewhere in Europe, not least in Britain. In the present century, and particularly since the Second World War, we are constantly made aware of the advanced and intensive nature of Dutch horticulture and livestock farming: the public-relations machine of the Dutch Ministry of Agriculture is most effective. But if the early modern period and the twentieth century are no secret to the outside world, the problems arise in the intervening century or so, between the French Revolution and World War I. Very little about Dutch farming in the nineteenth century is known outside The Netherlands, and as a result it is difficult, for a historian of modern Dutch agriculture, to know which point of departure to adopt when addressing a British readership. I am uncertain whether to deal

only in general terms with the Dutch agricultural economy, assuming that very little is known about it, or whether to take more or less for granted that agricultural history, if not universal, has many common features the world over, and thence to launch into a detailed exposition of the minutiae of current research. The last article on Dutch agriculture to be published in the *Agricultural History Review* was by Jan Bieleman in 1985, who had addressed the British Agricultural History Society Conference in 1983;¹ he chose to assume that the general national background to his detailed local study of the province of Drenthe was not of primary concern to British readers. He preferred instead to focus on an aspect of his doctoral research, which has subsequently been published to some acclaim in The Netherlands (in Dutch) as *Farmers on the sands of Drenthe*.² It is a fine example of a distinguished tradition of detailed research work on agricultural history in The Netherlands, but for those who

* This article is a revised version of a paper delivered to the 1989 Spring Conference of the British Agricultural History Society, held in Bristol 3-5 April 1989.

¹ J Bieleman, 'Rural Change in the Dutch Province of Drenthe in the Seventeenth and Eighteenth Centuries', *Ag Hist Rev*, 33, 1985, 105-17.

² J Bieleman, *Boeren op het Drentse zand 1600-1910*, Utrecht, 1987.

do not read Dutch, there is very little background survey material available within which to place this more specialized work.

For those who can read the Dutch literature, there is no shortage of excellent material on the agricultural history of the modern period. Authors of competent surveys of Dutch agriculture in the nineteenth century have provided a succession of standard works of high quality for the last eighty years and more: Blink's 1904 study of Dutch farmers,³ the Agriculture Ministry's 1914 survey of the previous century's achievements,⁴ Sneller's edited collection of survey articles covering the period from 1795 to 1940,⁵ and I J Brugmans' 1969 standard work on the economic history of The Netherlands in the nineteenth century;⁶ these and others have provided the groundwork for a thorough understanding of the period. Excellent provincial studies have appeared, of which the best known outside The Netherlands have come from the members of the famous Wageningen School, like B H Slicher van Bath, J A Faber, A M van der Woude, and now of course Jan Bieleman.⁷ The economic aspects of all these publications concerning the nineteenth century were synthesized in 1985 in the doctoral thesis of Jan Luiten van Zanden, presently at the Free University in

Amsterdam.⁸ This brilliant study is a first-class work by any standards, and demands an early translation into English. But until that is done, the only information available to those who do not read Dutch is the odd incidental and seldom informative paragraph in the textbook general economic histories of Europe.

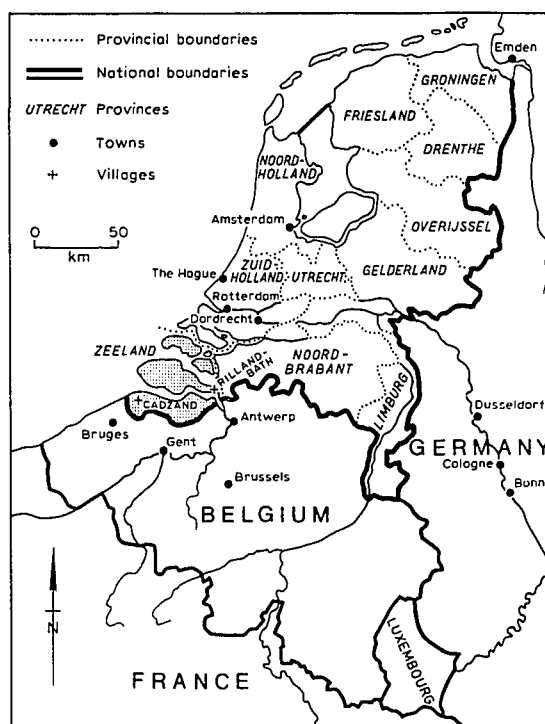


FIGURE 1

Map of The Netherlands, showing Zeeland province

³ H Blink, *Geschiedenis van den boerenstand en landbouw in Nederland* [History of farmers and farming in The Netherlands], 2 vols, Groningen, 1902-04.

⁴ *De Nederlandschen landbouw in het tijdvak 1813-1913* [Dutch agriculture in the period 1813-1913], The Hague, 1914.

⁵ Z W Sneller, ed, *Geschiedenis van den Nederlandschen landbouw 1795-1940* [History of Dutch agriculture 1795-1940], Groningen, 1943.

⁶ I J Brugmans, *Paardenkracht en mensenmacht: sociaal-economische geschiedenis van Nederland 1795-1940* [Horsepower and popular power: socio-economic history of The Netherlands 1795-1940], The Hague, 1969. Each chapter has a substantial section devoted to agriculture.

⁷ B H Slicher van Bath, *Een samenleving onder spanning: geschiedenis van het platteland in Overijssel*, Assen, 1957; J A Faber, 'Drie eeuwen Friesland: economische en sociale ontwikkelingen van 1500 tot 1800', 2 vols, *AAG Bijdragen*, XVII, 1972; A M van der Woude, *Het Noorderkwartier*, 3 vols, Wageningen, 1972; and Bieleman, *Boeren*, *op cit.*

As a result of this status quo, and as a complement to Bieleman and others who have published some of their detailed research findings in English, it is appropriate to lay out some of the general contours of the agricultural history of The Netherlands in the last century. This article will therefore begin with a wide-ranging account of agriculture across the whole nation and throughout most of the nineteenth century.

⁸ J L van Zanden, *De economische ontwikkeling van de Nederlandse landbouw in de negentiende eeuw, 1800-1914*, Utrecht, 1985.

The latter part of the paper, with the benefit of the preceding general outline, will move to a much more detailed matter, namely, the draining away of the capital accumulated in the agricultural sector to other economic sectors, and from the area in which it was earned to other geographical areas in the country, and indeed out of the country.

I

The Netherlands was not entirely remote in the last century. Visitors from Great Britain often travelled to and through The Netherlands, and occasionally they went there specifically in order to observe the agriculture. On the whole, these tourist-observers were impressed with what they saw. Especially in the coastal areas, travellers were agreeably surprised at the prosperity of the farmers, the efficiency and diversity of their operation, and the integration of agriculture into the local, national and international market economy. Just after the Napoleonic Wars, the Revd Thomas Radcliff went to visit Belgian Flanders, which was at that time actually part of the Kingdom of The Netherlands, and paid a brief visit to The Netherlands proper to look at some farms in the area of Cadzand, right at the south-western tip of the present-day country. In his report to the Farming Society of Ireland, published in London in 1819, he expressed himself favourably impressed with the large and well-found farms he saw on the fertile sea-clay there, run by substantial farmers with sufficient capital to do the job properly, producing goods for markets the world over.⁹ In the late 1840s, H Colman from Britain published his account of the agriculture of several countries in northern Europe, and was in raptures about the farming he saw in the Low Countries, especially in The Netherlands:

I entered these beautiful countries [he wrote in 1848], beautiful in the eye of an agriculturalist from the

richness of their crops, and the perfection of their cultivation, in the month of June; and I confess that my expectations, excited as they were, were more than answered. . . . I begin by saying that the agriculture . . . [here] is superior to that of any country which I have visited.¹⁰

These remarks were made, significantly, immediately after several years of crop failure in the 1840s. Twenty years later, at the height of the agricultural golden age in the third quarter of the nineteenth century, the Belgian Émile de la Laveye published in 1865 a study of the Dutch rural economy entitled *La Néerlande*. He too was delighted with what he saw, especially (once more) in the coastal provinces, and decided that The Netherlands was 'one of the most agriculturally advanced nations of Europe'.¹¹ Later on in the century, during the great agricultural crisis, the outlook was less promising. H M Jenkins, who reported to British parliamentary officials in 1881 on the state of Dutch agriculture, as a contribution to the widespread debate in Britain on agricultural distress, noted that the crisis was biting hard across the North Sea as well. Tenants were badly behind with their payments, the effects of over-inflated pre-crisis land prices were now being felt, and the labouring classes were suffering badly.¹² However, after the nineties, recovery set in, and in the years immediately preceding the First World War, the British observer J W Robertson Scott published a substantial survey of the politics and economy of agriculture in The Netherlands, called *A Free Farmer in a Free State*; and the title says it all. He was very enthusiastic about what he found, though he did express minor concern about the effects on farming

⁹ H Colman, *The Agriculture and Rural Economy of France, Belgium, Holland and Switzerland*; from personal observation, 1848, pp 200 and 206.

¹¹ É de la Laveye, *La Néerlande: études d'économie rurale*, Paris, 1865, p 256.

¹² H M Jenkins, 'Report on the Agriculture of the Kingdom of The Netherlands', *Parliamentary Papers, Reports from Commissioners, Inspectors, and Others*, 1881, XVI, pp 638-713.

⁹ T Radcliff, *Report on the Agriculture of Eastern and Western Flanders; drawn up at the desire of the Farming Society of Ireland*, 1819, pp 182-206.

of an absence of primogeniture in Dutch law.¹³ In general, then, according to the accounts of the foreigners, Dutch farming was seen to be advanced and prosperous, especially in the west.

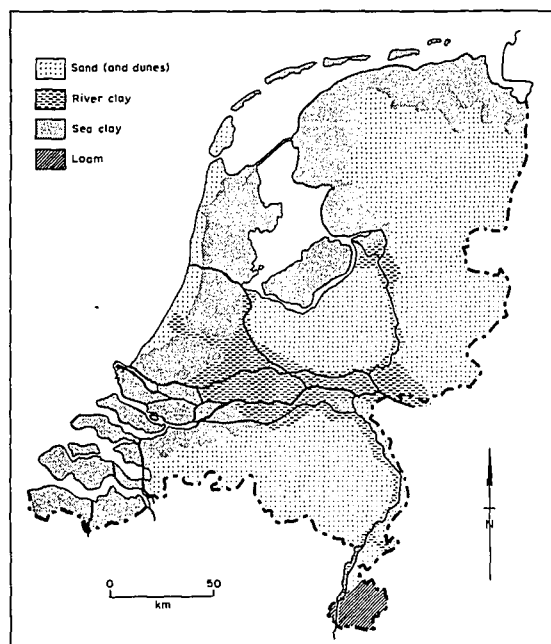


FIGURE 2
General Soil Map of The Netherlands

There are certain distinctive primary features of Dutch agriculture. The country is almost entirely flat, so there is no division between fertile lowlands and rugged uplands. The regional differences are rather determined by the soil, and there are four principal soil types: marine clay along the coasts, river-clay along the main river-bed systems running through the country, sandy soils inland, and a limited amount of fertile loamy soil in the extreme south. (There are also substantial peat deposits.) These four types really simplify into two: clay and sand. In an age before the introduction and, more importantly, widespread acceptance

of artificial fertilizers, which did not occur in The Netherlands before the 1880s, this division between clay and sand amounted to the crucial difference between fertile and infertile farmland. That difference meant that, for centuries, the coastal provinces had been able to produce surpluses for market, and had gradually specialized so that part of their land was permanently given over to cash crops. Because of their coastal location in one of the most urbanized and internationalized areas of the world, the agriculture on these coastal clays was fully integrated into the market economy long before the nineteenth century. The inland sandy soils were another matter. They were relatively infertile, which made it difficult for farmers to produce surpluses, and their location away from the trading centres in the coastal towns meant that agriculture there was much more isolated and less integrated with the marketplace. Money was relatively scarce in this kind of economy. This, then, is a fundamental feature of the nineteenth century which governed Dutch agriculture before the advent of artificial fertilizers, say in about 1880, and it is a feature which had been characteristic of Dutch agriculture since the seventeenth century. Farming was thus much less productive inland on the sand than on the coastal clays. At the start of the nineteenth century, crop yields were much lower there – in many cases only half – and labour productivity was similarly low on the sand, with the coastal provinces producing about twice as much per man-year as the sandy soil.¹⁴ Similarly, agricultural wages differed by about the same factor. Indeed, the case has been made that high productivity in agriculture was directly responsible for high wages throughout the regional economy.¹⁵ But it is crucial to make the point that the sand was not particularly backward, or low,

¹⁴ Van Zanden, *op cit*, pp 41–2.

¹⁵ J. Mokyr, 'Capital, Labour, and the Delay of the Industrial Revolution in the Netherlands', *Economisch- en sociaal-historisch jaarboek*, XXXVIII, 1975, pp 280–99, esp pp 294–6.

¹³ *A Free Farmer in a Free State: a study of rural life and industry and agricultural politics in an agricultural country*, 1912, p 174.

in its rates: rather it is the case that the clay enjoyed remarkably high levels of productivity and wages, compared to other European countries. At the very beginning of the nineteenth century, in 1807 for example, the yields in the coastal provinces were almost as high as they were to be at the start of this century: average milk yields per cow of 2400 litres, seed-to-harvest ratios of about 1:10, and large areas already in use for cash crops and horticulture.¹⁶

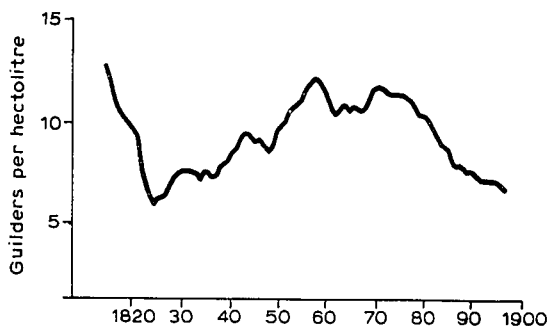


FIGURE 3

Wheat prices at Arnhem in the nineteenth century

Source: I J Brugmans, 'Economic Fluctuations in The Netherlands in the Nineteenth Century', in F Crouzet, et al, ed *Essays in European Economic History 1789-1914*, 1969, p 152; originally from *Bijdragen tot de statistiek van Nederland, Nieuwe volgreks*, XXVI, 1903.

As for the general fortunes of agriculture in the nineteenth century, they followed a similar pattern to most other European countries. The graph of Dutch grain prices in Figure 3 shows the general pattern of change throughout the century, and the presence of the long-term or Kondratieff fifty-year business or trade cycle is evident. Record prices in the French wars were followed by a slump in price as the sea trade opened up once more and Europe's traditional food sources were tapped again via the Baltic and, increasingly, the Black

Sea. A structural depression in agriculture lasted through the 1820s and 1830s, with slow improvements in the forties being thwarted by crop failure, particularly the potato blight. The 1850s and 1860s were the golden age of agriculture, with prices taking a definitive dive only at the end of the seventies, after the world financial crash of 1873. The price of agricultural products continued to decline in The Netherlands beyond the turn of the century, but recovered well in time for the First World War. This price-cycle is common to agriculture in other European countries in broad terms, and indeed to other forms of economic activity like trading and manufacturing.

Before 1850 Dutch agriculture, sophisticated though it was in the coastal provinces, barely advanced. Production hardly grew, and, while exports expanded slightly, consumption per head at home probably declined. After 1850 production growth-rates stepped up considerably, only partly caused by export growth. Labour productivity was also increasing. After 1880, when (ironically) the crisis was in full swing, production growth accelerated due to increased demand both at home and abroad, and the large-scale input of new technology into agriculture accounted for a considerable growth in productivity.¹⁷

II

From this it is clear that most of the change in agriculture took place after the crisis which began at the end of the seventies. That period of intensive change will be dealt with subsequently. Initially, what were the features of pre-crisis agriculture in The Netherlands?

¹⁶ Van Zanden, *op cit*, p 42.

¹⁷ Van Zanden, *op cit*, pp 141, 350-1.

Taking the percentage of the working population engaged in agriculture as an indicator, in 1859 some 37.5 per cent of workers were active in farming. This figure was less than most other European countries in the 1850s, such as Belgium and France with 47 and 52 per cent, though of course it was far higher than Britain with only 22 per cent.¹⁸ So if The Netherlands was by no means an undeveloped economy in terms of the percentage swing of her labour force into the secondary sector, then agriculture *was* still a vital component of her economy: the largest sector, in fact. If auxiliaries like blacksmiths, millers, and others directly dependent on agriculture are added on, then we are speaking of roughly half the population at the mid-century.

So agriculture's place in the Dutch economy, which did not undergo a conventional 'Industrial Revolution' at all in the nineteenth century, was a significant one. It was an important exporter of primary goods to England, but also to the surrounding continental industrializing nations as well, like France, Belgium and Germany. Agricultural exports accounted for 7 to 8 per cent of national income in 1850. Meanwhile The Netherlands was an importer of manufactured goods, and thus was in a classic peripheral economic situation.¹⁹ Agriculture was a major stimulant to the development of the transport infrastructure, and provided the basic materials for many domestic industries, like potato flour, cardboard, sugar-refining, linen and the dairy industry. One industrial crop less familiar in British agriculture, though heavily used in the British textile industry as a dyestuff, was madder. Madder was a Dutch speciality, grown mainly in the south-western seaclays, for it was a rootcrop demanding very fertile soils, high levels of fertilizer, and, because it was left in the soil for two or often three

years, it tied up capital for long periods. When synthetic chemical dyes were developed in Germany on a commercial basis in the 1870s, madder was almost entirely eclipsed, and it is now used only for certain obscure medicines, and for pigment in artist's oil-paint.

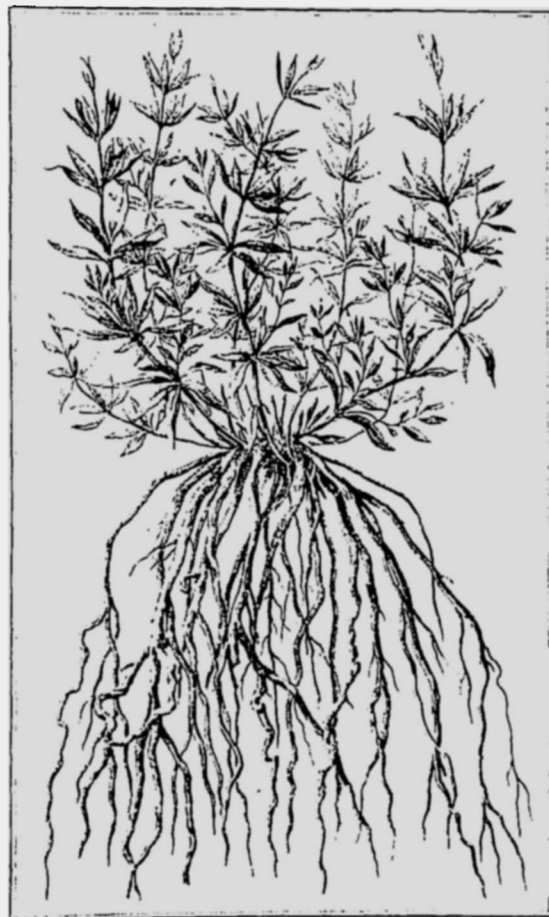


FIGURE 4

The madder plant

From: J de Kanter, *De meekrapter en-bereider*,
Dordrecht, 1802.

The ratio between grass and ploughed field was about 1.33:1, there being about a million hectares of grass to about three-quarters of a million arable. In the mid-nineteenth century, however, all that grass did not necessarily mean dairy and beef farming: most of the cattle were kept for their manure. In actual terms of arable to

¹⁸ Belgium 46.8 per cent in 1856, France 51.7 per cent in 1856, UK 22.0 per cent in 1851. Source: B R Mitchell, *European Historical Statistics 1750-1970*, abridged edition, 1978, pp 51-61.

¹⁹ Van Zanden, *op cit*, pp 223-4.

dairy, the ratio around 1850 was probably more like 2.5 hectares arable to 1 hectare dairy. On that arable land the main product was grain, and most of it was consumed domestically.²⁰

Government policy towards agriculture was minimalist. The ruling class of The Netherlands, the class which dominated the government and parliament, was almost entirely detached from the land. There were a handful of aristocrats with modest estates in the east and south, but by the nineteenth century the vast majority of the members of the Protestant élite were *not* landed aristocrats or gentry, but a mercantile and financial élite, who were more or less indifferent to the land. It is true that there was a traditional and romantic interest amongst the bourgeoisie in retiring from the Exchange to a house in the country along the Vecht, but it was only an hour or two away from town, and no estates were involved, only houses and gardens. The commercial élite was little interested in agriculture and its problems. There was no landed gentry, or very little of it; indeed, the term 'gentry' is generally misleading when applied to The Netherlands.²¹ So unlike Britain with its Tory squirearchy, and most of the other nations of Europe with their land-based aristocracies and élites, the Dutch ruling class generally ignored farmers' interests, and always subjected them to those of trade and finance. There were no Dutch corn laws in the post-Napoleonic period, despite Dutch grain exports being excluded from certain European markets. In the 1820s, while The Netherlands was joined to the traditionally protectionist southern (Belgian) provinces in the United Kingdom of The Netherlands (1815-30), there was some small measure

of protection, which was immediately abolished after the Belgian Revolution and secession in 1830.²² Although a low sliding-scale tariff on grains was introduced in 1835 to help destitute farmers, it was adjusted wrongly and did not have the desired effect.²³ Those tariffs were abolished in the late 1840s because of food shortages and the consequent need to import cheap grains to feed the populace; after 1850 there was no protection whatsoever for agriculture, and, once converted to free trade, the Dutch clung to it tenaciously and indeed dogmatically until well into the twentieth century.

However, there were certain forms of help forthcoming from the state for agriculture. It ran a land registration programme or *kadaster* which was completed in 1832 for everywhere except Limburg; it was intended to increase land-based tax revenue but the information which was gathered in the surveys was of great help to the farming lobby. The various district authorities and polder boards were built up into a Department of Public Works, which was important to Dutch farmers because of the drainage problems with the very low-lying land. Lakes were drained and heaths were cleared with central government legal and sometimes financial assistance. Attempts were made to remove the last vestiges of feudalism by abolishing hunting rights, archaic forms of tenancy like sharecropping, and common land. Tithing was a serious disincentive to agricultural investment in The Netherlands, and the government did pass a law permitting redemption by fixed money rents in 1872. But the Act had no teeth, for vested interest was too strong (the tithe-owners were usually from the financial and commercial élite), and so meaningful reform had to wait for 1907, after the demise of the liberal

²⁰ J A de Jonge, *De industrialisatie in Nederland tussen 1850 en 1914*, Nijmegen, 1976, p 21.

²¹ In the early modern period some scholars use the term 'gentry' to signify the lesser nobility. Eg S D Marshall, *The Dutch Gentry, 1500-1650: family, faith and fortune*, New York, 1987.

²² I J Brugmans, 'Economic Fluctuations in The Netherlands in the Nineteenth Century', in F Crouzet, *et al* ed, *Essays in European Economic History 1789-1914*, 1969, pp 148-9.

²³ R T Griffiths, *Industrial Retardation in The Netherlands 1830-1850*, The Hague, 1979, p 19.

era of *laissez-faire*.²⁴ Before the great crisis of the last quarter of the nineteenth century there was no Ministry of Agriculture, and the government took little part in promoting agricultural education.

The evidence for widespread technological progress in the nineteenth century, before the crisis struck in the 1870s, is very limited. Coastal farming was, as we have seen, already highly advanced at the start of the century, but further change was not forthcoming on any popular basis between 1800 and 1880. One can read the farming societies' publications, and find evidence of the circulation of new ideas: British, French, and German agricultural treatises were certainly read, but probably only by the tiny numbers of the bourgeoisie who had taken an amateur interest in farming. In 1815 all theology students at Dutch universities were obliged by King William I to follow courses in agricultural techniques, on the grounds that, when they got their first postings in the ordained ministry to obscure rural parishes, they could take the latest white-heat of agricultural technology with them and introduce it all to the simple peasants. The scheme was, however, a failure, and was cancelled in 1840. There were no widespread changes in manuring techniques, and further mechanization was minimal. Only after 1895 was there, for example, any substantial demand provided for the engineering industry from the agricultural sector in The Netherlands in the form of farmers buying agricultural machinery.²⁵

The pattern of size and price of farm very much followed the division between clay and sandy soils: the areas where high levels of tenancy were normal were the good, productive clay soils, where the urban bourgeoisie was prepared to invest in land in times of rising prices. This investment

was not primarily to gain social status for the investors, as one might expect, but simply as a lucrative investment for resale.²⁶ Similarly, the farms were much larger on the clay soils: the heavy soil required expensive capital equipment to work it properly. Between four and eight draught horses were used for ploughing on these soils, with the accompanying ploughmen, harness, tackle and implements, and in order to maintain that level of investment it was necessary to have a certain minimum size of farm. The sandy soils, however, could be worked far more easily, with less expensive equipment, and therefore the size of holding could be reduced. So from these indicators it is apparent that, on the sand, the small family-owned and family-run peasant-type farm was more common.

The situation in Dutch agriculture from 1800 to 1880 was never static, and it changed continually. The structural recession of the 1830s, the shortage-induced crisis of the 1840s, and the great boom of the third quarter of the century all bear witness to the fact that this period was one of dynamism and constant flux. Nevertheless, compared to the period after 1880, the situation was relatively stable. Then in the late seventies came the great crisis. The main problem – universal in European agriculture – was that of cheap grain from the world's wide open spaces, such as India, South America, and the mid-west of North America, opened up by railway and steamship, flooding the European markets and undercutting the European producers. But it did not rest there. The new margarine threatened Dutch butter; Sumatran mineral oil and tropical plantation oil threatened oil-bearing seeds like rape, cole and linseed; quarantine regulations affected Dutch cattle; and chemical aniline eclipsed Dutch madder. The

²⁴ M J Wintle, "Plagerijen, hatelijkheden en onrege": Dutch tithing in the nineteenth century, with special reference to Zeeland', *Economisch- en sociaal-historisch jaarboek*, XLIV, 1982, pp 224–46.

²⁵ De Jonge, *op cit*, p 181.

²⁶ M J Wintle, "Dearly won and Cheaply sold": the sale and purchase of agricultural land in the province of Zeeland in the nineteenth century', *Economisch- en sociaal-historisch jaarboek*, XLV, 1986, pp 44–99.

Dutch government refused to protect agriculture with tariffs for fear of retaliation which would injure their other trading interests, and meanwhile the price of nearly all agricultural products continued to fall.

III

Despite this situation it was in the period after 1880 that production and productivity began to rise at unprecedented rates in Dutch agriculture. By 1900 the crisis had abated, in that prices had begun to climb again. Now it is not the case that nothing happened before the 1870s, or that in some perverse way the crisis was needed in order to force change in the last two decades of the century. The changes had begun before 1880, in the period of rising prices in the third quarter of the century. But after the 1880s the innovations pioneered before the crisis became universally accepted, and the structure of agriculture in The Netherlands changed fundamentally.²⁷ What was the nature of the *fin de siècle* changes?

First it should be noted that, as elsewhere, the crisis was relative. Grain-farming was under major attack, but in dairying the effect was less devastating, while horticulture was hardly affected. After all, cheap grain had considerable advantages for proto-intensive livestock farmers looking for cut-price feed. The rises in productivity were achieved mainly by specialization, and involved a strong swing away from grains to dairying, to industrial crops and to horticulture. Productivity was also boosted by the massive introduction of artificial fertilizers, especially on the sandy soils, and by the factorization of the dairy industry.²⁸ These momentous changes were achieved with the assistance of the state, but in the main by the farmers themselves.

The government refused to introduce protective tariffs, but it did set up a major

commission of enquiry, which reported in 1890.²⁹ The government more or less legislated its recommendations, which were that there should be better agricultural education, and that there should be legal controls to maintain the quality and reputation of Dutch agricultural products, especially dairy products. The commission also recommended that co-operatives should be more widespread (the government duly provided the legal framework for this), and that the dairy industry should be factorized and centralized. So the government was prepared to provide a legal framework, but the initiative was left to the farmers themselves.

And respond they did. It was essentially in this period that the Dutch began to take on the characteristics of the kind of farming nation that they now form: many of the sand farms went over to dairying or to intensive livestock rearing – particularly pigs and poultry – and large parts of the clay areas went over to horticulture, much of it increasingly under glass. The production of vegetables, fruit, flowers and bulbs for the urban markets of Europe began to be a special feature. Elsewhere, on the clay, the grains, seeds and madder were replaced in large part by sugarbeet. Amsterdam had always had an important sugar industry based on colonial imports of cane sugar, but it now became the sugar-refining capital of Europe. Co-operatives were introduced, and were widespread and even universal after 1890, initially for purchasing, and then later for marketing, credit, and processing, most noticeably in the dairy industry and the beet-factories. Through the co-operative movement, which was run on denominational lines in The Netherlands, each and every farmer, however isolated and insignificant, was brought out of his proud isolation and independence and integrated into the world of changing

²⁷ Van Zanden, *op cit*, p 246.

²⁸ Van Zanden, *op cit*, pp 247–52.

²⁹ *Uitskomsten van het onderzoek naar den toestand van den landbouw in Nederland*, 4 vols, The Hague, 1890.

technology and the international market. This accounts, crucially, for the 'social modernization' which took place in agriculture in these years. As a result, new technology was introduced on a wide scale to virtually all farms. The size of farms was small, so mechanization itself in the sense of 'engines' made no great strides, but field drainage, polder draining, deep ploughing, cultivation in rows, and livestock breeding all made substantial progress. The price of artificial fertilizers came down fast, and by the end of the century the Dutch were second only to the Flemings in Europe for the amount of chemicals they put on their fields. Ennobled seed-strains were produced in foreign and domestic laboratories, rotation patterns became increasingly sophisticated, and the fallow virtually disappeared.

Thus the crisis came to an end in the first decade of the twentieth century, in the sense that prices were on the rise again. This was probably related to international factors concerned with the long-term business cycle and – as far as the Dutch were concerned – the rise of Germany as an industrial power with an insatiable demand for food of all types. That being said, the changes wrought by the Dutch farmers themselves had altered agriculture in The Netherlands for good.

It is apparent from this outline of the general history of Dutch agriculture in the last century that it does not differ completely from other national agricultural chronicles; nevertheless it was in certain ways relatively more important. Although the percentage of the working population involved in agriculture was not particularly high, the Dutch arguably did not undergo an industrial revolution until after the Second World War. There was industrialization, to be sure: Dutch industry was not sick or weak, but it was modest, and never dominated the economy as it did in the nineteenth century in Britain, Germany, and especially in neighbouring Belgium. This meant that the Dutch were more than usually reliant upon

their agriculture. It should be borne in mind that according to the best comparative figures we have, the Dutch, in terms of GNP per capita, were the richest nation in the world in 1830, and were still in fourth place in 1900: and all this without industrialization!³⁰ The service sector was obviously important here, but the role played by Dutch agriculture was vital as well. The admiration of the foreign commentators which was cited at the start of this article was not altogether misplaced!

IV

The final part of this paper will concentrate on a more specific area of Dutch agricultural history, more specific both in subject matter and geographical focus. The region in question is the province of Zeeland, a rural economy on a group of islands in the extreme south-west of the country, lying in the estuaries of the Scheldt, the Zwin, the Rhine and the Meuse (see Fig 1).

Agriculture was vital to Zeeland's economy in the last century. Partly because of the nature of the soil, which was almost exclusively the heavy but fertile marine clay, but also because of generations of tradition, nearly all the province's farming was of one basic type, known as 'Zeeland wheat cultivation'.³¹ Less than a quarter of the farmland was under pasture in 1899.³² Only on the island of Walcheren, around the provincial capital, was dairy farming to be found on any scale. There were few cattle (in 1883 the fewest of all provinces except Drenthe), and her dairy produce did not enjoy a good reputation. The cultivation was centred on wheat, and indeed Zeeland was the principal producer of that crop in The Netherlands. Relatively few farmers

³⁰ P Bairoch, 'Europe's Gross National Product 1800-1975', *Journal of European Economic History*, V, 1976, pp 273-340, esp p 286.

³¹ This paragraph relies heavily on the section on the agricultural economy in M J Wintle, *Zeeland and the Churches: religion and society in the province of Zeeland in the nineteenth century*, Middelburg, 1988 [1989], pp 48-9.

³² 23.65 per cent.

were owners of the land they cultivated, and tenancy dominated in Zeeland more than in any other province. Tenancies in the province were by tradition short, at seven years, and nearly all farmland was subject to tithing. These factors exercised a braking effect on technological improvements such as field drainage and the like, for the capital expended on such projects was difficult to recoup in increased yields and profits in the short time upon which tenants could rely, especially under a restrictive tithing system. Much of the produce, especially the wheat, and the cash-crops like madder and beets, was exported from the province to the rest of The Netherlands and abroad, for the most part (and increasingly) via Rotterdam.

Agriculture in Zeeland, then, had its own special character, and indeed had its problems, but by the start of the nineteenth century it was already very advanced indeed, and as the main pillar of the provincial economy it was reasonably well ordered, and fully integrated into the market economy of northern Europe. The sector in Zeeland was financially successful for most of the nineteenth century, and the capital accumulated must have been, or should have been, considerable. But the economy of Zeeland as a whole, which, during the heyday of the Dutch Republic, had been on a par with the commercial grandeur of the province of Holland to the north, was characterized in the nineteenth century by most of the hallmarks of the periphery within the regional economy. Beyond farming it had virtually nothing: its fishing and trade were in decline, its manufacturing amounted to very little. My interest is to explore ways in which the capital, which was undoubtedly accumulated in the agricultural sector in the local economy, was prevented from being invested in other local sectors. Some of those means are obvious: two prime candidates are rents (it was an area of high tenancy) and taxes (although the bulk of taxation in the nineteenth century was indirect, and did not affect the land). But

less familiar among the ways in which capital was being siphoned out of the province was by means of farmers losing large sums of money on land transactions.³³ To put it more plainly, farmers were squandering their profits by entering into injudicious property deals. When this conclusion first suggested itself, it came as something of a surprise, for the thought of farmers being hoodwinked into major losses in property speculation seemed dubious, and especially so in Zeeland, where the tillers of the land have a particular reputation for shrewd parsimony. But this concept does not really concern individuals at any particular moment: it is more a question of the effects of patterns of land ownership juxtaposed with movements in the prices of land over a very long period: of a whole century or more.

The land-hunger of peasants and farmers is well documented. Certainly there were few farmers in Zeeland who would not have liked to own the land they farmed in the nineteenth century, despite the fact that the province had one of the highest rates of tenancy in the country. The funds for the purchase of land by farmers were only available, even with the assistance of heavy mortgaging, at times of agricultural prosperity. When prices had been good or rising for a number of years, farmers could get their heads above water, reschedule their finances and make investments – often buying the land they farmed. Conversely, they were often obliged to sell off land in times of crisis, in order to make working capital available, and when high mortgage payments were impossible to maintain. However, there was a complicating factor. The profitability of farming at any one moment was directly linked to the level and direction of agricultural prices. And the price of land was also linked to the price of agricultural products. Farmers were only in

³³ This thesis, outlined in the following paragraphs, is fully developed in Wintle, 'Dearly won', *op cit*, where full references are to be found.

a position to buy land when the price was high, and they were forced to sell when the prices were falling. In other words, they were buying dear and selling cheap. It is my contention that, in the long term, this was one of the mechanisms, and probably a major one, by means of which Zeeland's agricultural economy was relieved of its accumulated capital. The hypothesis is, then, that as soon as land prices dropped below what was considered to be an average or reasonable level, non-farming investors would commence buying, and continue to do so in increasing numbers until prices passed their nadir and had reached an above-average level once more. At that point they would start selling to farmers, who, because of rising prices and profits, were in a position to buy once again. In order to test this hypothesis it was necessary to construct several time-series of land ownership, land prices and land rents, and this I did.³⁴

It appeared that there were in Zeeland in the nineteenth century cyclical movements in land prices and rents which corresponded almost exactly to the long-term cycle in the price of agricultural products represented in the graph of wheat prices in Fig 3: high prices in the Napoleonic wars, low ones in the 1820s and 1830s, slowly rising through the 1840s, 1850s and 1860s, reaching a zenith in the 1880s. They then plummeted until the 1890s, when a recovery set in. This cycle in land prices and the fact that it followed the cycle in product prices was not surprising, but it needed to be documented. More unexpected was the discovery that there was also a cyclical character to the changes in the ownership of the land. The object of the investigation into the ownership of the land was to distinguish between owner-occupiers and owner-investors. Charting percentages of owner-occupancy over the course of the century, the same cycle was found to exist: increases in owner-occupancy as prices rose, and increases in

tenancy as prices fell. There was, however, a 'lag' between the two cycles, of between ten and twenty years, which was necessary on the one hand for the farmers to save up enough to make their purchases, and on the other for the non-farming investors to make a profit. Zeeland was worse hit by this mechanism than were other provinces because of its high level of tenancy, and because of its over-concentration on arable farming.

Finally, the question begs: where did this accumulated agricultural capital go to? The 'investor-purchasers' came from several groups. In a province where tenancy was high, the state was a major landowner, through means of the Crown and state domains. The state sold land in small quantities to farmers when the price was high, but unlike private investors did not buy it back again when the price dropped. Most landlords were absentee, in that they did not live on their estates: we have seen that the ethic of the country gentleman meant little in The Netherlands, as a thoroughly bourgeois and urbanized civilization. Many lived in Zeeland's towns, many lived in The Hague, Rotterdam or Amsterdam in the central province of Holland, and many lived abroad – particularly in Belgium. There were even some British investors in Zeeland soil.³⁵ In this way these profits from land transactions often found their way quite rapidly out of the province. An unconfirmed suspicion is that the bulk of land transactions were conducted on the side of the non-owner-occupiers by the nineteenth-century prototypes of investment fund managers: at the lower end, these would be local town and village lawyers, investing their clients' savings and making a modest profit for themselves on the side, while at the upper end the merchant banks and investment

³⁴ Wintle, 'Dearly won', *op cit*, pp 63–4 and 76–7.

³⁵ In the 1850s a British land reclamation and exploitation company called The Netherlands Land Enclosure Company began a project in the Rilland-Bath area of Zeeland. See P J Aarssen, *Rilland, Bath en Maire in de loop der eeuwen*, Kruijningen, 1977, pp 113–19.

brokers of Amsterdam and other major money markets were also active in this field. My study of the sources is as yet far from complete, but on the basis of pilot studies into the archives of prominent lawyers in Zeeland in the nineteenth century, this seems to be the emerging pattern. That the farmers lost money is already certain: the exact proportionate make-up of the group to which they lost it remains a matter for continuing research.

It is not the intention to apportion blame here. The farmers certainly did not realize the effects of their land-hunger; it is doubtful whether the non-farming investors were aware that they were systematically asset-stripping the local agricultural economy. I have never found any indication that a broker recorded with satisfaction that agricultural prices were falling, with a view to future land purchases. But the causality between the two cycles of land ownership and land prices is not necessary to prove the point, that in a situation when price movements are cyclical, farmers as a group are likely to lose from purchasing land when profits are rising. They are likely to suffer

because they are buying dear, and are at some time in the future probably going to have to sell cheap when the bubble has burst, and the cycle of prices has turned.

The local situation concerning the market in agricultural land in the province of Zeeland is unlikely to have been unique in The Netherlands: other rural provinces may have suffered in the same way, though the prevalence of tenancy in Zeeland probably exacerbated the situation. At a national level, changes in demand patterns were probably the chief determinants of the fortunes of the primary sector, but here is a supply-side factor which may help to account for the relatively slow advancement of Dutch agriculture in the nineteenth century up to the 1880s, despite its already sophisticated nature by 1800. The Dutch capital markets were very efficient in their operation, and The Netherlands has been a significant net exporter of capital at least since the eighteenth century. There is no doubt that other factors were involved, but the land market mechanism deserves more attention than it has previously received.

Notes on Contributors

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