EPPING FOREST DISTRICT COUNCIL
PLANNING SERVICES

VIABILITY OF THE HORTICULTURAL GLASSHOUSE INDUSTRY IN EPPING FOREST DISTRICT; PROSPECTS FOR THE FUTURE AND LIKELY SCALE OF DEVELOPMENT OVER THE NEXT 10 TO 15 YEARS

REPORT BY
READING AGRICULTURAL CONSULTANTS LTD
IN ASSOCIATION WITH
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1. Introduction

1.1 This report has been commissioned by Epping Forest District Council and prepared by Reading Agricultural Consultants Ltd (RAC) in association with Gerry Hayman and Hennock Industries Ltd. The objectives of the study are set out in the brief as:

> **"A. To provide information on the viability, prospects, and the future nature and scale of development of the horticultural glass industry and associated services.** This is to assist Epping Forest District Council in determining its revisions to planning policies and land allocations for its area and planning applications for glasshouse and related development.
>
> **B. To update relevant parts of a 1991 study of the Lea Valley Glasshouse Industry by Reading Agricultural Consultants".**

1.2 The brief lists twenty-three issues and factors that will need to be considered within the study. These have been grouped into the following nine subject matters, which form the basic structure for this report:

- **structure, size and nature of the glasshouse industry (chapter 2);**
- **financial aspects of the glasshouse industry (chapter 3);**
- **the Lea Valley glasshouse industry (chapter 4);**
- **planning issues (chapter 5);**
- **production and marketing issues (chapter 6);**
- **energy and environmental issues (chapter 7);**
- **labour issues (chapter 8);**
- **capital investment issues (chapter 9);**
- **dereliction issues (chapter 10).**

1.3 During the production of the report, consultations were held with key organisations in the Lea Valley area such as Producer Organisations, leading

growers and commercial glasshouse manufacturers. These have not been named in this report but we benefited considerably from the full and frank discussions that we had with them. In terms of local knowledge, the authors would like to thank Tony Stevenson of the Lea Valley Growers' Association for the discussions on the current state and future of the glasshouse industry in Epping Forest District and the Lea Valley in general. His knowledge has been invaluable in the production of this report. We are also indebted to the land agents, Paul Wallace of Hoddesdon, for their guidance on estimates of local land prices.

1.4 The authors are grateful for the guidance provided by Henry Stamp and Nathan Renison of Epping Forest District Council Planning Services, both during discussions at the preliminary stage and for their on-going assistance during the production of this report. We are also grateful to the assistance provided by officers of other local planning authorities in areas of horticultural importance who have provided copies of their Local Plan policies for glasshouse and associated development and information on their recent experience in dealing with applications for new glasshouses.

1.5.1 Data have been obtained from both published and unpublished data from the Department of Environment Food and Rural Affairs (DEFRA) and the University of Reading Department of Agricultural and Food Economics. DEFRA was contracted to draw samples from the June Census for both recent years and a ten-year period, where appropriate. The University was sub-contracted to draw financial data from the horticultural sub-sample of the Farm Management Survey. Samples of identical holdings were selected for the four-year period 1996 to 2000. From these data, comparisons between two major areas of glasshouse production of salad crops were made.

1.6 This report was written by:

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2. Structure, Size and Nature of the Glasshouse Industry

Key Points

- *The area of many UK vegetable glasshouse crops has reduced significantly in the past decade. The areas of cucumbers and tomatoes under glass have both decreased by around 30% whereas the area of lettuce has reduced by 65%. This is a result of the economic pressures such as increasing competition from imports.*

- *In the ornamental sector, areas of some crops, such as bedding plants, pot bedding and baskets and tubs, have increased whereas the area of cut flowers has declined by around 55% in the last decade. Originally, much of the glasshouse area occupied by the ornamental sector would have been growing glasshouse vegetables.*

- *Older, less efficient, glasshouses growing salad and vegetable crops are going out of production and are being replaced by modern units. The remaining older glasshouses tend to be associated with small, family-run businesses, often with a limited lifespan.*

- *Downward pressures on prices continue as multiple retailers dominate the market and exercise enormous buying power.*

- *In spite of the decrease in the area of all glasshouse vegetable crops, in some cases (especially tomatoes) overall production of crops has been maintained because of advances in technology coupled with improved marketing. For example, the yield of tomatoes per hectare has increased by nearly 40% over the last ten years.*

- *The total UK value of cucumbers (in real terms) has fallen over the last decade whilst that of tomatoes has remained relatively stable. The value of lettuce has fallen dramatically.*

- *Competition from imports, traditionally from Holland but increasingly from Spain, Portugal and the Canaries, has had a major effect in suppressing both production and prices of UK produce, especially of cucumbers and lettuce. Improvements in technology and transport, especially from Spain, and the current strength of sterling have all been instrumental in increasing imports.*

- *The quantity of imports of cucumbers has risen since 1995, replacing declining home production. Imports of lettuce have risen steeply since 1991 but with home production declining slowly, pointing to an increase in consumption.*

- *UK producers do have some advantages over importers, particularly in relation to the latter's labour relations, pest and disease control, water supply, nutritional values of the produce and rising land prices.*

Introduction

2.1 In this chapter, the glasshouse industry is examined nationally and regionally, the latter in order to compare the relative importance of the glasshouse sector of the horticultural industry in the different regions in England. This is relevant to any variation in planning policy in different areas of the country and also to see if there are any regional trends that have a bearing on Epping Forest District. The glasshouse industry in Essex is then analysed in more detail. Where possible, such trends that may be apparent are explored, but this is sometimes made difficult by the changes that occasionally take place in the compilation of statistics by DEFRA. For example, one of its major publications, 'Basic Horticultural Statistics for the United Kingdom – 2001/02', presents data that include Northern Ireland and Scotland, whereas the June Census data previously published data as 'England and Wales' but following devolution now (sometimes) publishes data as England only. Where such anomalies arise, they will be made clear in the text. Where the value of crops is shown, the figures have been corrected for inflation in all cases, using the Retail Price Index.

2.2 It should also be noted that DEFRA statistics refer to "area under glass or plastic structures". For the sake of simplicity, these are referred to throughout this report as 'glasshouses'. (The term 'greenhouse' may often be used to differentiate between a glass-clad structure and a polythene-clad tunnel (referred to as polytunnels)). The term 'glasshouse holding' may also be used, referring to a holding on which glasshouses and/or polytunnels create a major part of the income. Throughout this report 'glasshouse area' refers to the area of the glasshouses or polytunnels on a holding and not to the overall size of the holding.

The glasshouse industry in England and Wales

2.3 Data for areas of glasshouses from the DEFRA June Census are subject to change within its publications, largely due to changes in the selection of the counties that make up the regions. In this event, such data must be regarded with caution but corrections have been made throughout this report that, at the very least, minimise any errors that result from such changes in DEFRA's presentation of data.

2.4 In Table 2.1 below, counties in East of England Region here includes Greater London in view of its geographical closeness to the Lea Valley. Thus East of England includes Hertfordshire, Essex, Cambridgeshire, Bedfordshire, Norfolk, Suffolk and Greater London. An anomaly occurs in the Yorkshire and Humber Region that, in the June Census data 1991, does not include North Lincolnshire but does so in the later years. In 1991, Lincolnshire, as a whole county, is included in East Midlands Region. The net effect, however, is not great, with the area of glasshouses in North Lincolnshire estimated at 10-15 hectares in 1991.

Table 2.1. Glasshouse areas by region in England (hectares)

Region	1991	1996	2001	Change in area (ha) 01/91	% change 01/91
North East Region	27	18	21	-6	-22
Yorks and Humber Region	296	284	247	-49	-16
East Midlands	212	205	168	-44	-21
East of England (inc. Gt. London)	**496**	**427**	**378**	**-118**	**-24**
South East	492	494	457	-35	-7
South West	197	218	190	-7	-4
West Midlands	161	159	168	+7	+4
North West	220	265	234	+14	+6
England	**2101**	**2070**	**38643**	**-238**	**-11**

Source: DEFRA June Census.

2.5 The change in glasshouse areas varies considerably within the different regions, the overall fall in area in England being 11%. The largest fall in area has occurred in the East of England Region, with a loss of 118 hectares, representing half the overall loss in England during this period. Other significant loses have occurred in Yorkshire and Humberside, the East Midlands and the South East but there have been small increases in glasshouse area in the West Midlands the North West and South West Regions.

2.6 Clearly, a major loss of glasshouse area in the East of England Region could have significant implications for the industry in the Lea Valley. However, as shown by Table 2.2, most of this loss in the Region has taken place in Cambridgeshire and Bedfordshire, with the areas in Essex and Hertfordshire falling more steadily.

Table 2.2. Glasshouse area by county in the East of England Region (hectares)

	1991	1996	2001	Change in area (ha)	% change 2001/1991
Norfolk	61	57	62	+1	+2
Suffolk	32	30	*33**	+1	+2
Cambridgeshire	86	51	*51**	-35	-41
Bedfordshire	47	41	*24**	-23	-50
Hertfordshire	57	50	41	-16	-28
Essex	183	171	157	-26	-14
Greater London	30	27	*10**	-20	-67
EAST OF ENGLAND	**496**	**427**	**378**	**-118**	**24**

Source: DEFRA June Census.

* Due to a change in DEFRA's policy publication of county statistics from the June Census, the area in 2001 for Suffolk, Cambridgeshire, Bedfordshire and Greater London have been estimated. Any error is likely to be insignificant.

2.7 Essex and Hertfordshire represent 48 - 52% of the total for East of England in each of the three years described. The other main counties in the Region are Norfolk (62 hectares in 2001, with the area remaining stable during the

past decade) and Cambridgeshire (declining considerably between 1991 and 1996 but stabilising by 2001).

2.8 The fall in the glasshouse area does not necessarily reflect a general decline in overall output, or even profitability, of most individual businesses within the industry during this period. In some areas, where the fall in area has been marked, there has been a 'fall-out' of the weaker businesses that have failed to compete in a period of strong competition from imports and an increasing need to keep up with technology. Capital grant schemes that were available during this period (since discontinued) such as the Agriculture and Horticulture Development Scheme, the Farm and Horticultural Development Scheme and the Agriculture Improvement Scheme, did much to encourage the replacement of old glasshouses and modernisation of equipment. Those businesses that failed to take advantage of the grants would have found themselves drifting further away from the leaders in the industry and finally less able to compete. Such an observation should not be regarded as unusual; it is part of the continuous evolution of any business sector. In terms of total financial output, the total marketed value of most glasshouse crops remained remarkably steady, in spite of the reduction in area, but some, such as cut flowers and cucumbers, also fell considerably in total value (see Figure 2.3).

Areas by counties with concentrations of glasshouses

2.9 Whilst Table 2.1 above shows glasshouse area on a regional basis, Table 2.3 below presents data from the perspective of areas of concentration; what might loosely be called 'specialist glasshouse areas'. For 2001, the June Census data below have been drawn for this study from unpublished data supplied by the DEFRA Statistics Department at York.

Table 2.3. Area of glass by the major glasshouse areas in England (hectares)

	1991	1996	2001	Change 01/91 (ha)	Change 01/91 (%)
Essex	**183**	**171**	**157**	**-26**	**-14**
Hertfordshire	**57**	**50**	**41**	**-16**	**-28**
Yorks and Humberside	296	284	247	-49	-16
Lancashire	185	171	146	-39	-21
Kent	103	107	102	-1	-1
Hants & Isle of Wight	91	87	87	-4	-4
West Sussex	184	188	180	-4	-2
Lincolnshire	162	151	123	-39	-24
Total	**3252**	**1209**	**3084**	**-178**	**-14**

Source: DEFRA June Census.

2.10 Hampshire, the Isle of Wight and Kent were not included in the RAC 1991 report, but have been included here as important glasshouses areas particularly because of the high-value crops such as All-Year-Round (AYR) chrysanthemums and tomatoes that predominate in these counties. The total area in Table 2.3 above represents 58% of the total area of glasshouses in England as at June 2001. All these major glasshouse areas have shown a decline in area over the last decade, even in those areas such as Yorkshire and Humberside and, to a lesser extent, West Sussex that are generally viewed as expansive or progressive within the industry.

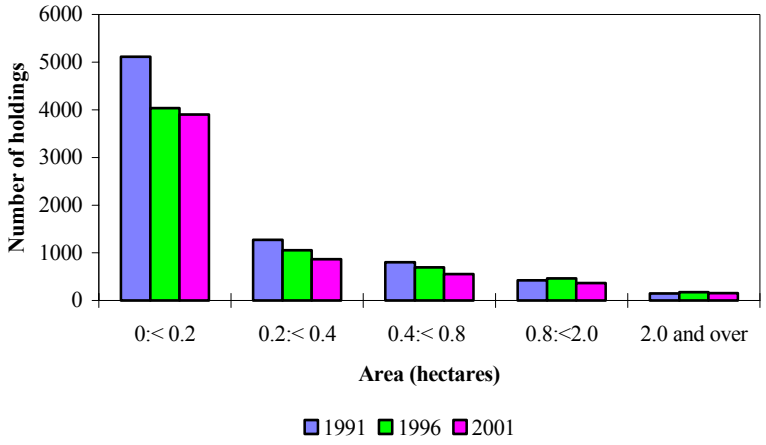
2.11 The fall in the area of glasshouses, such as that in Essex and Hertfordshire, is largely the result of the older glasshouses in the Lea Valley area going out of production as they gradually become less competitive with modern glasshouse production. Those of this group that do continue in production tend to be family-run businesses with low overheads but often with a limited (but often surprising) life span of 10 – 15 years in terms of their future viability. Many have survived by becoming small nurseries growing bedding and pot plants and, where planning permission has been obtained, have extended the life of the business by becoming small garden centres. Such businesses do not require particularly modern glasshouses since, unlike crops such as tomatoes, cucumbers, lettuce and most cut flowers, they grow

crops that do not require high light conditions or such exacting environmental controls.

Size distribution of glasshouse holdings in England and Wales

2.12 A sample of glasshouse holdings in England and Wales has been drawn for this study by DEFRA, showing the number of holdings in five size groups. These are shown in Figure 2.1 and show a marked decrease in the proportion of small glasshouse holdings. The largest rate of reduction is in the smallest size group, the rate decreasing as the groups become larger. This is part of a continuing trend as it becomes uneconomic for many small glasshouse businesses to operate by growing more 'traditional' crops such as salad crops and cut flowers, especially when the crops concerned are those commonly marketed through major buyers such as Producer Organisations. These require continuity of supply that the smaller grower, working independently, cannot provide.

Figure 2.1. Distribution of glasshouse area by size groups (England)



Source: DEFRA June Census

Cropping: trends in areas of major crops in the UK

2.13 The areas of the major crops for the last decade are shown in Table 2.4 and in more detail graphically in Figure 2.2 below.

Table 2.4. Summary of area of protected crops in the UK (hectares)

	1991	1996	2001	Change 01/91	% change 01/91
Vegetables	2661	1563	1093	-1568	-59
Fruit *	23	52	84	+61	+265
Ornamentals	832	1011	964	+132	+16
Total	3516	2626	2141	-1375	**-39

Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 2001/02
* Mostly strawberries but some raspberries.
** Refers to total by row only

2.14 In terms of the broad sectors, it is apparent that, whilst the overall area of glasshouse vegetables has declined during this period, the area of glasshouse fruit and ornamentals has both increased significantly. However, due to the predominance of vegetable crops, the overall area of protected crops in the UK has declined during the period.

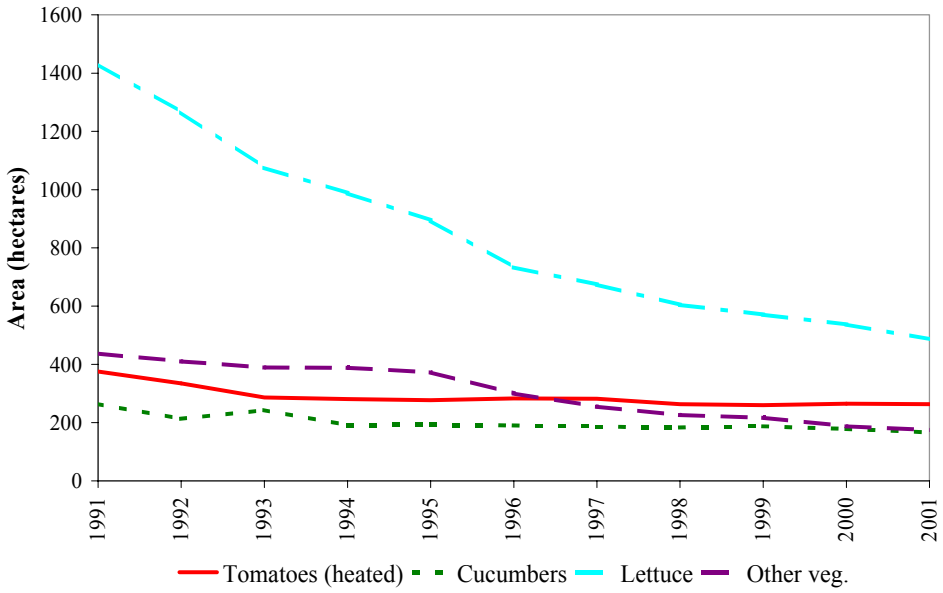
2.15 Over the last decade, the general trend has been for the area of glasshouse salad crops in specialist areas to decrease. The area of glasshouse lettuce shows the most severe decline in area of any salad crop: 66% between 1990 and 2001. It should be noted, however, that many lettuce growers will crop successively in the same area within the cropping year. The area recorded in the June Census is cropped area so a loss of one hectare of glasshouse will be registered in the Census as a loss of anything between 3 and 6 hectares of lettuce. This tends to create severe swings in recorded area. Even so, the area of lettuce has declined, if not so severely as portrayed in Figure 2.2. The reduction in area is largely due to the quantity of imports that have increased from 81,500 tonnes per annum in 1990 to over 150,000 tonnes per annum in 2001. Unlike crops such as tomatoes and cucumbers, yield per hectare of lettuce remains more or less static because of the nature of the

plant (its mass cannot practically increase per hectare and there is a finite amount that can be planted per hectare).

2.16 The area of glasshouse tomatoes has shown only a relatively small decline over the same period. This decline should be associated with the fact that yield per hectare has increased substantially over the last decade, with total marketed yield remaining relatively static. As with lettuce, imports have increased, but to a very modest extent. Tomatoes also have benefited from the possibility of diversification of types and varieties, a factor thoroughly exploited by the industry and its advisers and by groups such as the Tomato Growers' Association.

2.17 This contrasts with glasshouse cucumbers where diversification is clearly limited. Here, whilst the area has decreased by 30% between 1990 and 2001, total yield per hectare has increased by 14% over this period. Thus, total marketed yield has only decreased by 20%.

Figure 2.2. Glasshouse vegetables: UK area 1991 to 2001



Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 2001/02

2.18 Without showing unnecessary detail in this report, Table 2.5 below shows the changes that have taken place in the area of cut flowers between 1991

and 2001. These are no longer of major importance in Epping Forest District, but some aspects of production data are shown here for completeness.

Table 2.5. Major ornamental crops under glass and plastic in the UK

	1991	1996	2001	% change 01/91
Cut flowers	Hectares			
Carnations	30	15	4	-87
Alstroemeria	25	22	21	-16
Chrysanthemums AYR*	60	40	26	-57
Other chrysanthemums	101	71	33	-67
Other cut flowers	88	86	53	-40
Total cut flowers	**304**	**234**	**137**	**-55**
Spring/summer bedding	Millions			
Bedding plants (boxes, trays and packs)	23.6	32.1	24.5	+4
Bedding plants in pots	62.8	95.0	93.6	+49
Tubs, hanging baskets	4.8	11.0	24.8	+517

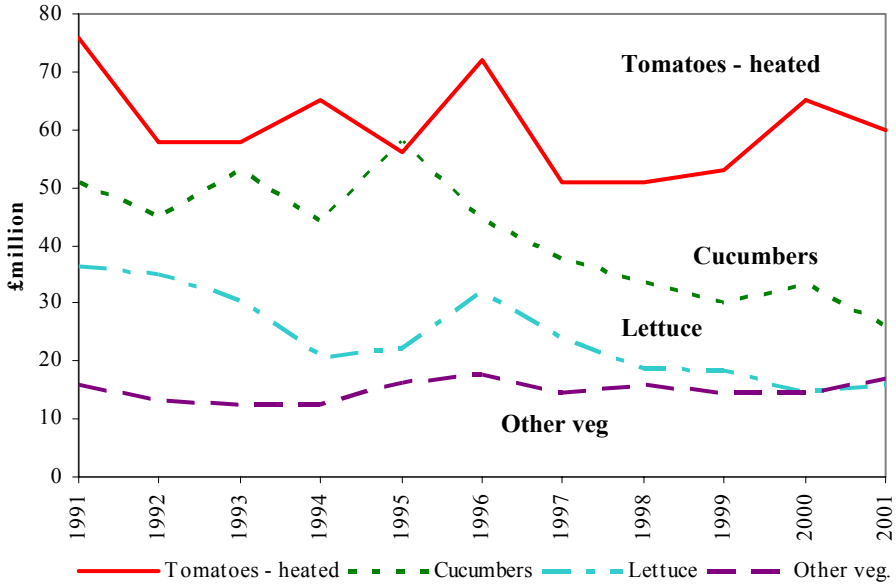
Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 001/02
* AYR: all-year-round.

2.19 The dramatic fall in the area of carnations can be explained mostly by a combination of two factors: an increase in imports (£38m in 1991 to £59m in 2001 – in real terms) and a general decline in popularity. The total value of UK production fell from £2.9m in 1991 to £0.26m in 2001. Chrysanthemums (all-year-round types) have also fallen considerably in terms of value, from £17.5m in 1991 to £7.0m in 2001, with the area falling from 60 hectares in 1991 to 26 hectares in 2001. This is slightly less dramatic than the case of carnations, probably due to the increasing availability of a wide range of colours and types that have kept public interest alive. In general, consumers have benefited from a greater choice, both in terms of the range of varieties for sale and recent introductions of species such as lisianthus.

Cropping: trends in value of home production marketed in the UK

2.20 Whilst tomatoes have maintained their position as the major glasshouse vegetable crop in terms of value, lettuce and cucumbers have both fallen in the total value of the marketed crop. Particularly relevant to Epping Forest District is the fall in the value of the cucumber crop together with a modest fall in the crop area in the UK (Figure 2.2) because it is the most important glasshouse crop in the District. (Local issues are considered in Chapter 4 of this report).

Figure 2.3. Value of glasshouse vegetable crops UK: 1991 to 2001



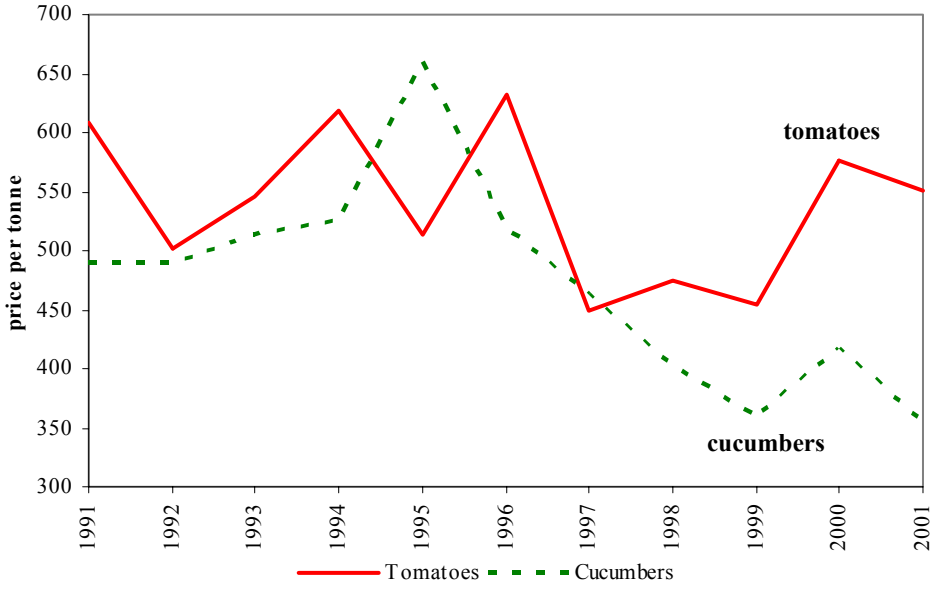
Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 2001/02

2.21 Whilst over ten years the area of the glasshouse lettuce crop has fallen from 1,431 hectares in 1991 to 486 hectares in 2001, the crop has fallen in value in real terms by 58% and has exceeded the decline of any other glasshouse crop in the UK. This is largely a result of the development of new leafy salad products, such as baby leaf types and salad mixtures in new packs, much of which are grown abroad. In addition to UK production, there are substantial imports of these products through the winter, traditionally the glasshouse lettuce season, where imports have risen from 82,000 tonnes per annum in 1991 to 165,000 tonnes in 2001. ('Other vegetables' includes a

wide range of crops such as herbs, aubergines, courgettes, early cabbage, vegetable plants for growing on, etc., many grown in unheated polytunnels).

2.22 The fall in the value of the cucumber crop is largely due to poor prices received over the last five years. By comparison, the price of tomatoes has remained relatively steady. This is shown in Figure 2.4 below:

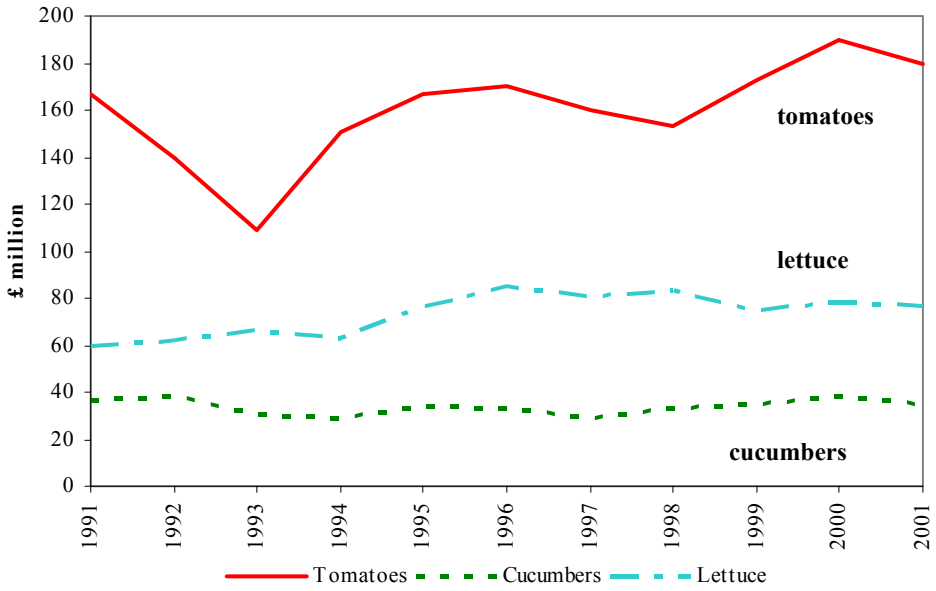
Figure 2.4. Prices of tomatoes and cucumbers in the UK



Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 2001/02

2.23 Figure 2.5 shows the value of imports (adjusted for inflation) of the three crops of major importance in UK production, tomatoes, cucumbers and lettuce. This shows a steady increase for the three major crops, except for tomatoes in 1993. It is possible that this was a result of the fall in value of sterling after the UK's exit from the European Monetary Union in September 1992, although, if this were the case, similar falls would also be expected in imports of other crops.

Figure 2.5. Value of imports of vegetable crops to the UK

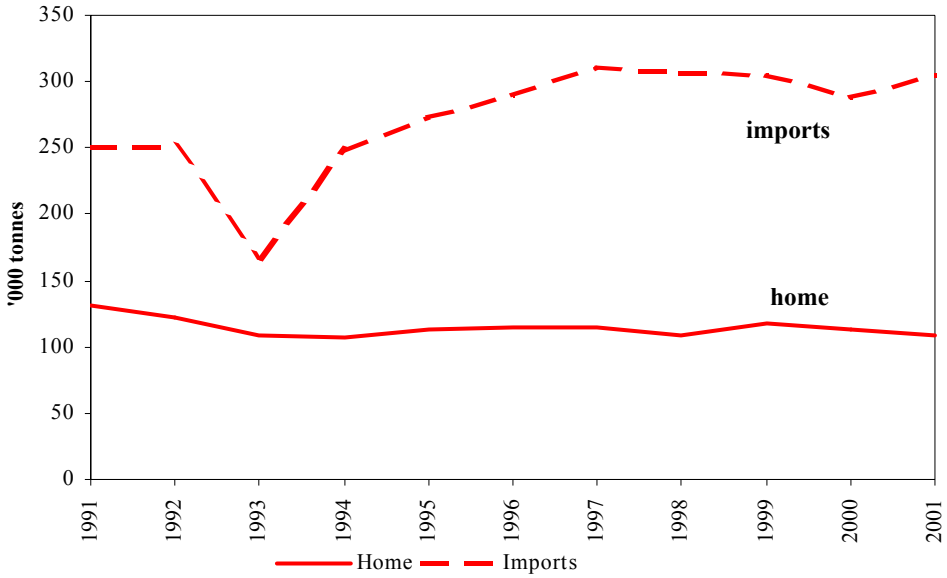


Source: DEFRA, Basic Horticultural Statistics for the United Kingdom 1991/92 – 2001/02

2.24 Figures 2.6, 2.7 and 2.8 below show home production (UK) and imports of the three major vegetable glasshouse crops.

2.25 Tomato production has shown a gentle decline in UK production against an increase in imports. Most noticeable is the increase in the total supply (imports plus home production) available on the UK market. This is a probable response to the greater range of types and varieties of tomato (tomatoes on the vine, large slicing tomatoes, plum and cherry tomatoes etc.) that has kept the market buoyant in the face of an increasing choice of salad products available to the consumer.

Figure 2.6. Tomatoes: comparison of UK production and imports



Source: DEFRA, Basic Horticultural Statistics for the United Kingdom: 1991/92 – 2001/02

2.26 Although tomato prices have not kept pace with increases in costs, they have held up better than those for cucumbers (see Figure 2.4), with imports remaining steady throughout this period and not appearing to be a significant factor in the fall in price. The difference between the two crops is probably a reflection of the development of a range of tomato types and presentation as stated above. In comparison, there has been little or no product development or differentiation with cucumbers. Even so, it is expected that the UK tomato area will continue to show a gentle decline because of economic pressures on the industry from abroad, particularly from Holland and Spain.

2.27 By contrast, the total supply of cucumbers (Figure 2.7) is shown to be static, with home production declining at a rate mirrored closely by the increase in imports. If this trend continues, then there is likely to be a further fall-out of the weaker businesses, with the larger and more modern glasshouse units remaining. This has relevance for Epping Forest District where cucumbers form an important part of the economy of the glasshouse industry. Again, it will be the larger and more modern nurseries growing cucumbers that are

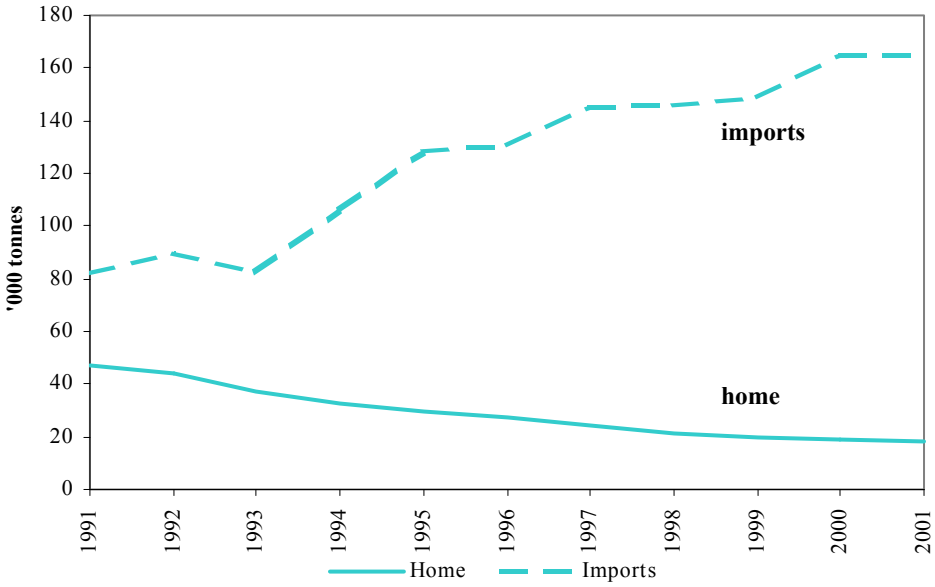
more likely to survive, given that they are more able to take advantage of marketing through the Producer Organisations and the adoption of current technology.

Figure 2.7. Cucumbers: comparison of UK production and imports

Source: DEFRA, Basic Horticultural Statistics for the United Kingdom: 1991/92 – 2001/02

2.28 The supply of lettuce by volume (Figure 2.8) (including lettuce 'types' such as radicchio and others of the more exotic leaf types) on the UK markets shows the most dramatic effect of these three major crops. UK production has fallen, with imports increasing at a greater rate. A large proportion of the imports come from Spain and Portugal, albeit in many cases from farms owned by UK producers or rented from local farmers.

Figure 2.8. Lettuce: comparison of UK production and imports



Source: DEFRA, Basic Horticultural Statistics for the United Kingdom: 1991/92 – 2001/02

Competition Issues

2.29 Increased competition from imports, as previously mentioned, has had a major effect on the glasshouse salads sector in the past ten years. This followed accession to the EU by Spain and by association (though not formally a member) the Canary Islands. A number of factors are relevant to this situation and are explained below.

2.30 Traditionally, imports from mainland Spain were concentrated in the autumn and from the Canary Islands in the spring. With improvements in technology in Spain, better transport arrangements and the introduction of long shelf-life tomato varieties, which are better able to withstand lengthy journeys, the Spanish and Canary export seasons have been extended to the majority of the year. The recent strength of sterling, especially after the introduction of the Euro in those countries, has also favoured imports. The present situation with the Euro in the UK is speculative and the outcome of its possible introduction too uncertain to be able to comment sensibly on its

effect on the horticultural industry.

2.31 The introduction of Category Management by the major British retailers, with responsibility for year-round supplies placed with a very small number of primary suppliers, has encouraged the sourcing of non-UK season supplies by British-based companies. This has led to the establishment of their own production in Spain and Portugal by British producers. This has included cucumbers, tomatoes, sweet peppers, Iceberg lettuce, baby-leaf salads, herbs and watercress. Most of the glasshouse crop development has been in the Almeria and Murcia areas of Spain but, more recently, production units are being established in Extramadura. Additionally there has also been considerable inward investment in new technology and expertise in Spain from Holland.

2.32 On the other hand, there are also problems for Spanish producers, including:

- increasing labour costs from an initial low base. Many North African workers are employed, especially in the Almeria area and evidence suggests that this has frequently been on an illegal basis. Immigrant workers have enjoyed neither the pay nor social support enjoyed by Spanish workers and this culminated in incidents of civil unrest two or three years ago;

- severe pest and disease pressures caused by the overuse of pesticides, many of which are no longer effective, and low technology, which makes reliable and effective biological control difficult. The current EU review of pesticides will result in the loss of many active ingredients and, assuming harmonisation of pesticide approvals in the EU, will disadvantage Spanish producers, especially with the background of growing consumer antipathy towards pesticide use on foods;

- there is current severe pressure on water supplies in Spain and the Canaries due to competition between agriculture and tourism for water;

- evidence suggests that long shelf-life varieties of tomatoes have lower nutritional values (in their antioxidant content, for example) than fresh UK produced ones. This is of significance in relation to the growing awareness of the implications of diet for health, especially for children and the important role of fruit and vegetables in this area;

- currently, Spanish growers are being adversely affected by cheap imports from non-EU countries such as Morocco. Both land prices and transport costs are also increasing and tomato and cucumber growers have recently experienced a considerable fall in income.

2.33 Thus, UK producers do have some advantages over imported produce, although a realisation of these advantages will depend on an ability to differentiate their products from imported ones in the minds of consumers in supermarkets. Much of the aggressive competition between supermarkets is price-orientated, especially in those products now regarded as commodities, rather than the premium products for which British glasshouse salad crops used to be regarded.

2.34 The glasshouse salads sector in the Netherlands has also suffered similar competition from southern growers, particularly from Spain, but the Dutch sector has been better placed than the UK to withstand such competition because:

- the sector is larger and more developed than in the UK;
- Netherlands is in the Euro zone and therefore not subject to exchange rate and price fluctuations;
- the sector is not dependent on supplying a single home market (as is the case in the UK) but sells into a number and variety of national markets.

3. Financial Aspects of the Glasshouse Industry

Key points

- ***England sample:*** *the holdings in this sample of specialist glasshouse holdings (mainly tomatoes and cucumbers) show considerable variation in terms of profitability over the period 1996 to 2000. This is not unusual in the horticultural industry and reflects the seasonal variations that horticultural crops are prone to, especially in terms of yield and price. However, overall, the sampled holdings have performed only modestly, with the return on capital being barely sufficient to allow for expansion and/or modernisation.*

- ***East of England sample:*** *the holdings in this sample are smaller than those in the England and Northern England sample. Grower and family labour is higher than in the other samples, reflecting small, family-run businesses and high reliance on family labour. The return on capital from a small sample of ten holdings has been inadequate to allow expansion and/or modernisation.*

- ***Northern England sample:*** *the holdings in this sample are larger than in the East of England sample, but make similar, if lower, use of grower and family labour. The nature of cropping is more mixed than in the other samples, and the return on capital has been considerably greater than in the other samples.*

England sample

3.1 The annual University of Reading publication, 'Horticultural Business Data', is the best available source of financial data for businesses of this type available. The data are collected from just under 200 horticultural holdings in England, approximately 5% of the total number of horticultural holdings in England in 2001. The survey includes fruit farms, outdoor horticultural holdings and specialist glasshouse holdings. Specialist glasshouse holdings are sub-divided into 'mainly edible crops' and 'mainly non-edible crops' respectively, mainly tomatoes and cucumbers (28 holdings) and mainly flowers and nursery stock (53 holdings). In this report, 'mainly edible' crops are examined, these forming the major part of the crops grown in the Lea Valley area.

3.2 Some of the terms used in Tables 3.1 to 3.3 below require some definition. Management and Investment Income (M. & I.I.) is a measure of profitability after deduction of the notional value of the unpaid manual labour for the grower and his or her family. It is a measure of the amount available to reward them for managerial work and capital investment.

3.3 Return on Capital is M. & I.I. as a percentage of the average of opening and closing valuation of growing crops, tillages (cost of fertiliser and cultivations), stores, glasshouse equipment and machinery. At present, the minimum rate to allow for a business to expand and/or modernise is taken as being 5%.

3.4 Results for 1996, 1998 and 2000 for England in the 'mainly edible crops' sample are shown in Table 3.1 below

Table 3.1. Financial performance of specialist glasshouse holdings in England: mainly edible crops.

	1996	1998	2000
Number of holdings	48	44	28
Average area (ha)	1.25	1.20	2.32
	£/ha	£/ha	£/ha
Total Gross Output (a)	**247,285**	**258,894**	**350,561**
Seeds, plants, marketing, feed	44,529	56,265	82,442
Labour cost (inc. allowance for unpaid family labour)	74,421	79,692	108,794
Glasshouse fuel	31,922	34,161	53,003
Power and machinery	20,465	17,681	18,834
Other costs, inc. overheads	62,740	65,748	74,645
Total costs (b)	**234,077**	**253,547**	**337,718**
Management and Investment Income (a) – (b)	**13,208**	**5,347**	**12,843**
Return on Capital %	**8**	**3**	**6**
% edible crops	84	81	98

Source: "Horticultural Business Data. 2000", University of Reading
(Grower and family labour in this sample was £24,305, £21,832 and £22,834 in 1996, 1998 and 2000 respectively).

3.5 This sector has fared only modestly over the last few years, with return on capital ranging from 3% to 8% and averaging only 5.7%. In terms of horticulture in general, this is in contrast to the ailing top fruit industry, mainly apples and pears, with 0% return on capital and negative M. & I.I. over (at least) the same period. It should be noted that the sample size changed significantly in 2000 and "adjustment to the sample size occurred as a result of the removal of holdings with extreme individual results". (Horticultural Business Data 2000; Section 2).

3.6 An important caveat when using data of this kind is that the presentation of average data will inevitably be made up of a range of results, in terms of both costs and output. This is shown in the results for 'mainly edible' crops in England in 2000 which are reproduced in Table 3.2 below. Out of 28 holdings, 10 holdings made a loss and 18 holdings made a profit (in terms of

M. & I.I). The extremely wide range of profitability within a sector reflects many factors, among them being the financial soundness of the business (e.g. ratio of assets to liabilities), production facilities available and level of technical, marketing and managerial skills. A similar pattern occurs among other sectors in the horticultural industry.

Table 3.2. Distribution of specialist glasshouse holdings (mainly edible crops) by M. & I.I. groups (£'000) in 2000

-30 to -20	-20 to -10	-10 to +1	+1 to +10	+10 to +20	+20 to +30	Over +30
2	5	3	3	3	2	10

Source: "Horticultural Business Data. 2000", University of Reading.

3.7 It has not been possible to examine trends over the whole of the period since the last study by RAC of the Lea Valley area. Over such a long period, the sample would have changed considerably as new growers become recruited to the survey and others drop out. In this situation, any apparent trends would be spurious. In this event, following discussions with the Department of Agricultural and Food Economics at the University of Reading, it was decided that two identical samples would be specially drawn to see if there were any clear distinctions between different regions of England: East of England (which would include Essex and Hertfordshire) and Northern England (including Lancashire and Humberside).

East of England sample

3.8 This contained a sample of ten holdings with an average glasshouse area of just over 1 hectare. The results are summarised in Table 3.3 below:

Table 3.3. Summary of East of England specialist glasshouse holdings: mainly edible crops

	East of England		
	1996	**1998**	**2000**
Number of holdings	10	10	10
Average area (ha)	1.06	1.07	1.07
	£/ha	£/ha	£/ha
Total Gross Output (a)	**259,551**	**237,729**	**244,325**
Seeds, plants, marketing, feed	48,692	57,112	59,551
Labour cost (inc. allowance for unpaid family labour)	64,424	71,621	72,924
Glasshouse fuel	34,120	28,435	35,463
Power and machinery	36,662	21,009	19,523
Other costs, inc. overheads	57,163	60,789	54,706
Total costs (b)	**500,612**	**476,695**	**486,492**
Management and Investment Income (a) – (b)	**18,490**	**-1,237**	**2,158**
Return on Capital %	**9**	**0**	**1**
% edible crops	73	72	72

Source: "Horticultural Business Data. 2000", University of Reading
(Grower and family labour in this sample was £28,376, £29,803 and £32,570 in 1996, 1998 and 2000 respectively).

3.9 Compared with the whole sample for England for this category of holding, where the average return on capital for 1996, 1998 and 2000 was 5.7%, the holdings in this sample of 10 holdings in the East of England have not fared well financially. A large part of the problem appears to be low gross output, with, for example, only £244,325 per hectare compared to £350,561 for the whole sample of England in 2000.

Northern England sample

Table 3.4. Summary of Northern Province specialist glasshouse holdings: mainly edible crops

	Northern England		
	1996	**1998**	**2000**
Number of holdings	7	7	7
Average area (ha)	1.41	1.49	1.76
	£/ha	£/ha	£/ha
-Total Gross Output (a)	**339,380**	**315,409**	**288,451**
Seeds, plants, marketing, feed	78,600	57,815	71,431
Labour cost (inc. allowance for unpaid family labour)	99,629	102,700	99,014
Glasshouse fuel	34,636	29,630	27,517
Power and machinery	16,681	18,114	17,044
Other costs, inc. overheads	74,168	96,894	55,069
Total costs (b)	**303,714**	**305,153**	**270,075**
Management and Investment Income (a) – (b)	**35,666**	**10,256**	**18,376**
Return on Capital %	**22**	**5**	**11**
% edible crops	56	57	53

Source: "Horticultural Business Data. 2000", University of Reading
(Grower and family labour in this sample was £26,249, £29,611and £19,528 in 1996, 1998 and 2000 respectively).
N.B. The increase in average size of holding in 2000 is due to one the holdings undergoing considerable expansion.

3.10 Holdings in this group are, to be frank, a mixed bag since it includes holdings from both Lancashire and Humberside. The percentage of edible crops in this sample is just over half, with the remaining area planted with flowers and nursery stock. The average size of this sample is considerably larger than the East of England sample and the more mixed nature of the cropping (53% – 56% edible crops) suggests that many of the holdings will be fairly small, family-run businesses, often with some retail outlets for the produce. The sample is not typical of the larger specialist holdings that are more typical in parts of Humberside. However, the return on capital is considerably higher that that of the East of England sample.

3.11 With both the regional samples it will be noted that the sample size is small and consequently too much cannot be drawn from them. However, over a period of time, patterns emerge which reflect the financial health of the industry, especially since the data for the East of England and the Northern Province are drawn from identical samples.

4. The Lea Valley Glasshouse Industry

Key points

- *The total area of glasshouses in the Lea Valley has fallen from 130 hectares in 1988 to 93 hectares in 2001. Most of this decline has occurred outside Epping Forest District, with Enfield, Hoddesdon and Cheshunt falling from 46 hectares in 1988 to 18 hectares in 2001.*

- *The glasshouse area has remained stable in Epping Forest District since 1996 at 74 hectares, falling from 84 hectares in 1988.*

- *Older, wooden glasshouses are nearing the end of their life, with any capital expenditure on the holding diverted to repairs. Some have prolonged their life by changing the cropping from growing salad crops into bedding and herbaceous plants and nursery stock, the technical requirements of such crops being less critical in terms of environmental requirements. Some holdings have become small garden centres.*

- *Cucumber growers dominate the Lea Valley in terms of numbers of holdings, with bedding plant producers second in importance. Tomato growers, once the mainstay of the area, have all but disappeared.*

- *Most ornamentals holdings grow bedding plants, herbaceous plants and nursery stock. A small minority grow cut flowers.*

- *The total area of glasshouses in the Lea Valley would be expected to produce a gross farm-gate value of around £37 million per annum, of which about £24 million would be produced in Epping Forest District.*

- *The average area of glasshouse holdings in Epping Forest District is smaller (0.90 hectare) than both the rest of the Lea Valley area (1.45 hectare) but larger than England as a whole (0.50 hectare). The area is still more reliant on family-run businesses than elsewhere but these businesses have been able to supply supermarkets through the growth of Producer Organisations.*

- *The total area of production of edibles is likely to remain fairly static over the next 10 years or so, with some of the smaller nurseries ceasing to be viable and a few larger, more modern units attempting to increase in size. The cropping of such glasshouses would almost certainly be salad crops, with cucumbers predominating.*

- *Average unit size is expected to continue increasing.*

The glasshouse area

4.1 The Lea Valley is one of the three largest horticultural glasshouse areas in the country, the other two being Humberside and the South Coast. The total area of glasshouses in the Lea Valley would be expected to produce a gross annual farm gate production value of around £37 million of which Epping Forest District area would represent around £24 million (based on data in Tables 3.2 and 4.2: Gross Output per hectare for East of England sample of £244,325 x glasshouse area).

4.2 In the 1991 RAC report the area of glasshouses in the major parishes in the Lea Valley were shown for 1988. These are shown and compared to recent years in Table 4.1 below:

Table 4.1. Area of glasshouses by major parishes (hectares)

PARISH	1988	1996	2001	% change 2001/1988
Nazeing	30	28	28	-7
Roydon	33	29	31	-6
Waltham Abbey	21	17	16	-24
Total EFD area	**84**	**74**	**75**	**-11**
Enfield	15	13	5	-67
Hoddesdon and Cheshunt	31	14	13	-58
Total non-EFD area	**46**	**27**	**18**	**-61**
Total Lea Valley area	**130**	**101**	**93**	**-28**

Source: DEFRA June Census

4.3 The reasons for the larger reductions in area in Hertfordshire (Hoddesdon and Cheshunt) and Enfield are due largely to the development of sites for non-horticultural purposes and partly through the change of use in some cases to retail garden centres which do not feature in DEFRA census data. This would only apply to garden centres that do not grow plants, but buy them in ready for sale. Some smaller garden centres which do raise crops such as bedding and pot plants for sale on site (rather than to other growers) could well be registered holdings and submit data to the June Census.

4.4 It is noticeable that the glasshouse area in Nazeing and Roydon, which is the heart of the industry in Epping Forest District, has not changed significantly over the past decade or so in contrast to the broader picture in the Lea Valley, the County and the Region (see Tables 2.1 and 2.2).

4.5 Whilst the data above show the areas of glasshouses by parish, the use made of the glasshouses cannot normally be found from published data. This study has been fortunate in being provided with details of the major glasshouse holdings in that area of the Lea Valley where most of the production is concentrated. Table 4.2 below shows the total area of crops and number of holdings.

Table 4.2. Number and area of major glasshouse holdings in the Lea Valley area (August 2002)

		Number	Area (hectares)
Epping Forest District	Salads	79	76.1
	Ornamentals	31	23.1
	Total	110	99.2
Elsewhere in Lea Valley	Salads	21	36.9
	Ornamentals	15	15.3
	Total	36	52.2
Total area in Lea Valley	Salads	100	112.9
	Ornamentals	46	38.3
	Total	146	151.2

Source: private communication from an experienced observer of the local horticultural industry.

4.6 These data provide a picture of the glasshouse industry in Epping Forest District that augments that derived from DEFRA statistics. The data refer to glasshouse holdings in Epping Forest District and 'elsewhere', but within what is normally regarded as the Lea Valley in respect of the glasshouse industry. The information refers to the situation as at August 2002 and is contained within the boundaries of Bishops Stortford to the north, Brentwood to the east, the London boroughs to the south and St. Albans to the west. Although this area is larger than that contained within a strict definition of Lea Valley parishes, there are strong economic and marketing links throughout the area. It is also a characteristic of the history of the Lea

Valley glasshouse industry that it has spread over time from its original locations.

4.7 Table 4.2 shows the total area for Epping Forest District at 99 hectares compared to the total of 75 hectares in the three parishes of Nazeing, Roydon and Waltham Abbey in the 2001 June Census data (Table 4.1). Without access to the original data forming these totals, it is difficult to provide precise reasons for the difference, although there are some glasshouses outside the core growing areas of the three parishes that would be included in Table 4.2 but not Table 4.1. It is also likely that the data above in Table 4.2 include nurseries that have become garden centres which would not necessarily feature in the Census data.

4.8 In Table 4.2 above, salads refer to cucumbers, tomatoes, lettuce and other vegetables (including peppers, celery and others minor crops). Ornamentals in the Lea Valley are mostly bedding plants in pots and trays, herbaceous perennials, bulbs, trees and shrubs. Ornamental production in the Lea Valley area is likely to remain static or fall slightly due to long-term economic factors. There will continue to be a certain level of local demand which can realise higher prices for the producer but will be insufficient in volume to sustain the larger nurseries which need to sell to the main national buyers. Thus, smaller producers can maintain a level of viability which would be sufficient to provide an income but would be unlikely to allow for significant re-investment.

4.9 Table 4.2 shows the importance of Epping Forest District in the Lea Valley, with almost twice the area of glasshouses in the District as elsewhere in the Lea Valley.

4.10 Salad crops predominate, and cucumbers continue to be the most important crop in the area, with 67 growers in Epping Forest District (private communication). Traditionally the crop has been grown mostly by Italian growers who bought out many of the original sites from English growers who, whilst capital grant schemes were available, moved mostly to the south

coast to take advantage of better light conditions and to take the opportunity to develop their businesses with the latest glasshouses and equipment.

4.11 Many of the present growers in the area are third generation Italian families, but a few of the first generation families remain, some still growing cucumbers in old wooden glasshouses. The future for these growers is very limited and they rely on low-cost, low-output production that leans heavily on the fact that the capital cost of the glasshouses was written off long ago. Capital expenditure has been largely turned into repair and maintenance and the adoption of new technology requiring significant investment is no longer economic. There is no doubt that the retention of many of these sites is motivated by 'hope value' for potential development in some cases but most will eventually fall into disrepair within 10 years or so if this is not realised.

4.12 The 200 hectares of tomatoes grown in the area in the 1950s have all but disappeared, with four growers in the LVGA (see Table 4.3 below), only one being in Epping Forest District. Previously important flower crops, such as carnations and roses, apart from some very small areas, have gone and only four cut flower growers remain. There is a small increase in the area of mixed salads being grown, but the movement is slight and will most likely remain so, with four growers in the Lea Valley area growing peppers only. The area amounts to 6.5 hectares in the Lea Valley and 5.5 hectares in Epping Forest District. In addition there are a few specialist producers, for example Aus Ferns and Premier Herbs.

4.13 Some interesting data can be found in the Lea Valley Growers Association Handbook for 1994/5 (the handbook has not been published since due to data protection issues). This gives the number of members and the crops grown at the time, with the current breakdown of membership alongside:

Table 4.3. Number of growers in the Lea Valley Growers Association

Crop grown	Number of growers in LVGA (1994/95)	Number of growers in LVGA (current)
Cucumbers	82	75
Bedding and nursery stock	42	40
Lettuce	19	16
Flowers (cut)	10	4
Tomatoes	7	4
Mixed salads *	4	6
Others **	5	10
Total	**169**	**155**

*Any combination of tomatoes, cucumbers, lettuce and peppers.
** Including three propagators.

4.14 Since 1994/95, the number of cucumber growers has reduced slightly. The numbers of tomato and lettuce growers are still falling, with only one tomato producer and three lettuce producers remaining in Epping Forest District. The number of growers producing peppers has increased slightly (in place of cucumbers) although the crop is unlikely to be more than a minor crop in the area in the foreseeable future. In the non-edibles sector, the number of bedding plant and nursery stock growers has remained static, whilst the number of cut flower holdings continues to fall.

4.15 It is interesting to consider why the cucumber industry in the Lea Valley has apparently been more resilient than, for instance, the tomato industry, given the data on product prices referred to in Chapter 2 above. In the past ten years, the area of UK tomato production has reduced by 50%, although total output has been maintained by very substantial increases in production efficiency, with yield per hectare having increased by 40% over that period.

4.16 To date, the cucumber industry has not had the threat of all year round production from Spain, since much of the Spanish industry switches cropping to melons in the summer.

4.17 The percentage size distribution of glasshouses by crop is shown in Table 4.4, and reveals some interesting comparisons between the structure of the

glasshouse industry in Epping Forest District and elsewhere in the Lea Valley:

Table 4.4. Percentage size distribution by number and size of glasshouse holding and crops in the Lea Valley area (August 2002)

		< 1 ha		1 – 2 ha		>2 ha	
		No.	**Area**	**No.**	**Area**	**No.**	**Area**
Salads	**EFD**	65	38	27	35	9	27
	Elsewhere	57	21	24	19	19	60
Ornamentals	**EFD**	71	45	26	42	3	12
	Elsewhere	80	63	13	21	7	16

Source: private communication from an experienced observer of the local horticultural industry.

4.18 It is noticeable that in the salad sector, there are significantly smaller proportions (in terms of both numbers of nurseries and area covered by those nurseries) of larger nurseries of over 2 hectares in Epping Forest District than elsewhere in the Lea Valley and, conversely, higher proportions of small nurseries of less than 1 hectare.

4.19 The average size of holdings in Epping Forest District and elsewhere in the Lea Valley can also be compared for each crop sector from these data, as shown below in Table 4.5:

Table 4.5. Average area of holdings and proportion of holdings and areas in the main crop sectors

Location	**Crop sector**	**Average size of holding (ha)**	**Percentage**	
			Holdings	**Area**
Epping Forest District	Salads	0.96	79	67
	Ornamentals	0.74	67	60
	Total	0.90	75	65
Elsewhere	Salads	1.76	21	33
	Ornamentals	1.02	33	40
	Total	1.45	25	35

Source: private communication from an experienced observer of the local horticultural industry.

4.20 In both the salads and ornamentals sectors, the average size of glasshouse holding is smaller than in other areas of the Lea Valley. This, along with the significantly smaller proportions of larger glasshouses than elsewhere,

implies that there is room for the expansion of the larger nurseries in the District, all other things being equal.

Climatic issues concerning the Lea Valley

4.21 Table 4.6 sets out the 50-year meteorological data for weather stations selected as being located as near as possible to the centres of glasshouse industry in England (Humberside/Sheffield; Lea Valley/Oxford; South Coast/Southampton).

Table 4.6. Meteorological conditions associated with the main glasshouse areas in England

	Average minimum temper-ature	Average maximum temper-ature	Average sunlight hours/day	Average winter sunlight hours/day	Average rainfall (mm)
Sheffield	6.3	12.9	3.7	2.1	818
Oxford	6.5	13.9	4.2	2.6	656
Southampton	7.2	14.7	4.5	2.7	785

Source: Met. Office 2002.

4.22 From the above figures it can be seen that the Lea Valley enjoys marginally better growing conditions than Humberside, but worse than on the south coast. Average minimum temperature in the Lea Valley is 10% lower than on the south coast, and average maximum temperature is 6% lower. Since the winter light is probably more important in determining cropping patterns than summer light, the average hours sunshine per day during the 6 winter months (October - March) show a better regime for the Lea Valley, with disparity between it and the south coast being slight.

4.23 Total solar radiation levels are a more accurate reflection of the effects of light on the production potential for a particular area and long-term average data for the Lea Valley, West Sussex and Holland are given in Table 4.7 below.

Table 4.7. Annual Solar Radiation Comparisons

Location	Annual solar radiation (MJ/m^2)	Percentage of Lea Valley figure
Lea Valley [1]	3505	100
West Sussex [2]	3928	112
Holland [3]	3412	97

Sources: [1] Lea Valley EHS, Hoddesdon; [2] Glasshouse Crops Research Institute, Littlehampton; [3] Naaldwijk Research Station.

4.24 In spite of the climatic advantages enjoyed by growers in areas such as West Sussex, it should not be implied that the most important consideration for growers when considering major expansion is to look primarily to the most climatically advantageous area. Growers have many reasons not to move from their present location if there are no serious reasons to do so. The climatic factors shown in Tables 4.6 and 4.7 indicate that the Lea Valley growers are somewhat disadvantaged compared with those in the southern part of England. However, such factors are less important to the success of a business than efficiency of production, marketing facilities and the management and financial structure of the business as a whole. (If this were not the case, it could be asked why the Humberside glasshouse growers do not move *en masse* to the south of England). Additionally, institutional factors such as national and family ties (strong among the predominantly Italian growers in the Lea Valley), local knowledge and local organisations serving the industry, are disincentives against moving.

Potential trends in the glasshouse industry in Epping Forest District

4.25 The area of major glasshouse crops, both in the UK and in Epping Forest District, has shown gradual rather than sudden changes over the last decade (Tables 2.1, 2.2 and 4.1). At the same time, the distribution of glasshouses by size has shown a steady trend towards larger holdings (Figure 2.1). Theoretically, it should be possible, given the large database in the June Census on which these trends have been examined, to predict with reasonable accuracy the most likely size and structure of the glasshouse industry over the next ten years. To do so, it is necessary to consider data

from specialist glasshouse areas where growers at the 'cutting edge' of technology are more likely to be found.

4.26 The average size of glasshouse holdings in Epping Forest District is 0.9 hectare compared to an average of 1.45 hectares in other areas of the Lea Valley (see Tables 4.2 and 4.5). The area of concentration with the largest average glasshouse size is the East Riding of Yorkshire, with an average size of 1.48 hectares.

4.27 In Epping Forest District, if the pattern of permitted planning applications for glasshouse developments follows that seen since 1991 (Chapter 5: Table 5.2), there is likely to be a continuation of expansion and/or replacement of glasshouses in the size group below 0.8 hectares as well as a continued demand from larger growers to erect areas greater than 2 hectares (there are currently 7 growers of salad crops in Epping Forest District with glasshouse areas greater than 2 hectares).

4.28 In general it is accepted that the industry needs to rebuild approximately 4-5% of area per annum to maintain the current area of production. This equates to around 3.8 hectares per annum and current rates are at about that level (see also Chapter 5 for the area of new and replacement glass permitted).

4.29 From discussions with growers, planned new glass for the next year is about 6 - 7 hectares, which is almost double that required for sustaining existing areas.

4.30 Where planning permission can be obtained, unit size will increase. The largest units in the area are currently in the range of 5 to 10 hectares. In the planning appeal concerning the erection of additional glasshouses at Tower Nursery, Roydon (December 1999), the appellants (UK Salads) gave evidence that a 4 hectare nursery was the minimum size at which a UK grower could produce salads cheaply enough to compete effectively in the international market.

4.31 Some of the largest glasshouses are to be found in Humberside, West Sussex and the Isle of Wight and can act as indicators to development likely to take place where growers are able to expand. An extreme example is a glasshouse holding sited on a disused airfield near to Chichester where 20 hectares were built in one unit entirely dedicated to growing peppers. The site was attractive to the purchasers for reasons such as good access to the strategic road network and a flat site. Such large holdings are rare and will remain so, but the economic benefit of a larger size is evident here.

4.32 Growers consulted as part of this study, if given the opportunity and the resources, would build in larger units than before in order to reduce unit cost. They would also tend to be looked upon more favourably by the Producer Organisations who would much rather deal with a few large businesses rather than a large number of small ones. If such changes were to take place, it would also mean that the glasshouse area would be more likely to change erratically rather than gradually, making prediction of the pace of change uncertain.

4.33 Of the smaller holdings, experience in other areas would indicate that those less than 1 hectare will be gradually marginalized and cease to operate, although there will be a future for some with direct sales and added value opportunities, such as developing retail nurseries, garden centres and farm shops. There are currently around 10 glasshouse holdings that are operating more as garden centres than commercial nursery producers. Some of the more modern holdings in the 1 - 2 hectare range are frequently looking to expand, and their ability to do so will determine their future viability, but generally it is to be expected that this middle range of glasshouse holding will disappear over time. Issues relating to the dereliction of glasshouse sites and their potential redevelopment for horticultural use are considered in Chapter 10.

5. Planning Issues

Key points

- *The erection of horticultural glasshouses is not inappropriate development in the Green Belt, and very special circumstances are not required to justify such development.*

- *However, packhouses are generally considered to be inappropriate development in the Green Belt but the Secretary of State has indicated that the role these play in maintaining local employment and the viability of the industry generally outweighs any harm caused to the Green Belt.*

- *80% of applications for glasshouse and associated development have been permitted in the District since 1991.*

- *Nearly 90 hectares of new and replacement glass has been applied for since 1991 (80 hectares of new glass and 9 hectares of replacement glass); and permission has been granted for 47 hectares in this time.*

- *Growers in Epping Forest District are applying for relatively large areas of glass compared to the national average size distribution but the success rate of applications falls as the size of glass applied for increases.*

- *48% of applications since 1991 have been submitted and permitted in E13 areas (amounting to about 30 hectares of glass and 1 hectare of packhouses).*

- *10% have been permitted adjacent to E13 areas (amounting to 3 hectares of glass and 2 hectares of packhouses).*

- *22% have been permitted outside and not adjacent to E13 areas (amounting to 14 hectares of glass).*

- *6% have been refused in E13 areas (which would have comprised 11 hectares of glass).*

- *8% have been refused adjacent to E13 areas (which would have comprised 15 hectares of glass).*

- *5% have been refused outside E13 areas (which would have comprised 4 hectares of glass).*

- *There are relatively few specific policies for new glasshouse and packhouse development in other areas of glasshouse concentration in the country – those that exist are either designated area policies or criteria-based policies.*

- *It is reported by the relevant local planning authorities that most glasshouse developments in the other main areas of concentration of glass have been permitted in recent years.*

- *The key issues in determining planning applications in the other areas of concentration have been surface water drainage, landscaping, lighting and traffic.*

- *There would appear to be three options available in any review of Policy E13: to maintain the status quo; to replace the designated area policy with a criteria-based policy; or to encourage the relocation and rationalisation of the local industry.*

Policy context and changes

Appropriate development in the Green Belt

5.1 The Inspector's report to the Epping Forest District Local Plan (1995) confirmed that horticulture falls within the definition of agriculture as defined by section 336(1) of the Town and Country Planning Act 1990 and that the erection of glasshouses is appropriate development in the Green Belt.

5.2 Two appeal decisions at Tower Nursery (December 1999) and Holmsfield Nursery (December 2001) also considered the question of whether the erection of horticultural glasshouses constitutes appropriate development within the Green Belt. In the December 2001 case, there was no dispute between the parties noted in the Inspector's decision letter. However, in the December 1999 case, the Inspector notes that the District Council argued that horticultural development is inappropriate development in the Green Belt unless it complies with Policy E13 of the Local Plan.

5.3 Whilst the Inspector in the December 1999 case acknowledged that any development that conflicted with Policy E13 might be considered unacceptable in the light of that policy, that was a completely different matter to whether or not such development constituted inappropriate development within the Green Belt as expressed within Structure Plan Policy S9, Local Plan Policy GB2 or the advice of PPG 2 (Planning Policy Guidance Note 2, Green Belts, 1995). She could not find any support that conflict with Policy E13 would turn horticultural development into inappropriate development in the Green Belt. It is clear therefore that the erection of horticultural glasshouses is not inappropriate development in the Green Belt and very special circumstances are not required to justify such development.

5.4 The Local Plan Inspector also considered (1995) the issue of whether packing and distribution depots are appropriate development in the Green Belt. He noted that the packhouses attached to the larger nurseries had grown in recent years and provided centralised support services for themselves and other nurseries. He further noted that supermarkets need constant and consistent supplies of goods throughout the year and that, in addition to locally grown produce, salad crops from other parts of the country and abroad are also delivered, packaged and redistributed from the depots. However, he considered that the large warehouse structures, with associated turning and loading areas for container lorries which are required for these operations, are of a scale and character which is essentially commercial and industrial rather than agricultural.

5.5 The Local Plan Inspector noted that the Council accepted that packhouse developments would also seek to be located in the Green Belt in association with existing nursery uses but considered that packhouses do not fall among the uses that are identified in PPG2 as appropriate in the Green Belt. If permission were to be granted, very special circumstances would need to be demonstrated to justify the harm that they would cause to the open appearance of the Green Belt.

5.6 This followed the Secretary of State's consideration of appeals at Nazelow Nursery, Roydon and Stubbins Hall Nursery, Waltham Abbey for the continued use of land and buildings for packing and distribution of fresh salads. The Secretary of State's letter (May 1995) considered that these uses were contrary to the approved development plan and were inappropriate development in the Green Belt. However, he considered that the exceptional importance of the enterprises to the regeneration of the horticultural industry locally and nationally, and the jobs that they provided, outweighed the harm caused to the Green Belt. He therefore granted permission.

History of the horticultural development policy

5.7 Following decline from the 1950s onwards, large areas of derelict glasshouses made many parts of the District unsightly. Policy 40 of the Roydon, Nazeing and Waltham Abbey Local Plan 1989, which preceded the current Epping Forest District Local Plan, aimed to concentrate new glasshouse development in designated areas of existing horticultural development which had spare capacity through the presence of derelict or under-used glasshouses. No new glasshouse development was permitted outside the designated areas.

5.8 The Local Plan Inspector was of the opinion that the policy had been largely successful in assisting the industry to replace glasshouses in the existing enclaves, thereby removing the need to develop greenfield sites and harm the open character of the Green Belt. The MAFF-funded capital grant schemes that operated in the 1980s and early 1990s were also clearly influential in this regeneration, although they were not specifically mentioned by the Local Plan Inspector.

5.9 This view was shared by the Inspector in the Tower Nursery appeal (1999). She noted that much investment in replacement glasshouses and developing technology had taken place in recent years in response to increasing demand and to market pressure created by the buying power of large supermarkets. She considered that Policy 40 of the former Local Plan had been largely successful in assisting the industry to replace glasshouses in existing enclaves on degraded or vacant land thereby removing the need to develop greenfield sites.

5.10 The thrust of Policy 40 was carried through to Policy E13 in the Deposit Copy of the District-wide Local Plan (June 1994). However, the Local Plan Inspector reports that, after further consideration and particularly in response to representations made by the Lea Valley Growers' Association, the Council accepted that some expansion may be necessary if the commercial

viability of the existing nursery enterprises was not to be prejudiced. The policy was amended to make it more flexible by including the possibility of glasshouse development outside the designated areas, provided that developments were adjacent to existing glasshouses; necessary for the expansion of an existing nursery enterprise which is unable to expand within an E13 policy area; and would not have a significant adverse effect on the open character and appearance of the countryside (see Appendix 2).

Planning applications since 1991

5.11 The District Council has provided a schedule and maps of all applications received for glasshouse or packhouse developments since 1991 (see Appendix 3). The following number have been received over this period:

Table 5.1: Planning applications received by EFDC

Year	New glass *(ha)*	Replace-ment glass *(ha)*	Sub-total *(ha)*	Demoli-tion *(ha)*	Pack-house *(ha)*	Total
1991	3 *(3.88)*	2 *(0.69)*	5 *(4.57)*	- *(-)*	1 *(0.63)*	6
1992	9 *(7.84)*	2 *(0.25)*	11 *(8.09)*	- *(-)*	- *(-)*	11
1993	7 *(4.79)*	1 *(0.06)*	8 *(4.85)*	- *(-)*	2 *(1.88)*	10
1994	3 *(3.87)*	- *(-)*	3 *(3.87)*	- *(-)*	1 *(0.07)*	4
1995	- *(-)*	- *(-)*	- *(-)*	- *(-)*	2 *(0.27)*	2
1996	4 *(4.38)*	2 *(1.92)*	6 *(6.30)*	- *(-)*	- *(-)*	6
1997	8 *(10.62)*	2 *(4.40)*	10 *(15.02)*	- *(-)*	1 *(0.02)*	11
1998	2 *(1.99)*	1 *(0.50)*	3 *(2.49)*	- *(-)*	1 *(0.06)*	4
1999	3 *(2.99)*	1 *(0.56)*	4 *(3.55)*	1 *(0.20)*	1 *(0.38)*	6
2000	7 *(8.24)*	- *(-)*	7 *(8.24)*	1 *(0.90)*	2 *(0.09)*	10
2001	8 *(19.26)*	1 *(0.18)*	9 *(19.44)*	- *(-)*	3 *(0.45)*	12
2002	3 *(12.06)*	- *(-)*	3 *(12.06)*	- *(-)*	1 *(0.04)*	4
Total	**57** ***(79.92)***	**12** ***(8.56)***	**69** ***(88.48)***	**2** ***(1.10)***	**15** ***(3.89)***	**86**

5.12 A total of 86 applications were made over this twelve-year period, the vast majority of which has been for the erection of new glasshouses.

Applications have been submitted on a relatively consistent basis, and do not seem to have been unduly influenced by the cessation of the capital grant schemes in the early 1990s. However, there was a clear reduction in applications submitted in the mid 1990s (1995 in particular).

5.13 Sixty-nine applications or 80% of the total number (including those for packhouses and the demolition of existing glass) have been permitted either by the District Council or at appeal. Fifty-three applications (77%) of those for new and replacement glass have been permitted (see Table 5.2). These compare with a national approval rate for all types of development of 87-88% per annum over the seven years to 2002 (Development Control Statistics, Office of the Deputy Prime Minister). However, given that nearly half of the applications submitted nationally relate to relatively minor and uncontentious householder applications, the approval rate for new and replacement glasshouse in the District seems to be relatively high.

5.14 Decision letters have been supplied by the District Council for three appeals during this time (at Nazelow and Stubbins Hall Nurseries, Tower Nursery and Holmsfield Nursery), although local knowledge suggests that there may have been more appeals than this, especially prior to the adoption of the current Local Plan.

5.15 The total area of new glass that has been applied for in this period amounts to 80 hectares; and there have been applications to replace a total of 8.5 hectares of existing glass. This represents an average demand for over 7 hectares of new and replacement glass per annum, with demand particularly high in 1992/93, 1996/97 and 2000/01. This is consistent with the recent demand for new glass identified from discussions with growers (see paragraph 4.29).

5.16 The size of glass that has been applied for, and permitted, is categorised below (following the size groups shown in Figure 2.1):

Table 5.2: Size distribution of the area of new and replacement glass applied for and permitted between 1991 and 2002 (hectares)

	0<0.2	0.2< 0.4	0.4< 0.8	0.8<2	2<5	5+	Total
No. of applications	15	9	10	21	12	2	69
No. permitted	11	9	9	17	7	0	53
% permitted	73	100	90	81	58	0	77

5.17 It is noticeable that growers in Epping Forest District are applying for relatively large areas of new and replacement glass compared to the existing national distribution of glasshouse size shown in Figure 2.1, with nearly two-thirds of applications for more than 0.4 hectare of glass. This supports the views and evidence in Chapter 4 that the unit size of glasshouse holdings in the area is likely to increase.

5.18 It is also noticeable that the proportion of applications permitted falls as the application area increases. Whilst virtually all of the applications for new or replacement glass of between 0.2 and 0.8 hectare have been permitted (although curiously the proportion permitted of very small areas of glass is lower), only half those for areas over 2 hectares have been allowed.

5.19 Consequently, whilst the approval rate in terms of the number of applications submitted is relatively high, the area of new or replacement glass that has been permitted is nearly 47 hectares; only slightly over half of the area applied for. Nevertheless, this represents an annual average of nearly 4 hectares of new glass permitted which, as noted in Chapter 4, is about the rebuilding rate required to maintain the current area of production.

5.20 Most applications (55 out of 86) have been submitted in the Nazeing and Roydon area in and around seven E13 areas. Eleven applications have been submitted in the Sewardstone area (in and around four E13 areas); nine have been submitted in the Waltham Abbey area (in and around four E13 areas to the north of the town); and the remaining eleven have been located away

from these areas of concentration. The applications outside the areas of concentration have tended to be for the erection or replacement of relatively small areas of glass (seven applications of less than 0.4 hectare each) and also include the two applications in the District for the demolition of glass (one for the erection of 5 kennels and the other for the erection of a new agricultural building).

Planning permissions since 1991

5.21 Nearly half the total number of applications (41 out of 86) have been submitted and permitted in E13 areas. Ten of these have been for packhouse developments. These amount to approximately 30 hectares of glass and 1 hectare of packhouses. Except in three cases, these were all outside the Lea Valley Regional Park boundary.

5.22 A further nine applications (including three packhouses) have been permitted adjacent to an E13 area; all of these were outside the Lea Valley Regional Park. These amount to 3 hectares of glass and 2 hectares of packhouse development.

5.23 Nineteen applications (including one packhouse development and the two applications to demolish glass) have been permitted outside and not adjacent to an E13 area. These amount to 14 hectares of new glass. In 9 cases, the sites were in the Lea Valley Regional Park, and in general they comprised relatively large areas of glass (an average size of 1.3 hectares of glass per application compared to an average of 0.4 hectares for those permitted both outside an E13 area and outside the Regional Park).

5.24 It is worth noting that virtually all packhouse developments have been permitted, either by the District Council or at appeal, whether the proposals were within, adjacent to or outside an E13 area.

5.25 These figures do not suggest that the influence of the Regional Park is overriding, as some would claim, particularly as the relatively large areas of

glass permitted in these cases, under other circumstances, could be argued to have a significantly adverse effect on the open character or appearance of the countryside and thus fall foul of criterion (iii) of Policy E13.

5.26 Conditions attached to recent permissions may also have helped to allay the concern of those seeking to restrict the development of new glasshouses, particularly if it is thought that this form of development could be a first step towards housing, storage or distribution development in the open countryside. A condition attached to a permission granted in September 2001 to a site operated by Premier Herbs states that:

> "At such time as the use of the site for commercial horticulture ceases the glasshouses and their concrete base hereby approved shall be dismantled, broken up and fully removed from the site."

5.27 It is noticeable, however, that only two years earlier, the Inspector in the Tower Nursery appeal did not consider it necessary to attach any conditions requiring the removal of glass once it was no longer used for horticultural purposes.

Refusals of planning permissions since 1991

5.28 Five applications for new glasshouse development have been refused in the E13 areas. These would have comprised 11 hectares of glass. Four of these were submitted prior to 1994 and so predate the development and adoption of the District-wide Local Plan. It is not known whether these sites also fell within the designated areas preceding E13, as the reasons for refusal refer simply to the proposals being contrary to Green Belt policies. However, other refusal notices at the time refer to proposals being outside the areas where glasshouse development would normally be permitted which might imply that the four refused applications were in a designated area.

5.29 The most recent application refused in an E13 area was in 1997 along Hoe Lane, Nazeing in a relatively large E13 area (of over 50 hectares). The

application was located in the centre of this area along the only access road within it. The application was for a new glasshouse development of 2.7 hectares but was refused on the grounds that the scale and needs of the development were likely to be severely detrimental to the character of Hoe Lane and the safety and amenity of occupiers of nearby properties. This reason calls into question the policy context surrounding this particular proposal, particularly as there is no other access road serving this E13 area. It is understood that the applicant lodged an appeal against this decision but withdrew after finding and gaining planning permission for an alternative site adjacent to a nearby E13 area.

5.30 Seven applications for new glass have been refused permission on sites that lie adjacent to E13 areas. These would have comprised 15 hectares, with a repeat application on a site of 11 hectares. Four of these were also submitted prior to the development of Policy E13. The three more recent applications relate to sites adjacent to the E13 areas to the north of Nazeing and at Broadley Common. The first at Nazeing was refused due to its adverse impact on the Lea Valley Regional Park and being contrary to E13. It was also dismissed on appeal in 2001 for the same reasons: for failing to safeguard the amenity of the Regional Park; considerably impairing the landscape of the Park; and having a significant adverse effect on the open character and appearance of the countryside.

5.31 The other two refused applications adjacent to an E13 area were both located on the same site, and concerned the erection of a substantial area of glasshouse (11 hectares). Both applications were refused for six reasons. In terms of Policy E13, the proposal was deemed to have a significantly adverse impact on the open character and appearance of the countryside, and thus offend against criterion (iii) of the policy. In addition, there were Conservation Area, landscape, visual amenity, public rights of way and traffic reasons for refusal.

5.32 Four applications for new glass have been refused on sites outside and not adjacent to an E13 area. These would have comprised 4 hectares of glass.

Three of these were located within the Lea Valley Regional Park, and the reasons for refusal refer to the proposals being detrimental to the amenity of the Park and prejudicial to the longer-term use of the land for leisure and recreational uses. Highways and landscape reasons for refusal were also raised.

Policies and experience of other local planning authorities

5.33 Protected cropping tends to consolidate into defined and concentrated areas, with lower intensity production sites scattered outside these centres. Within the UK the main centres are the South coast (West Sussex, Kent, Hampshire and the Isle of Wight), the Lea Valley, the Vale of Evesham, Humberside and West Lancashire. Both of the major Channel Islands have large areas of glass, Guernsey in particular having 443 hectares at its peak, though this has now decreased. Fourteen local planning authorities in these centres of concentration have been contacted to establish the type and detail of Local Plan policies for new glasshouse and associated development, and their recent experiences of considering planning applications for major new glasshouse developments, particularly with matters such as:

- the area of glass proposed and the type of crops grown;
- any trends in the location of major glasshouse developments in the District;
- the main planning, transport and environmental issues raised by the proposals (both positive and negative);
- the outcome of the applications and, if unsuccessful, whether taken to appeal.

5.34 The following table shows the local planning authorities that were contacted and whether their Local Plan includes a specific policy for new glasshouse and associated development:

Table 5.3: Horticultural development policies of other local planning authorities

Adur District Council	No specific policies
Arun District Council	Policy for glasshouse development * No specific policy for packhouses
Broxbourne Borough Council	No specific policies
Chichester District Council	Policies for glasshouse and packhouse development*
East Riding of Yorkshire Council	No specific policies
Fareham Borough Council	No specific policies
Fylde Borough Council	No specific policies
Havant Borough Council	No specific policies
Isle of Wight Council	Policy for glasshouse development* No specific policy for packhouses
New Forest District Council	No specific policies
Selby District Council	No specific policies
West Lancashire District Council	No specific policy for glasshouses Policy for packhouse development*
Worthing Borough Council	No policies
Wychavon District Council	No specific policy for glasshouses Policy for packhouse development*

* Copies attached at Appendix 4

Policies

5.35 National guidance on new glasshouse developments is contained in paragraph C10 of Annex C to PPG7, 'The Countryside – Environmental Quality and Economic and Social Development'. This states that:

> "Horticulture is included in the definition of "agriculture" for planning purposes. Commercial glasshouses normally exceed the area for which permitted development rights are available. The UK faces intense competition from overseas growers, and it is important that the horticultural industry is not held back by over-restrictive approaches to developments which could be sited without detriment to the surrounding area. Glasshouses can have a significant environmental

impact and wherever practicable new ones should be sited adjacent or close to existing ones."

5.36 There are relatively few specific policies for new glasshouse and packhouse developments. Three local planning authorities (Arun, Chichester and the Isle of Wight) have specific policies for new glasshouse developments and three (Chichester, West Lancashire and Wychavon) have specific policies for packhouses.

5.37 Chichester District Council's policy on new glasshouse development is the most comprehensive and takes a similar approach to Epping Forest District Council in designating areas for horticultural development. The other two authorities do not encourage glasshouse development in specific areas although both follow the advice in PPG7 that that new glasshouse development should be grouped with, or an extension to, existing glasshouses (as does Chichester's policy for horticultural development outside the designated areas).

5.38 Chichester's policy sets out the following criteria that must be met by applications for new glasshouses and packhouses in Areas for Horticultural Development:

- noise effects from machinery usage, vehicle movements or other activities on the site;
- pollution effects on the soil, water and air environments;
- effects of artificial lighting on nearby properties and the landscape;
- effects of vehicular movements on road safety, amenities of local residents and the character of the surrounding countryside;

- effects of the height and bulk of the development on the character and appearance of the landscape.

5.39 The policy also requires that the local planning authority is satisfied that:

- adequate access arrangements exist from the Area of Horticultural Development to the strategic road network; and that the proposed means of access uses roads capable of accommodating the vehicles to be used (with legal agreements sought to secure these routes);

- appropriate screening will be provided to prevent any noise nuisance or visual intrusion to local residents and the surrounding area;

- appropriate facilities are available for the disposal of surface water.

5.40 Other matters that are raised by policies for new glasshouse development in Arun and the Isle of Wight are that:

- adequate water resources are available;

- adequate surface water drainage capacity exists or can be provided as part of the development;

- long-views across substantially open land are retained;

- under-used or derelict glasshouses will not be considered suitable for non-agricultural uses;

- new commercial glasshouses will be subject to conditions and legal agreements to ensure they are not transformed to garden centres.

5.41 Matters that are raised by policies for packhouse developments in West Lancashire and Wychavon are:

- the packhouse should be ancillary to the main use and will not involve a division of the operation from the existing agricultural holding;
- for new facilities, there are no alternative sites in nearby employment areas;
- the produce processed should be grown on holdings located in the local area (defined in West Lancashire as a maximum of 8km from the packhouse); in Wychavon, the produce should be grown in the parish or adjacent parish, with the majority grown by the operator of the packhouse;
- traffic generated can be satisfactorily accommodated on the local road network and will not be detrimental to residential amenity.

Experiences of other local planning authorities

Arun

5.42 There have a large number of planning applications for glasshouse development on the coastal plain in Arun District, mainly on Grades 1 and 2 agricultural land. The District Council has indicated that the need for such developments has usually been justified, with the consequence that most developments have been permitted. Indeed, no applications have been refused in recent years.

5.43 The District Council describe the permitted glasshouses as usually extremely large, with the largest being over 7 hectares (at Newlands Nursery, Pagham).

Typical crops grown in this area are tomatoes, peppers and various ornamental plants.

5.44 There are four main development control issues that have arisen from these developments. The first is drainage. The coastal plain is obviously low-lying and susceptible to flooding. Applicants have had to submit details on the means of discharging surface water drainage without exacerbating existing flooding problems to the satisfaction of the Environment Agency, as a statutory consultee. This has usually been resolved by the construction of large reservoirs which, as well as being used to irrigate crops, hold water until it can be discharged into the local ditch system when not at or near capacity.

5.45 The second issue is landscaping, and the need for the local planning authority to be satisfied that glasshouses are adequately landscaped to mitigate their impact on the rural character of the area.

5.46 The third is lighting. Many of the larger glasshouses are in use 24 hours a day and, at night-time, the lighting over such a large area glows in the night sky. In recent cases, the local planning authority has placed conditions on planning permissions that details had to be submitted and approved to demonstrate how lights are to be shielded from the night sky.

5.47 The fourth issue is traffic, in particular the effect of large vehicles using country lanes.

Broxbourne

5.48 In Broxbourne Borough, which covers most of the western side of the Lea Valley, the Borough Council has indicated that there have been no recent applications within the last five years for glasshouse development in the Borough. Consequently, there are no specific policies covering glasshouse developments in the current First Deposit Borough Plan.

5.49 In the 1994 Borough-wide adopted plan, three areas of former glasshouses were allocated for housing development, following the direction in the Hertfordshire Structure Plan to release significant areas of derelict glasshouses for residential purposes. As a counter to this policy and to discourage further dereliction, the 1994 plan designated a number of Main Horticultural Areas that were intended to encourage existing nurseries. However, officers of the Council cannot recall any applications based on this policy. Instead, many nursery owners are still seeking to promote their land for housing development in the current local plan process.

Chichester

5.50 In Chichester, four Areas for Horticultural Development (AHD) were defined in the Chichester District Local Plan – First Review (1999). Two of these are sizeable areas (at around 180 hectares and 130 hectares) located on former airfields. The other two designated areas are drawn tightly around existing nurseries on the Land Settlement Association areas, and amount to about 65 and 80 hectares.

5.51 Although there is still room for further horticultural development on all sites, the Council considers that the new areas for horticultural development on the former airfields have been particularly successful. The key to the success of the former airfield sites is considered to be the new access roads that have been created from these sites to the strategic highway and away from surrounding residential areas. The LSA areas are characterised by a large number of smallholdings, many of which have been derelict for some time. The AHDs were intended to encourage the larger businesses to amalgamate some of these smallholdings and to regenerate the industry in these locations. However, problems of widespread dereliction still remain and the areas are severely disadvantaged in terms of access to the strategic highway network compared to the former airfield sites.

5.52 Although the Local Plan allows for horticultural development outside the AHDs where sited in replacement of or in association with existing

glasshouses, the Council has indicated that all recent glasshouse development has been contained to the AHDs.

5.53 Some operators on the former airfield sites have begun to add value by processing rather than merely packing produce, by including other (non-horticultural) ingredients. The District Council is producing supplementary planning guidance to encourage these processing activities on certain parts of the sites.

East Riding of Yorkshire

5.54 East Riding of Yorkshire Council has indicated that it has received relatively few applications for significant additional glasshouse developments in recent years, although clearly this area contains a substantial amount of glasshouse. Most applications in recent years have been from existing growers seeking modest expansion to their nurseries or, more typically, seeking to relocate. Most planning applications have proved successful.

5.55 The key issues in determining planning applications have been traffic, visual and surface water drainage impacts. Surface water drainage can be a particular problem in low-lying parts of the area which are at risk from flooding and where substantial depths of boulder clay overlie chalk. In these parts, and similar to the problems faced in Arun, additional surface water run-off needs to be disposed into relatively flat drainage systems when not at or near capacity.

5.56 Major proposals have included a development of nearly 5 hectares of glass to the north of Hull growing tomatoes and lettuce as an expansion and rationalisation of an existing company's business. Half of the area of glass has already been approved but the second phase is causing concern with regard to road traffic issues.

5.57 More modest extensions and relocations (of a total of about 2 hectares) were approved about two years ago in the Goole area, close to the M62 corridor.

5.58 A recent proposal is the re-use of less than 1 hectare of existing glass as a garden centre with associated growing areas, associated with a major application of B2/B8 floor space for use as a distribution centre for sorting, packaging and labelling of largely imported horticultural and floricultural produce.

5.59 Part of the business rationale behind the last of these schemes refers to a wide-ranging scheme known as Project Reload which involves a group of local growers in East Yorkshire seeking to rationalise the industry by concentrating on a smaller number of sites.

5.60 A feasibility study of the local horticultural industry was commissioned by a group of local growers in 2001 and part funded by the growers, Yorkshire Forward and East Riding of Yorkshire Council. The study examined the concept of Project Reload and, as a result, a full-time project manager has been appointed by the growers' consortium. It is understood that negotiations are on-going to establish a 80-120 hectare horticultural park at Goole. The local planning authority, however, remains unaware of any detailed proposals for this site or for the alternative uses of existing glasshouse sites.

Options available for E13

5.61 There have been strong hints from Inspectors at recent planning appeals that Policy E13 is in need of review.

5.62 In the Tower Nursery appeal (December 1999), the appellants produced evidence that was unchallenged by the District Council that there are no available sites of the minimum size required (4 hectares) within the designated glasshouse areas. There is therefore little opportunity for growers to expand except outside the E13 areas. The Inspector considered that, given that extensions adjacent to existing glasshouses which are remote

from the designated areas could be allowed under Policy E13, development on sites which are closely related (but not necessarily immediately adjacent) to existing enclaves would be likely to have less impact on the openness of the countryside than development on more remote and scattered sites.

5.63 She therefore allowed the appeal. In so doing, she referred to the reasoning of the Local Plan Inspector in seeking to draw tight boundaries around horticultural development areas. In his report, the Local Plan Inspector commented that:

> "I appreciate that the horticultural industry is highly competitive and growers need flexibility to respond to the changing demands of the market. However it seems to me that the Council is right in seeking to restrict any development outside the policy areas to a minimum. Without tight controls it is inevitable (as the history of the industry has shown), that the commercial advantages of developing on greenfield sites would be irresistible and the cumulative effect of continued expansion would seriously harm the openness of the Green Belt."

5.64 However, the Inspector at the Tower Nursery appeal considered that she was dealing with different issues to the Local Plan Inspector because enlarging the policy area would have had a considerable potential impact on the countryside as there would be a strong presumption in favour of new glasshouse development within that area. She considered that the retention of the designated area boundary allowed the Local Planning Authority to consider proposals on their merits, according to the criteria to be applied under the policy.

5.65 In the Holmsfield Nursery appeal (December 2001), the Inspector indicated that there was a general acceptance that the original and underlying intention of Policy E13 has to some extent been overtaken by the transformation that has taken place in the glasshouse industry in this area. He considered this was apparent from the extensive areas of new glasshouses as well as the rebuilding of existing glasshouses that has and is still taking place. He

accepted that the boundaries of the Policy E13 areas may not be as relevant today as they were when the Local Plan was adopted in 1998.

5.66 However, he also considered that it would be unsatisfactory to continue to make *ad hoc* decisions through the appeal process in an area that is extremely sensitive to this form of development and that any major departure from the policy should only take place after a full assessment of the problems and alternative solutions available through a review of the Local Plan process.

5.67 There would appear to be three main options available in the review of Policy E13. The first is to maintain the *status quo*, retaining the existing E13 areas and some flexibility in allowing expansion adjacent to these areas, subject to provisions. This would provide consistency to the policy framework and reinforce the other institutional factors that come into play when a nursery is seeking to rebuild or expand its area of glass. One of the potential problems that might arise with this approach is that, according to sources within the industry, there are insufficient sites of a sufficient size available within these areas to accommodate the likely future requirements of the industry. Another is that the appropriateness of one of the largest designated areas (Hoe Lane) has been called into question by the decision to refuse planning permission for a sizeable area of new glass in the very centre of the designated area for safety and amenity reasons.

5.68 A second option would be to adopt a criteria-based policy in place of a designated areas policy, similar to those policies operating in Arun and the Isle of Wight. Although this might be viewed as providing more flexibility to the industry, one of the difficulties that can occur with this approach is that such policies can offer less certainty to growers, the planning authority and the community because of the *ad hoc* nature of applications. The implication might also be that each application would have to be scrutinised to a greater degree in all respects which is likely to lead to additional costs and delays for both growers and the local planning authority, compared to the situation in a designated area where certain potential impacts will already

have been assessed. It is likely that most applications under this policy regime would still be sited around the existing areas of glasshouse concentration because of the other institutional factors that cause this concentration in the first place. However, the nature of the policy itself has the potential to encourage applications for significant areas of new glasshouses away from areas of existing glass, which would be contrary to the main thrust of national policy that new glasshouses should be sited adjacent or close to existing ones.

5.69 A third option would be to encourage the relocation and rationalisation of the industry onto one or two large sites in order to overcome the problems currently faced by the existing E13 areas, particularly in relation to highways, traffic and amenity issues. The site or sites would have to be well related to the strategic highway network and other main services (especially gas mains). This option would be similar to the Chichester airfield sites (but not the Land Settlement Association areas) and initial proposals for Project Reload in the East Riding of Yorkshire. Both these examples illustrate that this option might be the preferred option of growers. The main difficulty with this option - other than identifying one or more suitable sites of an appropriate size - is that growers will be looking to fund or part-fund their relocation and the development of new glass on the new site from the capital released from their existing sites, which will in most cases be in locations where new housing, commercial or industrial development would not normally be permitted.

Experience outside the UK

5.70 Both within and outside the UK, there has often been a change in perception over time as to how the industry is regarded. It is generally perceived as good for employment initially but, if and when employment needs decline due to demand from other industries, then planning regulations become stricter with some areas developing special policies and zoning for glasshouses. This can be seen in Guernsey which makes an interesting

example, as it is in some respects indicative of future trends for the industry in countries such as Spain that are currently competitive to the UK but enjoy a far more relaxed planning regime.

5.71 In 1988 a system of land use zoning was introduced, based on four main categories, with the majority of glasshouse areas designated GZ 3. There is a presumption in favour of glasshouse building on GZ 3 land, and replacement glass on GZ 2 with infilling permitted, and a presumption against any development on GZ 1. This system of zoning was introduced after the main expansion of glasshouse construction on the island and, whilst the average size of holdings has increased from 0.37 hectare in 1987 to 0.62 hectare in 2001, there have been the following effects which have caused problems for the industry's continued viability, where increasingly large sites are necessary in a world market place:

- constriction of growth of individual sites, subsequently resulting in businesses becoming fragmented with multiple sites (some growers having 4 or 5 separate sites);

- continuation of smaller, less economically viable sites due to the above;

- increase in the value of GZ 3 land, partly for the potential for glass replacement and partly due to 'hope' value for future housing development. GZ 3 is seen as a halfway house to housing development by many, and indeed successive planning reviews have justified such a view by re-classifying much glasshouse land for housing and light industry;

- reluctance by land owners to clear derelict glass sites in order to maximise the potential for future non-horticultural development.

6. Production and Marketing Issues

- *The trend in the industry is for producers to supply retailers through Category Managers, who are expected to provide year-round supplies, with responsibility for audit and Quality Assurance requirements for a supermarket for a particular product.*

- *There has been a major reduction in the number of individual suppliers that each supermarket will deal with over the past 10 years.*

- *Supermarkets now account for over 80% of fresh fruit and vegetable sales.*

- *Loss of Category Manager status by a major Lea Valley marketing organisation, although not potentially catastrophic to the industry in the area, would certainly have a detrimental effect on it.*

- *There is no direct price support for horticulture in the UK although there is some support for added value and diversification available to Producer Organisations.*

- *The Lea Valley is host to four major packhouses who are major employers, who handle the majority of the production output from the area and who have a combined annual turnover of around £75 million.*

- *The role of the packhouse is critical within the industry as the connection between producer and buyer, and it is usually considered important that the location is on a nursery.*

- *The packhouse operators do not envisage that more processing operations will be undertaken within the packhouse environment.*

- *It is unlikely that major new Producer Organisations will be established in the Lea Valley, but it is likely that existing ones will seek to expand. One Producer Organisation interviewed believed that there were already too many to be economically healthy.*

- *Trends in consumer purchasing such as organically-grown crops are unlikely to have a large impact on the industry in the Lea Valley.*

- *Vehicle movements have remained static over the last 10 years due to an increase in lorry sizes. Access to nurseries, with newer, larger vehicles, can be critical. 95% of movements are between 08.00 and 18.00.*

Marketing

6.1 The past 10 years has seen a dramatic reduction in direct grower sales to wholesalers, with almost all produce now sold direct by larger producers to retailers or by smaller producers via larger ones or through Producer Organisations and packhouses. The Producer Organisations will provide marketing expertise and facilities, and deal with the main buyers. Marketing and promotional organisations, such as the Cucumber Growers' Association (CGA) and Tomato Growers' Association (TGA), are promoting the differentiation of UK-produced fruit and vegetables.

6.2 Although most of the marketing groups and Producer Organisations serving the Lea Valley source product elsewhere in the UK and abroad, some rationalisation in their numbers might occur in the future, as has happened with producers.

All year round production

6.3 The ability to maintain continuity of supply (mainly edible crops), thereby avoiding re-marketing at the beginning of each season, is seen as desirable as it discourages speculative competition from entering the market. This has been achieved by some UK growers by setting up operations in Spain and Portugal and includes some Epping Forest District growers. The alternative is to invest in supplementary lighting during the low light intensity winter periods. This is possible technically and becoming increasingly viable economically due to Combined Heat and Power (CHP), whereby low-cost electricity produced on site may be used to extend the growing period when the export price is too low to make export worthwhile. All such supplementary lighting systems would be expected to require the installation of blackout screens to roof and sides to prevent light pollution, but with the additional benefit of energy saving due to reduced heat loss.

6.4 Packhouse operators do not see that there will be a significant uptake of this technology, although growers are more interested in it. Most of the larger

growers have begun small-scale trials or are considering doing so. This divergence of view is probably because growers are more abreast of technical developments and the results of trials and see this as an opportunity of retaining market share. It is likely that there will continue to be an increase in lighting for edibles production, but that it will remain a minority investment.

Wholesale markets / supermarkets

6.5 Supermarkets now account for in excess of 80% of fresh fruit and vegetable sales, with suppliers working on a contract basis through a Category Manager. In crude terms, this has led to most of the crop products grown in the Lea Valley becoming commodity ones, whereby the only way to improve profitability is by increasing volume sales.

Farmers' markets

6.6 These have seen a dramatic rise in both numbers and volume sales, and allegedly now account for 1% of fresh food sales. It is not believed that the Lea Valley producers are supplying such outlets, although there are a few "farm gate" sales (i.e. sales on an ad hoc basis to local retailers, catering establishments or passing consumers, in the latter case from a self-service type stall).

Organics

6.7 A number of the larger growers in the UK have already completed conversion projects for tomatoes and cucumbers on part of their production area. Figures suggest that 80% of organically-grown tomatoes sold in the UK and 90% of organic cucumbers are produced in the UK (Soil Association).

6.8 There has been little glasshouse conversion to organic production over the past year or two however, partly due to the level of conversion funds in

relation to the potential value of glasshouse crops compared with outdoor ones. There are also specific problems to be overcome in relation to rotations and nutritional requirements to meet organic protocols for permanently-sited glasshouses producing long-season crops.

6.9 Current thinking is that there is unlikely to be any significant increase in UK organic production, primarily due to a plateau in demand (research data by Taylor Nelson Sofres 2002) and increasing levels of imports sourced by supermarkets. Returns for organic produce need to compensate growers for lower yields. The price premiums which have been achieved are now being eroded.

Packing and handling facilities

6.10 There are four main packing facilities covering the locality, which are located in Nazeing, Waltham Abbey and St Albans. In common with most primary packhouses, they are all sited on production units. The combined annual turnover of these four companies is in the region of £75 million.

6.11 All four organisations handle products from the Lea Valley, other parts of the UK and imported produce. Typically the imported content is higher in the winter. In the summer months (April to October inclusive), typically 75% of the product handled by the packhouses is from the UK (the majority of which is Lea Valley grown, depending on crop type), with 25% imported. In the winter months (November to March), the proportion of imported produce is higher and increases to about 80% (mostly from Spain and to lesser extent Israel). The main products handled are cucumbers, tomatoes, lettuce, peppers and aubergines.

6.12 The majority of Lea Valley edible produce will be processed by these packhouses, who act as Category Managers for supermarkets. Supermarkets now do not wish to deal with a large number of small growers and have established Category Managers who provide a single point of contact for the supermarket buyer. A supermarket will typically have between two and four

Category Managers for each product category, possibly declining to only one in the low season. Most major supermarkets are represented between these packhouses.

6.13 No packhouse operators foresaw any increase in on-site processing, other than that relating to packaging, e.g. less loose produce in cardboard boxes, and so pre-pack salads (various items of salad prepared and supplied together) were not seen as a future trend largely due to high capital costs of equipment and poor returns.

6.14 Reasons given for locating packhouses on nursery sites are as follows:

- credibility with supermarket buyers;
- isolation from sources of industrial pollution;
- flexibility of workforce (packing or working in production units);
- better communications between production and sales staff; and
- cheaper land than in industrial areas.

Transport

Movement numbers

6.15 Packhouse operators believe that the number of lorry movements from their sites has remained fairly static over the last 10 years due to an increase in lorry sizes. This has probably reduced the overall number of lorry movements in the area due to fewer pick-ups from sites and produce going to a single packhouse, rather than being packed on site and dispatched in owner lorries of small size to several outlets. Operators estimate that lorries are operating at around 85% fully laden. This would compare to the old

system when a wholesaler lorry may only collect several boxes, and routinely operated at less than 50% capacity.

6.16 Staff transport has increased with numbers employed, and conventionally would be two journeys per day (to and from work). Most staff live within close proximity to the packhouse, but anecdotal evidence suggests that in excess of 50% of employees still drive to work (although over a short distance) or are dropped off by friends or relatives.

Size of vehicle

6.17 Packhouses move the majority of produce in 40-tonne articulated vehicles (12 metre trailers typically) but maintain smaller units (usually 4-wheel, 15-tonne only) for collection from smaller sites. From an engineering point of view, larger units are preferable as the axle loading, and therefore potential damage to roads, is lower than on smaller ones.

Times of day

6.18 Packhouses generally operate slightly extended normal working hours, and lorry movements tie in with these. In excess of 95% of movements are between 08.00 and 18.00 (Monday to Friday) with significantly reduced hours at weekends due to higher staff costs. Weekend hours will vary according to site and time of year, but typically will be between 08.00 and 13.00.

6.19 The conditions attached to the permissions granted in 1995 by the Secretary of State for the continued use of land and buildings at Nazelow and Stubbins Hall Nurseries for the packing and distribution of fresh salads specified that:

> "The movement of Heavy Goods Vehicles to and from the site shall be limited to between the hours of 07.30 and 21.00 on Mondays to Fridays inclusive, and to between the hours of 07.30 and 16.00 on Saturdays and Sundays" and

> "The packing and processing of foodstuffs other than those grown on the nursery shall not take place other than between the hours of 07.30 and 22.00 on Mondays to Fridays inclusive, and between the hours of 07.30 and 16.00 on Saturdays and Sundays."

Access to sites

6.20 No new glasshouse unit would be constructed without suitable access for articulated vehicles to enter and turn, but with some older units this is not possible. This is likely to lead to increased problems with collection and delivery of materials, and could hamper future viability. Estimates are that about 15% of sites in the Lea Valley have such problems. On some sites in Epping Forest District there is the possibility of altering and improving access arrangements if glasshouses are rebuilt.

Size of roads

6.21 Although the size of some of the roads in the Lea Valley is not ideally suited to large vehicles, it is a common myth that rural areas do not have such transport. In dairy-producing areas of the country there has been a shift towards using 12-metre articulated vehicles for bulk tank collection on the farm. Most corn sold off the farm is now collected in 12-metre bulkers, as are potatoes. Fertiliser will usually be delivered on 12-metre flat-bed trailers, and in the fresh field vegetable sector, most collections are on Tautliners of similar size. Thus the glasshouse industry does not differ from mainstream agriculture in this respect.

Employment

6.22 Information from the four major packhouses indicates that they employ approximately 280 full-time staff, 30 part-time staff, and 50 units of imported labour over the peak summer months (April to October).

6.23 Employment on holdings in the Lea Valley which are dependent on the main packhouses is likely to be around 250, the majority of which will be resident in the District, with additional employment in ancillary industries providing services, some of which are located locally (for example electrical and maintenance work companies dedicated to the glasshouse industry).

6.24 Whilst recognising that unemployment in the area is not a significant issue, it is important to note that there will always be a number of people who are either unwilling or unable to obtain more office-based work, the industry being a significant employer of such people.

6.25 Packhouses and larger growers can offer a more structured career path with opportunities for training and development, which smaller units cannot offer.

Expansion

6.26 Most of the major packhouses have expanded over the last 10 years, and would see further expansion likely. Some packhouses are looking to reduce the need for further centralisation by utilising nursery packing facilities further. In general, the need for more sophisticated machinery and expensive hygiene and staff welfare facilities would tend to militate against such an approach.

6.27 The reasons for expansion are varied:

- increased throughput, largely due to demographic changes (i.e. more people in south-east England, therefore more food required), partly due to an ever-increasing share of fresh produce trade by multiples;

- a trend to add greater value to produce than mere grading and boxing. Thus several lines will be required for a product that previously only had one. An example would be tomatoes previously sold only as loose

product, graded and packed into boxes, may now require separate lines for cherry, beef, plum tomatoes, etc; including organic versions of all of them;

- increased chilling and cold storage facilities, with produce never previously chilled, now being the norm in order to meet specifications.

6.28 It is impossible to say whether these trends will continue, but there is no sign of them ending at present. Therefore there is likely that there will be a continuing demand for more space at packhouses. The implication for Epping Forest District Council is that the major packing/marketing organisations in the area will require additional space, some of which may be achieved by further utilization of existing buildings (mezzanine floors, etc.). However, it is quite likely that the packhouses will require a similar area again over the next ten years (based on trends and sizes of competitor continental operations, e.g. St Pol, Brittany), which could amount to another hectare of land (see paragraph 5.21). It is likely that individual packhouses would seek floor areas of about 2,000m^2 if they were proposing to extend their existing facilities and about 4,000m^2 if they were seeking to develop new facilities.

Support

Within the UK

6.29 There is no direct price support for horticulture, although some support is available to Producer Organisations. Diversification funds can be obtained for certain projects through DEFRA and the England Rural Development Programme. These funds are generally linked to adding value to the product and diversification. Within Epping Forest District, applications for funding have been successfully made for the purchase of new equipment and structures to enable diversification into organic production and applications to install Combined Heat and Power systems are currently under consideration.

6.30 Within specific (deprived) areas of the country, businesses may be able to access EU support designed to improve the economic development of Objective 1 and Objective 2 areas. In the past, such as in the former Objective 5b areas, EU support has provided capital for new glasshouse projects. All these funds tend to be difficult to apply for, with a very lengthy application and selection process typically lasting around 12 months. It is known that some of the packhouse expansion by the Producer Organisations has been part-funded from these sources, and one glasshouse project has received DEFRA funding under the diversification scheme.

6.31 Since the Lea Valley is not categorised as a supported area under the EU scheme, it is theoretically disadvantaged when compared to, say, Cornwall.

Within the EU

6.32 Competitor nations are primarily those in Southern Europe, and to a lesser extent the Netherlands. Support from the EU has been mostly for extensive developments of new protected cropping areas in the Iberian Peninsula, particularly Spain. To a lesser extent France and Italy have also received support. Current levels of support in Spain are at 30% of capital cost.

6.33 In addition to direct capital support there is also indirect support. For example in Denmark, growers can receive around 400% of that received by growers in the UK for electricity produced by Combined Heat and Power (CHP) on site, with gas prices at similar levels. This is due to the abnormal energy prices prevalent in the UK which at present are deemed unsustainable by most analysts (c.f. Parliamentary Select Committee on Energy Report into current situation) and are likely to change in the next two years. For many growers this has represented a more substantial income than that derived from cropping. Indirect support in Spain has also been seen through improvements in infrastructure that have assisted the horticultural industry. These have

included improvements to roads, docks, storage facilities and, not least, water supplies.

6.34 The Dutch glasshouse industry has recently received a substantial financial 'windfall' due to a Government policy to relocate much of the glasshouse sector to the south of Rotterdam and away from the traditional Westland glasshouse area which has been designated for housing development through the expansion of towns such as Zoetermeer. Although not direct support, this did allow many growers to re-build, modernise and expand and the resulting boom effectively tripled the new glass area being built over a two-year period.

Outside the EU

6.35 Morocco is the main non-EU supplier of fresh produce and is in receipt of assistance from the World Bank for horticultural development. This is generally in the form of finance initiatives and loans, and is harder to quantify.

6.36 The Channel Islands of Guernsey and Jersey have supported their industry in a variety of ways, the main one being through the Horticultural Interest Subsidy Scheme in Guernsey. This effectively provides interest-free loans for new glasshouse projects and fittings. Jersey has various support mechanisms under different guises, which are currently under review. The likely outcome is that, if any support continues, it will be switched to environmental issues.

7. Energy and Environmental Issues

Key points

- *CHP within glasshouses has an efficiency of in excess of 90% and additionally uses the carbon dioxide from generation to enhance plant growth (thus acting as a carbon sink).*

- *It is likely that the sector will be useful in terms of national CHP strategy. DEFRA and EU targets for CHP are likely to be the major driving force for installations in the future.*

- *The Lea Valley is presently disadvantaged compared with other glasshouse areas as few schemes were implemented prior to the collapse of the electricity market and the need to install a large gas main infrastructure. It is likely that CHP will become more attractive again in 2 – 3 years.*

- *Glasshouse schemes may be significant in terms of future waste strategy incorporated into Energy from Waste (EfW) schemes.*

- *Modern glasshouse sites are around 30% more energy efficient than old ones (energy inputs / product yield).*

- *UK protected cropping is environmentally-friendly in terms of low food miles, low (often nil) use of pesticides through optimised use of natural predators for pest and disease control.*

Combined Heat and Power (CHP)

7.1 The use of CHP in horticulture is one of the most environmentally-friendly means of producing electricity from fossil fuels, with in excess of 90% of the energy input being converted to useful energy (compared to only around 20 - 30% for a coal-fired power station and only 60% for a modern Combined Cycle Gas Turbine (CCGT)). Additionally, the exhaust gases are fed through the greenhouse for carbon sequestration by the crop i.e. absorption of carbon dioxide by the plants to enhance photosynthesis and therefore increase yields.

7.2 CHP is recognised as a clean technology by UK government policy, with a target of 10GW generating capacity by 2010, exemption from Climate Change Levy (CCL) and Enhanced Capital Allowances (ECAs). Within the Lea Valley area there are five CHP installations each with a capacity of around 10MW, although more were planned but not installed due to the impact of high gas prices and low electricity prices under the New Electricity Trading Arrangements (NETA). A Government consultation process is underway to ascertain what measures can be taken to assist this market. At present the Lea Valley is disadvantaged compared with other areas, as few schemes were implemented prior to the collapse of the electricity market, due to the need to install a large gas main infrastructure (in terms of suitable gas and electricity mains).

7.3 It is likely that CHP will become more attractive again in the near future (2-3 years) due to UK government pressure (as above) and also pan-European trends (c.f. EU Consultation Paper on Cogeneration to 2010, proposed targets for generation of 18%). In the event of the EU proposal becoming remotely close to reality, there will need to be a massive increase in UK schemes, which could impact positively on the economic viability of Lea Valley units. It is also possible that this could be a driving force for new

glass investment, since much of the infrastructure (particularly gas mains and high voltage electricity connections) is in place already.

Waste disposal (Compact Power)

7.4 The obligation on Local Authorities to reduce and eventually eliminate use of landfill for waste disposal, coupled with Government directives on suitable technologies, is steering this towards Energy from Waste (EfW) plants using gasification and pyrolisis systems. At present the only company with commercially viable and available systems is Compact Power, whose units have a CHP component. Heat output from a standard system is estimated as 25MW, with some latitude for altering the balance ratio of heat to electricity.

7.5 The majority of heat needs to be actually used in order to meet CHPQA programme Quality Index (QI), which has a monetary value of around 0.36p/kWh on exported electricity (not on the renewable fraction) and also is necessary for obtaining Enhanced Capital Allowances (which can be very significant). Whilst it is technically possible to allow heat to simply go up the chimney, this actually costs money in terms of the above by failing to meet the QI, in addition to losing a revenue stream and being bad for public relations.

7.6 There is therefore a need for using available heat right from the beginning of operation, so the concept of supplying heat to industrial estates is not likely to succeed due to poor load distribution and slow take-up. Glasshouse sites are ideally suited to such an operation with consistent load from day 1.

CO_2 and heat storage

7.7 Most glasshouse sites now extract CO_2 from boiler flue gases and utilise this in the greenhouse for carbon sequestration by plants. Heat is stored during the day, when CO_2 is required, and used at night. This also allows growers

the option of buffering both gas and electricity use to reduce peak on-site energy demands to coincide with external peak energy demands which typically occur at mealtimes and especially early evenings. This is likely to become more widespread in the UK as most energy pricing moves to a Seasonal Time of Day (STOD) tariff.

Supplementary lighting

7.8 Supplementary lighting using sodium lamps is more common in the young plant/ornamentals sectors, and therefore it has not been much of an issue in the Lea Valley. It is understood that the District Council now impose planning conditions on new glass such that both roof and side screens are installed to prevent light spill, which can be a particular nuisance at night. These conditions provide a satisfactory solution to the problem and are in line with other parts of the country, especially along the South Coast, and with the Netherlands.

Energy efficiency

7.9 Optimising energy efficiency (light/heat and CO_2) has become a major research challenge due to the Climate Change Levy (CCL). CCL is a tax on the use of energy in industry, commerce and the public sector, with offsetting cuts in employers' National Insurance contributions and additional support for energy efficiency schemes and renewable sources of energy. The levy aims to help the UK to meet its targets for reducing glasshouse CO_2 and glasshouse gas emissions (5.2% below 1990 levels by 2008 – 2012) and is intended to promote energy efficiency, encourage employment opportunities and stimulate investment into new technologies such as renewable energy.

7.10 CCL is applied to all non-exempt supplies of gas and electricity (not oil or propane). Horticulture enjoys a 50% rebate until 2005 (which is currently under review, with no indication of the likely outcome yet) and subject to

demonstration of progress in terms of reducing energy consumption within the industry. Electricity generated by Good Quality CHP (CHPQA scheme) is exempt from the CCL, as is gas purchased for feeding the CHP. CHP schemes can therefore offer a saving to the grower of around £7,000/ha. This additional cost of CCL is similar across the UK but not across the EU.

7.11 Modern glasshouse designs are up to 30% more energy-efficient than older ones, due to improved glass sealing, fewer doors and better vents. In addition a larger block is much more efficient than the equivalent area of smaller blocks due to reduced surface areas. Further improvements are gained due to improved light transmission and air quality (due to height) so that output per unit energy is increased.

7.12 Modern growing techniques (c.f. HDC seminar "Energy saving for protected salad growers; Temperature integration in practise". T. Pratt 2000) developed over the last 2 - 3 years appear to be allowing a further 20% reduction in energy use.

Heat

7.13 Although gas prices are currently high compared to historical levels in the UK, they are not significantly different from those on the Continent. Prices in the Lea Valley are slightly higher than elsewhere because much of the gas supply infrastructure has been installed by GTC rather than Transco. According to shippers, this has created certain additional overheads. Heating costs now account for approximately 15% of total costs (including overheads).

Electricity

7.14 Due to lack of generating capacity in the south of England, electricity prices are higher than in the North, by around 15 - 20%. Since there are few CHP units yet in the Lea Valley, the higher electricity cost represents a net

disadvantage but a greater opportunity for siting CHP facilities on glasshouse units here. Electricity costs are not significant for most larger growers, but more so for packhouses.

Aviation fuel

7.15 This is of importance for imports, some of which are brought in by air. Aviation fuel is taxed at a much lower rate than other fuels, and hence gives these imports a tax advantage. This has now become a political issue, due to the recognition that the aviation industry is a major environmental polluter, and it is likely to be taxed in the near future.

Area utilisation

7.16 The trend has been to increase crop utilisation by having fewer paths or benching. For example, increasing in row length from 15m to 100m in a tomato crop increases utilisation by an additional 7%. At present there is no known development of this type for cucumbers, although that is not to say that it will not happen. With movable container benching, a gain in bench space of 20% is normal.

Water utilisation

7.17 Many sites are now recycling irrigation run-off, thus saving on water use by around 25% and also reducing fertiliser requirements and potential pollution since the water that is re-used contains the feed, etc, which would otherwise go to waste.

Rain water run-off

7.18 Glasshouse roofs represent a large surface area for rainwater to run off instantly, thus having the potential for increasing the risk of flooding. This is normally alleviated by installing buffering reservoirs that will reduce the

discharge to the equivalent of normal run-off from a grass field. Epping Forest District Council Drainage officers work to this basis for new planning applications, as do most other planning authorities in the areas of glasshouse concentration (such as Arun and Chichester). There should therefore be no change to surface water flows. For replacement glass there should be a benefit in terms of reducing current discharge rates such that a new glasshouse with buffered discharge could reduce instantaneous flow rates by in excess of 90% of an older unit with direct discharge to storm drainage system.

Compost and composting

7.19 There has been a trend in recent years for major buyers of ornamentals to insist on peat-free compost, and production systems are now in place for this to be used. Composting of plant material from crops and vegetable waste from packhouses is also of significant current interest and EU Directives and UK legislation encourage the composting of green waste and the recycling of pots and packaging. Appropriate technology and suitable sites are a prerequisite for efficient, nuisance-free operations.

Crop protection

7.20 Integrated Pest Management (IPM) using natural predators instead of pesticides has become almost universally adopted within the northern European glasshouse industry. This has been one of the factors that has permitted many glasshouse crops to be grown organically, the main change required being growing in the soil and changes in fertiliser regimes. British tomato growers have targeted the elimination of all pesticide applications within the next ten years, although cucumber growers are some way behind this.

7.21 Although pesticide use has been the focus of sustained attention and campaigns by environment groups such as Friends of the Earth, achievements by British growers in reducing pesticide use have probably not yet secured any significant market advantage other than in niche markets. This is because of the competition from low priced imports from southern Europe and the attraction these represent to buyers, especially with a strong pound.

7.22 Environmentally-friendly means of pest and disease control are of increasing importance. All major UK retailers subscribe to the Assured Produce Scheme and their UK suppliers register under this scheme and adopt the production protocols embodied in it. These protocols focus increasingly on environmental protection. Compliance entitles producers to use the 'Red Tractor' logo on their packs.

7.23 The ongoing EU review of pesticides is expected to result in the loss in registration of many such products and provide more impetus for finding alternative crop protection strategies to the use of pesticides.

Food miles

7.24 The environmental impact of importing products from distant production areas, compared with the impact of local production in glasshouses, is the subject of current research. This exercise demands a complex analysis of all factors, including:

- the amount of fossil fuel used to produce, process, package and distribute food, with consequent implications for CO_2 emissions;
- the vulnerability of relying on imported food supplies;
- the lower nutritional values associated with long shelf-life varieties of crops used to withstand lengthy transport and handling systems;

- the increased risk and incidence of the spread of crops and animal diseases;

- the environmental, economic and social impact of the intensive production of crops for export on the developing country.

7.25 It is readily apparent that the social, environmental and political pressure to reduce food miles should encourage UK production in all agricultural and horticultural sectors.

Good practice for modern glasshouses

7.26 Good practice for current technology in glasshouses would include a modern glasshouse structure of a large area (giving reduced surface areas compared to smaller houses and therefore lower heat losses per unit area); environmental computer with modern programme; ideally a CHP installation; possibly thermal screens depending on crop type; inverter drives fitted to motors (for speed control); ability for irrigation water recirculation; water collection from roof for use in irrigation system (which will not necessarily be applicable to all crops if there are particular pest and disease issues that need to be addressed), and buffered discharge for the overflow. There is a conflict of interest in terms of external wildlife issues between the benefits of natural habitat and the demands of supermarkets in respect of weed, pest and disease control.

8. Labour Issues

Key points

- *There is a shortage of skilled workers in the horticultural industry at all levels due to its labour-intensive and seasonal nature and low rates of pay.*

- *Growers respond to this shortage by investing in automation and mechanisation but skill levels will need to rise to meet the increasing sophistication of such equipment.*

- *Larger nurseries will require improvement in skill levels focussing on intensive production technology, business management and marketing, whereas smaller nurseries will need to concentrate on improving practical production skills.*

- *Seasonal and casual workers have also been more and more difficult to find. As a result, the horticultural industry has turned increasingly to employment agencies to source workers from abroad. The Curry report (2002) recommended that the Seasonal Agricultural Workers' Scheme quota should be more than doubled to satisfy demand.*

- *Accommodation is and will continue to be a major headache for employers of large numbers of seasonal workers and local planning authorities. At present, most live in mobile homes or caravans on site.*

Labour skills, availability and costs

8.1 Horticulture in general struggles to entice new entrants to the industry, due to the perceived repetitive and physically demanding nature of the work, the seasonal nature of the work and low pay rates. The industry is heavily dependent on seasonal and casual workers for activities such as sowing, planting, harvesting, sorting and packing.

8.2 Competition for skilled workers is a widespread problem, with labour shortages at all levels for much of the work still remains labour-intensive, even though computer technology and business management are becoming increasingly important. The result is that growers are constrained in their ability to meet domestic market demands during peak periods, leaving the markets open for imports. Growers are responding by increasing automation and mechanisation, which can reduce handling and improve labour efficiency but will require considerable capital investment. In addition some growers have the added cost of upgrading older glasshouses in line with energy efficiency and resource usage.

8.3 The level of skills required within the industry is likely to rise, especially in information technology and production, in order to increase the diversity of the food crops and ornamentals. Larger businesses will require skills focussing on intensive production technology whilst smaller nurseries will need more emphasis on practical production skills. Business management and marketing skills will also become more important if growers are to remain competitive.

8.4 Although there are two distinct sides to the labour requirements of the horticultural industry (i.e. skilled and seasonal/casual workers), some training needs overlap. There is evidence that in some areas, such as production specialisms, energy efficiency, the use of predictive techniques and pesticide management, suitable training and the associated qualifications are lacking. By not being able to meet the needs of the industry, training providers are failing to reduce the lack of skilled employees, particularly at NVQ/SVQ Level 3 and above. Although qualifications are not a substitute for skills, they enable an employer to establish the level of knowledge a potential employee may have.

8.5 Unskilled labour will typically be working at similar rates due to the Agricultural Wages Board, but skilled labour would be expected to be more expensive in the Lea Valley than say Humberside. The latest pay award by the Agricultural Wages Board is substantially above the rate of inflation. With additional changes in entitlements for temporary or casual workers, this will have a negative effect on the profitability of labour-intensive production systems, such as the glasshouse industry. Labour costs typically represent approximately one-third of total costs (including overheads).

8.6 Although the financial data presented in Chapter 3 of this report indicate that the labour costs in the East of England sample (at an average of about £70,000 per hectare) are significantly less than in the Northern England sample (average of £100,000 per hectare) and the overall sample for England (average of £110,000 per hectare), they represent a similar proportion of gross output to the other samples and therefore be a simple reflection of the scale of activity on the holdings in the sample. Further, it should be recalled that the nature of the enterprises in the samples (particularly for the East of England and Northern England) are far from identical which will affect their relative labour costs. However, if the East of England sample can be applied to general financial conditions within the Lea Valley – and given the small size of the sample, this may be an invalid extrapolation - it would not suggest that labour costs will overly restrict the future viability of the industry in this area.

8.7 The availability of staff to work on glasshouse nurseries represents an increasing problem and, in recent years, it has become more difficult to employ seasonal and casual workers due to the low unemployment rate, the type of work, low rates of pay and/or the problems of being on and off benefit.

8.8 The glasshouse industry has turned increasingly to the employment of agency workers, often from abroad (Eastern Europe in particular) through arrangements such as the Seasonal Agricultural Workers Scheme (SAWS). This scheme allows students from countries outside the EU to work in the UK on a seasonal or casual basis. In 2002 the quota was 18,700, with participants primarily coming from Eastern Europe and the former Soviet Union.

8.9 The Government has recognised that, in recent years, agricultural and horticultural employers have found it increasingly difficulty to recruit sufficient numbers of temporary workers. The resultant shortage of legitimate employees has opened up opportunities for illegal migrant workers and abuse of UK benefit systems. Consequently, in January 2002, the Government announced that for 2003, it would increase the SAWS quota to 20,000, and review the scheme, especially with a view to broadening its scope and lengthening its season.

8.10 The report of the Policy Commission on Farming and Food (The Curry Report "Farming and Food: a sustainable future" 2002) concluded that the current quota is insufficient to meet the demand for labour and recommended that the SAWS quota be raised to 50,000.

8.11 As it is the clear and long-standing position of Government that the agricultural and horticultural industries must source labour from outside the UK, then it is implicit in this that these temporary workers should be accommodated in reasonable conditions. The SAWS quota is administered by seven Home Office approved operators who, in accordance with the

Scheme's code of practice, must ensure that participating farmers "provide adequate and acceptable accommodation".

8.12 The operators also have to inform the Immigration and Nationality Policy Directorate of any student who leaves their authorised farm without permission, fails to report back to the operator and who is suspected of having failed to return to their country of origin. Students may also not carry out any work on farm premises that requires them to be absent overnight from an authorised farm camp. Clearly, it is considerably more difficult to monitor the movements of individual students if they are accommodated off the farm. As such, it is evident that the overwhelming majority of accommodation provided for overseas seasonal workers is on the farm and, from an analysis of the type of accommodation provided by the clients of the main scheme operator, Concordia Ltd, that caravans or mobile homes are the normal form of accommodation provided:

Table 8.1 Type of accommodation provided by Concordia clients in UK

	No. of farms	% of total	No. of farms in Essex & Herts
Caravans/mobile homes only	233	53	16
Caravans/mobile homes + other provision	57	13	-
Dormitory only	9	2	1
Dormitory + other provision	33	8	-
Dwellings various only	49	11	4
Dwellings + other provision	55	13	-
	436	100	21

8.13 In the Lea Valley, it has also been relatively common practice to house casual and seasonal workers on nursery sites, particularly workers from southern Italy and Sicily with family or village connections to the nursery owners. An increasing number are being employed through SAWS, especially in the last five years, and the typical form of accommodation provided is a caravan or mobile home on the nursery. This trend can be expected to increase over the next 10 – 15 years.

8.14 The 21 farms and nurseries in Essex and Hertfordshire that are clients of Concordia are all horticultural holdings, growing a wide variety of crops including tomatoes, lettuces, flowers, soft fruit and vegetables. About two-thirds of these holdings offer work (and accommodation) for more than six months of the year, with the longest period being nine months.

8.15 Although, as noted above, there is general and increasing Government encouragement to source casual and seasonal workers for horticulture from overseas, there is no specific planning policy guidance on the matter of their accommodation. However, one local planning authority, West Lancashire District Council, has recently produced draft Supplementary Planning Guidance on the accommodation of seasonal agricultural workers, in response to the increased employment of overseas workers on farms in the District. A copy of the draft guidance is attached at Appendix 5.

9. Capital Investment Issues

Key points

- *Modern glasshouse structures are much larger than their predecessors but have a longer lifespan (around 25 years in good condition) and are considerably more energy-efficient.*

- *Ideally, new glasshouses should be sited on a level site with good access and close proximity to a natural gas main.*

- *A typical glasshouse holding of more than 2 hectares for edibles production would cost around £500,000 per hectare to establish.*

- *A typical glasshouse holding of more than 2 hectares for young plant production would cost over £1m per hectare to establish.*

- *The cost of land will be a relatively small proportion of the overall costs of developing a new glasshouse holding at £5,000 -£35,000 per hectare if sold within the horticultural sector.*

- *There are high values for land held for hope value but, by definition, this land will not be available to develop for horticultural production.*

Types of glasshouse (see Appendix 6)

9.1 The basic sub-division of glasshouses is between glass and polythene-clad structures. Early glasshouses had wooden structures and glazing bars, with smaller sheets of glass overlapping each other and wet glazed (with putty). The major construction period for metal-structured greenhouses began in the early 1970s, and structures were generally of 6.7m span, although some were considerably wider with 10.4m being common. 'Danish' type houses were up to 27m wide. Modern glasshouses since around 1980 are generally Venlo-type with a single sheet of glass from gutter to ridge with no lap joints. This makes the structures more robust and also far more energy-efficient as they are more airtight. A modern Venlo structure will typically be 20 – 30% more energy-efficient than older types.

9.2 Structures have become much larger, which has increased utilisation (i.e. the amount of the structure that is actually used for growing rather than for access) and also decreased the energy consumption per unit area (smaller surface area per area of footprint). Eaves heights of Venlo houses have increased considerably over the years, from around 2m to current heights of 4.5m – 5.8m. This is partly to accommodate different cropping techniques (such as high wire crop support systems) and partly to increase air volume and thereby buffering (i.e. slowing down of internal climate changes due to external meteorological ones). This prevents external weather changes having rapid internal effects, notably on humidity levels.

9.3 The gutter-to-gutter width of a standard Venlo glasshouse is 3.2m, which is too small an amount for practical modern cropping and has led to the development of multi-span Venlo houses, where a trellis beam is run from stanchion to stanchion with intermediate gutters supported on this beam. Thus a double Venlo would be 6.4m and a triple Venlo 9.6m between supporting posts. More recent developments since about 1998 have included

the 4m Venlo, usually as a double span (8m) and also the 4.8m Venlo (usually in double span of 9.6m).

Potential glass development areas

9.4 New glasshouse sites should ideally have the following benefits:

- **level site**. Although this is an ideal requirement it is not as significant nowadays due to the relatively low cost of earth moving (cut and fill) and it is not unknown to excavate 1-hectare platforms on slopes of 20 degrees. For larger platforms the degree of slope is less important than the overall volume of earth moving, which is topographically dependent and is assessed individually;

- **high natural light levels**. This is academic within the Lea Valley area as natural light levels will be consistent throughout;

- **good access,** sufficient for articulated vehicle of 12m and close to the strategic highway network;

- **close proximity to a natural gas main**. Ideally this would be within 1500m but this will depend on network capacity about which it is hard to generalise.

9.5 Bringing electrical and water connections to a site has not generally been costly or problematic. Water supplies are becoming constrained, however, because of increased borehole extraction and reduced water quality as a result. There is likely to be increased pressure on glasshouse sites to install reservoir facilities to collect roof water for irrigation purposes.

Cost of new glass

9.6 The costs of constructing new glass are broadly as detailed below in Table 9.1, assuming glasshouse developments in excess of 1 hectare.

Table 9.1. Typical cost of new glass per hectare (£'000)

	Edibles sector	Young plant/ ornamentals sector
Glass	250	250
Heating	150	180
Irrigation	50	100
Environmental computer	30	30
CO_2 system	80	
Lighting	n/a	150
Benching	n/a	300
Screens (overhead)	n/a	60
Screens (side)	n/a	40
Total	560	1,110

Source: Authors' own estimates

9.7 In addition to these there are also groundworks, reservoir construction and offices/staff facilities. It is impossible to give a guide to such items since they are very site-specific.

9.8 A typical nursery of more than 2 hectares for edibles production would cost around £0.5 million per hectare to establish.

9.9 A typical containerised nursery of more than 2 hectares for young plant production would cost around £1.1 million per hectare to establish.

9.10 The cost of glass for units of less than 1 hectare can rise by up to 50% due to the reduction of area/perimeter ratios, cost of getting crew to site and increased steel sizes. Cost of units significantly greater than 1 hectare can be reduced by up to 20% for the converse reasons.

9.11 Many growers in the Lea Valley have historically installed second-hand glass, although the trend is away from this generally, most new projects being based on new structures.

Cost of land

9.12 Land price varies widely and may be considered as split into the following categories. The glasshouse production area is likely to be between 50% and 80% of the total land area required, depending on the shape of the individual land parcel.

Table 9.2. Typical land costs (£/hectare)

Agricultural land sold to agriculture	£5,000
Agricultural land sold outside agriculture (pony paddocks etc). (Value varies widely according to location and to the effect on the value of residential property, if any)	£15,000 – £60,000
Agricultural land sold to glasshouse industry for new glass and/or packhouse (Value varies widely: higher figure if adjacent to existing glasshouses)	£15,000 - £35,000
Existing glasshouse sites (excluding value of glass) sold to horticulture. (Value varies widely: higher figure if adjacent)	£25,000 - £35,000
Glasshouse land sold for housing or other development. Wide range according to type of development.	£1 - £2 million

Source: Local land agents

9.13 Glasshouse land with 'hope' value, by definition, is not normally sold. However, some property developers provide 'option values' by paying up to £100,000 per hectare as a one-off payment to secure the purchase at full value, if and when planning permission is granted. It can be seen from the above that where horticulture is competing against non-agricultural land uses for agricultural land there can potentially be a severe increase in the required investment levels. However, generally, the cost of land will be a relatively

small proportion of the overall costs of developing a new nursery and will be typically less than 7% of the total cost.

Financing

9.14 The most common form of finance in the industry is through business banking services, with additional funds being raised for certain proposals through the Agricultural Mortgage Corporation. Some growers choose to use Dutch banks as they generally have a greater understanding of horticultural operations. Additional sources of finance into the industry are listed below:

- third-party funding for CHP developments. Although this has now ceased, it has been a significant factor over the last 5 years, whereby CHP providers have installed the equipment plus other items (for example alterations to heating systems, new boilers) as part of the overall package;

- sale of development land. This is always a major source of funding for agriculture and horticulture;

- joint ventures. There are occasional glasshouse projects with other industrial partners who see the industry as a useful partner for either fully- or partly-funded new glass projects. An example is the British Sugar site at Wissington, Norfolk, where approximately 5 hectares of new glass was built to utilise waste heat from the sugar beet factory.

10. Dereliction issues

Key points

- *There is no longer a problem of large areas of derelict glasshouses in the District.*

- *Redundant glass can be used for lower value crops or redeveloped with new glass as a stand-alone unit or as part of a larger nursery.*

- *Sites that adjoin other larger glasshouse units will tend to be assimilated if they are available at typical glasshouse land prices.*

- *Sites which are remote and with no possibility of further expansion and less than 2 hectares are unlikely to be retained within the industry in the long term, although there will be specialist exceptions.*

- *Derelict glasshouse sites can and have been returned to agricultural land.*

- *Costs of clearing can vary between £5,000 and £25,000 per hectare, with extra for specialist services.*

10.1 Policy 40 of the Roydon, Nazeing and Waltham Abbey Local Plan 1989 and the initial draft of Policy E13 of the District-wide Local Plan were developed in order to encourage the redevelopment of glasshouses in existing nursery areas and to prevent further areas of dereliction that had been common throughout the District. To a large extent these policies were successful in achieving their aims, although they were considerably assisted by the availability of MAFF-funded capital grants for new and replacement glasshouses and associated facilities. The District Council has confirmed in an appeal decision (the Tower Nursery, Roydon appeal, December 1999) that there is no longer a problem of large areas of derelict glasshouses in the District and that, in recent years, it has recognised the possibility that there may be a longer-term requirement for a slight increase in the total area of glasshouses.

10.2 Nevertheless, there are still substantial areas of old wooden and early metal glasshouses in the District, and this chapter of the report sets out the considerations that apply to such glasshouses as they become unsuitable or uneconomic for their original use.

Considerations for re-development of redundant glass

10.3 In general terms older glasshouses are used for lower input crops, which tend also to be lower value ones. A typical example would be a glasshouse originally constructed for tomatoes then being used for cut flowers or bedding plants, then finally for crops such as runner beans or strawberries.

10.4 It should be noted that costs of maintaining older glasshouses gradually rise to a point where it is no longer possible to economically provide for them, and the economic life of a glasshouse would typically be 20 – 25 years.

10.5 In practical terms, wooden houses are no longer viable for any commercial cropping (although they may still be used for garden centres where they may be deemed 'quaint') as the maintenance of such structures is now prohibitively costly. Older metal houses are now nearing the end of their economic life, with the glazing bead having lost elasticity and severe corrosion occurring on many stanchion heads. It is likely that such houses will continue to be used for another 10 – 15 years, although without major investment (for example re-glazing, replacement of stanchion heads and bolts, motors and rack and pinions for vents) the operational costs will increase (poor energy efficiency) and output will decrease (poor quality due to leaking roof and poor vent controls).

10.6 Some organic cropping techniques have lent themselves to production in older houses as they are almost by definition lower input systems. Other uses for older houses include some specialist plant breeding work, although this is limited. There are also instances where an older site has seemed near to the end of its commercial life, but the grower has then found a niche market, particularly specialist pot plants, and subsequently rebuilt glass and expanded.

Considerations for redeveloping old sites with new glass

10.7 There are two possibilities for such redevelopment: first to continue as a stand-alone unit of similar size and second, to incorporate into a larger unit.

Suitability for redevelopment as a stand-alone unit

10.8 Under this circumstance the main deciding factor is likely to be the overall size of the unit, including the potential for expanding it. As with potential glass development areas, there will be a requirement for:

- good access sufficient for articulated vehicles of 12m and proximity to the strategic highway network;

- a level site;

- close proximity to a natural gas main, and other services (water and electricity in particular);

- a minimum area of around 2 hectares for normal commercial viability at present (useable site area as opposed to area of glass for an individual rebuild project), although this is likely to increase with time (this consensus figure has risen from around 0.4 hectare 20 years ago to around 2 hectares today).

Suitability for redevelopment incorporated into larger unit

10.9 The main factor will be the proximity to the primary site; thus the order of suitability would be as below:

- land sharing a boundary with the main site;

- land opposite the main site separated by public road;

- land within close proximity, say up to 1000m away.

10.10 Problems with remote sites, even if the physical separation is only a highway, are that costs of services rise (because there are no economies of scale as they require separate boiler houses, water, electrical, gas supplies etc.) and labour control becomes much harder, requiring additional supervisors and transport. As with redevelopment as a stand-alone unit, there will be a requirement for:

- good access sufficient for articulated vehicles of 12m and proximity to the strategic highway network;

- a level site;

- close proximity to a natural gas main, and other services (water and electricity in particular);

- a minimum area of around 1 hectare for remote sites (useable site area). There would be no likely minimum area if the land is adjoining.

Costs of clearing glass

10.11 There are sites around the country where previous glasshouse areas have been reclaimed as agricultural land. Guernsey, for example, has a good record of achieving this, with large areas of derelict glass now cleared and returned to open fields. This has been encouraged particularly by the important role of tourism in the island's economy and the subsequent incentive to maintain an attractive rural landscape on a relatively small island, rather than through widespread legal agreements or planning conditions.

10.12 There will be a wide range of figures for the cost of clearing glass, depending on:

- type of structure;

- condition; and

- whether it is professionally removed or sold standing to another grower, who dismantles it and re-erects it himself.

10.13 Typical costs are shown in Table 10.1 below:

Table 10.1. Typical costs for clearing glass (£/hectare)

Type of glass	Contractor	Grower
Wooden	12,500	Not suitable for re-erection
22' (6.7m) type metal	25,000	5,000
Venlo (old) type metal	20,000	5,000

10.14 Contractors' prices will be affected significantly by the value of scrap, the cost of disposal of poor quality houses and the level of glass contamination of soil permitted.

10.15 The above figures are for removing the structure from site. Additional costs will be involved if there is significant contamination of the ground with broken glass (typically from £5,000 to £10,000 per hectare) and if additional landscaping (a wide range from £2,000 to £50,000 per hectare) is required.

10.16 Additional to the clearing of the glass may be the following items, which are likely to be on a per site basis:

- asbestos insulation removal. This will usually be in the boiler house, and typical costs range from £4,000 to £7,000, depending on quantity and condition of building in which the insulation is housed;

- oil tank removal. Tanks have to be cleaned and certified prior to cutting up for disposal. With the collapsed price of scrap steel there is no value to the end product to offset against this. A figure of around £1,000 per large tank for disposal is typical;

- breaking up of concrete paths and roadways. These would typically be broken up and buried on site (depending on material and ground conditions) if the land is reverting to a field or reused as areas of hardstanding. Costs would range from £500 to £2,000 for a typical Lea Valley site.

11. Summary of Factors Affecting the Future Development of the Industry

11.1 The following table details the factors outlined within the main body of this report which will have an impact on the industry's demand for development land. It should be noted that the factors are given in the form that is considered most likely to occur, but it is possible for them to occur in the opposite manner with opposite impacts. Thus for example exchange rate variation is anticipated to be a reduction of the value of the pound against the Euro, with a positive impact on the industry. If the actual exchange rate variation is the reverse, then the impact on the industry will be the reverse of that indicated.

11.2 The first column of the table details the factor; the second gives the likelihood of it occurring; and the third the associated certainty factor, i.e. the confidence that this probability is correct. The actual impact of the factor is then considered in two ways; firstly as affecting the economic viability of the local industry, and secondly as affecting development needs.

11.3 From the table, it can be seen that those factors having most impact on demand for development are as follows, with those factors in which most confidence of their occurrence can be placed highlighted in bold:

- **Exchange rate variation - £ falls vs. € (positive);**
- Aviation fuel tax (positive);
- **Labour availability (negative);**
- **Energy price increase (negative);**
- Resurgence of CHP (positive);
- **Pest and disease issues in competitor sites (positive);**
- **Improved glasshouse technology (positive);**
- Demand for waste from power systems (positive).

Table 11.1 Summary of factors affecting the future development of the industry

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Market-related					
Increased demand for organic produce	Low	Moderate	Neutral	Neutral	
Increased competition from overseas producers	High	High	Moderate	Slight negative	The industry has suffered intense competition for many years already and new EU entrants e.g. Poland will be an additional factor.
Change to non-salad crops (measured in production area terms)	Low	High	Neutral	Neutral	
Reduced supermarket supplier base	High	High	Dependent on how this affects local PO organisations	Dependent on how this affects local PO organisations	Will be more price competition with consolidation.
Increase in non-supermarket related sales (e.g. farmers markets)	Low (at significant levels)	Moderate	Neutral	Neutral	These outlets represent a relatively small market volume.
Political/global economic					
Exchange rate variation	High	Moderate	Significant benefit	Significant increase	Lower £/€ rate will improve competitiveness and

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
					profitability against imports and this will outweigh any increases in cost of imported raw materials.
Tax on aviation fuel	Moderate in long-term	Low	Significant benefit	Significant increase	
Climate-related					
Increase in local temperatures	High in long term	Low	Slight benefit	Neutral	Very high temperatures in mainland Europe in the summer of 2003 favoured UK production and prices.
Reduced availability of water in competitor countries	Moderate	Moderate	Moderate benefit	Moderate positive	Also recent health problems associated with contaminated water supplies used for salad crop irrigation or product washing in some competitor countries.
Labour-related					
Reduced availability of local labour	High	High	Major disadvantage	Significant negative	Will represent an advantage from eastern European EU entrants in the short term.
Reduced availability of seasonal labour	Low	Low	Slight disadvantage	Slight negative	Labour from EU accession country's
Demographics of local industry	High	High	Slight disadvantage	Slight negative	

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Energy-related					
Increase in energy costs	High	Low	Significant disadvantage	Significant negative	
Renewed viability of CHP	Moderate	Low	Significant advantage	Significant positive	
Environmental-related					
Increased pest & disease issues in Iberian peninsular	High	High	Significant advantage	Significant positive	Increasing political and consumer pressure about pesticide use and residues will favour glasshouse production in northern Europe.
Increased awareness of nutritional content of foods	Moderate	Moderate	Slight benefit	Slight positive	Depends on success of government initiatives on food and health.
Production technology related					
Improved glasshouse technology	High	Moderate	Significant benefit	Significant positive	
Waste to power systems	Moderate	Low	Significant benefit	Significant positive	
Increased uptake of supplementary lighting	Moderate	Moderate	Slight benefit	Neutral	

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Crop technology related					
Introduction of varieties suited to low labour production	Low	Moderate	Slight benefit	Significant positive	
Introduction of breeder limited varieties where output is artificially limited (e.g. Ramiro)	Moderate	Low	Neutral	Neutral	

11.4 The demand for development as influenced by the factors above can be considered as being of two types:-

- replacement of existing glass, and:
- new greenfield land.

11.5 It is unlikely that there is a direct link between the type of development (replacement/new) and the type of impact (economic impact and impact on development – columns 4 and 5 in Table 11.1). This is because these will generally be decided by site conditions. For example, if economic viability increases then there will be a tendency to re-invest and the choice between replacement or new glass will depend largely on the existing site and availability of alternatives.

11.6 Three scenarios for required development areas are considered, as below:

- most pessimistic (as shown by industry contraction);
- most likely;
- most optimistic (as manifested by industry success).

11.7 On the basis of the average demand for new and replacement glass over the last 12 years and discussions with growers as to their short-term demands, it is estimated that the highest demand would be about 7.5 hectares of new and replacement glass a year. The last couple of years have been relatively buoyant so this level of investment could be expected in the next few years, but the industry is cyclical so levels may fall off thereafter.

11.8 The lowest demand would probably be the amount required to maintain the current area of production, which is about 4-5% of the total area a year. This is about 3.8 hectares per annum and rates of permissions over the last 12 years

have been at about that rate (4 hectares/year). The worst years for new glass actually had no glass built at all, and the best years around 11 hectares.

11.9 The most 'plausible' level of demand is obviously likely to be between the two at 5 or 6 hectares a year.

11.10 The vast majority of the demand will be for new rather than replacement glasshouses. In the last 12 years, there were applications for 80 hectares of new glass and 8.5 hectares of replacement glass. Assuming that this continues, then the likely demand is as below:

Table 11.2: Likely demand for new and replacement glass over the next ten years

	New glass (ha/10 yrs)	Replacement glass (ha/10 yrs)	Total (ha/10 yrs)	Average per year (ha)
Scenario 1	35	5	40	4
Scenario 2	50	10	60	6
Scenario 3	65	10	75	7.5

Benching	Normally aluminium benches typically 4.5m by 1.5m whereby the number of paths can be significantly reduced due to the ability to move the benches in order to create a path. Container benching is a system in which the benches is sat on rails and can be moved around. Thus operations are carried undertaken in a service area rather than in the production area, with a reduction in labour costs.
BETTA	British Electricity Trading and Transmission Arrangements.
Carbon sequestration	Absorption of carbon dioxide by plants during photosynthesis and conversion into plant tissue.
Category Manager	A supplier responsible for the provision of a product category (one major product or a number of related minor ones) to a supermarket or processor, either from their own production or jointly with other, usually smaller or overseas producers out of season. The Category Manager accepts responsibility for auditing supplies in terms of quality, food safety and environmental compliance.
CO_2	Carbon dioxide.
Combined Heat and Power (CHP)	A power plant with generator attached which produces electricity but also utilises the waste heat. In horticulture the emissions (largely CO_2) are also used by supplying them to the glasshouse crops.
CHPQA	Combined Heat and Power Quality Assurance; a measure of efficiency of the power unit in which the fuel used, power generated and heat supplied are functions of the measure of Power Efficiency, Heat Efficiency and Quality .Index.
Cogeneration	See CHP.
DEFRA	Department for Environment, Food and Rural Affairs (successor to MAFF).
ECA	Enhanced Capital Allowances – a scheme to allow energy saving investments to be depreciated over a shorter period, thus allowing a saving in tax on profits and thereby equivalent to interest at the level of current borrowing/savings (as applicable). Can be significant in businesses where profitability is good in certain years.

EfW	Energy from waste: production of electricity through combustion of waste products; the latest technology being pyrolisis and gasification.
GW	Giga Watts = 1,000 MW = 1 million Watts
Greenhouse types	Older greenhouses had wooden structures, subsequently replaced by metal-structured houses. These typically have a galvanised steel structure with aluminium superstructure and glass cladding. The main type of glasshouse is called the Venlo, which has a single sheet of glass from gutter to ridge rather than several sheets with lapped joints. Lapped joints are prone to leaks (air and water), slippage and algal build up and are therefore disliked within the industry. The term greenhouse includes glasshouses as well as plastic-covered structures, such as a polytunnel where the polythene is replaced every 3 - 5 years. With a glasshouse, the structure generally has a life-span in excess of 25 years.
M & II	Management and investment income.
MAFF	Ministry of Agriculture, Fisheries and Food.
Marketing organisation	An organisation for the sale and marketing of produce; may be a Producer Organisation, but not necessarily so. (See also Producer Organisation)
MW	Mega Watts = 1,000 kW = 1 million Watts
NETA	New Electricity Trading Agreements. The replacement system for operating the previous electricity pool whereby electricity is generated and sold to licensed suppliers. It was introduced by the Regulator in 2001 and due to be replaced in the near future by BETTA. Neither the date of this nor the impact guessed if past experience over the introduction of NETA is an example.
NOx	Oxides of nitrogen. These are produced by most combustion equipment (boilers, engines etc) and are toxic to plants at fairly low levels (much lower than for humans). They are important for CO_2 systems in glasshouses where too high levels can adversely affect growth.
Plant Breeders' Rights	The equivalent to a patent in the plant world, where a breeder can register a new variety and then control who grows it, with growers who do so paying a licence fee.

Polytunnel	See greenhouse types.
Producer Organisation (P.O)	A marketing organisation including several grower members registered with DEFRA primarily for grant purposes. (See also Marketing organisation)
ROI	Return on investment.
Tautliner	Type of lorry trailer with flexible side-sheeting restrained by straps allowing easy access for forklift truck during loading and unloading.
Venlo type greenhouse	See greenhouse types.
Venting	Opening the vents to allow air change for cooling or removal of humidity.
Vents	Opening ‘windows’ in the roof of the glasshouse.

Appendix I
DEFRA Regions in England by County (2001 classification)

Region	Counties
East of England	Cambridgeshire, Norfolk, Suffolk, Bedfordshire, Hertfordshire, Essex (Greater London included in this report)
East Midlands	Derbyshire, Leicestershire and Rutland, Lincolnshire (excluding North), Northamptonshire, Nottinghamshire
North East	Cleveland and Darlington, Durham, Northumberland, Tyne and Wear
North West	Cheshire, Greater Manchester, Lancashire, Merseyside, Cumbria
South East	Berkshire, Buckinghamshire, East Sussex, Essex, Hampshire, Isle of Wight, Kent, Oxfordshire, Surrey, West Sussex
South West	Gloucester excluding South, North Somerset & South Gloucester, Wiltshire, Somerset excluding North, Cornwall and Isles of Scilly, Devon, Dorset
West Midlands	Shropshire, Herefordshire, Staffordshire, Warwickshire, West Midlands
Yorkshire and the Humber	East Riding of Yorkshire and North Lincolnshire, North Yorkshire, South Yorkshire, West Yorkshire

Appendix 2
Epping Forest District Adopted Local Plan: January 1998

Lea Valley Glasshouse Industry

10.88 The Lea Valley is one of the most important areas of the glasshouse industry in the country. It comprised some 136 ha in 1988 of which 85 ha were in Epping Forest District in the Roydon, Nazeing, Waltham Abbey area.

10.89 This important, long established industry was in decline and very much behind the rest of the glasshouse industry in updating its facilities and equipment, until about 1985. The Lea Valley was late in utilising the available grants but redeemed the situation in the late 1980s. Since then the amount of glass has been generally stable but with a slight upward trend.

10.90 The main crops in the Lea Valley are cucumbers, lettuces and bedding plants which account for 75% of the production area. Production is highly specialised with many crops now cultivated using inert materials (such as mineral wool or perlite) as the rooting mediums or culture solutions. Local soil characteristics are therefore not important in these instances.

10.91 The replacement facilities now built are generally designed as fully integrated production units with microprocessor-based control systems and, in some cases, with computer-based, programmable control and monitoring systems. The local industry is now more capital-intensive and has a higher potential output per unit area than the national average.

10.92 Almost all businesses are family-run and therefore more resilient in adverse economic conditions. This has been a major factor in the turn-around and revival of the industry in recent years.

10.93 A new method of marketing local produce, involving growers combining their distribution function at selected sites, was introduced in the late 1980s and early 1990s. Some 90% of the produce is now sold to supermarket operators, which is a consequence of the capital investment necessary to produce consistent, high quality produce.

10.94 The future of the industry is likely to depend upon changes in both foreign competition and Government assistance by way of grants. The competitive pressures upon Lea Valley growers are likely to intensify as a result of:-

- less restrictions on the importation of some fruit and vegetables (particularly tomatoes and lettuce) from EC countries (especially Spain):
- political changes in Eastern Europe; and
- a further weakening of the price support mechanisms resulting from reforms to the Common Agricultural Policy.

Appendix 2
Epping Forest District Adopted Local Plan: January 1998

10.95 Given the large investments that have been made in recent years the limited amount of derelict glass in this District is not a general problem, particularly outside the Regional Park. However, it is not possible to predict whether it will increase. This will depend upon the profitability of the industry, the cost of replacement (which, in turn, depends on the nature of the existing structure and the amount of Government grant), any "hope value" and whether the business can survive a period of non-production.

10.96 It has been estimated that, if no grant aid was available, the rate of rebuilding would be greatly reduced - perhaps to only 10% of recent rates. The most important aspect in this respect, however, is the profitability of the industry. Glass has a "technical" life of about 12 years so there would need to be a steady rebuilding programme if the industry is to keep its fixed assets up to date and dereliction avoided.

10.97 There are isolated examples of horticultural holdings deliberately left in a derelict state in the hope that eventually housing, or some other type of urban development, will be seen as a "better" use for the land. The Council will resist all such schemes and adhere to the guidance in PPG2 which states that ".... development (should not be) allowed merely because the land has become derelict."

10.98 There is little or no demand or justification for more land for glasshouses unless this involves the redevelopment of existing derelict glasshouse sites. The scope for bringing derelict glasshouse sites back into other beneficial use is likely to be limited to L.V.R.P.A. projects, woodland or horse-related uses.

10.99 The following policies are therefore intended to facilitate the continued well-being of the Lea Valley glasshouse industry and limit any new glass to the area in which the industry is now concentrated.

POLICY E13
PLANNING PERMISSION WILL BE GRANTED FOR THE ERECTION OR RE-ERECTION OF HORTICULTURAL GLASSHOUSES WITHIN THAT PART OF THE LEA VALLEY IDENTIFIED AS SUCH ON THE PROPOSALS MAP. HORTICULTURAL GLASSHOUSES WILL NOT BE PERMITTED OUTSIDE THE AREAS SUBJECT TO THE POLICY UNLESS THE PROPOSED DEVELOPMENT:

(i) IS IMMEDIATELY ADJACENT TO AN EXISTING GLASSHOUSE (BE IT WITHIN AN AREA SUBJECT TO THIS POLICY OR OUTSIDE); AND

(ii) IS NECESSARY FOR THE EXPANSION OF AN EXISTING HORTICULTURAL UNDERTAKING WHICH, IF IT IS WITHIN

Appendix 2
Epping Forest District Adopted Local Plan: January 1998

AN AREA SUBJECT TO THIS POLICY, IS UNABLE TO EXPAND BECAUSE ALL THE AVAILABLE SPACE IS OCCUPIED BY VIABLE GLASSHOUSE UNDERTAKINGS; AND

(iii) WILL NOT HAVE A SIGNIFICANTLY ADVERSE EFFECT ON THE OPEN CHARACTER OR THE APPEARANCE OF THE COUNTRYSIDE.

10.100 This policy allows extensions to existing glasshouses to take place outside, but immediately adjacent to, the identified glasshouse areas provided that the criteria are met. It also facilitates the extension of existing glasshouses which are remote from the identified glasshouse areas. However, in considering such applications the Council will look very carefully at the potential impact on the countryside. This is because it will need to be convinced that the impact is acceptable outside the areas in which the glasshouses are considered appropriate. Extensions to glasshouses on these remote sites are, therefore, less likely to gain approval than on sites adjacent to glasshouse areas. This policy will not apply, however, where the grower or developer proposes to erect permitted development and has given the requisite notice as set out in Annex E of PPG7 – The Countryside - Environmental Quality and Economic and Social Development.

10.101 Proposals for new glasshouses will also be assessed in the context of other policies in the Plan, particularly those relating to their impact on the landscape (Policies LL2, LLIO and LLII), the adequacy of the existing road network (Policy T17) and design (Policies DBE4 and DBE9).

10.102 Planning applications for houses associated with new or existing glasshouses will be assessed in the light of Policy GB17. It is unlikely, however, that any such dwellings are likely to be acceptable, especially given the high level of technology typical of modern glasshouses.

10.103 Planning applications for the change of use of existing glasshouses will be determined in the context of Policy GB8. The use of the land for horse-keeping, and the construction of stables, may well be a suitable alternative to derelict glasshouses, especially in or in close proximity to the Lee Valley Regional Park.

10.104 The Council recognises that the glasshouse industry may need support services (eg: distribution depots) in reasonably close proximity and will therefore determine any planning applications for such developments on the basis of their merits in the light of other Plan policies. However, such developments are inappropriate in the Green Belt, according to Government guidance, and therefore can only be justified in very special circumstances.

REF. No	ADDRESS	APP. No.	AREA OF STRUCTURE	HEIGHT	HEIGHT	PLANNING APPLICATION	ADDITIONAL
INSET 1							
1	Lakeside Nursery, Nazeing	EPF/1215/96 PF.796	2	2.6m	4.4m	New/Additional Glass	
2	Land west of Langridge Nursery, Nazeing	EPF/0633/01 PF.18611	4.37	5m	6m	Refusal for New/Additional Glass	
3	Highlands Nursery, Roydon	EPF/1180/01 PF.9746	0.2 net increase	4.5m	5.2m	New/Additional Glass	
4	Messengers Nursery, Nazeing	EPF/0903/00 PF.4019	Glasshouse - 1.1 Packing Shed - 0.04	3.1m 4.5m	3.6m 7.5m	New/Additional Glass New Packing	
5	Southview Nursery, Roydon	EPF/0256/92 PF.5440	0.27	N/A	N/A	New Additioanl Glass	
6	Holmsfield Nursery, Nazeing	EPF/2093/00 EPF/0716/93 PF.4104	0.66 0.01	3.1m 3.6m	4.1m 4.4m	Refusal for New/Additional Glass Refusal for New/Additional Glass	Dismissed on Appeal
7	Leaside Nursery, Roydon	EPF/0346/00 EPF/0165/98 PF.1181	0.9 0.06	4.4m 4.7m	5.1m 6.8m	New/Additional Glass New Packing	
8	Netherall Nursery, Roydon	EPF/1591/97 PF.1415	Glasshouse - 2.25 Packing Shed - 0.02	4m 3.2m	5m 4.4m	New/Additional Glass New Packing	
9	Langridge Nursery, Nazeing	EPF/0317/99 EPF/0913/97 PF.7036	0.83 1.5	N/A N/A	N/A N/A	New/Additional Glass New/Additional Glass	
10	Longfield Nursery, Roydon	EPF/0570/01 PF.9327	Glasshouse - 0.34 Packing Shed - 0.02	4m 4.2m	4.7m 4.7m	New/Additional Glass New Packing	
11	Paynes Farm Nursery, Nazeing	EPF/1538/97 PF.5375	0.28 net increase	3m	3.6m	New/Additional Glass	
12	Presdale Farm & Nursery, Nazeing	EPF/0897/97 PF.3172	2.72	4.5m	5.5m	Refusal for New/Additional Glass	Appeal Withdrawn
13	Clapham Nursery, Nazeing	EPF/1006/97 EPF/0571/95 EPF/1169/94 PF.11027	1.1 0.07 0.07	3m 4.9m 4.9m	3.9m 6.9m 6.9m	New/Additional Glass New Packing New Packing	
14	Hallmead Nursery, Nazeing	EPF/1027/96 PF.17483	2.28	3.5m	4.8m	New/Additional Glass	
15	Virosa Nursery, Nazeing	EPF/1204/00 PF.3912	0.05	3.7m	5.5m	Refusal for New Packing Shed	
16	Land between Betts Lane & Nazeing Common, Nazeing	EPF/0854/02 EPF/1133/01 PF.13967	11.3 11.3	4.4m 3.4m	4.8m 3.8m	Refusal for New/Additional Glass Refusal for New/Additional Glass	
17	Fernbank Nursery, Nazeing	EPF/0417/00 PF.4727	0.01	N/A	N/A	Refusal for New/Additional Glass	
18	Game Farm Nursery, Roydon	EPF/1561/00 EPF/0857/93 EPF/0818/92 PF.15126	1.7 0.86 0.86	4.9m 4m 4m	6.3m 5.4m 5.4m	New/Additional Glass New/Additional Glass New/Additional Glass	
19	Coronation Nursery, Nazeing	EPF/1268/97 PF.2929	0.85	2.6m	5.5m	New/Additional Glass	
20	Villa Nursery Roydon	EPF/0962/94 PF.14262	0.9	3m	3.7m	Refusal for New/Additional Glass	
21	Fouracres Nursery, Roydon	EPF/0415/99 EPF/0855/91 EPF/434/93 PF.763	0.4 0.3 0.2	2.7m 2.4m 2.7m	3.5m 3.1m 3.5m	New/Additional Glass New/Additional Glass New/Additional Glass	
22	Felicia & Tyndall Nursery, Nazeing	EPF/0727/93 PF.1174	0.2	N/A	N/A	New/Additional Glass	
23	Eagle & Westland Nurseries, Roydon	EPF/0330/01 PF.8293	0.18	2.4m	4.8m	Replace/Improved Glass	
24	Merryweather Nursery, Roydon	EPF/1633/98 EPF/1029/97 PF.3686	0.08 1.9	5.5m N/A	7.8m N/A	New/Additional Glass New/Additional Glass	
25	Tower Nursery, Roydon	EPF/0964/02 EPF/1285/01 EPF/0096/00 EPF/0123/99 EPF/0107/95 EPF/0415/94 EPF/0132/93 EPF/0455/93 EPF/0920/92 EPF0780/92 EPF/0964/91 PF.160	0.7 0.4 2.53 1.76 0.2 2.66 1.2 2.28 2.52 0.94 2.8	5m 5.3m 4.4m 4.5m 3.8m	5.8m 7.4m 5.1m 5.2m 5.3m	New/Additional Glass New Packing New/Additional Glass New/Additional Glass New Packing Refusal for New/Additional Glass Refusal for New/Additional Glass Refusal for New/Additional Glass Refusal for New/Additional Glass New/Additional Glass New/Additional Glass	
26	Bettina Nursery, Nazeing	EPF/1146/01 PF.387	Glasshouse - 1.24 Packing Shed - 0.03	4.5m 4m	5.5m 5.5m	New/Additional Glass New Packing	
27	Broadley Nursery, Roydon	EPF/2073/01 EPF/2086/00 PF4755	1.34 1.34	4m 4m	4.8m 4.8m	New/Additional Glass New/Additional Glass	
28	Rosewood Farm, Roydon	EPF/0254/93 PF.3186	0.04	2.4m	4.1m	Refusal for New/Additional Glass	

REF. No	ADDRESS	APP. No.	AREA OF STRUCTURE	HEIGHT	HEIGHT	PLANNING APPLICATION	ADDITIONAL
29	Arnlands Nursery, Nazeing	EPF/1978/02 PF.828	0.04	3.2m	4.5m	New Packing	
INSET 2							
1	Beechview Nursery, Waltham Abbey	EPF/0674/93 PF.10440	0.04	4.5m	5.3m	New Packing	
2	Breach Barns Oakwood Nursery, Waltham Abbey	EPF/0060/98 PF.811	0.5	2m	4.5m	Replace/Improve Glass	
3	Abbey View Nurseries, Waltham Abbey	EPF/0944/99 EPF/0160/98 EPF0653/93 PF.4364	0.38 1.91 1.84	N/A 5.5m N/A	7.1m 5.8m N/A	New Packing New/Additional Glass New Packing	
4	Stubbins Hall & Nursery, Waltham Abbey	EPF/0195/97 EPF/0018/97 PF.263	2.2 2.2	4.5m 4.5m	6m 6m	Replace/Improve Glass Replace/Improve Glass	
5	The Bungalow Springfield Nursery, Waltham Abbey	EPF/1204/96 PF.1500	1.84	2.4m/ 2.4m	5m/ 4.3m	Replace/Improve Glass	
6	Nineacres Nursery, Waltham Abbey	EPF/0244/91 PF.4704	0.63	8.5m	10.5m	New Packing	
7	Copped Hall Garden Nursery, Epping	EPF/0914/97 EPF/1293/96	0.02 0.03	3.4m 2.4m	5.2m 4.6m	New/Additional Glass New/Additional Glass	
8	Esgors Harlow Garden Nurseries & Cottage, Thornwood	EPF/1381/01 EPF/0873/92 PF.3295	0.44 0.33	4.5m 3.2m	5.3m 5.1m	New/Additional Glass New/Additional Glass	
9	Fourways Nursery, Waltham Abbey	EPF/0943/99 PF.1865	0.56	3.5m	4.2m	Replace/Improve Glass	
INSET 3							
1	Hannah Nursery, Sewardstone	EPF/0976/96 PF.14486	0.07	3m	4.6m	New/Additional Glass	
2	Mott Street Nursery, High Beach	EPF/1293/94 EPF/0530/92 PF.2521	0.31 0.15	3m 2.4m	4.4m 3.2m	New/Additional Glass Replace/Improve Glass	
3	Chapelfield Nursery, Sewardstone	EPF/0621/96 EPF/0704/93 EPF/0503/92 PF.7597	0.08 0.06 0.1	3.4m 2.8m 2.8m	4.1m 3.5m 3.5m	Replace/Improve Glass Replace/Improve Glass Replace/Improve Glass	
4	High Beach Nursery, High Beach	EPF/1072/91 PF1364	0.42	3.6m	4.5m	Replace/Improve Glass	
5	Felicia Nursery, High Beach	EPF/0479/91 PF.544	0.78	3m	3.7m	New/Additional Glass	
6	Portulaca, High Beach	EPF/0685/92 EPF/0684/92 PF.8574	0.9 0.9	N/A N/A	N/A N/A	Refusal for New/Additional Glass Refusal for New/Additional Glass	
7	Springhouse Cottages Theydon Bois	EPF/1453/01 PF.1015	0.03	2.4m	3.2m	New/Additional Glass	
8	Brownings Farm, Chigwell	EPF/0474/92 PF.819	0.62	2.4m	4.3m	New/Additional Glass	
INSETS A,B,C & D							
1	Art Nurseries, North Weald	EPF/1181/02 PF.2896	0.06 net increase	4.4m	5m	Refusal for New/Additional Glass	
2	Esperanza Nurseries, Stapleford Abbotts	EPF/0154/91 PF.7561	0.27	2.8m	3.7m	Replace/Improve Glass	
3	Roding Vale, Fyfield (Ongar)	EPF/0493/92 PF.2200	0.5	2.3m	3.1m	New/Additional Glass	
4	Theydon Mount Nursery, Theydon Mount	EPF/0231/00 EPF/0042/99 PF.1339	0.9 0.2	N/A 1.8m	N/A 3m	Demolition Demolition	Erection of 5 kennels Erection of new agricultural building

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

Arun District Local Plan Second Review Revised Deposit Draft, June 2000

POLICY DEV3 Horticulture

New glasshouse and polytunnel development will usually be permitted provided that:-

(i) **there is no adverse impact on the surrounding environment and landscape;**
(ii) **long views across substantially open land are retained;**
(iii) **adequate water resources are available; and**
(iv) **adequate surface water drainage capacity exists or can be provided as part of the development.**

Under-used or derelict glasshouses or polytunnels will not normally be considered suitable sites for the introduction of non-agricultural uses.

Reason

The Council encourages new investment in glasshouse units, but is aware of the potential impact they can have in the landscape and on water resources.

Explanation

3.03 Horticulture forms an important part of the agricultural economy in Arun District and glasshouse crops have historically been grown on the coastal plain. However, the large buildings required for the indoor cultivation of crops are often intrusive and dominant in the landscape. New development should, as far as possible, be grouped with existing glasshouses and avoid intrusion into open, attractive landscapes.

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

Chichester District Local Plan First Review (adopted April 1999)

HORTICULTURAL DEVELOPMENT
AREAS FOR HORTICULTURAL DEVELOPMENT

RE11A WITHIN THE AREAS FOR HORTICULTURAL DEVELOPMENT SHOWN ON THE PROPOSALS AND INSET MAPS, APPLICATIONS FOR COMMERCIAL HORTICULTURAL DEVELOPMENT, INCLUDING GLASSHOUSES AND PACKHOUSES, WILL BE PERMITTED, PROVIDED THAT THEY WOULD NOT:

1) GENERATE NOISE LEVELS RESULTING FROM MACHINERY USAGE, VEHICLE MOVEMENT OR OTHER ACTIVITY ON THE SITE WHICH, WHEN MEASURED AGAINST THE EXISTING AMBIENT NOISE LEVELS IN THE LOCALITY, WOULD BE LIKELY UNACCEPTABLY TO DISTURB OCCUPANTS OF NEARBY RESIDENTIAL PROPERTIES OR BE LIKELY TO CAUSE UNACCEPTABLE HARM TO THE ENJOYMENT OF THE COUNTRYSIDE;

2) GENERATE UNACCEPTABLE LEVELS OF SOIL, WATER OR AIR POLLUTION INTO THE SURROUNDING ENVIRONMENT;

3) BE LIKELY TO RESULT IN AN UNACCEPTABLE IMPACT OF ARTIFICIAL LIGHTING ON THE OCCUPANTS OF NEARBY RESIDENTIAL PROPERTIES OR ON THE APPEARANCE OF THE SITE IN THE LANDSCAPE;

4) GENERATE SUCH VEHICULAR MOVEMENTS TO OR FROM THE SITE AS WOULD PRODUCE UNACCEPTABLE REDUCTIONS IN THE SAFETY OF ROAD USERS OR UNACCEPTABLE HARM TO THE AMENITIES OF THE OCCUPIERS OF NEARBY RESIDENTIAL PROPERTIES OR THE CHARACTER OF THE SURROUNDING COUNTRYSIDE;

5) BE OF A HEIGHT AND BULK WHICH WOULD DAMAGE THE CHARACTER OR APPEARANCE OF THE SURROUNDING LANDSCAPE.

NO DEVELOPMENT WILL BE PERMITTED IN ACCORDANCE WITH THIS POLICY UNLESS THE DISTRICT PLANNING AUTHORITY IS SATISFIED THAT ADEQUATE VEHICULAR ACCESS ARRANGEMENTS EXIST FROM THE AREA OF HORTICULTURAL DEVELOPMENT AS A WHOLE TO THE STRATEGIC ROAD NETWORK AND THAT THE

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

MEANS OF ACCESS PROPOSED USES ROADS CAPABLE OF ACCOMMODATING THE VEHICLES LIKELY TO BE GENERATED BY THE DEVELOPMENT WITHOUT DETRIMENT TO HIGHWAY SAFETY OR RESIDENTIAL AMENITY. LEGAL AGREEMENTS SECURING ROUTES TO BE USED BY VEHICLES MAY BE SOUGHT;

NO DEVELOPMENT WILL BE PERMITTED IN ACCORDANCE WITH THIS POLICY UNLESS THE DISTRICT PLANNING AUTHORITY IS SATISFIED THAT IT WILL BE APPROPRIATELY SCREENED IN ORDER TO PREVENT NOISE NUISANCE OR VISUAL INTRUSION TO THE OCCUPIERS OF NEARBY PROPERTY AND THE SURROUNDING AREA;

THE PROPOSED DEVELOPMENT MUST ALSO BE PROVIDED WITH APPROPRIATE FACILITIES FOR THE DISPOSAL OF SURFACE WATER.

HORTICULTURAL DEVELOPMENT ELSEWHERE

RE IIB OUTSIDE THE AREAS FOR HORTICULTURAL DEVELOPMENT SHOWN ON THE PROPOSALS AND INSET MAPS, APPLICATIONS FOR HORTICULTURAL DEVELOPMENTS, INCLUDING GLASSHOUSES AND PACKHOUSES, WILL BE PERMITTED WHERE SITED IN REPLACEMENT OF OR IN ASSOCIATION WITH EXISTING GLASSHOUSES AND WILL NOT BE PERMITTED IN OPEN COUNTRYSIDE IN AREAS WHERE GLASSHOUSES ARE AT PRESENT ABSENT. SUCH PROPOSALS WILL ALSO BE CONSIDERED AGAINST THE CRITERIA INCLUDED IN POLICY RE IIA AND WILL BE REFUSED IF THEY FAIL TO MEET THOSE CRITERIA.

APPLICATIONS WILL BE REFUSED IF, WHEN CONSIDERED INDIVIDUALLY OR CUMULATIVELY IN ASSOCIATION WITH EXISTING HORTICULTURAL DEVELOPMENT IN THE LOCALITY, THEY, OR THE ACTIVITY ASSOCIATED WITH THEM, WOULD CREATE A DAMAGING CHANGE IN THE CHARACTER OR APPEARANCE OF THE LOCALITY.

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

Isle of Wight Local Plan Review

Glasshouse Development

C21 Planning permission for horticultural and commercial glasshouse development will only be approved where:

a It is outside, and does not adversely impact upon an Area of Outstanding Natural Beauty; or

b It is an extension to an existing glasshouse complex. In all cases, development must be acceptable in terms of its visual impact and appropriate conditions and agreements will be applied to ensure the development remains in horticultural or commercial glasshouse use.

10.75 By their nature commercial glasshouses can have a significant impact on the environment due to their size and appearance. This is particularly true when viewed from higher or distant ground, where there can additionally be significant light reflection. In general, such development would be expected to take place on an existing horticultural holding with careful consideration given to siting and screening.

10.76 PPG7 states that "Commercial glasshouses normally exceed the area for which permitted development rights are available. The UK faces intense competition from overseas growers and it is important that the horticultural industry is not held back by over-restrictive approaches to developments, which could be sited without detriment to the surrounding area. Glasshouses can have a significant environmental impact and wherever practicable new ones should be sited adjacent or close to existing ones".

10.77 Due to continual pressure in recent years for glasshouses to become garden centres, new development will be subject to conditions and legal agreements, where necessary, to ensure they are retained in agricultural use.

10.78 It is considered that there are now sufficient garden centres to meet local needs for the foreseeable future and therefore it is essential to apply conditions and/or agreements attached to planning approvals to ensure that commercial glasshouses and plant nurseries do not change to garden centres over time.

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

West Lancashire District Local Plan Review

Agricultural Produce Packing Facilities

AG.5 Proposals for, or extensions to, agricultural produce packing and distribution centres will be permitted in the countryside (including the Green Belt) provided that:

(i) in the case of new facilities there is not an alternative site within a nearby employment area;

(ii) the proposed use will remain linked to the use of land and not involve a division of the operation from the existing agricultural holding;

(iii) the produce processed on the site is grown upon holdings located within the local area;

(iv) the loss of agricultural land is kept to a minimum and, where there is a choice, the lowest grade of agricultural land is used;

(v) traffic generated can be satisfactorily accommodated on the local road network and will not be detrimental to residential amenity; and

(vi) the development complies with Policies AG.3 and GB.4.

Justification

6.14 The past 30 years has witnessed considerable change in rural areas in England. Successive Government agricultural policies and changes in working practice have resulted in greater efficiency in food production. This move for greater efficiency has not been limited to the working of the land itself but also the handling and distribution of produce. The influence of the major retailers has been significant as they require produce to be packed under set conditions and delivered direct to them within a specified period of time. The cost of meeting the requirements of retailers as well as the introduction of tougher hygiene regulations has been prohibitive to the smaller agricultural holdings, and consequently this has resulted in the rise of specialists who provide facilities to wash, pack and distribute not only their own produce, but also produce from other holdings.

6.15 The Council recognises the importance to the rural economy of having facilities locally available to undertake the packing and distribution of produce and consider such facilities to be appropriate within the countryside including those areas designated Green Belt, provided the use remains ancillary to an existing

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

agricultural holding. The use of bare land for a packing and distribution centre to which all the produce was imported onto the site would be inappropriate development within Green Belt.

6.16 In accordance with the Government's aim to reduce growth in the length and number of motorised journeys it is important that produce processed is grown in the local area i.e. a maximum of 8km from the packing and distribution centres.

Appendix 4
Glasshouse Policies of Other Local Planning Authorities

Wychavon District Local Plan Review First Deposit (June 2002)

POLICY ECON9 PACKHOUSES

Proposals to erect or extend buildings for the cleaning, grading, chilling and packing of locally grown fruit and vegetables will be permitted where:

a) the produce to be processed is locally grown within the Parish or adjacent Parish with the majority of produce grown by the operator of the packhouse;
b) the building is of a scale commensurate with the production of the holding; and
c) proposals comply with Policy GD2 (General Development Control).

6.4.15 The Council acknowledges that under European law the cleaning, grading and packing of produce is an essential requirement in the process of distributing produce. It also acknowledges that the provision of a building to accommodate these facilities can be uneconomic for the smaller grower. The Council is prepared to consider the provision of small packhouses ancillary to the main use and providing such buildings are not used for storage and distribution.

6.4.16 Schemes will be carefully considered to ensure that the design of buildings is appropriate to surroundings in terms of height, scale and detailing.

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Deputy Chief Executive

Date: 10th July 2003
Your ref:
Our ref: 8/02/1356

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DRAFT SUPPLEMENTARY PLANNING GUIDANCE ; ACCOMMODATION OF SEASONAL AGRICULTURAL WORKERS IN REFERENCE TO CARAVANS ON LAND AT LONGCROFT, BOUNDARY LANE, HUNDRED END, HESKETH BANK

I refer to your current application regarding the caravans at the above-mentioned site, and my telecon with you today.

As you are aware the Local Planning Authority has been preparing an interim policy statement to deal with the issue of seasonal agricultural workers accommodation in the Green Belt. A report went to Cabinet on the 30th June 2003 and it was agreed, subject to any proposed changes by the Planning Committee on the 24th July 2003, the draft supplementary planning guidance be approved for consultation purposes and taken into account for development control purposes, on an interim basis, pending the results of consultation. The Local Planning Authority can then consider all the views received before finalising the guidance. The supplementary guidance includes a draft policy, which will be written into the West Lancashire Replacement Local Plan, which will be published for consultation early next year.

As you have submitted an application about seasonal agricultural workers accommodation in the Green Belt, I consider it is important for you to see the draft SPG as soon as possible, so as to address the requirements of the draft policy (a copy is attached). This will form the basis of the consideration of the application, which I intend to report to the Planning Committee on the 25th September 2003. I will keep you informed of any changes that result from the 24th July 2003 meeting.

Yours sincerely

MISS E O M WOOLLACOTT
AREA PLANNING OFFICER

Encl.

Supplementary Planning Guidance - Accommodation for Seasonal Agricultural Workers

1.0 INTRODUCTION

1.1 This Planning Guidance sets out how the Council will deal with accommodation for seasonal agricultural and horticultural workers.

1.2 Seasonal agricultural workers have been employed on farms for many years, including ones from overseas. However, it appears that in the last year or so the number of foreign workers has increased substantially. An idea of the numbers involved is given by the Government's Seasonal Agricultural Workers Scheme annual quota which in 2003 was 20,200 compared to 10,000 in 2000 for the country as a whole.

1.3 In recent years agricultural and horticultural employers have found it increasingly difficult to recruit sufficient numbers of temporary workers, especially at periods of peak activity, for several reasons:

- the labour market has become increasingly competitive and unemployment rates have fallen;
- temporary and weather dependent work discourages people, especially having to move on and off benefits;
- the decline in supply of traditional sources of such labour (UK and EU students) due to other and better paid work opportunities. Agricultural work is seen as being both hard and offering less remuneration and having few future employment prospects;
- Working holidaymakers tend to take up urban work.

The farmers feel this constrains their ability to meet domestic demand and some export markets, so opening up the UK to imports.

1.4 Since about February 2002, as far as West Lancashire District Council is concerned, a number of farmers have established new standalone caravan sites on their farms. Whereas in the past the caravans may have been placed within and/or between the farm buildings these new sites are often highly visible and some are near residential properties. This can have an adverse impact on the landscape and on local residents.

1.5 The majority of seasonal and casual workers are from one or more of the following:

- Recruited direct by the farmers
- Workers supplied by gangmasters;
- Students seeking part-time or vacation work;
- The Seasonal Agricultural Workers Scheme (SAWS);
- The Working Holiday arrangements.

1.6 Subject to certain conditions planning permission is not required for temporary seasonal accommodation for farm workers. The Town and Country Planning (General Permitted

Development) Order 1995 (GPDO) allows the use of agricultural land as a caravan site for the accommodation during a particular season of a person or persons employed in farm operation on land in the same occupation. This use of land is subject to a condition that the use is discontinued when the above circumstances cease to exist and requires all the caravans on the sites to be removed. The important points are that the accommodation should be seasonal, and involve persons employed on land in same occupation. However, recent experience shows that caravans are being occupied from about March/April to October/November. A recent Planning Inspector's decision has clarified that caravans can only be kept on the site for one particular season, that is, during the planting, growing or harvesting season of a single crop, but not the whole crop cycle, if the development is to avoid the need for planning permission.

1.7 It must be re-iterated that the exemption to requiring planning permission only relates to a short-term solution to provide adequate labour to meet the demands during peak periods of activity. The way the farmers seem to be operating is that workers are more than casual labour, staying for periods of seven to nine months of the year. (The government SAW scheme for full-time students aged between 18 and 25 years does refer to this as one of the tasks, but it does have quite strict conditions regarding age, type of jobs, the need for a cultural element, etc. Those over 25 should only be invited back for supervisory tasks and in small numbers.)

1.8 It is difficult to say how long a season would be, as it depends on the type of crop and the extent of the acreage planted in order to be exempt under the provisions of the General Permitted Development Order. Thus, to try and put a figure down in terms of months can vary. However, if they remain longer than the particular season, clearly a breach of planning control occurs. This is quite clear if one crop is involved, but it will be difficult to demonstrate an exemption if the farmer has crops at different parts of their cycle growing at the same time. In this case, if he/she wants to keep the caravans on site any longer, planning permission would be required. The nature of the horticultural businesses in this part of the country, with multi-cropping and rolling planting programmes resulting in overlapping crop cycles, means that most farmers would find it difficult to claim the GPDO exemption rights.

2.0 THE COUNCIL'S APPROACH

2.1 The Council wishes to assist in supporting a healthy rural economy within the context of national and local planning policies. Permanent buildings or caravans which are kept on site for a number of months can reduce the open character of the Green Belt and have an adverse impact on the landscape and the amenity of local residents

2.2 Farmers wishing to provide accommodation for their workers are advised to follow the following sequence to find a suitable solution.

- Firstly look to see if you can find accommodation in an existing house, hotel, or an established caravan park.
- If none are available check if you can convert any existing buildings
- If that is not possible try to find a site for caravans which is not in the Green Belt. Look in the local village or on the edge of the village.

- If there are no sites available in or on the edge of villages, then the chances are that the site will be in the Green Belt where government and local policies do not allow caravan sites. You will need to convince the Council that you have looked at all other alternatives before we can even consider granting permission.
- Finally, consider the potential benefits that might accrue from identifying a suitable site in partnership with other farmers in the vicinity.

2.3 In all cases you should try to find a site which:

- is close to the village so that your workers will be able to have access to local health care and other facilities.
- ensures that the caravans are sited where they will have least impact on local residents;
- is hidden or screened from views so that the accommodation does not spoil attractive views, for example between existing buildings.
- Is in a location where a safe access to the road can be created which will not lead to vehicles passing close to neighbouring residences.

PROPOSED PLANNING GUIDANCE

The Council will only consider favourably the placing of temporary accommodation for seasonal agricultural and/or horticultural workers in the Green Belt if very special circumstances exist.

Each case will be considered on its merits but those special circumstances would need to include the following:

(i) it will need to be demonstrated that there is a necessity to provide the temporary accommodation to satisfy a clearly identified local employment problem.

(ii) it will need to be demonstrated that the requirement cannot reasonably be met on sites outside the Green Belt and/or on land covered by Policies OL.1 and OL.2 or through the re-use of appropriate existing buildings.

(iii) an assessment submitted with any application to demonstrate that any impact on visual amenity and/or residential amenity and/or openness of the Green Belt and/or highway safety and/or landscape, wildlife and countryside character is minimised to an acceptable level. Any such impacts will need to be outweighed by clear benefits in helping to meet the local employment problem or any other very special circumstances that exist.

(iv) proposals will need to be supplemented with measures to protect the character of the local area including: retention of existing trees and hedges; implementation of landscape planting and improvement of any damaged or derelict land involved; improvement of boundary treatments.

(v) it will need to be demonstrated that the siting, location, scale, and external appearance of the accommodation and hardstanding treatments are designed to minimise the impact on the wider area to an acceptable level.

(vi) the amount of accommodation and hardstanding to be provided will need to be justified in relation to the holding on which it will be sited to ensure that it is the

minimum required to satisfy the very special circumstances that are shown to exist.

(vii) the temporary accommodation will need to be removed from the site when not in use unless it can be shown that there is no alternative reasonable and acceptable location for storage out of season.

(viii) only time limited planning permissions will be considered, including no other use of the accommodation out of the normal crop cycle seasons, unless other convincing very special circumstances exist.

Explanation

How do I know if planning permission is required?

Always check with the Council's Planning Department but normally planning permission is required in the following cases:

- if the workers will be housed for longer than a normal planting, growing, or picking season
- if caravans and other related buildings (e.g. canteens and toilets) are to be kept on site permanently
- if a change of use to an existing building is involved
- if hardstandings and permanent services (e.g. water supply or septic tank) need to be constructed.

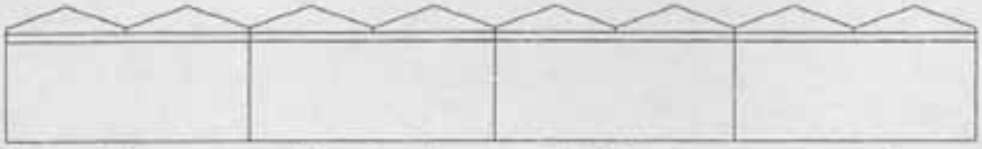
Background Documents

The following background documents (as defined in Section 100D (5) of the Local Government Act 1972) have been relied on to a material extent in preparing this Report.

Date	Document
Home Office May 2002	Review of the Seasonal Agricultural Workers Scheme 2002

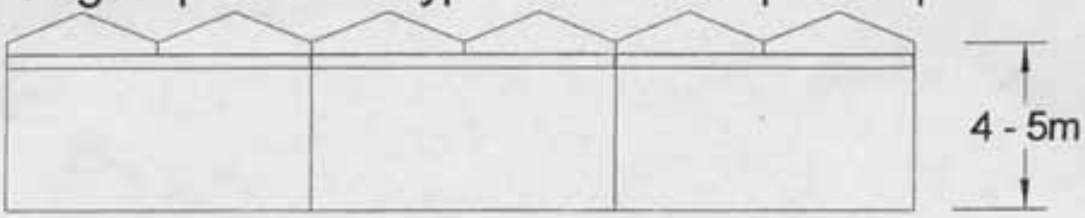
BASIC GLASSHOUSE STRUCTURES

Triple span Venlo type - 9.6m from post to post.

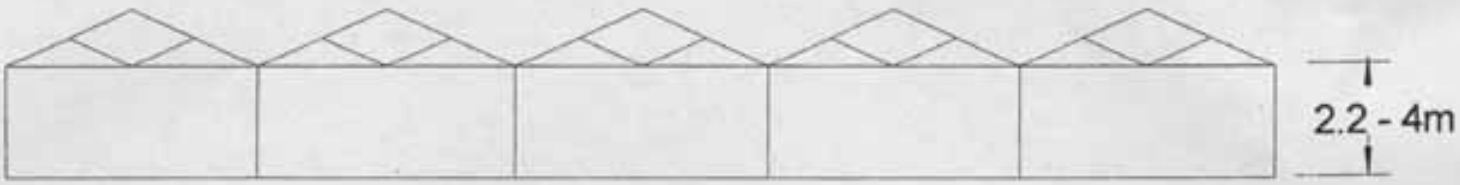


Double span Venlo type - 6.4m from post to post.

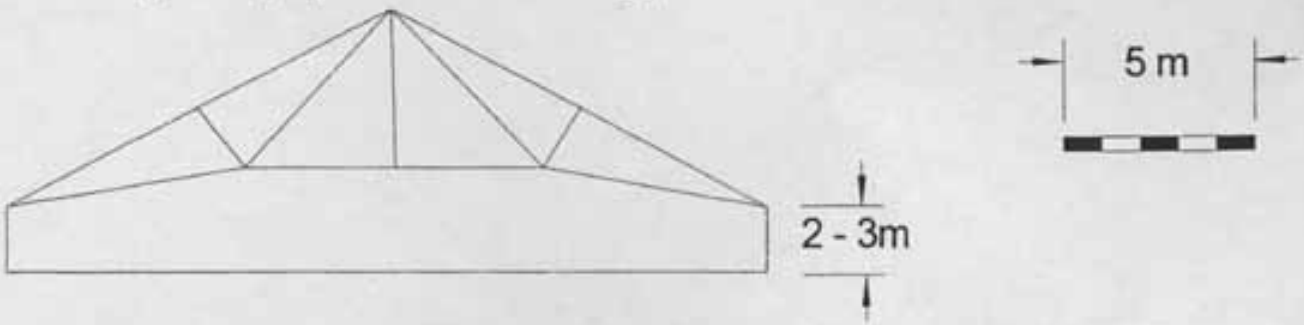
Single span Venlo type - 3.2m from post to post.



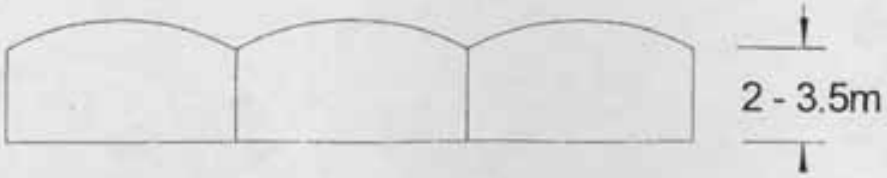
Double Venlo based on a 4m span, 8m from post to post.



22ft (6.7m) span structure typical of the 1970's.



"Danish" type house 60ft to 90ft (19 - 27m) span



NB Gutter heights are indicative of normal practice only.