Appraisal

Changes

The perception at the time that the study started in the early 1970s was that the major arable areas of East Anglia were the areas where maximum change had taken place; that in those areas it had gone too far and was greatly damaging in both broad amenity and in wildlife terms; and that the changes seen there might well spread to other areas of the countryside.

It is indeed apparent to any reasonably-informed observer that the degree of change seen in the landscape varies widely across the country. Across the study series we have found the greatest changes in Huntingdonshire and Cambridgeshire, where there have been major losses of hedges and trees in the former, dykes and trees in the latter. Average field sizes have increased greatly and both areas are now typified by landscapes seen as wide open spaces. Using the data presented in Appendix 1 of NAL72, in both areas much change had already taken place by the time the study commenced: taking a 1945 starting date, nearly 40 per cent of the hedges/dykes had been removed by 1972, and only another 15 per cent or so have been removed during the course of this study up to 1994 – a total loss of about 55 per cent of post-war stock of hedges/dykes.

On the same basis, four of our study areas have only lost about 20 per cent of their 1945 stock of hedges to 1994 – Dorset (19 per cent), Somerset (22 per cent), Yorkshire (20 per cent) and Warwickshire (19 per cent). In 1972 these had only lost between 7 and 14 per cent of their 1945 stock of hedges. In two of these areas there are particular features which should be noted in relation to these changes: in Somerset the totals were particularly affected by one farmer who had a significantly greater propensity to remove hedges than was typical for the other farmers in the area; in Warwickshire the onset of Dutch elm disease in an area with an especially high proportion of elms was

clearly a major factor. So these four areas represent some sort of middle ground between the extremes.

The Herefordshire study area stands out as the extreme from the East Anglian counties. Here only 8.5 per cent of 1945 hedges had been cleared by 1972, and this had increased to only 9.5 per cent by 1994.

Although we do not currently have the survey data to support or quantify this, our clear impression is that, with the exception of Cambridgeshire (where the dykes equate to hedges elsewhere), there have been few hedge removals and rather more new hedge planting in the last 11 years, and we would therefore expect accurate surveys to show slight gains in lengths since 1994. In the case of Cambridgeshire, it is apparent that farm amalgamations are continuing and with every amalgamation comes a loss of dykes as fields are enlarged to match the larger equipment of the enlarged unit.

Hedgerows and dykes

Hedge and dyke removal

Having identified the extremes and middle ground of hedge removal, it is worthwhile to speculate on the reasons for the differences. The technical reasons for removing hedges were set out in detail in NAL72 and we do not repeat them here. They are as valid today as they were then, and we are not aware of any attempts having been made, either at the time or subsequently, to refute them.

However, the individual, social and political reasons for hedge removal or retention are not so easily analysed or stated. Whilst we do not have the detailed information to enable us to draw firm conclusions, the studies in 1972 and 1994 did include some simple attempt to establish farmers' attitudes to landscape conservation. In addition the timing of major losses suggests some possible reasons for their wide variation.

In order to survive as a business in the long term, a farmer has to make sufficient profit to live at an acceptable level of subsistence or luxury and to re-invest in the essentials of production. Of course, if a farmer consistently makes a loss, then the business will fail once all capital reserves have been exhausted. If the level of profit is too low to support the desired lifestyle, there is a choice between re-investment and living beyond one's means. Lifestyle ambitions will vary widely between individuals. Some will be 'content' to live on a very low income just for the enjoyment of being their own boss, others will want to keep up with the farming Joneses.

Over the years of this study we have noted that increases in the sizes of farms by land purchase or renting often result in reorganisation accompanied by destructive changes. The statistics for average holding

size can mask an increase in the number of both large and small part-time farmers, the latter then using off-farm opportunities to survive. Without this strategy the reduction in the number of small farmers would have been greater. In our Warwickshire study area the survival of small farms has contradicted our predictions that amalgamations would trigger large-scale change in the farmed landscape which seems, instead, to be evolving into a part-time/hobby-farming landscape.

The smallish post-war mixed farm in Huntingdonshire quite soon reached the point that grain production was more reliably profitable than livestock. At its simplest, the soil and climate favour grain production but not grass production, and heavy soils dictate a long winter, feeding cattle and sheep with conserved grass and expensive concentrate feeds. Technological advances allowed cereals to be grown continuously, so grass ceased to have an essential role in the crop rotation. The all-arable farm became a reality for many. In 1950 more than 50 per cent of our study area parishes were grassland, compared to only 8 per cent by 1970 (NAL83 p.19).

If one were a cereal-grower in East Anglia, it is apparent that there is only limited profit to be made from an acre of cereals, grain being an international bulk commodity. To survive, one has to have enough acres. The more acres one has, the bigger the machinery that is justified to farm those acres, with economies of scale operating strongly with increasing farm size. The larger the machinery, the larger the fields need to be to reap all the potential benefits. Everything works in concert towards increasing field size. Further, post-war politics favoured security of food production and encouraged greater efficiency: any technical advance made by farmers and the associated industries was seen as beneficial, bringing more and cheaper food.

Thus it is that the farmers of our Huntingdonshire study area had already made major changes in the landscape, as outlined above, at the start of this study in 1972. The economic imperative deriving from economies of scale had operated as one would expect, helped by the political and economic climates of the post-war period. In addition there is the social aspect to consider. Many farmers would not have wished to be despised by their peers, and keeping up with the Joneses must have had some effect in dragging along those who were less strongly motivated by sheer economics.

An additional factor was undoubtedly the secondary effect of technical change in farming systems. Research proved that straw and stubble burning was technically desirable in terms of both weed control and successful autumn cultivations. It is easy to forget the harvest-time sight of hundreds of acres of the landscape on fire as the stubbles burned – together with hedges. It took some years before Codes of Practice were involved to protect hedges, and even then they were not foolproof. Partially burned hedges were an eyesore, and removing them removed the stain on both the landscape and the farmers' management.

The total ban on straw and stubble burning did not come into effect until 1993, by which time there was less economic pressure for further hedge removal and more moral pressure from society as a whole to retain hedges.

In the Cambridgeshire fens the pressures have been rather different. Once again there were virtually no grazing livestock – only 5.5 per cent of grassland in 1970 (NAL83 p. 13). In terms of motivation, the fens were largely seen as a food-producing factory, and anything that interfered with the simple job of producing crops was liable to have no value attached to it. Only if one were a very keen shooter might one plant copses for the birds. As always, there were odd exceptions that proved the rule.

In 1972 it was still possible for the small fen farmer of 12–20 hectares to make a living, albeit a fairly meagre one. Vegetable crops such as carrots, celery and onions could be sold through small merchants, or even direct to the small independent greengrocers who still existed in every town and village. Hand labour – long hours spent hand-hoeing – could be used instead of machines or expensive and somewhat unreliable herbicides. Potatoes were still harvested by hand and stored in straw-and-soil-covered field clamps, and sugar beet was taken by tractor and trailer to the nearby sugar factory. Operations requiring more than one person – steerage hoeing of crops, or riddling potatoes – were accomplished by co-operation amongst similarly-placed neighbours.

The deep peat soils were excellent for crop growth and machine access was possible at most times of the year provided that the land could be kept drained. This was traditionally achieved by digging dykes at regular intervals across the land, which adequately drained the land between them. As the peat oxidised and the land surface sank closer to the underlying subsoil clay, drainage became less satisfactory because the erratic undulations in the surface of the clay held up lateral flow to the dykes. Also, piped underdrains could be laid into the underlying clay, instead of the peat, and so were less likely to settle unevenly and require replacing every few years: and subsidies were available for the installation of underdrains. Underdrains laid about a chain apart meant that the dykes could now be wider apart, so there was no need for so many of them and they could be filled with the waste soil from riddling potatoes, sugar beet and onions. Every filled dyke gave a small increase in the area of land that could grow a crop instead of weeds, reduced maintenance work and costs and could immediately be perceived as producing more profit – as motivational on a small farm as on a large one.

As well as the many small farmers there were several larger farmers who had already acquired sizeable holdings, and they were best-placed to buy small farms as they came onto the market. But the larger growers were already starting to supply the major supermarkets, which required

standard crops produced to their specifications. As small merchants were cut out of the local economy, and small greengrocers closed down, so the small growers could no longer sell at prices which provided a living – they needed more land or to get out of farming. Thus amalgamations of holdings occurred at all scales of activity, and amalgamations of fields inevitably followed. The great machines increasingly used by the large farmers demanded big fields in any event, to benefit from their inherent potential economies of scale. The consequence was the loss of dykes and, in due course, the fen droves that had been needed to gain access to all the different farm units: incorporating a drove into a croppable field gave an even greater gain in croppable land. Eliminating both dykes and droves reduced the potential for pests and weeds to interfere with crop production.

In 1972 this process of field amalgamations and drove loss had already been underway on a scale similar to the loss of hedges in Huntingdonshire, and continues to this day. The new regulations which impose severe restrictions on the use of agrochemicals next to dykes (varying from 2m to 6m according to circumstances) may increase the advantages of having fewer dykes, by way of reduced loss of croppable area and less risk of pests and infestations of weeds spreading from the unsprayed land adjacent to the dykes. Depending on the profitability of the adjacent cropping, the new field margin regulations could also significantly increase the benefits to be derived from eliminating dykes, a consequence that may not have been foreseen and certainly contrary to the underlying broad intentions. In addition, as so much of the peat fen nears the mineral soil base, there is increased need to remodel drainage systems to ensure that the wettest parts of the field are adequately drained, and every remodelling gives an opportunity for removal. It seems likely that this is one area of the country where field boundary losses are likely to continue, despite the political impetus now directed towards retaining existing landscape features.

The above explains some of the principal reasons why the changes in the Huntingdonshire and Cambridgeshire study areas are in a league of their own by virtue of the scale of loss of field boundaries both before and after the start of this study in 1972. However, this then raises the question, why did the other five study areas not follow suit?

In the cases of Dorset, Somerset, Herefordshire and Warwickshire, a key reason is the continuing inclusion of grazing livestock in the farming systems of a majority of the farmers in each study area. In 1970 the proportions of grassland in each of those study areas were: Dorset 45 per cent; Somerset 89 per cent; Herefordshire 58.5 per cent; Warwickshire 65 per cent (NAL83 pp27, 35, 41, 53). In each of them the inclusion of grass in the rotation undoubtedly reduced the economic pressure for hedge removal. If grass is rotated around the farm, hedges or fences are needed to confine the grazing animals, so removing a hedge means one has to replace it with a fence, which one

then has to maintain. The farmers in all of these low-removal areas had stated that shelter for livestock was a positive reason for retention, as was their stockproofness (NAL72 p.41). On an all-arable farm these factors do not apply, so hedge removal makes business sense.

Additionally, until relatively recently on a mixed farm with 50 per cent of its cropping land in grass, the optimum size of machinery for cropping the arable land would inevitably be smaller than if the same size of farm were all-arable. Thus the economic pressure for large machines to maximise cropping efficiency does not operate to the same degree. This particular factor is not so clear-cut as it used to be, with the standardisation that has taken place with working widths of machines such as crop sprayers and fertiliser spreaders, though it still applies to a degree to combine harvesters and cultivation machinery.

However, a non-technical aspect also seems likely to be important in explaining the reason for the lack of hedge removal in these study areas, namely the personal motivation and aesthetic appreciation of the individual farmers. In 1972 we asked our very small sample of farmers whether they thought that farming had been responsible for the beauty of the countryside and whether society should accept whatever landscape modern agriculture produced (NAL72 p.68). The replies from farmers in each of these four areas showed a clear feeling that farmers should not expect the public at large to simply accept the landscape that farming produced, and farmers should take account of the wishes of the public in relation to the landscape's appearance.

In 1972 we also asked the farmers why they had retained their hedges. In Dorset it was suggested that they were 'part of the tradition of farming'; farmers in Somerset, Herefordshire and Warwickshire all thought that hedges were important to the appearance of the countryside.

In 1994 rather more sophisticated questions were asked, with equivocal results (NAL94 p.94). The results suggested that whereas farmers in Cambridgeshire and Huntingdonshire considered that functional farming had damaged the landscape, those in Dorset, Yorkshire and Warwickshire tended to consider that good farming makes a good landscape: those in Herefordshire were middle-of-the-road; and those in Somerset were very varied. We suggested that this reflected perceptions of change in their own areas, with those in Yorkshire, Warwickshire, Hereford and Dorset able to conclude that the relatively few changes in their own areas had been acceptable and had produced landscapes that were still attractive. The Somerset farmers expressed most regret for the changes that had occurred. A single farmer in this area had carried out major hedge clearance and it would have been interesting to know whether this regret was greatly influenced by his actions.

What is certain is that the farmers of the study areas in Dorset, Somerset, Herefordshire and Warwickshire had less economic incentive

for change due to the presence of grazing livestock, and less social pressure for change in order to keep up with their peers.

This leaves the Yorkshire study area as an odd man out among the group of four areas which had lost only about 20 per cent of their 1945 hedges by 1972. Grassland comprised less than 30 per cent of its cropping area in 1970 and had reduced to only 21 per cent in 1980, so there can be no suggestion that it was the presence of grazing livestock in the rotation that reduced the removal of hedges. Its predominantly arable cropping would seem to indicate that it should follow the trend set by Huntingdonshire, with very real advantages to be gained from significant increase in field sizes. In addition there are no formidable obstacles to hedge removal, as for example in Warwickshire with its large elms in most hedges.

The reasons given by farmers for retaining hedges on these Yorkshire farms were their value as shelter for soil erosion control and as stockproof boundaries (NAL72 p.41). Neither reason really stands up to analysis. The height of the hedges in relation to field size was simply too small to produce any significant benefit, other than to trap the soil which had already blown off the adjacent fields: and the quality of the hedges was generally so poor that very few of them were stockproof in fact.

There are three other possibilities for the much lower rates of removal in this area: conservatism, tenure and sport. As to conservatism, the nature of cropping in 1970 was far removed from that on the typical Huntingdonshire farm, with a preponderance of spring barley instead of winter wheat, and virtually no oilseed rape, beans, linseed or break crops other than potatoes and sugar beet. Clearly, a very traditional approach to farming was being practised. It is reasonable to suppose that the same attitude extended to the structure of the landscape.

Regarding tenure, this area had a far higher proportion of tenanted land than in Huntingdonshire (68 per cent compared with 52 per cent in 1970) and the wishes of the traditional estate owners themselves could be expected to have been some constraint to hedge removal.

As to sport, it is undoubtedly significant that this area was singled out among the four areas being discussed here both for the number and quality of its birds, for the existence of intensive management of the shooting on some estates, and for the retention of otherwise-redundant cover in order to keep the shooting interest high (NAL72 p.65).

It would appear that the reason why Yorkshire retained such a high proportion of hedges compared with Huntingdonshire, despite both areas being predominantly arable, was the combination of all these factors, which would themselves have been self-reinforcing.

Herefordshire stood out as the area showing an unusually high level of hedge retention by comparison with all others, despite the fact that

about 50 per cent of the land was arable by 1980 about 60 per cent arable by 1990 (NAL94 p.46).

Once again this conservatism of landscape management seems to be based on several factors, though shooting, although valued, was not a major one (NAL72 p.65). We recorded the finding of our survey of attitude to responsibility for landscape conservation as follows: '*There was near-unanimous agreement that landscapes should not merely be accepted as a by-product of agriculture…The impression was that many farmers could not conceive that cover could ever be seriously deficient in this area*' (NAL72 p.68). As to reasons for retention of hedges, farmers cited stockproof boundaries as the most important (and at that time hedge laying was still common), and shelter for livestock and hops was also important. However, game, visual appearance and wildlife were also noted, the only area where the last two were both cited.

Thus it would seem that the whole tradition of Herefordshire farming has influenced the approach of farmers to the landscape and its maintenance. In this connection it is of particular interest that although we had recorded one farmer close to the study area as having removed all his internal hedges, in subsequent years new hedges have been planted to subdivide the large field (Fig. 91). Without knowledge of the circumstances one can only speculate that perhaps peer pressure came

Figure 91: This sequence in Herefordshire shows a change of crop across a very large field in 1983. In 1994 a hedge with sapling hedgerow trees has been planted on that line and in 2005 the hedge and trees are quite substantial.

to be exerted, or perhaps living in such a beautiful landscape produced this redeeming action.

New hedges

In only two study areas, Huntingdonshire and Yorkshire, has there been a significant amount of hedge planting since 1994. The planting has probably been grant aided, but farmers would nevertheless have had to initiate the action. That might seem surprising in Huntingdonshire where farmers have removed almost all hedges and where all-arable farming is practiced. The new hedges in Huntingdonshire that we were able to identify were all roadside hedges, but that was not the case in Yorkshire. In both study areas, it is probable that farmers were favourable to hedge planting because of shooting interests. In Huntingdonshire the farmers may have felt the need to replace some of the hedges lost and were prepared to do so along roads where they interfere minimally with farm operations.

Trees

Tree removal

By and large, tree removal has been a consequence of hedge removal. Either the trees were removed at the same time as the hedge, or they were left to stand isolated within the cropped fields to act as a reminder of the hedge removal. They then tend to slowly decline in health and amenity value until they are finally removed. It needs no detailed knowledge to comprehend that an individual tree standing within a crop must produce a significant cost penalty. We set out in NAL72 (p47 & 49) the reasons for removal, and they remain valid today. As to retention, it is noteworthy that there was very little support for hedgerow trees, even in the four study areas where they remained reasonably frequent – Somerset, Herefordshire, Yorkshire and Warwickshire, all with about 30 trees per 40 hectares (NAL72 p.112).

One of the fascinating details to have come out of this study is the longevity of trees. Of course, it is widely known that some trees reach extraordinarily old ages, but when the study started there was a perception that if a tree became stag-headed it would herald the start of a consistent downward spiral of ill-health, leading to probable loss within a matter of a few years. Ash dieback was of major concern in this respect, as ash was the dominant replacement naturally regenerating in hedgerows but appeared to have a very restricted life expectancy. The reasons for the poor condition of many hedgerow ash were uncertain, but thought to be linked to lowered water-tables as a result of land drainage and ditch maintenance, or root loss caused by deeper and more intensive cultivations of arable soils.

In the event it is remarkable how well trees recover their condition after a spell of poor growth. The exact locations of many of the photographs repeated in this study have been established by reference to the individual hedgerow trees with their characteristic shapes. Many that looked in 1972 as if they were going to die within the next 20-30 years are now looking as if they will live for another century or two (Fig. 72).

New trees

It is clear that many trees have been planted in the landscape in recent years. In view of the considerable list of reasons for removal it is fair to wonder why this has occurred. In 1972 the most common reason given for planting trees was their amenity value, especially near the farmyard and house: shade for livestock was given as a subsidiary reason in grassland areas and erosion control was cited in the fens.

The area showing the greatest change as a result of tree planting is the fen study area in Cambridgeshire, where long lines of poplars, and a few other plantings, have transformed the appearance of the horizon (Fig. 92, see also Fig. 7). Here the initial plantings seen in and close to our study area had been almost all poplars, some of which are now of mature size and could be harvested. It was not possible to carry out any detailed investigation of the likely future of these trees, but brief conversations suggest that they will not necessarily be permanent features of the landscape.

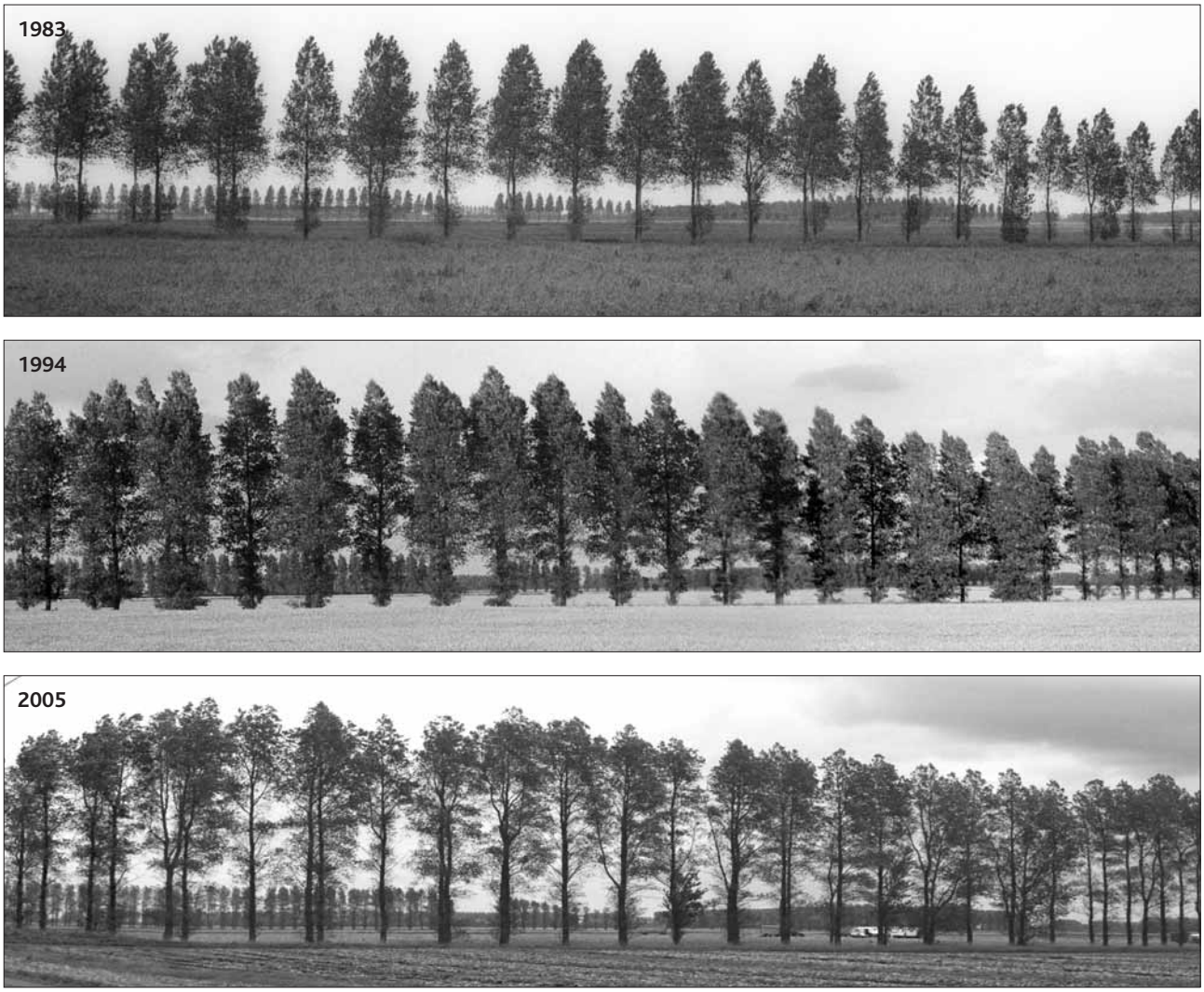
Land on which some poplars were planted in the early years of the study has changed hands since then. The new farmer gave a clear impression that they would not be replanted once felled. Poplars are an alternate host to the lettuce root aphid, a good reason not to grow them in an area of intensive vegetable production despite the availability of chemical controls. Further, the copious amounts of down that they produce when they seed can land on vegetables at harvest, causing difficulties in meeting quality standards demanded by the buyers. It is not clear that wind erosion is reduced by widely spaced lines (as opposed to regular closely spaced lines) of poplars, which can, in some circumstances actually lead to increased wind speeds.

Some are of such size and in such positions as to create a safety hazard. Felling them requires a felling licence, bureaucracy which is seen as a nuisance. Birds – especially pigeons – perch in them and then drop down into the crops to eat them and can quickly ruin large areas of a crop. Moreover, when planted they had a potential sale value for safety match production, but that no longer applies, and in-house skills for selling timber do not exist on the typical intensive arable farm. Another farmer stated that he had been criticised by environmentalists for planting the alien poplar, and if replanting would probably choose alder and willow.

Farmers in Herefordshire have planted copses of poplar for sale as timber for furniture-making. They clearly have the knowledge to make use of this market, and there is an established culture of timber growing in this area in any event. In other areas tree planting has occurred in a fairly haphazard way, partly as a result of council-inspired initiatives but often, it would seem, as a way of seeking to counter criticism of hedge and tree removal. Many of these planting efforts have been badly planned or executed, both by way of choice of species and their post-planting management.

The major area of concern is the lack of replacement hedgerow trees, one of the traditional components of the English landscape. These are still seen in some places, but tend to be only in roadside hedges rather than internal hedges. Clearly it is better to have some trees rather than none in the landscape: clearly, too, it is better for farming if trees are concentrated where they do least or no damage. However, even if tree planting is based on purely utilitarian considerations, as long as the locational criteria are consistently applied the visual effect is likely to be quite satisfactory.

Figure 92: Rows of poplars along dykes quickly became prominent features in the flat fenland. Receding rows of poplars also give some spatial definition to this landscape.



In some areas there have been planting schemes encouraged by the council, especially on roadside verges. The schemes seen in Huntingdonshire at the start of the study were poorly specified in terms of species, and poorly maintained after planting, with a high mortality rate. Some planting carried out by individual farmers has been similarly defective. The most recent plantings look as though these lessons have been learned, with better choice of species and improved management post-planting, though even now the choice of some species is surprising, such as the mountain ash planted on the Warwickshire road verge.

It is also surprising that so many farmers should choose horse chestnut for planting among arable crops. Though acceptable in grazed parkland, and easy to establish, they cast such dense shade and have such a large and low canopy that their disadvantages are maximised amongst arable crops.

Buildings

Farm buildings

Relatively few of the farm buildings which we have seen constructed during the period of the study stand out as materially detracting from the quality of the landscape, but there are some in that category. Siting, design and materials of construction all play their parts in determining how a farm building sits in the landscape and impacts on its surroundings. When the study series commenced there were relatively few controls on the building of new agricultural buildings, which could generally fall into the class of 'permitted development'. Now there are many more controls available to the planning authorities, which should ensure that adverse impacts are minimised. However, planning authorities exert their controls in highly variable ways, often being reluctant to take appropriate advice before the building is constructed and reluctant to put matters right afterwards.

Farm buildings need to be recognised as almost permanent features in the landscape. Once constructed, it takes a major incident to remove them. The isolated hay barn in Dorset is a good example of the degree of change necessary to ensure removal – it was burnt down and, being isolated, was not re-built. Now the only way its former presence can be identified is by looking at the appropriate OS map.

But other buildings that look destined for imminent removal can last for years. Perhaps the most bizarre example is the WW2 pillbox photographed in the fens of Cambridgeshire in 1972 (Fig. 93). Not only is it still there, despite the productive value of the land on which it sits and the weeds which proliferate in its surroundings – both of

which should have encouraged clearance – but also the old straw elevator which was beside it then can still be seen (Fig. 94)!

The Dutch barn that we described as derelict in 1983 (NAL83 p.57) is still in use today, and the limited landscape planting around it at that time has been lost (Fig. 89).

Adaptive re-use of farm buildings

With diversification now an arm of planning policy with the intention of assisting farmers to maintain incomes, some farm buildings seem likely to have a very extended life in non-agricultural uses (Fig. 8). The re-use of agricultural buildings and farmhouses as rural dwellings (rather than as working farms) has happened in the Herefordshire, Yorkshire, Somerset and Warwickshire study areas and is likely to occur generally across the country. An example has been seen over the years in Herefordshire, where a small farm is now advertising itself as the headquarters of a dental nursing agency. It may be that in this instance it is only the house that has this part-office use, while the buildings continue to have an agricultural (or horse-related) use.

The combination of planning control and design guidelines have resulted in adaptive reuse of agricultural buildings that is less destructive of the architectural and historical significance of the buildings than in the past. Unfortunately the same cannot be said for the settings of some of these buildings which in certain cases have inappropriate planting, fencing, gates and other features.

Equine buildings

We have noted the popularity of horses as a diversified land use in many areas. They are a good choice of enterprise where there is an adequate demand, but they do tend to be associated with a clutter of buildings (Fig. 95), jumps (sometimes made of items such as old tyres and containers), dung heaps, and post-and-rail or tape fences. Some appear to be more of a low-capital escapist occupation than a business. If they are capable of being moved easily, they do not require planning

Figure 93: We anticipated in 1972 that fenland soils are so productive that this WW2 pillbox would soon disappear.

Figure 94: Wrong! 33 years later not only the pillbox survives but also the remains of the old straw elevator beside it.

permission. Experience suggests that they are frequently used as the first step towards gaining a nice house in a rural location (see below). If fences are not carefully erected and maintained, the horses can be very destructive of trees, killing them by constant removal of the bark.

New agricultural dwellings

There are still many individuals for whom the establishment of a desirable residence in the countryside is a longstanding ambition, and it is often the initial erection of a simple agricultural – or horse-keeping – building which allows this ambition to succeed. The building full of sheep, beef cattle, hens or pigs brings with it an 'essential need' to have a house on site to care for them, which is permitted with the 'safeguard' that only an agricultural worker can live there. Then in a very few years it will be found that the enterprise is not economic, so the condition cannot be complied with and is removed, and the house becomes the 'des res' that was originally conceived.

The siting, design and materials used to construct agricultural dwellings is a problem area. It is desirable to build a house using local architectural traditions. But unfortunately traditional building techniques are often expensive and the planning guidelines require that a new agricultural dwelling should be constructed at a cost affordable by the farm business. Given the lack of profitability of most farming operations, this all-too-often means standard bungalow construction, with no architectural relevance to the locality. Travellers who came

Figure 95: Horse-based enterprises often produce a variety of buildings and assorted equipment.

across agricultural dwellings in Somerset, Cambridgeshire (Fig. 96), Huntingdonshire (Fig. 97), Herefordshire (Fig. 98) or Dorset (Fig. 99) would see that they are not locally distinctive. There is no doubt that similar dwellings could be identified in every county of the land.

On the other hand, consider the position when a new house of some architectural merit is constructed. We saw these in Somerset (Fig. 100), Warwickshire (Fig. 85), Herefordshire (Fig. 55) and Cambridgeshire (Fig. 101). While these do not necessarily adequately reflect the local vernacular, they unarguably sit better in the landscape than the standard bungalows seen earlier. It is highly unlikely that any of them could realistically have passed the national guideline as to affordability. Thus they have probably been built at such costs that the dwellings are out of proportion (both in terms of cost and inherent market value) to the earning capacity of the farmland on which they stand.

Some farm holdings diversify, including offering bed and breakfast to help keep the farm financially afloat. Whilst this can work well when successful, if it does not work financially it is likely that the owners will seek to have the agricultural occupancy condition removed. If such an application succeeds, it results in a dwelling that is not tied to

Figures 96-99. Standard bungalow construction used for farm dwellings in various parts of the country, lacking regional distinctive characteristics.

Figure 96: Cambridgeshire

Figure 97: Huntingdonshire

Figure 98: Herefordshire

Figure 99: Dorset

agricultural use and is also beyond the means of local agricultural workers and other locals on a low wage.

A different – but related – aspect of rural housing is demonstrated in the fens of Cambridgeshire. Here the vernacular is ill-defined, and historically most of the houses found down on the fens were probably of low inherent quality, the more affluent landowners seeking to live in the villages on the highlands. In this study area we have seen dwellings constructed, seemingly without any agricultural justification in terms of national planning guidelines, and in styles which have demonstrated no lack of finance but nevertheless have not been of a character that goes with the landscape. These clearly avoid the sameness that diminishes local landscape character, but whether they are as successful in establishing a sense of place in this landscape is a matter of opinion.

New village dwellings

There has been infill and/or limited extension in many of the villages within and near our study areas. Although we did not set out to record this aspect, our impression is that, in most recent cases, design and siting have been reasonable, and generally much better than in the earlier years of the study. Some designs have incorporated vernacular features very successfully, which makes a welcome contribution to the overall experience of the wider rural landscape. We particularly identified a new infill dwelling in Yorkshire as successful (Fig. 77), and this was only one of several of a similar character in that area.

Figure 100: New farm dwellings in Somerset

Figure 101: New farm dwellings in Cambridgeshire

33 years reviewed

This study was inaugurated in 1972 as a result of widespread concern that farmers were having a very harmful impact on the landscape of lowland farming areas in England and Wales, by virtue of the changes they were making in terms of hedge and tree removal, land drainage, new buildings and the like. Its repetition in 1983, 1994 and 2005 provides a possibly unique photographic record of change in seven different lowland farming areas across England, having differing landscape types, different soils and farming systems. With the passage of time this archive may prove to be the most valuable outcome of this study.

The choice of study area was not random, and relatively few farmers in each area were involved, so the study does not claim to be statistically accurate. Nevertheless, it is thought to be broadly representative of the agricultural industry's impact on the landscape.

Perhaps the main – and unsurprising – conclusion to be drawn from the 33 years of the study is that farmers in different parts of the country and practising different farming systems have had widely differing impacts on the landscape. At the extreme of damaging impact have been the farmers of East Anglia, represented in this study by the fens of Cambridgeshire and the boulder clay of (the old county of) Huntingdonshire. At the other extreme, in the Herefordshire study area surprisingly little had been changed, either by 1972 or subsequently. The other four study areas, in Dorset, Somerset, Warwickshire and Yorkshire, lie between these extremes.

The motivation for the removal of landscape features by farmers was perfectly logical and the economic incentive would have been sufficient on its own in a wholly un-aided industry. Government policy encouraged it in order to boost the production of food and to increase the efficiency of labour use in the agricultural industry. In particular, grants were paid for the removal of hedges and trees, the installation of artificial drainage and the construction of modern buildings. At the outset of this study, and for some following years, the consequential impact on the landscape was not a significant consideration in policy.

The puzzle, therefore, is not that it happened at all, but that it did not happen to more or less the same degree everywhere. One major reason is that on mixed farms, with grazed grass being rotated round the farm, there is less incentive for creating the largest possible fields.

However, even taking this into account, apparent anomalies remain. In truth the explanation must lie in a complex mix of factors – farm size, income, exact nature of the cropping system, availability of labour, soil types, climate: these must all play their parts, as must individual motivation.

Some limited attitude-surveys carried out in the course of the study have identified the great variability of farmers – both within and between areas – in terms of motivation for making change. It is clear that personal preference must be one of the factors and it seems reasonable to suppose that if one lives among abundant hedges and trees or, conversely, in wide open spaces, this could well affect one's subsequent likes and dislikes.

The re-run of this study in 2005 has been primarily aimed at maintaining the photographic archive rather than quantifying further change, so no numerical data have yet been produced to document the changes in the study areas since 1994. However, the impression gained is that, while change still occurs, it is generally likely to be towards an increased stock of hedges and trees rather than a continuing decline. Significant plantings of hedges and trees can be seen in many areas, and losses are generally few though still occurring at a low level in most areas.

The reasons for planting anew are reasonably straightforward. First, field sizes have by now been achieved which farmers generally find reasonably satisfactory, so the pressure for removal has gone. Secondly, instead of grants for removing hedges and trees and encouraging maximum production, the reverse is now true. Regulations now require permission to be sought for hedge removal and for most new buildings. Payments are made for new plantings, for managing land in an environmentally friendly way, and subsidies are decoupled from production. 'The Government paid us for taking them out and now they're paying us to put them back' is a comment heard on several occasions. Thirdly, it also seems reasonable to suppose that in the current socio-political climate it is no longer possible for farmers to ignore public opinion in the way that they did in the past. Then they had government policy support, now they do not.

It is likely that losses of hedges and trees will continue, but to a very much smaller degree than in the past. Hedges will continue to be lost where they die out through old age and inadequate management, and occasionally as a result of farm amalgamations or where permission is obtained for removals to increase field size. Tree losses will be the result of old age and death among the mature trees now present in hedgerows, and their non-replacement.

In the Cambridgeshire fens, though, it is possible that there will continue to be significant losses of dykes and droves. They are not protected in the way that hedges are, dykes are easily filled and droves ploughed up. The need to maintain an especially benign chemical regime on the adjacent cropped land, under environmental regulations designed to protect water quality, also provides a powerful incentive for removal, unless the grants received for field margin management outweigh all the costs involved.

Landscape quality is not all about hedges and trees – crops cover most of the rural land we view. The cleanliness of crops and their uniformity are two aspects of farming that have steadily 'improved' over the 33 years of this study. They are testaments to the skill of the farmer, but many would argue that they have gone too far. The tramlines which are now a ubiquitous feature of cereals and other crops harvested by combine (other than the few organic producers) add to the aesthetic of precision which has emerged. Whilst they are clear evidence of good farming, none these features are appreciated positively by the naturalist, and photographers and artists (at least) love to see fields full of poppies

The uniformity of crops, however, has been accompanied by uniformity in other components of landscape, resulting in a loss of local distinctiveness. For example, dairy herds other than Friesians / Holsteins are now quite unusual, and many farm buildings look the same. Despite the trend to uniformity, some elements of this may not necessarily be viewed by all as bad; some may find reassuring the consistency and familiarity resulting from all Harvestore silos being blue or all John Deere tractors being green. In this report, we deplore the failure of new farm dwellings to reflect the local vernacular but these houses are constructed from traditional components and there is no good reason why (other than a desire or need for the cheapest) their design should not reflect local building traditions. This ability to adopt local flavour cannot, however, apply to farm buildings, because their wide clear spans require standardised industrial steel or reinforced concrete trusses and corrugated roofs. This is not to say we should ignore all aspects of their design, and good siting in the landscape is paramount because they tend to be surprisingly permanent, so a badly-sited or poorly specified building can be a blot on the landscape for decades. Controls over the construction of new agricultural buildings have been introduced during the life of this study, which have undoubtedly helped to avoid some long-term mistakes.

It is now rare to see a farm gate other than of tubular steel (except for the gates to non-agricultural rural dwellings, which are almost always wood, to create the correct image). Gates were, of course, once almost always locally constructed of local materials, and local variations in gate design have almost disappeared. Highly individual examples, such as this metal gate (Fig. 102) in Somerset, are almost extinct. The practical farmer would not willingly abandon light metal gates in favour of heavy sagging wooden ones, even if he were a traditionalist.

Figure 102: Local variations in gate design have almost disappeared. This iron gate was clearly made locally, in this case in Somerset.

We did, however, observe standardisation of all sorts of landscape features that seemed excessive when traditional features are functional. In some urban areas public sentiment has dictated the return of the red telephone kiosk. In our Yorkshire study

area we were delighted to record the restoration of the architecturally significant cast iron bridge over the River Swale at Myton rather than its replacement by a pre-cast concrete span (probably a cheaper alternative) (Fig. 68). But does the protection of public safety really require the replacement of ordinary but traditional iron bridge railings by modern standardised steel components at every small stream crossing? (Fig. 103)

The influence of the individuality of the farmer is one of the fascinating features of this study, but in one respect farmers are basically similar: unless they have private means, they all have to make a profit to survive in business. If profits are insufficient to do more than subsist, expenditure on esoteric concepts such as landscape and wildlife will have very low priority.

All those who have a concern for the quality of the environment must, in principle, welcome the current move away from production subsidies and towards environmental payments. At this superficial level it seems likely that the new regime can only lead to enrichment of the landscape after years of loss of valued features.

Figure 103: Traditional iron railings (top) have been replaced by standardized steel components at every stream crossing in the Huntingdonshire study area, identical at two different locations in 2005.

In NAL94 (pp 107-8) it was suggested that, instead of making environmental issues subservient to the agricultural use of the countryside, by subsidising farm production in general but only grant-aiding specific landscape works, a new approach should be considered which put environmental criteria at the heart of countryside policies and allowed farmers to farm as they wished within these limits. If the environmental criteria were not met, the substantial taxation advantages which currently help farmers at retirement and death would be lost.

The Single Payment and Environmental Stewardship Schemes (ES), taken together, do help to raise the profile of environmental issues and go some way towards meeting the suggestion made in NAL94. Subsidies are now not based on production, removing the incentive for the intensification and specialisation which has been at the heart of so much of the change recorded in this series of studies. In addition, the Single Payment is only payable if certain environmental conditions are complied with, though it has to be said that these are generally at a fairly basic level, which all environmentally responsible producers should be adopting in any event (though many, regrettably, do not). ES requires higher environmental standards to

be met. The measures do not, however, address the taxation advantages associated with running a farming business.

Another issue to be addressed is the level of administration involved in the new system, with the need for close checking of all claims to ensure that all the cross-compliance conditions have been met. For some farmers this will inevitably create an 'us and them' mentality, where the receipt of a large sum of money, in many cases vital for the continuation of the farming business, is conditional upon an 'inspector' ticking off all the boxes in the list of requirements. Clearly, it is entirely appropriate that a farmer in receipt of a large sum of taxpayers' funds should be able to demonstrate that the monies are deserved, but any ways of simplifying the approach would undoubtedly be welcomed by farmers. Equally, whilst there will certainly be environmental gains from the schemes, it would obviously be better if more of the total funds could be focused on achieving landscape benefits.

Perhaps more fundamentally, the introduction of schemes run in this way seems likely to result in some farmers seeking to exploit every grant available in order to maximise profits, but without them necessarily gaining a greater understanding of what they're doing from a landscape and ecological perspective. Every adjustment to such schemes will have consequences on the ground as profits are chased, and not all of them are foreseeable. ES will be greatly beneficial for the farmers who are inherently 'conservationist', in that their deeds will now be rewarded instead of taken for granted: but these farmers are not generally responsible for adverse landscape changes in any event: those who are more motivated by profit and agricultural efficiency are likely to have the greatest adverse effect, and it is not obvious that chasing grants in order to maximize profits will bring about any fundamental change in motivation in these cases. It brings to mind a farmer's comment to the effect that if the Government made it worthwhile to plant trees he would plant them everywhere, but until it was profitable he would go on growing crops instead. This attitude does not give due weight to the needs of the environment vis-à-vis agricultural production. What is needed is a return to the sort of land management ethic that was embedded in the old saying: 'you should live as if you'll die tomorrow but farm as if you'll live for ever'.

It remains to be seen, therefore, whether the new payment systems are structured in such a way, and are at such levels, as will achieve their environmental aims. As currently framed it seems possible that some land owners and farmers will gain as much in grant by not farming their land as they would by farming it, and for much less work and aggravation. Thus a study carried out by the National Trust[17] and another carried out for the Wye Valley AONB and Wye Valley Graziers[18] have separately concluded that sheep and cattle grazing enterprises will be badly hit by the changes in the way the industry is supported. The Trust states, in relation to sheep and beef enterprises in the uplands, '…*such*

systems will have no prospect of covering fixed costs … let alone produce a return for the farmer: and in worst cases they will be a direct drain on farm business income… All of the dairy producers in our sample showed … a negative farm income by 2012…the economic incentive will just not exist in many cases. This, if not addressed, will lead to chaotic and unplanned loss of land management capability in the uplands'.

Whilst the National Trust concerns are based on their upland farms and thus not directly relevant to the lowlands concerned in this study, essentially similar conclusions are reached in the case of the Wye Valley study. If this study is correct in its conclusions, the impact could apply to all similar land (i.e. permanent grazing on lower quality land) throughout the country, though it is likely to vary considerably according to individual circumstances.

Since grazing livestock are essential to the farming of such land, and as the farming is essential to the maintenance of current landscape character, the landscape future for such areas is uncertain. If real problems for the profitable future of farming occur as a result of the payment systems, it is to be hoped that they will be recognised soon enough to correct them at an early stage. Bearing in mind the decades over which landscapes suffered despite informed and rational criticism of government policy, there is room for concern in this regard.

The other major uncertainty for the future is created by the impossibility of predicting the future of the economy generally and its impact on farming. At present non-farmers with large capital assets buy much of the farmland being sold. Their motivations need not be similar to those of born-and-bred farmers. Often the major motivation seems to be to own what is, in effect, a large private space, not otherwise easily achieved. There are also substantial tax advantages for the 'working farmer' (an easily-achieved status for a non-farmer) which can be a powerful motivation. Where these might lead is unclear.

The original brief for this study in 1972 was to try to find out '*how agricultural improvement can be carried out efficiently but in such a way as to create new landscapes no less interesting then those destroyed in the process*'. The recommendations advanced in NAL72 sought to do this, but in truth it cannot be claimed that this aim was achieved other than at the theoretical level. Whilst all the recommendations were founded on reasonable interpretations of current trends, problems and solutions, it must be doubted whether any farmer actually sought to put them into effect. In practice, the combination of personal motivation and sheer farming economics have produced the landscape we see today, 33 years on.

However, the study did inspire the former Countryside Commission to concentrate significant efforts on the farming sector, and these in turn involved County Councils and District Councils throughout the country. As mentioned in the Introduction (p. 6), the Commission launched two major initiatives which were – at least in part, if not wholly – prompted by this study. These efforts, together with the

general awareness created amongst both farmers and all the various professionals involved in rural landscape management at all levels, have brought us to the situation we find ourselves in today. At last the emphasis of policy gives significant weight to the wider environmental effects of agriculture on the landscape, and does not encourage economics-driven change to continue regardless of its wider effects. Whether the correct balance has at last been reached will, doubtless, be the object of future investigations.

Overview

During the 33 years of this study, the economy and society of the country have seen extraordinary changes and it is not surprising that the farmed landscape has too. The most fundamental changes were due to increased labour efficiency, mechanization and specialization. The result in some areas was complete reorganization of the farm: much larger fields with the inevitable loss of hedgerows, trees, drainage ditches, small woods and ponds. Farm sizes increased to take advantage of economies of scale. Farms where there were few obstacles to specialization, as exemplified by our Huntingdonshire study area, saw almost all features of the enclosure landscape disappear.

But the rate of change has slowed and farming seems to have adjusted to the new levels of labour and capital intensity, and as a result the landscape appears to be enjoying more stability. Although the most recent survey did not involve collecting numerical data, it was quite apparent that the quality and size of most hedgerows had often improved significantly, as had many trees. Hedgerow removal had all but ceased and there was significant hedge and tree planting.

It is fortunate for the landscape that so many farmers in so many areas continue to integrate grazing livestock into their farming systems. Clearly there have been various reasons for so doing but the study findings suggested that many farmers are strong traditionalists in terms of their farming practices and, we suspect, of conserving the countryside. Rotational mixed farming has been greatly beneficial for the diversity of the countryside (both in terms of species and structure), and where specialisation has been fully realized as in Huntingdonshire the loss of habitat has been appalling.

Although farming seems to have found a new level of stability, there are many factors that suggest further change. The changed basis for farm income support, from production subsides to area payments with environmental conditions and environmental payments, is a very important factor. Given the importance of price support to the average farmer, these area and environmental payments could become a key in countryside conservation. Whether the levels of support and the

detailed requirements for receiving them will be sufficient to have a long-term positive influence remains to be seen.

Other signs are not so good. Profitability in farming relative to other sectors has declined substantially since the start of this study. Farm families have necessarily had to rely increasingly on off-farm sources of income, especially on smaller operations. In some areas there has been an increase in part-time farms: the ability to earn off-farm income, reduced expenditure, capital raised by selling land, or some combination, allows these small units to survive. Only if environmental grants contribute a net increase in farm profits will they be adopted quite widely, with consequential landscape benefits, whatever the size of the farm business.

It appears that the desire to have a house in the country is still a powerful force and may be increasing. The difficulty of obtaining a residential planning permission in rural areas has put a premium on rural residential property. Newcomers purchasing farm cottages, often as second homes, has long been common and was an efficient way to re-use housing as farming became less labour intensive. The downside has been that the price that newcomers are prepared to pay is far higher than local people can afford, and urban values can intrude significantly into the rural scene, especially by way of planting schemes around the house. Outsiders also have more capital to buy whole farms, motivated by a desire for privacy, to graze ponies, or for other leisure uses. Although the land may be rented to a local farmer, the treatment of the dwelling and its surroundings are quite likely to reflect an urban aesthetic.

Another route to obtaining a valuable rural residence appears to be have become quite common. This involves setting up a small agricultural business with temporary residential accommodation. After a few years there is the prospect of qualifying for a permanent dwelling with an agricultural occupancy restriction. Once this is achieved there can be manoeuvring to have the restriction removed and cessation of the farm business.

The adaptive reuse of disused farm buildings has also become common and is likely to become more so. The capital realised from the sale of these buildings can benefit the farming community if appropriately invested. Better design has resulted in preserving more of the agricultural character of the buildings than in the past, but inappropriate landscaping often destroys any rural character.

The differences in attitudes and motivation of farmers in the seven study areas were surely in part responsible for the widely differing impacts of modern agriculture in our seven study areas that we have recorded over the last 33 years. We only surveyed farmer's attitudes in 1972 and 1994, and very briefly on both occasions. It is interesting that in 1972 many farmers were doing things like removing hedgerows because they saw it as progressive. They could interpret the fact that it

was grant-aided as social approval even if local residents were disapproving.

It was also clear that it was their image among their peers, the farming community, which was important. Therefore the prevailing judgement among farmers as to what was good farming, whether progressive or traditional, was more important than the opinions of other local residents. Today, however, hedge removal is no longer grant-aided and often requires permission, and farmers no doubt are fully aware of the criticism such action attracts. This has probably become more intense at the local level as the ratio of farm population to non-farm population in rural areas has fallen steeply.

Figure 104: A motorist's view of the landscape along an Oxfordshire A-road. Considering the wealth of beauty in the English countryside, perhaps a better site could have been chosen for a poster in praise of farmers' care of the landscape.

'Good' landscapes may be quite different for the farmer and for other members of society. It is not surprising if a rambler or a naturalist sees things differently from one who gets their living from the land. It is not known what factors led to the erection of the poster in praise of farmers' care of the landscape as seen in Fig. 104. However, it would be reasonable to suppose that the landscape in the immediate locality would be of high quality. If this were indeed the opinion of the farmer concerned, it is possible that many observers would disagree with this judgement.

For many farmers good landscape is good farming and the signs of this include productivity, tidiness and order, lush greenness, clean (weed-free) and uniform crops, and simple clean farm buildings (often large ones). Rustic and slightly dilapidated farm buildings, overgrown hedges, fields with wet patches and poppies in the cornfield are all features that a farmer would rather not display to his peers even if they suggest good habitat for wildlife and however picturesque they may be.

The cleanliness of crops and their uniformity are two aspects of farming that have steadily 'improved' over the 33 years of this study. They are testaments to the skill of the farmer, but many would argue that they have gone too far. The tramlines which are now a ubiquitous feature of cereal crops add to the aesthetic of precision which has emerged but has diminished the environmental experience of the countryside. However, farmers should not have a monopoly of the creation and appreciation of the 'agricultural aesthetic', of well-ordered farming landscape. It is our heritage.

References

1 Westmacott, R., Worthington, T., 1974, *New Agricultural Landscapes*, Countryside Commission, Cheltenham.

2 Westmacott, R., Worthington, T., 1983, *Agricultural Landscapes: A Second Look*, Countryside Commission, Cheltenham.

3 Westmacott, R., Worthington, T., 1997, *Agricultural Landscapes: A Third Look*, Countryside Commission, Cheltenham.

4 HMG, 1975, *Food from Our Own Resources*, Cmnd 6020, HMSO, London.

5 Weller, J., 1967, *Modern Agriculture and Rural Planning*, Architectural Press, London.

6 Bonham-Carter, V., 1971, *The Survival of the English Countryside*. Hodder and Stoughton, London.

7 Tinker, J., 1974, *The End of England's Landscape*, New Scientist, Vol.64, No.926 pp.722–727, IPC, London.

8 Shoard, M., 1980, *The Theft of the Countryside*, Temple Smith, London.

9 Body, R., 1982, *Agriculture: The Triumph and the Shame*, Temple Smith, London.

10 Bowers, J. K., and Cheshire, P., 1983, *Agriculture, The Countryside and Land Use: An Economic Critique*, Methuen, London.

11 Granada Television, 1983, *World in Action: Harvest Gold*.

12 Body, R., 1984, *Farming in the Clouds*, Temple Smith, London.

13 HMG, 1986, *Agriculture Act*, HMSO, London.

14 Nix, J., 1970, *Farm Management Pocketbook*, Wye College, University of London, Wye, Kent.

15 Nix, J., 2005, *Farm Management Pocketbook*, Wye College, Imperial College, University of London, Wye, Kent.

16 Council of Industrial Design, 1970, *Colour Finishes for Factory Made Cladding Used in Farm Buildings*, Report of Advisory Panel on Farm Buildings, London.

17 National Trust, 2005, *Impact of CAP Reform on the English Uplands: A National Trust Discussion Paper*, The National Trust, London.

18 7Y Services Ltd, 2005, *A Single Farm Payment (SFP) analysis identifying the Impact that CAP Reform and in particular the SFP will have on the farming enterprises of Farmers A, B, C*, Wye Valley Area of Outstanding Natural Beauty and Wye Valley Graziers, Monmouth.

John Dower House, Crescent Place
Cheltenham, Gloucestershire, GL50 3RA

Telephone 01242 521381
Fax 01242 584270

www.countryside.gov.uk

CA 220

This document is printed on Evolution Satin comprising
75% recycled post consumer waste

July 2006 1K ISBN 086170 696 X

£10.00