

**Appendix 3:
Drivers of Countryside Change**

(Work Package 3.2)

Review of Processes Study in the Context of CS2000

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**DRIVERS OF COUNTRYSIDE CHANGE
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REVIEW OF PROCESSES STUDY IN THE CONTEXT OF CS2000

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1. INTRODUCTION

The agricultural policy driver is still one of the most important in the British countryside. However, it would be wrong to attribute countryside change solely to the Common Agricultural Policy, technological change and market forces also playing a powerful role in determining longer term trends in farming practices and farming systems. Still, at the time of the last socioeconomic survey of the Countryside Survey sample squares in 1993, the decisions of farmers were still demonstrably conditioned by the price support and ‘coupled’ system of producer aids available under the Common Agricultural Policy (CAP). The overall impression at that time, in fact, was one of stasis rather than change, with farmers poised between the ending of one period of very significant agricultural restructuring and the beginning of another. Change in the recent past appeared to be increasingly confined to special situations – for instance, on farms where succession was taking place or where an occupier, for a variety of reasons, was striving to ‘catch up’ through a programme of intensification and enterprise change. As the *Processes* study put it “By implication, the stable majority (of farmers) have already carried through land cover changes and there is a strong sense in which the CS1990 has caught the tail end of a process that was once much more widespread and less farm specific than it has since become” (Potter and Lobley, 1996, p87). We expected more change to come, probably in response to implementation of the next round of CAP reforms that was then imminent but also brought about by longer term and more secular trends in farmer inheritance, succession and retirement and by changes in the culture of farming.

In the event, the intervening seven years have been very eventful ones for British agriculture and farmers have seen their operating environment change in ways that would have been hard to predict in 1993. Ironically, policy change has played a relatively minor role in this transformation, though the decade has seen determined efforts to decouple agricultural support from farmers’ production decisions. The effects of the 1992 CAP reforms, while significant under any normal circumstances, have been eclipsed at farm level by the combined impact of movements in world market prices and the devaluation of Sterling against the Euro, producing first a boom and then a deep recession in farming fortunes. Over the decade, farming incomes have risen and then, for some sectors, collapsed and while there has not as yet been a sharp ‘correction’ in asset values, the number of farm bankruptcies is on the increase. As Gasson et al (1998, p2) conclude, “In retrospect, 1996 coincided with the end of an interlude of relative prosperity for British agriculture. The industry was about to experience a series of shocks”.

It is probably too early to say how far the recession which arrived in 1997 has translated into changes to farming practice, land cover and biodiversity. All the evidence from farm surveys carried out since the *Processes* study (none of them of course linked to the Countryside Survey sample squares) suggest a surprisingly graduated farmer response, with much less structural change than one might expect, farmers instead making a series of adjustments in order to ‘carry on farming’. Having said that, subtle adjustments to farming practice and agricultural systems can add up to often profound changes in landscape and wildlife terms and these set the framework in which the CS 2000 results need to be understood. The purpose of this section is threefold:

First, to explain changes to the policy and economic context of farming that have occurred since the last socioeconomic survey of the Countryside Survey sample squares took place;

Second, to speculate about the farmer response to these trends and events and to present a broad interpretation of their likely land cover and ecological effects;

Third, to assess the scope for further interpreting the CS2000 results through a reanalysis of available data but also to explore the case for a repeat socioeconomic survey of the sample squares.

2. Policy Change and Economic Recession: The Changing Context of CS2000

Respondents to the 1993 survey already knew that change was on the way in the form of the 1992 CAP reforms. With the exception of the dairy sector, the agricultural situation in the EU in the early 1990s seemed little better than a decade before, with cereal surpluses a particularly pressing problem. Policymakers were finally beginning to acknowledge the basic unsustainability of a policy which was highly expensive, politically inconvenient and incompatible with the international liberalisation of trade. By this time, it was clear that the outcome of the Uruguay Round of trade talks would be an international commitment to liberalise agricultural support. This, together with the challenges of eastward expansion of the EU, and the need to bring the farm budget under tighter financial control, led to the MacSharry reforms. In essence, the MacSharry package aimed to reduce EU dependence on the use of export subsidies and reform domestic support by cutting intervention prices and introducing a system of direct compensation payments to farmers that were partially decoupled from production. The final package of measures agreed in 1992 included:

- a significant reduction in support prices for cereals and beef, with more moderate reductions in dairy price support;
- the introduction of a new system of compensation aids to arable farmers (in the form of the Arable Area Payment Scheme) and augmented livestock premium payments to beef and sheep producers together with a new premium payment to dairy farmers;
- the introduction of a set aside requirement for arable farmers, set at a rate of 15% for the first year;

- the introduction of a series of ‘accompanying measures’ designed to boost rural development and agrienvironmental schemes

At the time various predictions were made of the impact on farming incomes across the UK (see, for example, Oglethorpe, et al, 1993). Farmers interviewed in the sample squares at this time were broadly optimistic about the future, many expecting an improvement in their economic position as a result of the reforms. We noted that livestock farmers were significantly more bullish than their arable counterparts, however, and it was usually the most expansionist farmers with the strongest entrepreneurial instincts who believed they would continue to expand their core farming businesses in the years ahead.

In practice, buoyant world market prices and the devaluation of Sterling following the UK’s withdrawal from the Exchange Rate Mechanism in the autumn of 1992, combined to bring about a mini boom for nearly all types of UK farmers, but especially cereal producers. Importantly, these largely masked the market consequences of the MacSharry reforms, confining their effects to the adjustments farmers found they had to make in order to remain eligible for the (now significantly appreciating) compensation payments. Between July 1992 and July 1994 the green pound increased in value by a quarter, strengthening the floor under market prices and increasing the effective value of compensation aids from Brussels. Arable farmers particularly benefited because of strengthening world market prices. According to the Farm Business Survey (FBS), net farm incomes in this sector rose strongly each year from 1987/8 until 1995/6, with the 1995/6 figure more than double the 1992/3 average.

By the autumn of 1996, however, the tide had turned as Sterling began to gain in value against most major currencies and the value of the green pound declined (the latter losing a third of its international value during 1996 and 1997). UK intervention prices for cereals and other supported commodities fell by 13% during 1996/7. Since then, Sterling has maintained its value to the extent that during the first half of 1999 the value of the Euro against the pound fell by a further 5.7%. The result has been a pronounced fall in commodity prices received by UK farmers and an effective devaluation of compensation payments. Total farm income fell by 38% during 1996/7 and by a further 29% in 1997/8 (MAFF, 1998). For arable producers, the mid 1990s were unexpectedly good years as farmers rode the way of devaluation, high world prices and the overcompensation on offer to them under the MacSharry package. Net farm incomes rose steadily each year from 1987/8 until 1995/6. Since this peak, incomes have declined consistently, falling by 44% on average during 1997/8. Beef producers have fared even worse. The 1980s and early 1990s saw many lowland dairy farmers turning to semi-intensive beef production after the imposition of milk quotas in 1984. Cattle numbers rose from 600,000 in 1980s to 800,000 in 1990 in England following a significant shift in beef production from the uplands to the lowlands. Despite this, returns from lowland livestock enterprises have long been volatile and the combination of an appreciating currency and the beef export ban has been to cut net farm incomes on average by 114% between 1995 and 1998/9. Although there are important regional variations in performance, the dairy sector, once it had adjusted to the imposition of quotas, shared in the prosperity of the early to mid

1990s. For farmers with sufficient milk quota, buoyant world prices and the effects of depreciation together with increased competition between processors following deregulation, have been highly favourable and average net farm incomes rose steadily for dairy farmers during the first half of the decade. The decline since 1996 has been decisive, however, with average incomes in 1998/9 a third of those in 1995/6. Hill farm incomes have continued their long decline, with annual fluctuations around a downward trend. The safety net of agricultural support has become increasingly important, 160% of net farm incomes accounted for by direct subsidies by the mid 1990s. Nevertheless, the slump in cattle prices during 1996/7 undoubtedly reduced the viability of many cattle and sheep farms in LFAs, average net farm incomes declining by 44% over the following year.

3. A First Assessment of the Farmer Response

For many farmers, the late 1990s have consequently been among the most difficult in their farming careers and unprecedented media attention has pushed the 'farming crisis' up the political agenda. By comparison, the implementation of the MacSharry reforms earlier in the decade has been a fairly painless process, eliciting little response beyond that already planned and certainly failing to bring about the restructuring and extensification of production which many were expecting. From their study of a random stratified sample of 558 farmers in GB, Winter, et.al. al (1998) concluded that the effect of the reforms were limited to the management changes necessary to ensure compliance with the conditions of the new compensation payments on offer, particularly in the arable sector. The most obvious example was set aside, set at 15% for the period 1993 but then fluctuating, falling to 10% in 1996 and 5% in 1997. In mid decade (when the set aside rate was 18%), over 700,000 hectares were taken out of crops and put into rotational and non rotational fallow in the UK (MAFF, 1997). Arable farmers also found that, under the eligibility rules for the Arable Area Payment Scheme (AAPS), they were unable to convert land that had been in permanent grass in 1991 to arable or temporary grass. This put a brake on arable expansion and halted a long established trend towards the conversion of permanent grass. At the same time, however, they had a strong incentive to minimise the area of eligible land on their farms not growing eligible crops since not to do so reduced eligibility for payment in subsequent years. Meanwhile, the high profitability of arable farming throughout the mid 1990s meant that many farmers were increasing their hectarages of unsubsidised crops such as flax and potatoes and continuing to intensify production generally. Winter et al (1998, p71) deduce that "policy, in this context, (was) having a strong influence on land use but not on the intensity of the land use within that system".

For livestock producers, the new system of livestock premium payments has similarly brought about changes to the pattern of farming, especially in the sheep sector, where the combination of quotas and the partial decoupling of support (though the imposition of limits on headage payments per farm) has effectively put a lid on further expansion of the national sheep flock and encouraged a redistribution of sheep through quota trading (principally away from the lowlands in favour of the upland fringe). Beef producers, by

comparison, have been little affected by the reforms, only 11% reporting any significant change to farming practice as a result of the introduction of the new system of premium payments (Winter et al, 1998). So far as the extensification payments were concerned, many discovered the ceilings were very near to, or even above, current stocking rates and thus required little adjustment to ensure continued eligibility. Dairy farmers similarly found their position little affected by the modest reforms to the quota system. Trends fostered by the quota system continued, with a further increase in the area devoted to forage maize and other cropping on farms with the capacity to intensify in this way. Farmers able to purchase additional quota from outgoing producers expanded herd size and continued to increase their share of national output.

It was only later in the decade that changing market conditions began to pose any sort of threat to the general expansion of the preceding five years. The psychological shift from optimism to pessimism was slow to take hold, however. Surveys conducted on the cusp of the 1997 slump reveal great reluctance to contemplate radical restructuring of enterprises, and a marked resistance on the part of even very financially-stressed farmers to begin to plan to 'get out of farming'. From their periodic review of the way farmers are adjusting to the cost-price squeeze, Gasson et al (1997) discovered little relationship between degree of financial pressure and degree of farmer response, concluding that, at that time at least, many were sticking with traditional ways of dealing with the recession. The "commonest responses to the financial uncertainties of the 1990s has been to increase output from existing enterprises, cut out unprofitable enterprises, reduce inputs and machinery and labour costs, increase the area farmed in order to spread costs and take financial advice ..." (Gasson, et al , 1997, p37).

Even so, by 1998/99 attitudes had begun to change decisively and a survey conducted by the NFU suggested that 57% of respondents had considered leaving the industry during the previous two years. Almost a third had reduced labour and 64% had increased borrowings over this period (NFU, 1999). In practice, though, there was still little sign of any radical restructuring, either through choice or through the agency of market forces. The NFU survey aside, few respondents to surveys were seriously contemplating getting out of farming, while the number of farm bankruptcies remained comparatively low (net worth continued to increase due to rising land values, while 45% of farmers in 1996/7 had no bank borrowings at all (MAFF, 1998)]. As PROSPER discovered from its survey of almost 2000 farmers in Devon, Cornwall, Somerset and Dorset in the summer of 1998, a majority of farmers (60%) felt that conventional adjustment strategies – chiefly cost cutting and expansion in farm output – would see them through, with a minority contemplating diversification or off farm employment to bolster their declining agricultural incomes. A similar pattern of response emerged from an ADAS survey conducted in 1999, showing 40% of respondents hoping to survive by purchasing more land and 50% looking to diversify in the next five years (ADAS, 1999).

Diversification is widely promoted as the solution for many farmers who cannot continue as mainstream farmers. In fact, far from being a lifeline for most marginal farmer, studies show that the most successful diversifiers tend to be larger than average, to have higher net farm incomes and a higher than average level of indebtedness. There is also a strong

bias in favour of urban fringe locations or areas well served by transport links and distribution networks. This is particularly true for activities involving adding value through processing and marketing, thought to be undertaken by about 10% of farmers at the present time (MAFF, 1999). Off farm employment, by comparison, is a far more widespread phenomenon. Gasson (1996) estimates that upwards of 40,000 farmers in England and Wales are able to remain in farming by virtue of other sources of earned income, with part time farmers managing over two million hectares of farmland as a group. Official estimates confirm this, suggesting that, by the late 1990s, about 25% of farms had an income of some sort from full time or part time employment off the farm (MAFF, 1999).

Yet given that the favoured strategy of most main occupation farmers is to expand output, commentators have begun to wonder how it will be possible for a majority of farmers to survive merely by buying or renting more land. Such a strategy presupposes that land has been/will be given up by someone but few potential leavers are as yet willing to identify themselves (though in terms of past actions it should be noted that farm surveys, by definition, are biased in favour of survivors). It seems likely that there has been continued farm amalgamation throughout the 1990s in the classical sense as smaller, less viable holdings have been taken over by operators looking to realise the significant economies of scale in modern production (the number of cereal farms fell by 17% in England in the ten years to 1998, with the bulk of the reduction taking place in the smallest size category; in the dairying sector 47% of dairy cows in England and Wales were in herds sizes of 100 or more in 1995 compared with 43% just three years earlier). Nevertheless, the reluctance of many family farms to give up farming has probably prevented the large shake out of land that might have been expected during such a deep recession. What appears to have happened instead is a trend towards renting or contracting out the management of land by farmers who are either on a trajectory out of agriculture or have elected to become part time operators by taking up employment off the farm. For the small family farmer forced to take up other gainful activities to supplement farming income, the ability to lease out land under short term agreements means that the farmland resource is still generating income and occupancy can continue. For the elderly farmer on the point of retirement, often nowadays without a successor, the same mechanism allows the farmer and his or her spouse to continue to live in the farmhouse but also to maintain the family name on the land. In either case, structural change is postponed but the effective management of increasing areas of arable and grassland is transferred into the hands of farms large enough to remain viable as agricultural businesses.

The surge in demand for contracting services, on the other hand, comes partly from mainstream farmers but also from new entrants who are setting up 'residential farms', living in the farmhouse and continuing to engage in full time employment outside agriculture. In one of the more intriguing features of recent agricultural change, people from a variety of backgrounds are choosing to contract out the management of their land in order to minimise capital outlays and maximise flexibility. According to MAFF (1999) estimates, as much as 10% of all farmed land in the south east, an area experiencing the greatest influx of this new breed, is already farmed under contract and it is likely that coverage in areas like the Midlands will grow to 20% where arable production is

particularly amenable to contract haulage and harvesting. So far as the suppliers of contracting services are concerned, usually large, generously capitalised farms, agricultural contracting has already become the most important form of on farm diversification, and a means of realising the economies of scale in the use of machinery and equipment which could only otherwise be achieved by buying or renting more land.

4. Processes of Countryside Change in the 1990s

Agricultural restructuring is thus a reality, even if it is proceeding in a number of different directions. Established trends towards a concentration of production on fewer, larger farms have continued, as has the opposite trend towards more part time farming and pluriactivity. Overall, the number of holdings has remained steady but there has been a large increase in the number of part time farms (some commentators, for instance Ward (2000), predicting that they will outnumber full time businesses by 2004). New types of agricultural holding are also emerging in the form of 'retirement farms' and 'residential holdings' and a variety of novel land holding and management arrangements are being entered into by farmers who are determined to hold on to their farms but who find they cannot depend exclusively on the dwindling agricultural income they are capable of generating. All of these trends are likely to have had important implications for land use and the rural environment over the period covered by CS2000. Let us consider briefly what they might mean for arable, pastoral and upland landscapes respectively:

Arable Landscapes

It is likely that arable landscapes have been most directly affected by the MacSharry reforms. As noted above, the introduction of set aside, together with the eligibility conditions attached to the AAPS, has had the effect of putting a brake on arable expansion and should have prevented the ploughing up of long term grass leys and permanent grassland. On the other hand, the effects of Sterling devaluation on crop prices, at least until 1998, has been to give arable producers a great incentive to reduce temporary grass leys in the rotation in order to maximise their receipts of direct aid. Recent farm surveys suggest that fertiliser use and the application of farm chemicals has not noticeably declined on many farms, and in some cases may actually have increased (see Winter et al (1998)]. It will be interesting to see if these trends in rotations and farming practice have translated into measurable biodiversity gains or losses as revealed by CS2000. The environmental consequences of the recent downturn are harder to predict but it is reasonable to assume that the cost cutting on which most farmers are now embarked will have had consequences for the level of conservation investment and management taking place in arable landscapes. How far the increased availability of government payments for pilot arable stewardship schemes will have countered an established trend towards declining peripheral habitat on arable farms, remains to be seen. Agrienvironmental schemes to date have had a limited purchase in such situations, fewer than 6% of Countryside Stewardship agreements being for field margin management in 1999, for instance (MAFF, 1999).

Pastoral Landscapes

The 1990s have seen wide fluctuations in the profitability of livestock farming. For dairy producers, the 1992 reforms preserved quota entitlements and postponed the large scale restructuring which serious reform would usher in. Nevertheless, the long term trend towards fewer, larger herds has continued and by the end of the decade one commentator (Ward, 2000) was predicting that 50% of dairy producers were poised to leave the industry over the next five years. On farms large enough to remain viable, the trend towards more intensive grassland management has likely continued, with increased planting of forage maize and other arable crops displacing grassland, especially in England. This will have further eroded the grassland resource in places like the south west and south Wales. But it is the continued restructuring of the beef sector which will have had the most profound impact on pastoral landscapes. Lowland livestock farmers have been most severely affected by the recession and the beef export ban and a move into sheep on many such farms will have altered their grazing regimes in ways unlikely to be environmentally beneficial. A switch from cattle to sheep often produces changes in sward composition, for example. Physically, sheep are less well equipped to graze the sward of wet grassland particularly and there may be a decline in biodiversity and conservation interest as a result (Ashworth, et al, 1997). Strictly speaking, it is in pastoral landscapes that small family businesses are most vulnerable, especially in locations remote from centres of population and employment and distant from markets and processing centres. The gradual winding down of such farms, often in situations where an ageing farmer has recognised that succession will be impossible, is likely to have had its own distinct impact on the rhythm and intensity of land use and thus on the quality of the conservation resource. Elsewhere, such as in the south east, the growing importance of residential farms will already be apparent and may well be having an impact on the conservation of landscape features and habitat. Whether turning over the management of a farm to a contractor in such cases leads to further landscape and ecological decline, however, requires further investigation.

Upland Landscapes

It is conventional wisdom that upland farmers are extremely vulnerable to changes in agricultural support. Ironically, this landscape type may consequently have remained the most stable in landscape terms as increased amounts of public money have been committed to sustaining the hill farm. So long as policymakers continue with LFA support (and Agenda 2000 is robust in its commitment to hill farming support), large scale restructuring in the hills and uplands will be postponed. Nevertheless, by enabling farmers to trade their quotas of livestock payments, the 1992 reforms have already brought about a further shift in sheep production from the lowlands to the upland fringe. The continuation of headage payments meant further pressure to increase stocking on better, improveable grassland but may also have led to the removal of stock from the open hill. According to English Nature (1999), localised overgrazing accounted for 87% of all recorded damage to upland SSSIs in 1997/8. Yet there is also evidence of habitat decline due to the withdrawal and redistribution of stock elsewhere. The CS2000 is thus likely to reveal a complex pattern of intensification and extensification, with reductions

in biodiversity driven by both overexploitation and neglect or undermanagement, often on the same farm. There is some evidence that structural change is taking place as the current generation of farmers fail to persuade their offspring that sheep farming in the hills is a viable way of making a living. According to recent research in Scotland (Allbroke, et al, 1998), there are already clear signs of a withdrawal from agriculture in more remote locations. This brings in its wake a process of gradually more extensive farming, and even ranching, of hill farms as farmers on a trajectory out of agriculture wind down the business and cut back on labour.

5. The Scope for Further Analysis of the 1993 and 2000 Data Sets

In the absence of a data from a repeat socioeconomic survey, it is not possible to examine the direct impact of these patterns and trends for land cover and biodiversity in the sample squares since 1993. However, some understanding of the likely causes of the changes recorded by CS2000 may be achieved indirectly through analysis of already available secondary data, including re-analysis of the *Processes* data themselves. So far as the latter is concerned, a useful exercise would be to undertake a 'look forward' from the 1993 to identify farmers and situations most likely to have been affected by the 1997 recession. The *Processes* study identified different categories of farmer according to whether they were on an expansionary or contracting path. These classifications were useful in explaining past change but may be good predictors of future change. One distinction which could be considered would be between those who are able to react and even exploit policy change and recession and those who are forced to absorb such change if they are to stay in farming. It would be interesting to see if the distribution of such farms exhibited any association with recorded changes in environmental stock. A cruder test of association could be between changes in levels of agricultural and off-farm income and in levels of debt and levels and rates of environmental stock change.

Having established from this whether there are any reliable proxy variables for vulnerability to recession, it should be possible to undertake a 'read across' from the June Census to the CS2000 results. Likely candidate variables would include farm size and type, enterprise mix and size, as well as amount of land given up or acquired. The limitations of such an exercise should be recognised, however. No Census data are collected on the age of the farmer, the existence of a successor or degree of dependence on farming income (though respondents are required to indicate whether they run other commercial enterprises on the farm). Previous studies suggest that these are important predictors of sensitivity to policy change and economic recession. Unlike the June Census, the FBS does collect data on income source and presents considerable detail on the significance of off farm income and income from non-agricultural enterprises. FBS also generates a range of potentially useful data on input costs, assets and liabilities and net worth. Although it is based on a random sample of full time farms, a classification of businesses on this basis may be valuable in identifying clusters of vulnerable farms and hence likelihood of particular types of management change.

6. The Case for a Resurvey of the Sample Squares

In their review of CS1990, Haines-Young and Swanwick (1998) recognise that the Countryside Surveys have been designed to describe change but not to look at the causes of change. While better analysis and presentation of the CS2000 should help to identify some of the key physical processes behind land cover and ecological change such as intensification, extensification, afforestation, deforestation, development and abandonment, it is acknowledged that there is a definite limit to its explanatory power as a stand-alone exercise. This is where the socioeconomic survey enters in because to understand *why* change is taking place requires the collection of socioeconomic data collection which are linked to physical change data. The justification for a repeat survey can be examined under three headings:

First, the alternative course of action to a resurvey are limited and may not supply the causal explanations required

As we have seen above, there is probably a good case for undertaking a reanalysis of the 1993 data set in order to present a 'look forward' to the present day based on intentions data from the survey. Assuming that the occupiers of land in the squares are mostly the same today that they were seven years ago (actually rather an heroic assumption in a period of farm structural change), it would be of interest to see if most land cover change has taken place in situations where farming expansion was planned. Unfortunately, farmers are not always reliable predictors of their own behaviour and such an exercise would be a very unreliable basis for explaining the changes actually measured by CS2000. Many of the changes to farmers' operating environments were unforeseeable in 1993 and some are 'shock events' which would not have been factored into even the most prescient farmer's plans. It would be misleading to assume that these planned actions have generally been fulfilled and thus can be used to explain observed land cover change. Equally, there are problems with the coverage and depth of data sources like the June Returns or Farm Business Survey which might act as a substitute for updated socioeconomic data linked to the sample squares. Again, while it would be a worthwhile exercise to attempt a 'read across' from CS2000 data to the June Census, such an aggregated analysis would have limited explanatory power. Evidence of an association does not prove causality. For example, even if it could be shown that the highest rates of change are being experienced in locations undergoing most enterprise or land use change, this would have explained change merely in an immediate sense and is only the first step, albeit it a useful one, down the chain of causation (for instance, by explaining the actions of farmers in expanding their beef enterprise or going out of dairy). Discovering why such enterprise changes have been made and relating them back to the different drivers of change at a landscape scale can only be answered through a questionnaire survey of the individual land managers concerned.

Second, the socioeconomic data base attached to the sample squares is a unique knowledge resource which deserves to be extended and refined through a repeat survey.

To our knowledge, there is no other rural data base which links behaviour to environmental consequences in the way the socioeconomic component of CS1990 managed to do. Its importance derives from its ability to offer explanations at the parcel, square, land class and landscape level of land cover change in terms of the economic status, decision making histories and psychological motivations and aspirations of the people who actually occupy and manage farmland. This is impossible to achieve through conventional farm surveys, no matter how well designed or complete their coverage. A repeat survey would expand the explanatory power of the Countryside Survey in a number of ways. Obviously it would generate new data which would enable high change situations in the 1993-2000 period to be characterised and fully explored. The analytical possibilities would be considerable. Also, by dint of enabling comparisons of socioeconomic data between 1993 and 2000, it would facilitate one of the most comprehensive longitudinal analyses of countryside change ever undertaken. Trajectories of change within farms and locations could be defined and compared, adding significantly to our understanding of the dynamics of change.

Third, a repeat survey would give an opportunity to correct some of the limitations of the first survey and establish an improved baseline for future work.

The previous survey was rightly criticized for its exclusive focus on farmers and farm families as agents of change. A resurvey would allow for a more comprehensive coverage of other types of occupiers and land managers of land in the sample squares, leading to a more balanced view of the drivers of change. The questionnaire used in 1993 could also benefit from being updated and rebalanced. Additional questions could be introduced into the questionnaire in order to investigate new types of land holding and their consequences for land use (the phenomenon of residential farms and retirement farms, for example). A new suite of questions would also be needed to better probe the effects of policy change and to investigate the impact and effectiveness of agrienvironmental and rural development measures under the post-Agenda 2000 regime. Other corrections could include:

- increasing the coverage of the survey by surveying a larger number of squares and/or targeting the survey at particular land classes important for environmental policy purposes such as those with BAP target habitats;
- improving farmer capture within the surveyed squares, particularly in cases where coverage was below 50% of the area farmed;
- refining the measure of environmental stock used as the dependant variable in the subsequent data analysis. The Processes study used a composite measure which probably underestimated the extent of the conservation resource in arable landscapes. A resurvey would offer the chance to integrate recent thinking on indicators of biodiversity value and improve the policy applications of the work.

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