

animals and heavy machinery. Their own well-being is also at risk, not helped by the erosion of farmer to farmer contact and networks. This lack of support must contribute in part to the very high rates of suicide in farming, the second highest in the country.

Unfortunately, such changes are also affecting farmers' relationships with their communities. Many farmers have strong, long-term connections to their local patch. Farming families tend to stay in the same area for a century or more and small farms are most likely to be family farms.⁶⁶ This continuity means they should have stronger ties across generations and through social and family relationships, which builds valuable social capital.⁶⁷ Farmers have also

long contributed in distinctive ways to their local communities through, for instance:

- Sitting on parish and other councils.
- Providing facilities such as buildings and fields for community events.
- Being a fourth emergency service. Farmers have heavy machinery and the skills to use it to help move stranded vehicles, clear fallen trees, debris or snow or help out in floods.

However, as farming has altered, so has its relationship to the rural community. Farmers have

CASE STUDY

RURAL REGENERATION; CO-OPERATION; SELF-EMPLOYMENT

Stream Farm, Broomfield, Somerset

Stream Farm occupies 250 acres (101 hectares) of the Quantock Hills near Broomfield in Somerset. James and Henrietta Odgers bought the farm in 2002. They started with a clear but unusual purpose: to apply their long experience of helping business start-ups with women on benefits from the African and Caribbean communities in London to a rural setting. They wanted to bring life and community back to the countryside by creating a 'share farm', founded on values of cooperation, engagement and shared Christian belief. So far they have helped a dozen new farmers in this way. They count nine national Great Taste Awards and 14 Taste of the West awards among their accolades and their lamb has been judged among the best in the country. They have twice won Best Meat in Bristol.

The Share Farm concept has enabled the farm to grow from an initial herd of just 28 pedigree Dexter cattle to more than 150 and a flock of 26 pedigree Hampshire Down sheep to around 300 in 2017. The farm also converted to fully certified organic status in 2006. Much of the beef and lamb is sold directly to the public through their own box scheme. A third business buys in Devonshire Gold chicks with 125 sold each week to the public or restaurants as organic free range chickens. In addition there is an apple orchard of about two hectares which produces around 800 cases of juice a year from five varieties of apple and a trout farm which sells rainbow trout as fresh or oak-cured fillets. There are also still and sparkling spring water businesses and a new honey enterprise. Many of these businesses have already picked up awards.

Each business on the farm operates under a Share Farming arrangement between James and Henrietta and the people running each enterprise with produce sold under the umbrella Stream Farm brand.



The Odgers provide the land and the capital and share some of the gross income but each enterprise runs its own business with the aim of earning a worthwhile livelihood and gaining vital business and farming experience. After a minimum of a year, preferably two, people are encouraged to move on. They leave with farming understanding and business nous. Most importantly perhaps, they have taken responsibility for their own enterprise and built the confidence to set up their own independent businesses. The churn of people naturally opens up opportunities for others to come on board. As James says: 'Our values are shaped by the principles of Mohammed Yunus, founder of the Grameen Bank and which supports micro-finance in Bangladesh. Unlike wage employment models, it's important that we give others the chance to become self-employed as a matter of dignity. It's not the same as working for someone else who tells you what to do and takes so much of the fruit of one's labour.'

The farm runs co-operatively with land and equipment shared. Everyone can lend a hand when there is a need for labour, whether to clear out the cattle sheds or prepare trout for market, making the work more sociable and fun. For James the overarching aim is that this model should be easy to replicate elsewhere.

Despite this simplicity, there is something remarkable about the farm and the people behind it. It stands in stark contrast to the looming but gloomy picture of a rural England populated by fewer and fewer farmers and the consequent loss of community. Whether it is the diversity of businesses, the co-operative community, the shared values and endeavours or the production of best of food in harmony with nature, the achievements at Stream Farm are impressive. It must be hoped that this or similar models of support for new, dynamic farmers can be reproduced across the country.

withdrawn in recent times from rural life. This relates to a wish to avoid criticism of their farming methods, lack of time and a big drop in the number of full-time farmers. Surveys of complaints about farming also indicate that larger farms are more remote from their local communities: an increase in farm size is strongly linked to the level of complaints farmers receive from the public.⁶⁸

All this shows we need to consider how further structural change will affect our understanding of farming and the public's relationship to it, both in rural communities and more widely. If the size of farms continues to grow there will be a loss of human scale. And in these circumstances how can we be connected in any real sense to where our food comes from or how it is produced? The more remote farmers become, the less likely it is the public will recognise the industry as offering something special. The more corporate it appears to be, the less we may value it as a special industry, deserving special treatment. If farming fails to provide clear public benefits, other than producing food that we pay for in any case, then the public – and the Treasury who post-CAP will hold the purse strings – could legitimately ask why we should invest in farming at all.

4.5 Less varied countryside and impact on wildlife

The marked variety of the English countryside is one of its great qualities. Natural variability in soils is a contributing factor as well as lie of the land, weather, farming culture and traditions. The range of farms of differing sizes, from small-holdings to historic estates, are all contributors to this richness.

The progressive loss of farms, and where this occurs, their merger and consolidation into larger holdings can threaten to erode the variability between farms in the landscape. Farms must differ according to who manages them and for what purpose. There will be natural variations between them due to differences in occupancy and farmer attitudes, priorities, skills and resources, among other things. Conversely, the more land that is managed with the same business purpose by one farmer, the less natural variation there will be in aspects such as cropping selection, timing and patterns.⁶⁹ So, consolidation of land might lead to more homogeneity in a given area. If the natural variability between farms is reduced, then mechanisms to support more diverse management on each farm become more important. This effect might also be exacerbated if the farming itself were highly specialised or simplified with a small number of crops on a short rotation. While there is nothing to say small farms cannot be very specialised or simplified, or large ones highly diverse, there is a risk that simplification of land management is a response to the growing complexity that comes with managing a larger acreage and running a larger business. As businesses grow in scale they inevitably become more complex to administer, requiring greater expertise and expense.⁷⁰ Large fields of monoculture can be the result.

The stark changes in some areas since the 1970s, encouraged by CAP money and Government policy to maximise production, should be a reminder of the risks. The major changes came from 'labour efficiency, mechanisation and specialisation' where the result was 'in some areas ...complete reorganisation of the farm: much larger fields with inevitable loss of

CASE STUDY

MIXED ORGANIC LIVESTOCK AND ARABLE FARM; OUTSTANDING LANDSCAPE; SPECIES-

Cow Hall, Clun, Shropshire

Cow Hall is a 139 acre (56 hectare) upland farm in the Clun Valley in the south-western part of the South Shropshire Hills Area of Outstanding Natural Beauty (AONB). The landscape here varies from upland grassland and arable fields, divided by narrow wooded valleys and broadening out to larger more regular fields down to flat valley floors. There are highly valuable areas for nature, while farming, dominated by livestock, is integral to the character of the landscape, its



tranquillity, sense of history and place. There is a mosaic of farms of all sizes forming a patchwork of fields. The large majority are traditional farmsteads occupying much of

the same land since at least the late 19th century.⁷¹

Joy Greenall and Mark Measures, who manage Cow Hall farm, exemplify the care, knowledge and sensitivity demanded to manage this fragile landscape. The farm is characteristic of the area with small, irregular fields bounded by hedgerows – the largest is only seven acres – hay meadows and wet pastures. It is outstanding for its two species-rich hay meadows – a highly depleted national habitat – with an extraordinary 145 different plants recorded. The farm has been in the family for at least four generations and, as far as Joy knows, the hay meadows have never been ploughed and only lime and slag have been used on the farm in that time. Unsurprisingly, nature conservation sits at the heart of the management of the farm, which Joy and Mark run organically.

The farm is a mixture of livestock (Hereford cattle and Clun Forest and Kerry Hill sheep) and arable. The farmhouse sits at 800 feet above sea level and slopes up to the top field at 1,350 feet. Soils in the area are generally prone to erosion so the steeply sloping fields are kept as permanent pasture and



hedgerows, trees, drainage ditches, small woods and ponds'.⁷³ Landscape and nature suffered dramatically in areas like Huntingdonshire where the loss of habitat has been described as 'appalling'.⁷⁴ Farmers were supported to remove hedgerows, drain wetter fields and plough up semi-natural meadows and grasslands. Ancient field patterns were lost, especially in lowland arable landscapes.

The increase in arable area, larger field sizes and loss of semi-natural grasslands and hedgerows contributed to greater uniformity in rural landscapes and a significant loss of habitat diversity. This has been shown to affect the ability of wildlife species to find food and raise young and pollinator species in particular have suffered serious declines.⁷⁵ Research shows diversity of pollinating insects is highest where there are natural and semi-natural habitats with good

connections through hedges or field margins. Large-scale monocultures provide intense bursts of nectar but they are too short to sustain populations and some bees, for example, may only forage over a few hundred metres, others over kilometres.

So, even if it isn't a given that large farms will manage the environment badly, any further loss of farm diversity poses a real risk. Research shows the smallest farms (below 20ha) hold the highest concentration of parcels of deciduous woodland, semi-natural vegetation and extensive grass. Farms of under 50ha held a quarter of such areas of 'conservation capital' in 'pastoral' landscapes (those characterised by 'large areas of grassland, small fields, hedgerows and small woods').⁷⁶ We do not know the impact of recent farm losses on such conservation capital. At the very least we would expect there to be a loss of detailed knowledge of a parcel of land and its attributes as lifetime farmers leave the industry. In such pastoral landscapes there may also be a loss of skills and understanding of livestock genetics and breeding, which are linked to land management and landscape, as in the 'hefted' flocks of Herdwick sheep in Cumbria.⁷⁷

Much more research is needed about the landscape and biodiversity implications of structural changes to farm sizes and, simply put, who manages what land over what area for what purpose. Until we know more, we rightly should be concerned if further farms continue to disappear in the coming years and decades.

RICH MEADOWS

the only arable fields cover 30 acres of flatter land at higher altitudes. These provide most of the fodder for the farm and are kept in a rotation of various crops, including legumes and clover to build fertility.

The way Joy and Mark farm contributes to maintaining the mainly pastoral landscape and avoids intensive arable and grassland and the attendant risks of run-off of soils and nutrients. But, with a generally cool climate and high rainfall, the area is challenging to farm to earn a good living. Natural handicaps mean their land is designated a Less Favoured Area.⁷² Public funding via the CAP has been essential to maintaining a viable income with a low intensity form of management. The landscape and wildlife conservation on the farm has been supported by various agri-environment schemes since the first Environmentally Sensitive Area scheme for Clun some 30 years ago. The current ten-year Organic Higher Level Stewardship agreement guarantees them additional income in return for the conservation work undertaken and the environmental services provided by the farm.



The future for this kind and size of farm, so integral to the character of the area, is uncertain. Many questions arise about the impact on the local environment, but also on jobs and other businesses in the area, as well as the community, if farms like this are not encouraged. Joy estimates that the farm employs 20 different people over the year and trades with 35 other businesses in the area. If such farms are to survive then they will need to be supported with advice and public funds and structured so as to provide and reward the labour, time and expertise needed to manage such precious areas productively, while benefiting the environment.

What lies ahead?

Here we examine the potential risks that farming faces when the UK leaves the EU. We also explore some of the opportunities – as well as the many unknowns.

The Brexit debate has put politics and our future trading relationships firmly at the heart of national debate. While rarely central to the discussion, agriculture has been put under the spotlight in a way not seen for some time. An Agriculture Bill is one of only eight core pieces of Brexit legislation presented in the Queen's Speech for the 2017 Parliament. These bills will establish a new legal framework to replace over 40 years of pan-European legislation and rules. Most importantly, leaving the EU will sweep away the CAP, which has, for good and bad, influenced the way farming in England is done and the wider countryside.

Shaping agricultural policy anew offers political leaders a once in a generation opportunity to transform policy objectives, to regenerate the industry and restore the health of the countryside. Momentous change brings with it the possibilities for real innovation, but it also carries risks. Unsurprisingly, it is clearer what could be lost than what the new post-Brexit order has to offer.



5.1 The risks

Done badly, Brexit represents a serious threat to farming. That raises questions about what might happen to the number and types of farms that can survive the choppy waters ahead. The threats are both political and economic but inevitably intertwined. In political terms, the EU has kept farming at its core and so has provided a long period of relative economic stability.

Before the Second World War, farming in this country had suffered a long depression with areas of land

abandonment. Farm production was given a huge stimulus by war-time and post-war support for a strong farming sector to address food shortages. Since 1973, the CAP has benefited UK farming through the value placed on the farmed economy and its role in society across wider Europe. So for two generations farming has enjoyed preferential trade arrangements, production subsidies and, latterly, area-based income. The loss of the CAP could weaken collective political support and remove preferential access to the single market but also see farming lose the protection of significant trade barriers to global imports.

Most seriously perhaps, the overriding impression is that, outside Defra, Whitehall has never really appreciated the importance of farming. The dissolution of its dedicated ministry, the Ministry of Agriculture, Fisheries and Food (MAFF), in 2002 is symbolic of this. Being placed within Defra puts it at one remove from the Trade and Industry brief, despite farming underpinning food processing, our largest manufacturing sector. This could leave farming under-represented and vulnerable to becoming a 'sacrificial lamb' in future trade negotiations. Repatriation of our EU contribution – with much of it a payment into farming – puts the budget back in the hands of the Treasury. It isn't yet clear that it intends to continue funding farming after 2022. Farming may also be left under-represented in trade negotiations, with freer access to the UK for imported food offered to secure overseas access to financial services or manufactured goods.

Strong political support for farming would help avoid some of the worst outcomes of Brexit. These could involve seismic change to trade and the support it receives. If the UK fails to secure a dedicated trade deal with the EU that will expose UK trade to the World Trade Organisation (WTO) rules. This could see tariffs imposed on key UK exports such as the £300 million of lamb and mutton we sell to countries such as France and Italy each year and an end to frictionless trading with our major market. In addition, border checks would impose further costs and delays. With declining domestic production and reliance on the EU for key foods including fruit and vegetables serious questions have been raised about the security and resilience of our food supply.⁷⁸ We might also face the risk of free trade deals opening up with the United States, New Zealand, Australia, Brazil and Argentina. These could bring in cheap meat with lowered standards of production and welfare that could undercut the fragile livestock sector.

At another extreme, there have been repeated calls for a rapid move towards a non-existent or very low 'subsidy' regime as in New Zealand. With many sectors of the industry such as cereals, livestock and mixed farming failing to make profit from agriculture at all, this could lay waste to sectors and regions.⁷⁹ It has been estimated that up to a quarter of farms would be made unviable⁸⁰ and the impacts could be felt beyond farming – research suggests up to 250,000 SME jobs could be lost with many in the rural economy.⁸¹ Nil public funding post-2022 has not yet been mooted by Government but nor has it been ruled out and it has strong political and media proponents.

The impact of an extreme financial squeeze on farming would be severe, as would the resultant radical restructuring. The farms with less capital, or access to it, may struggle to ride out the worst or adjust in time. No doubt many farmers of retirement age would stop farming, sell up or lease out their land. This could lead to further loss of farms or consolidation or fragmentation of holdings and even abandonment of marginal land. The associated effects would be along the lines discussed in section 4. With current political uncertainties and policy at an early stage of development, it is difficult to know how likely this is or the extent of the risk.

CASE STUDY

NEW ENTRANTS; TENANT FARMING; COMMUNITY ASSETS

County council farms: first-time farmers and the long-term view⁸²

England's estate of county council farms occupies 1% of the farmed land in the country or around 90,000 hectares. But the area has decreased by a third since the late 1980s.⁸³ The original purpose of county farms was to help people who were not from a farming background to get started in the industry.⁸⁴ If the farming sector wants to innovate and adapt to future changes, the need to attract new blood is greater than ever. County farms are well placed to take on that role – both successfully and profitably.

For example, two counties, Cambridgeshire and Staffordshire, are reinvigorating their farm estates to improve income for the council and support first generation farmers. Others such as Buckinghamshire have added land. Cambridgeshire has focused on offering farm business tenancies to help new entrants with good business plans and strong ideas who are also able to pay a competitive rent. This, according to assets manager Hugo Mallaby, 'helps with the ripple effect both in terms of ideas and rent, which does push itself across the estate'.⁸⁵ They also offer part-time tenancies and bare land for others to expand. Staffordshire has also let land for fixed terms – up to ten years for starters and 16 for those progressing. But after a maximum 26 years farmers must move on. This churn means the estate can help more new entrants to get established.

There are lessons to be drawn from the forward-thinking approach of Cambridgeshire and Staffordshire. Councils and tenants can benefit. Both authorities are modernising and investing in their estates, giving vital opportunities to new farmers and increasing income. Careful assessment of the holdings means land can also be sold or released for development. This allows the council to help provide community assets such as land for schools, a cemetery or, as in Staffordshire, a BMX track, at low cost.

There is surely scope for county farms to develop further to become beacons of a more diverse farming industry. It would be one which offers good access to new farmers, which engages and connects with its local community – perhaps by selling direct to local authority caterers or linking up with local agricultural colleges or improving farm access to the public – and which improves the local environment and landscape. County council farms offer a model that is far from bust. Indeed, with the right framework, it has huge potential.

5.2 The opportunities

The opportunities that Brexit offers farming should not be underestimated. Given the right political framework there is huge potential for very positive change.

Leaving the CAP has many advantages and the new farming policy could:

- Be flexible and better tailored to national conditions for farming.
- Target existing funding much more effectively towards nationally defined purposes.
- Be reformed rapidly along with funding mechanisms to support clear public benefits, including restoration of wildlife, protection of natural assets and better public access to the countryside.
- Address farming sustainability and resilience without the watering down policy process in the EU (and give the UK the chance to show leadership on farming, climate change and fair trading).
- Target need to better support farmers just about managing ('jams') rather than those who get the cream.
- Strengthen support for creating new opportunities in farming, particularly for new entrants, to drive innovation, new products and build new markets.
- Rethink farming policy in the round to align it with food and supply chain policy and regulation and environmental enhancement.

Brexit could have other positive effects. The UK has a large annual balance of trade deficit on food, feed and drink of £22.5 billion. The deficit on fruit and vegetables is over £9 billion.⁸⁶ Brexit could provide the stimulus to rebuild horticulture in a way that engages communities in producing affordable, healthy food of which they need to eat more. Professor Alan Buckwell has predicted that

loss of CAP support could result in a better sharing of risk across the food supply chain. This could mean that businesses up and downstream of farming adjust their pricing to accommodate to the new reality. As a result, they would bear and share more of the costs.⁸⁷

There are also some within farming who would prefer the greater freedom of having no financial support. They recognise that direct payments can be a hindrance to positive change and have, over time, made farmers less responsive to the markets they sell into. Loss of the Basic Payment Scheme funding would be a major disruption to farming and could be catastrophic for farm incomes. But, with a sensible transition period to allow farms to adjust and more targeted investment in farming for greater public benefit, the sector could emerge better aligned with its markets and customers.

5.3 The unknowns

For now, much of this must remain conjecture for two main reasons. On the risk side, this is because the impact of the continuing loss of farms and of farm diversity has been under-researched and off the farm policy agenda. We lack the information to understand the ramifications of different Brexit scenarios and different policy responses for the structure of farming in the future. This hinders the wide-ranging public debate we need to have. On the opportunity side, there are positive signs from Government that the new settlement for farming will consider radical change and better value for public money. There is also unprecedented engagement from civic society in the debate about the future shape of policy and of farming. If Government, industry and civic society can truly work together on this, there is cause for hope.

CASE STUDY

ENVIRONMENTAL LEADERSHIP; INNOVATION; ANIMAL WELFARE; SUSTAINABILITY; PRODUCER DIVERSITY; PREMIUM PRODUCT

David and Helen Brass, Lakes Free Range Eggs Co Ltd, Cumbria

David and Helen Brass won the SME (Small and Medium size Enterprise) category of the Business in the Community Defra Environmental Leadership Awards in July 2017, giving them national recognition for the excellence of their business. It is not difficult to see why.

They started from modest beginnings in 1989 on the family farm where David grew up: his family have been dairy, beef and sheep farmers in Cumbria since the 1870s. Their first foray into poultry was Helen keeping 200 free range Shaver chickens on 40 acres at Meg Farm near Penrith. The initial impetus was to bring in extra money since farm income was getting tight, but David and Helen say: 'Since day one we have followed a belief that environmental provenance and animal welfare go hand in hand and can create commercially viable, sustainable family farms.'

Their first commercial free range egg production went hand in hand with pioneering work to enrich the range for the chickens: they were the first egg producers to plant large numbers of native trees and hedgerow shrubs to provide shelter for the hens but also to support native wildlife. Chickens are descended from jungle fowl so woodland is an ideal habitat. The chickens can indulge in natural behaviour and are less stressed so produce better quality eggs. The concept also makes good commercial sense. Research done in conjunction with the farm and published in the *Veterinary Record* in 2012 shows that tree cover improves egg shell quality and reduces 'seconds' at collection and packing stages.⁸⁸ The 1-2% improvement in Grade A eggs pays back the cost of tree planting at around £2,000 per hectare in just 6 months.

The growth of their egg production led to

David and Helen forming the Lakes Free Range Egg Co Ltd in 1997. They continue to be industry pioneers, now supplying to McDonald's, Sainsbury's, Tesco and Booths in the north. The eggs secure a premium price for their environmental and welfare credentials, provenance and traceability. This is far from mere marketing.

Their packing station has been transformed into a state-of-the-art facility: it includes rainwater harvesting and a district heating system for the village. It is energy and carbon neutral and sends no waste to landfill. David and Helen have also harnessed local skills in building work and traditional animal husbandry. They are supplied by local farmers, almost all small family farms with a long tradition of raising livestock with around half on marginal land in 'severely disadvantaged areas'. As a result, younger family members have returned to their farms and can earn a viable living. The average age is 44. They are a keen, dedicated team and willing to try new ideas.

The business helps new producers get started with business planning, husbandry, siting and planning consent for new buildings and securing finance from local banks. They also require producers to plant 20% of their own range with trees and shrubs, which they supply. All the producer farms are required to put in place a Biodiversity Action Plan (BAP) for their farm too. As a result over 6,000 acres are now covered by BAPs and 150,000 trees have been planted. Barn owls and red squirrels are already benefiting.

These are uncertain times for farming but David believes there are many opportunities ahead, including for export. He is clear that that the industry needs dynamic, young, open-minded people willing to adopt new methods. Doing things in a different way is something he and Helen have demonstrated amply. There is a lesson there for a whole new generation of farmers.



Questions to answer

In recent years the amount of research on the issue of farm size in England has been modest.⁸⁹ This leaves many questions to be answered. Below we list some of the most pressing.

The Government needs to undertake a comprehensive analysis of the spectrum of farms and management structures across different sectors and regions to assess their economic, social and environmental value. This should assess their strengths and weaknesses and the opportunities and threats they face under current trading and policy arrangements and various Brexit scenarios. This should be started as early as possible. Indeed, Defra is more than likely to have begun this work already. The problem is we do not know.

It is crucial this research is done and is shared widely.⁹⁰ This is a prerequisite for the informed national debate we need to have on the future of farming. In simpler terms we need to understand what is happening in the sector and why; what is the impact of current farm losses, and what could happen post-Brexit. Here are some questions that could inform the research:

1. What is happening to farm size structures?

In simple terms, we need to have a better understanding of farm numbers and changes to the structure of the industry. There is little information published on farm sizes above 200ha, though clearly and for some time now many businesses have been operating across much larger holdings and multiple farms and buying in additional land. This data needs to be tied into information on movement of farms across size categories: how many farms are expanding and contracting and for what reasons? For those farms that disappear from official figures and are no longer deemed 'commercial', why have they changed? Have they contracted, withdrawn from intensive production or been sold and consolidated or fragmented into smaller parcels, whether let, shared or otherwise? This kind of questioning should also establish how many existing farms are functioning as commercial businesses and how many are only notionally 'active'. And it should reveal how much of the land is under management control elsewhere such as via contract arrangements for cropping.

2. Why is it happening?

Why we are losing farms will be more difficult to determine. Undoubtedly, external economic factors and internal factors to the business will be relevant. Real causes of decline, especially where there is

business failure, will be difficult to establish. Yet, if we are to shape policy to support farms to perform better and become more resource efficient, sustainable and profitable, then a better understanding of the major causes of farm loss is essential. This analysis should go hand in hand with identifying the major financial, market and policy barriers to economic success for farms, particularly where scale may be a factor.

3. What are the implications?

This paper has explored some of the evidence about the impact of farm loss and reduced diversity. Clearly, there is much more to learn. One key question is the impact of farm loss on local rural economies. This includes the relationship between farms, what they produce in food and other services, and businesses that supply them or are supplied by them. These links matter to the provision of rural services and local supply chains right through to retail outlets. The analysis must extend to assessing the impact of farm loss on rural communities and their relationship – positive and negative – with farming. We also need to understand the effect of the changing scale of the management unit that farms represent, as they expand or contract – through various land-tenure mechanisms – on the wider environment. This should include the impact on landscape features and connectivity, countryside character, natural assets and resources and ecology. As part of this, the implications for reservoirs of conservation capital and their value for multiple environmental services must be researched.

4. What will be the future impact?

Much of farming is currently economically fragile and dependent, to a greater or lesser extent, on public investment. Much is about to alter as we leave the protection of the EU and the CAP. It is vital that those engaged in this debate have authoritative and accurate information about different trade deals, their implications and the potential impact on the spectrum of farm types. This has to connect with analysis of the policy options available to Government. It will also depend on how broad, imaginative and innovative its thinking is. Will it include, alongside targeting mechanisms for public support, other policy issues such as land use planning, taxation and market regulation? We need to know which farms are most at risk, what the impact of their loss might be and what Government priorities are in terms of outcomes. We need to understand how policy and public investment will address and secure the economic, social and environmental sustainability of farming. The role that farm diversity can play in achieving this should be a primary consideration.

A call to action

There has been little debate about the overall decline in farm numbers and the associated loss of diversity in farm sizes. But with the Brexit negotiations, ending of the CAP in the UK, future trade deals and the new Agriculture Bill trailed in the June 2017 Queen's Speech, these issues are all the more pressing. The changes to institutions and policy are fraught with uncertainty for farming but also freighted with opportunity. We have a real chance to develop a new, positive vision for the sector and for its relationship with the countryside it does so much to manage.

The analysis and evidence in this report indicates that farm size diversity matters to rural areas and to wider society and that it warrants further investigation. Such investigation is needed urgently – to sustain open and informed public debate at a crucial juncture in policy development and before further substantial structural changes take place.

As the new Government considers its 25-year Environment Plan and formulates the new Agriculture Bill and a new agricultural policy, we recommend that it should:

1. Analyse and present better Government data on the size structure of the industry and drivers of change.

Defra should review the nature of the data it collects principally under the June Survey of Agriculture to provide a more useful and meaningful picture of structural change to guide future policy thinking. It should review how it analyses and publishes its findings on the structure of the farming industry, particularly in its annual report, *Agriculture in the UK* and linked websites. It should:

- a. Revise tables of size groups of holdings (i.e. 2.3 and 2.4) which are out of date: three bands cover around one quarter of holdings and the upper band '100 hectares and over' covers nearly three quarters of land in England; the number of higher size bands should be increased to better show farm sizes and how they change.
- b. Introduce more detailed analysis of changes within and across size bands to indicate the number of farms which are contracting or expanding or have been consolidated into one holding or fragmented.
- c. Introduce new analysis of the key drivers of change in the structure of the industry, as is done for example in chapters on Farming Income or Intermediate Consumption
- d. Collate and analyse existing data – such as by Savills – to publish annual statistics on affordability of land, drivers of change and assess the impact on farm businesses including barriers to entry to new farmers.^{91 92}

2. Fund and publish research to carry out an extensive impact assessment of the historic and continuing fall in farm numbers in England.

This should consider:

- a. The effect of loss of farms under 200 ha as well as expansion of farms above 200 ha on the rural economy, rural communities and the countryside and the wider environment and the systemic relationships between them.
- b. The effect of changes to ownership and/or occupancy of farm holdings on land management, on natural capital and countryside character.
- c. The impact on access for new entrants and opportunities for business development through progression within the industry.
- d. The effect of trade and policy in different Brexit scenarios on farm numbers and structural diversity.

Defra should give researchers access to all anonymised data that could help with this research. A Green Paper consultation on the new agricultural policy or the 25 year Environment Plan should commit to fund and publish this research.

We have a real chance to develop a new, positive vision for the sector and for its relationship with the countryside it does so much to manage.



3. Support an independent commission, such as the new RSA-hosted Food, Farming and Countryside Commission, to comprehensively review policies to maintain a structurally diverse farming industry.

Government should support this with data, staff expertise and funds. This should:

- a. Identify barriers and gaps across all policy areas: CAP programmes including rural development, taxation and rates, land-use planning, tenancy legislation, market regulation and the role of local authorities and Local Enterprise Partnerships.
- b. Consider the pros and cons of different models of public funding including tiered/ tapered models from the EU and globally; it should assess the economies of scale in delivering environmental services available to larger businesses and value for money objectives.
- c. Review the role of the current and new markets, better market regulation and information to consumers in delivering environmentally sensitive and sustainable farming.
- d. Be charged with making wide-ranging recommendations for policy change in the light of policy flexibility post-CAP and to which Government will respond.

4. Maintain public investment to secure farmers' incomes for an interim period and commit to targeted long-term funding to maintain a diverse farmed countryside.

The Government should confirm current levels of funding beyond 2022 and for the long term. For

the medium term Government should continue investing in farming to prevent damaging structural change and loss of diversity by giving farmers time to adjust new economic realities and environmental priorities post-CAP. The Government should phase in funding to reward optimal delivery of public benefits and avoidance of externalised costs (such as net greenhouse gas emissions, flooding and water pollution). Funding should be targeted to maintain a diverse sector nationally and particularly to maintain areas of culturally and environmentally important landscapes. We need to 'protect the best and steadily improve the rest'.

5. Set out a strategy to regenerate the farming industry by supporting a new generation of farmers with new entrants and measures to transform performance across the sector.

The new agriculture policy for England – and linked to the 25-year Environment Plan – should contain measures to bring together innovative, productive, and resource-efficient farming with environmental improvement to drive the development of new and existing businesses. A wide-ranging set of measures should be considered such as a low-cost/ free advice service on environmentally and economically sustainable farming practice, business and skills development, benchmarking, knowledge transfer, structures to enable mentoring and peer to peer support, help with succession planning and access to loans and grants. Also, measures should be tailored to improve access to businesses with least resource, including labour, the hardest to reach and those just about managing or at risk. Incubator models such as county council farms and share farms/share farming should be supported, further developed and promoted.



Starting the debate

The haemorrhaging of farms from the industry is largely an untold story. The research we have – apart from bare statistics in official Government data – suggests dramatic changes are taking place. But we are only dimly aware of the impact. Once farms and farmsteads fall into inactivity, their land can be sold off, fragmented or merged into a larger business. Farmhouses become rural retreats, not hives of productive farming and hubs of business activity.

Over decades, farming has long been encouraged by policy, public money and economic pressure to expand and specialise to secure its future. Mixed farming of arable with livestock has largely disappeared. Farm numbers have declined steadily. Farmers have retreated from the rural communities they were at the heart of. The health and abundance of nature has clearly suffered. So too has the vibrancy of the countryside and the rich mosaic of fields and

farms that has for centuries ensured its charm. Times are uncertain and it's hard to know what the future is for farming.

The policies, which promoted much of the rationalisation, have changed – and some farmers are bringing back livestock, rebuilding soils and replanting hedgerows and trees. However, as farm numbers continue to slide, the farmed countryside risks becoming less diverse again with less natural variation from farm to farm. This will affect the nature that farming has long-supported. Rising costs and relentless downward pressure on prices means yet more specialisation. And this may further deplete on-farm diversity.

In truth, we do not understand well enough the relationship between these different trends and how they alter diversity of farms and land management. We lack the research to show how these changes are affecting – and will affect – the rural economy and the prosperity, well-being and health of the countryside. Without this knowledge, we are going blindfold into a critical debate about the future of farming and, by extension, the countryside with which it is profoundly, fundamentally connected.

We need a clearer idea of what society wants from farming in order to produce a positive, inspiring and exciting vision for farming and the countryside for the generations to come.

The Government can ensure that we are able to share the information, analysis and understanding as a crucial starting point. This paper calls on the Government to put the structure of farming and its diversity at the heart of its research agenda. We also need a clearer idea of what society wants from farming in order to produce a positive, inspiring and exciting vision for farming and the countryside for the generations to come.

References



- 1 Winter, M. and Lobley M. *Is there a future for the small family farm in the UK? Report to the Prince's Countryside Fund*, June 2016, p54. www.princescountrysidefund.org.uk/downloads/research/is-there-a-future-for-the-small-family-farm-in-the-uk-report.pdf
- 2 Winter, M. and Lobley, M. 2016, p54.
- 3 CPRE, *New model farming: resilience through diversity*. CPRE, 2016.
- 4 Note there is also the risk that we will have an increasingly suburban countryside as farming families are replaced by commuters and the retired; the countryside then risks becoming an adjunct of the city, not a thriving contrast to it.
- 5 National Audit Office research shows across Government departments and providers SME's are recognised in particular for their 'innovation, flexibility and better value for money' as well as specialist expertise, a local focus or knowledge and local economic growth as other advantages. See A. Morse/National Audit Office, *Government's spending with small and medium-sized enterprises*, Report by the Comptroller and Auditor General, HC 884 SESSION 2015-16 9 MARCH 2016, p15. www.nao.org.uk/wp-content/uploads/2016/03/Governments-spending-with-small-and-medium-sizes-enterprises.pdf
- 6 Latterly recreation has played a significant part – for example, grouse moors or large estates managed for shooting.
- 7 CPRE, 2016, p19.
- 8 An initial obstacle is that there are different sets of official data and adjustments to the categories, particularly over the decades before and after 2000. It is difficult to find a consistent, reliable data set for farm sizes and total numbers for an extended period and for the same geographical regions. So comparisons and analysis of trends are more difficult. More recently, from 2005 to 2015, there are data sets from Defra and Eurostat which are standardised over time and across regions and which shed light on the number of farms and size structure, total and average area farmed, average farm size and so on. Eurostat data is compiled on a comparable basis across the EU and published for the years 2005, 2007, 2010 and 2013.
- 9 Britton, D. 'Recent changes and current trends', In Britton, D.(ed.) *Agriculture in Britain: Changing Pressures and Politics*, 1990, CAB International. cited in Winter, M. and Lobley, M. 2016, p18.
- 10 Reworked from Britton 1990 as reproduced in Winter, M. and Lobley, M. 2016, p18.
- 11 These percentage changes are drawn from Defra, *Numbers of commercial holdings and land areas/livestock numbers by size group: England (a)*, 2016; See results by size of farm spreadsheet at www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june
- 12 Based on analysis of data in Table 2 – Numbers of commercial holdings and land areas/livestock by size group: England, June Survey, Defra, published 2016. Based on CPRE analysis of data in Table 2.
- 13 See previous note. This period has been selected because Defra data has been standardised back to 2005 for comparison purposes following removal of a large number farms in 2010 (backdated to 2009) as a result of the periodic farm census in 2010. 2015 farm data was the latest available at time of going to print.
- 14 Winter and Lobley's account of a single South West parish from 1941 to the present suggests the kind of changes that may be occurring. Of 26 mixed arable and livestock holdings across 2,000 acres in 1941, only ten remain as 'independent commercial farms' and only one a typical family farm with full-time work for farmer and family members. Others depend on other income or let their land to larger farms from beyond the parish. But three new small farms have developed and land has also fragmented with non-farming buyers buying plots for various reasons (2016, p 25).
- 15 CPRE figure derived from comparison of Defra 2005 data from 2016 June farm size statistics (132,400 holdings) which have been recalibrated for comparability with 2009/2010 data and Defra county holdings data which gives figures for England – also for 2005 pre-recalibration of 195,908. We note that some of these farms will have been removed because of duplicate numbers issued so this change represents a tidying up of the data holding numbers and removing duplicates rather than a real loss of farms [Personal communication with Defra June 2017].
- 16 Winter, M. and Lobley, M. 2016, pp21-23.
- 17 Winter, M. and Lobley, M. 2016, p21. They confirm this from the South West Farm Survey sample which shows that 'the smallest farms (<50ha) have been disengaging by reducing the area they farm, reducing livestock numbers and output'. (2016:28). They also note that, since CAP payments were limited to holdings above 5ha in 2015, micro-holdings under that threshold may not bother to register so may be underestimated. However, this wouldn't alter the 2015 figures given that they pre-date the decision.
- 18 See Table 1: total of farmed area for England in 2015 was 8,991,800ha.
- 19 Quaker United Nations Office, *The Time is Ripe for governments to strengthen sustainable and food-secure farming*, A Call to Action by the Small-Scale Farmers and Agrobiodiversity Dialogue to Action Group (DtA), March 2017. ETC Group Communiqué, *Who will feed us – Questions for the Food and Climate crisis*, Issue 102, November 2009. www.etcgroup.org/sites/www.etcgroup.org/files/ETC_Who_Will_Feed_Us.pdf
- 20 The full definition is: 'An agricultural holding is a single unit, in both technical and economic terms, operating under a single management, which undertakes agricultural activities within the economic territory of the European Union, either as its primary or secondary activity. Other supplementary (non-agricultural) products and services may also be provided by the holding.' From Eurostat statistics explained – Glossary; Agricultural holding http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Agricultural_holding
- 21 See, for example, Tables 2.3 and 2.4 in www.gov.uk/government/uploads/system/uploads/attachment_data/file/557993/AUK-2015-05oct16.pdf
- 22 For instance, Defra statistics on farm size by county for larger categories would generate small numbers of holdings which may be recognisable from such things as cropping patterns, meaning the survey's confidentiality would be breached. [Personal communication with Defra statistician, June 2017].
- 23 Winter, M and Lobley, M, 2016, p. 16
- 24 See for, example, Jean, J. Let's collaborate and communicate to ensure the survival of family farms, *Farmers Weekly*, 17 February 2017, p. 88: 'The family is at the beating heart of so many farms, large and small. The industry is unique in the modern world where multinational conglomerates employing thousands of people make up the bulk of the economy.'

- 25 Rhodes, C. Briefing Paper, Number 06152, 23 November 2016, Business statistics, House of Commons Library, p5.
- 26 See Defra, 2016 – note (a) gives the thresholds.
- 27 The figure can vary and has increased because of exchange rate changes but entitlements per hectare for non-SDA (Severely Disadvantaged Area) are 175.27 euro/ha and additional greening payments are 77.71 euro/ha Defra and Rural Payments Agency Basic Payment Scheme 2016 Guidance updated 28 February 2017. www.gov.uk/guidance/bps-2016
- 28 On an index of average farm income (in real terms) set at 100 from 1950-1959 this peaked at 138 in 1973, fell to 34 in the late 1980s, slumped to 10 in 2000 and rose to 34 in 2003 (Nix cited by Westmacott, 2006, p11). Over the longer term, despite a recent rise, this reflects poorer 'terms of trade' between farming and the rest of the economy – the difference between prices received for outputs compared with prices paid for inputs (Winter M. and Lobley M. 2016, pp. 30-31). The volatility in farm incomes is reflected in Defra figures for total farm income which vary from £2.67 billion in 2006 up to £5.59 billion in 2013 and down to £3.6 billion in 2016 (all in real terms in 2016 prices).
- 29 Bailey, A. et al., *Agriculture in the UK*, National Institute of Economic and Social Research General Election 2-17 – Briefing No. 4, 25 May 2017, p9. www.niesr.ac.uk/sites/default/files/publications/NIESR%20GE%20Briefing%20Paper%20No.%204%20-%20Agriculture%20in%20the%20UK_0.pdf Defra data shows that for 2017 total income from farming was £3,903 billion while what they term 'subsidies on production', or Basic and Single Payment Schemes plus agri-environment payments, totalled £2.852 billion or 73%. Provisional data for 2016 gives Total Income from Farming as £3.610 billion and subsidies as £3.106 billion or 86%. See Defra et al., *Agriculture in the United Kingdom 2016, 2017*, p. 30, Table 4.1 www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2016
- 30 For a simple comparison, CPRE research showed that independent local food outlets in 19 locations with a turnover of £132 million a year were supplied by 2,000 local supply chain businesses (within 30 miles of the town or city centre). Major retail chains at that time declared supplier numbers in the hundreds (Asda 600+ 'local' suppliers and Tesco 400+ local and national suppliers) for turnover levels in the tens of billions of pounds (CPRE, *From field to fork: the value of England's local food webs*, 2012).
- 31 As the economy has grown households have greater disposable income but spending on food has not kept pace. The household spend fell from 34% in 1946 to 10.29% in 1997 to 9.28% in 2013. Compare this to France or Italy where the average is around 14%. See Schoen, V. and Lang.T. *UK Food Prices: cooling or bubbling*, Food Research Collaboration, 2014 <http://foodresearch.org.uk/wp-content/uploads/2014/07/UK-Food-Prices-FRC-Briefing-Paper-28-07-14.pdf>
- 32 The assumption here would be that this means smaller farms are less efficient at producing at a given cost so should disappear in a more competitive market. But are we sure this is so? Smaller businesses may be as efficient or more so but if prices are depressed below costs of production then larger businesses with greater reserves may weather the storm for longer. But they may not necessarily be the most cash or resource efficient.
- 33 Lobley and Butler, 2010 cited in Winter, M. and Lobley, M. 2016, pp. 34-35. See also Table 2.9 which shows that, based on South West Farm survey data, 55.3% of farmers on holdings below 50ha planned to retire in the following five years against 24.1% on farms above 250ha. Farmers on farms up to 150ha were all more likely to retire than those on larger farms.
- 34 See www.politics.co.uk/reference/common-agricultural-policy for a brief overview.
- 35 Buckwell, A. Matthews, A. Baldock, D. and Mathijs, E. *CAP: Thinking Out of the Box – Further modernisation of the CAP – why, what and how?* The RISE (Rural Investment Support for Europe) Foundation, 2017, p7. www.risefoundation.eu/publications section 1.7 *Direct payments are concentrated on farms with higher incomes*.
- 36 For the two highest farm income deciles, direct payments contribute 48% of farm net income whereas for the lower farm income deciles the share is between 38% and 48%. Just 5% of direct payments go to farms with incomes below the median farm (i.e. farms in the lowest five farm deciles), while 95% of payments go to farms with incomes from farming above the median. See section 1.7 *Direct payments are concentrated on farms with higher incomes*, Matthews, A. *Why further reform*, Appendix 1 of Buckwell, A. et al., 2017
- 37 This system dates back to 2002. The granting of a European Union (EU) quality logo guarantees that a food product comes from a 'a specific region and/or follow[s] a particular traditional production process'. There are three logos:
- PDO denotes the strongest connection to the area and requires 'all aspects of production, processing and preparation originate from that region'.
 - PGI denotes 'local know how and the close link between a product and the place or region'. One stage of production must take place in the region but ingredients can come from elsewhere.
 - TSG denotes 'the traditional production method or composition of a product, handed down from generation to generation' but without needing a link to a specific area.
- https://ec.europa.eu/agriculture/quality/schemes/foodstuff_en
- The UK has made some progress but comparable economies such as France, Italy and Spain have many more products listed as either registered, applied for or published: Italy 322, France 271, Spain 224 compared to UK 81 or Germany 98. The UK had registered 24 products compared to Italy's 103 by the end of 2000, for instance. EU DOOR database accessed 21.06.17. <http://ec.europa.eu/agriculture/quality/door/list.html?locale=en>
- 38 LEADER stands for 'Liaison Entre Actions de Développement de l'Économie Rurale' which translates as 'Links between the rural economy and development actions'. www.yorkshiredalesleader.co.uk/what-is-leader
- 39 The LEADER scheme has a budget of £138 million under the current 2014-2020 RDPE. This is minimal compared to £3 billion spent per annum on BPS/SFP and agri-environment schemes (£2.852 billion in 2015 or £3.106 billion in 2016 [provisional]) and less than 0.1% of the BPS over the life of the current CAP/RDPE phase – see Defra et al., *Agriculture in the United Kingdom, 2017*, p30, Table 4.1, www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2016
- 40 See Defra's 2015 to 2020 plan, updated in September 2016 before the 2017 general election: The Government will 'work with the food, farming and fisheries industries to develop a 25-year plan to grow more and sell more British food at home and abroad.' This is laudable in itself but the focus is on selling more at home and abroad. It is about the Great British brand with an export focus – see, for example, Great British Food (www.great.gov.uk/uk/) – but has nothing on quality linked to locality, landscape, provenance, tradition or distinctiveness. There is a weak commitment to promote country of origin labelling and maintain British standards



- of production for procurement. There is little indication of how this would support all farms, including those in upland and remoter areas, to access new markets and secure and stabilise incomes through a fairer return to farming. www.gov.uk/government/publications/defra-single-departmental-plan-2015-to-2020/single-departmental-plan-2015-to-2020#a-world-leading-food-and-farming-industry www.great.gov.uk/uk/
- 41 The National Farmers Union, *Back British Farming – Brexit and Beyond*, 2017 Manifesto www.nfuonline.com/assets/95509; NFU, *Vision for A the future of farming – A new domestic agriculture policy – Delivering for farmers and the public*, March 2017. www.nfuonline.com/assets/94690
- 42 Winter, M. and Lobley, M. 2016, p11.
- 43 See, for example, blog at <http://sustainablefoodtrust.org/articles/family-farms-protected/>
- 44 *Accesstoland* as described on its homepage – see www.accesstoland.eu/index.php The website also features a series of papers and short reports on small-scale farming in particular at www.accesstoland.eu/-Reports-
- 45 <https://landworkersalliance.org.uk/organisation/>
- 46 Winter, M. and Lobley, M. 2016, pp30-31 and following.
- 47 See evidence presented by Winter, M. and Lobley, M. 2016, pp32-33.
- 48 Lobley et al., 2002 cited by Winter, M. and Lobley, M. 2016, p33.
- 49 Lobley, 2000 cited in Winter, M. and Lobley, M. 2016, p50 and Table 3.9.
- 50 Winter, M. and Lobley, M. 2016, p10.
- 51 Winter, M. and Lobley, M. 2016. The reliance in parts of this research on the South West Farm Survey means there may be difficulties extrapolating evidence from one region to other areas of England and differing systems, farm infrastructure and crops and livestock. In some areas such as the East Anglian chalklands there is a history of large farms. The analysis needs to be replicated across the country to identify whether the phenomena they identify are more widespread.
- 52 See Winter, M. and Lobley, M. 2016, pp39-40 citing Defra, *Cereal farm economics performance and links with environmental performance*, Defra Agricultural Change and Environment Observatory Research Report No. 25. <http://webarchive.nationalarchives.gov.uk/20130222210236/www.defra.gov.uk/statistics/files/defra-stats-foodfarm-enviro-obs-research-arable-cereals-110505.pdf>
- 53 See Bailey, A. et al., 2017, pp4-5: Figures 1 and 2. Note that Table 1 on p6 also shows that farms in Northern Ireland are on average much smaller than England (41ha compared to 90ha) but, despite a much higher proportion of marginal land (Less Favoured Areas – 70% to 17%), gross output per hectare is only marginally smaller at £1,925 compared to £2,016.
- 54 Laughton, R, *A Matter of Scale – a study of the productivity, financial viability and multifunctional benefits of small farms (20 ha and less)*, 2017. Landworkers' Alliance and Centre for Agroecology, Coventry University <https://drive.google.com/file/d/0B5dw4mKBC3yEdzRIOHhNbkfwUFG1MWNyCHNpZW5JaDBnVWNr/view>
- 55 Holdings were across the UK but with a strong bias towards the south west (32) and the south east (15). A large proportion were under 5ha (over 40 holdings, see RL sect 4.1 and 4.2)
- 56 Lampkin, N.H. et al., *The Role of Agroecology in Sustainable Intensification – Report for the Land Use Policy Group*, Organic Research Centre, 2013, quoted in Laughton, R. 2017, p2 .
- 57 One annual work unit, abbreviated as AWU, corresponds to the work performed by one person who is occupied on an agricultural holding on a full-time basis. Full-time means the minimum hours required by the relevant national provisions governing contracts of employment. If the national provisions do not indicate the number of hours, then 1,800 hours are taken to be the minimum annual working hours: equivalent to 225 working days of eight hours each. http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Annual_work_unit_%28AWU%29
- 58 Winter and Lobley show that the smallest South West farms by area (below 50ha) draw the highest percentage of their income from diversification though the sample of the largest farms above 250ha tended to be the most likely of all to have different types of diversification (2016:60). But, on CPRE analysis comparing farmed areas (different systems, instead of farm by farm), the opposite case can be made. On the South West Farm Survey data in any given landscape of say 1000ha, with either four large farms of 250ha or 20 smaller ones of 50ha, then in terms of the number of diversified activities, there would be more services offered by a system of small farms than large – with the one exception of shooting. For example, three small farms could offer tourist accommodation or two small farms might offer equine services against less than one large one. In fact, only on lettings, commercial or residential, would the data suggest that a large farm could offer more diversified services. Although this says nothing about the size or volume of the services offered, in simple terms it means a larger number of smaller farms could provide a wider range of rural services, greater choice between providers, more competition and possibly better access.
- 59 Cranbrook, C./CPRE, *The real choice*, CPRE, 2006; CPRE, *From field to fork, the value of England's local food webs*, 2012.
- 60 Royal Agricultural Society of England, *Differentiation – a sustainable future for UK agriculture* – an independent report commissioned by Sir Stuart Hampson, President of the Royal Agricultural Society of England, July 2006, p4.
- 61 This could also be changed to 'grow better, sell better and eat better' and start with domestic markets, then moving on to export. We need to waste far less food and so be more efficient in consumption as well as production. In contrast just producing greater quantities devalues food overall and can lead to more waste of both food and all the valuable resources used to produce it. Similarly, Government policy should address the nutritional quality of our diets, linked in to the farming system that produces it.
- 62 See Hilton, A. City comment – Has Britain ever really been successful when it comes to global trade, *Evening Standard*, Wednesday 3 May 2017, p40.
- 63 The Coalition Government's report – www.gov.uk/defra, *Future Of Farming Review Report*, July 2013, p10 – found that '4.1 Market forces and economies of scale have led commercial farms to increase in size and to simplify their enterprises. This will be at the expense of intermediate and smaller sized farms.' See also: '4.10. Many aspiring farmers are focused solely on starting their own business. This, in our view, is simply not going to be possible for all but a very few.' www.gov.uk/government/uploads/system/uploads/attachment_data/file/211175/pb13982-future-farming-review-20130709.pdf
- 64 See Buckwell, A. *Agricultural Implications of Brexit – a report to the Worshipful Company of Farmers*, February 2016, p46 chart from Savills Research. Figures given are at 2015 prices.
- 65 Since 2010 these include Somerset, Gloucestershire and North Yorkshire, and Herefordshire farms have been planned for sale in 2017. See Cooper, O. County council farm tenancies – still an option, *Farmers Weekly*, 19 September, 2013 www.fwi.co.uk/business/county-council-farm-tenancies-still-an-option.htm
- 66 See Winter, M. and Lobley, M. 2016: p28. Evidence from the 2016 South West Farm Survey confirms the longevity of farmer families providing continuity in a given area: 'On average, farming families in the survey have been farming either the same farm or in the general vicinity for 105 years.'
- 67 According to Pretty: 'Social capital yields a flow of mutually beneficial collective action that contributes to the cohesiveness of people in their societies. The social assets that comprise social capital include norms, values and attitudes that predispose people to co-operate; relationships of trust, reciprocity and obligations; and common rules and sanctions that are mutually agreed upon or handed down.' Pretty, J. *Agri-culture*, 2003, Earthscan, p55.

68 Lobley, M. et al 2005: vi cited in Winter, M. and Lobley, M. 2016, p42 and pp44-45.

69 From the 1950s, with 'the advent of chemical pest control and increased availability of inorganic fertilizers reduced the need for crop rotations so land could be devoted to a cash crop all year, rather than having to lie fallow for part of the season. Individual farms became larger and are continuing to grow, particularly in the arable east of the country, with the result that larger blocks of land are being managed with the same aim.' Robinson, R.A. and Sutherland W.J. 'Postwar changes in arable farming and biodiversity in Great Britain', *Journal of Applied Ecology* Issue 1, pp157-176, February 2002, Landscape diversity section <http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2664.2002.00695.x/full>

70 West, G. *Scale – the Universal Laws of Life and Death in Organisms, Cities and Companies*, 2017, Weidenfeld & Nicholson, p33.

71 See Natural England, *National Character Area profile 98: Clun and North West Herefordshire Hills*, April 2014. <http://publications.naturalengland.org.uk/publication/5932924754984960>

72 'In the European Union, less-favoured area (LFA) is a term used to describe an area with natural handicaps (lack of water, climate, short crop season and tendencies of depopulation), or that is mountainous or hilly, as defined by its altitude and slope.'
<https://stats.oecd.org/glossary/detail.asp?ID=1520>

73 Westmacott, R. and Worthington, T. *Agricultural landscapes: 33 years of change*, Countryside Agency, 2006, p109. <http://publications.naturalengland.org.uk/publication/51008>

74 Westmacott, R. and Worthington, T. 2006, p109. For Huntingdonshire they observe that 'almost all features of the enclosure landscape disappear' in the area they studied.

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76 Lobley, M. (1997, 2000) cited in Winter, M. and Lobley, M. 2016, pp49-51.

77 Animals attached to a particular area of fell by grazing there with their mother are 'hefted': they return there to continue the cycle of grazing, from generation to generation. Research has shown that farmers can be effectively 'hefted' to their farms, to land and place and family farming culture is passed on across generations. This suggests further loss of culture if farms continue to disappear. See for example Gray, J., 'Family Farms in the Scottish Borders: a Practical Definition by Hill Sheep Farmers', *Journal of Rural Studies*, Vol. 14. No. 3, pp341-356. 1998.

78 See Lang, T. Millstone, E. et al., *A Food Brexit: Time to get real- A Brexit Briefing*, City, Sussex and Cardiff Universities, July 2017.

79 See for example Defra, *Farm Business Income by type of farm in England*, 2015/16 figure 3, p7. This shows that for 2015/16 on average across all farms agricultural activity made a loss (stripping out BPS income, diversified income and agri-environment payments). By sector cereals, Least Favoured Areas livestock, lowland livestock and mixed farming all made losses on agricultural activity. www.gov.uk/government/uploads/system/uploads/attachment_data/file/562946/fbs-businessincome-statsnotice-27oct16.pdf

80 See for example Defra, *Farm Business Income by type of farm in England*, 2015/16 figure 3, p7 shows that on average across all farms agricultural activity made a loss (stripping out BPS Income, diversified income and agri-environment payments); by sector cereals, LFA and lowland livestock and mixed farming all made losses on agricultural activity. www.gov.uk/government/uploads/system/uploads/attachment_data/file/562946/fbs-businessincome-statsnotice-27oct16.pdf



Also, research done for the NFU by Wageningen University indicates that the viability of 15-25% of all farms would be damaged by the complete removal of direct payments. Berkum, S. van, Jongeneel, R.A. Vrolijk, H.C.J. Leeuwen, M.G.A. van and Jager, J.H. 2016. *Implications of a UK exit from the EU for British agriculture; Study for the National Farmers' Union (NFU), Warwickshire, UK*. Wageningen, LEI Wageningen UR (University & Research centre <http://library.wur.nl/WebQuery/wurpubs/499260>)

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84 FAQs – Council-owned smallholdings estate (county farms) in Herefordshire, updated February 2017. <http://newsroom.herefordshire.gov.uk/2015/december/faqs-council-owned-smallholdings-estate-%28county-farms%29-in-herefordshire.aspx>

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86 The latest Defra figures show that for 2016 'The trade gap in food, feed and drink widened by 4.2% to £22.5 billion'. Also: 'Since 2005 the real terms value of imports has risen by £14 billion or 48%' (p94). Table 13.1 p95 shows a trade deficit on fruit and vegetables of £9.199 billion (imports £10.318 billion and exports £1.119 billion) (Defra et al., *Agriculture in the UK 2016*, May 2017).

87 Buckwell, A., 2016; p148 para. 164, for instance.

88 *Veterinary Record* cited in Woodland Trust, *Trees mean better business a case study of Lakes Free range Eggs*, January 2015 www.woodlandtrust.org.uk/publications/2015/01/trees-and-egg-production/

89 Winter, M. and Lobley, M. 2016

90 Much of this work could be done in house, or if not it should be rapidly commissioned. Defra has much expertise and vast stores of data. It has already made a welcome commitment to put some 10,000 data sets into the public realm. Information will be more commercially sensitive on farm size structure and finances but this surely can be overcome. There is also an issue of public accountability and transparency. Farming has received vast sums in financial support for more than 40 years but with minimal public information about its deployment and the benefits.

91 See Savills World Research UK Rural, *Market Survey UK Agricultural Land 2016*. <http://pdf.euro.savills.co.uk/rural---other/uk-agricultural-land-2016-lr.pdf> For comparison, statistics on housing affordability are currently compiled by the Homes and Communities Agency and The Office for National Statistics.

92 Defra et al. *Agriculture in the UK 2016*, 2017 for instance does analyse other input factors in agriculture such as energy or fertiliser costs and their effect on the industry. See for example chapter 4 Accounts. For land there is little analysis and only an aggregate capital value for the country is given – see for example Table 4.4 Aggregate balance sheet for the agricultural industry.

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