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Farmer Cooperation in England:

Extent, forms and impact over time

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CONTENTS

ABSTRACT

Drawing on diverse sources (including fieldwork), this paper traces the history of farmer cooperation in England - the varied forms it has taken over time, its extent, its expected benefits, and observed impact. The paper focuses especially on cooperation in production – an under-researched dimension – wherein farmers form partnerships to work together and share resources, going beyond joint purchase of inputs, sale of output, or knowledge exchange.

Although by the Government's Farm Business Surveys, only about 4% of farms in England, covering about 5% of utilized farm land are formally cooperating in production in varied forms, the figures go up to 14% (for both farms and area) if we include informal unconventional farming arrangements captured in other large surveys. Even these figures, however, appear to be underestimates if we factor in evidence from diverse sources of informal cooperation that elides structured surveys. Certainly, it calls to question the popular perception of the English farmer being individualistic and non-cooperative.

Farmers are noted to cooperate to overcome resource scarcity and in situations of risk, but especially for expected financial gains from scale economies in equipment use, reduced costs especially on labour, enhanced yields and higher profits. Evidence of actual gains shows that resource sharing does save on machine and labour costs, but other gains cannot be confirmed in the absence of rigorous studies that compare crop yields and economic returns of farms that cooperate with those that do not. This points to an important research gap.

Overall, the paper provides new evidence and a fresh perspective on a key rural institution that has a long history in England and which warrants much greater attention than it has received in surveys, analysis, and policy. The paper both contributes to and opens up a new field of enquiry.

Keywords: farmer cooperation, share farming, agricultural cooperatives, England

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1. INTRODUCTION

There is a popular assumption that English farmers are too individualistic to cooperate with one another. Yet ground evidence — both historical and contemporary — proves otherwise. Evidence of share farming, for example, collated by Griffiths and Overton (2009) and a few others, goes back to medieval England and continues into the twentieth century. A range of other studies also provide empirical details of farmers cooperating in the early and mid-twentieth centuries, as well as in the current period.

Indeed, as an increasing number of studies argue, there are many reasons why cooperation would exist, given the economic and social benefits it can bring in contexts of risk, and especialy where there is scarcity of one or more resource: labour, land, machinery or capital, and even skills and knowledge. And this not only held true historically, but continues to hold true today. The nature, extent and range of such cooperation, however, is not easy to assess, since much of it remained hidden both officially and in statistics.

This paper traces, in broad brushstrokes, the history of farmer cooperation in England, and examines its extent as well as rationale for continuing. It draws on a range of sources: existing studies, material from the *Farmers Weekly*, the UK government's Farm Management reports and data, and fieldwork interviews conducted by Bina Agarwal and Steve Emery on farms with different forms of onging farmer cooperation. On the last, although our fieldwork covered only eight cases, these cases embody a range of 'models' that provide new insights on the topic.

Whilst contextualising farmer cooperation broadly, the empirical focus of the paper is on cooperation in production, whereby farmers directly work together, or co-ordinate their activities and share resources in the production process. Compared to farmers cooperating to buy inputs or to market their produce collectively, or for knowledge exchange or environmental restoration, cooperation in production remains much less understood and under-researched.

In trying to capture figures of farmer cooperation, we are likely to touch only the tip of the field since a good deal of cooperation tends to be informal, built on longstanding social relationships within communities. Helping-your-neighbour may thus be taken as commonplace and go unreported, at least historically when communities were closer knit. Yet, beyond specific numbers, the range of evidence presented in this paper provides enough grist for recognising this an an important rural institution that has taken varying forms across time, and warrants much greater attention than it has received in farm surveys, analytical research, and policy formulation. In this sense the paper both contributes in notable ways to an under-researched field and opens up new directions for further exploration.

The paper is divided into six further sections. Section 2 below focuses on definitions, since different authors and surveys have somewhat different understanding of the nature and extent of cooperation. Section 3 examines the forms that farmer cooperation took historically till the end of the twentieth century. Section 4 focuses on contemporary survey data to assess the extent and geographic spread of various forms of cooperation and jointness

practiced by farmers. Section 5 outlines the potential benefits of joint farming, and Section 6 examines evidence of benefits observed in practice. Section 7 draws on field interviews to describe a range of contemporary models of farmer cooperation, and Section 8 provides concluding reflections.

2. DEFINITIONS

Cooperation among farmers can cover a spectrum, from simply sharing labour or collectively buying individual inputs, especially large machinery, to pooling land, labour and capital while keeping business profits separate, to pooling all resources and sharing all profits. Agarwal (2014) provides a typology of cooperation ranging from single purpose, to multipurpose, to fully integrated. The first relates to pooling or jointly investing in individual inputs or marketing output, the third involves full resource pooling and equitable profit sharing, while the second relates to multiple in-between forms of cooperation.

In the context of England, we find evidence mainly of single or multi-purpose cooperation, while fully integrated group farming is rare. The most explicit definitions of such joint ventures are provided by ADAS (2007) which distinguishes six types of 'joint venture farming' (JVF) as given in Box 1. All involve some form of agreement and incorporate a cooperative element in the production process, but to varying extent. Share farming involves more intergration than other forms, contract farming is a close second, but none involve full integration, since those joining keep their business accounts separate, and may or may not share profits.

Griffiths and Overton (2009), argue that by excluding profit-sharing formal partnerships, ADAS undercounts share farming. Hence, they include both sharecropping and contract farming in their definition of 'share farming', while a 1990 survey by the University of Exeter Survey (the RICS survey)[1] separates out contract farming, partnerships and share farming. There are also other surveys undertaken by reseachers at the University of Exeter that have a category called 'unconventional farming' which would include all forms of joint ventures. We examine the figures relating to all of these in Section 4.

Sharecropping, tenant farming and contract farming have different global meanings. In developing country contexts, for instance, tenant farming has often been seen as exploitative, and the relationship between landowner and tenant is seen as reminiscent of feudalism. However, in the feudal context, the tenant and his family were also expected to provide unpaid labour in the landlord's household for various types of work, often unrelated to farming. If we exclude that type of relationship and time period and revisit the developing country debates of the 1970s, where the landowner shared inputs and risks with the tenant (Chaudhuri & Maitra, 2000), these too could perhaps be labelled as partnerships.

[1] RICS stands for Royal Institution of Chartered Surveyors. The RICS survey was a major study of land tenure in England and Wales in 1990, led by Michael Winter and published by RICS (see, Winter, et al., 1990).

Contract farming, again, in a developing country context, usually involves unequal production relationships. In India, for example, it typically involves contracts between agribusiness and farmers (Surlia & Meena, 2022). A company could contract farmers to produce a commercial crop such as cotton or sugarcane which it then processes further. Or a retail chain linked to supermarkets could contract and buy fruits and vegetables from farmers — produce that it then processes, grades and sells. These contractual arrangements are therefore quite different from the relatively more egalitarian arrangements between, say, two farmers in England's farming landscape.

Box 1: Joint venture farming: definitions by ADAS

Joint Venture Farming is defined as 'the bringing together of land, capital and skilled management in an agreement between two or more parties, each running their own business, rather than forming a new partnership'. JVF farmers run their own businesses, they do not share overall profits (as in a partnership) but bear their own risks and derive profit from their own venture. However, they work with another business (or more) jointly to provide all the resources needed for farm production. …..

The main types of JVF [agreements] are as follows:

1. Contract Farming – An operator carries out farming operations on behalf of the land supplier for a fixed fee (£/ha), with an agreed division of any surplus.
2. Contract Rearing – A contractor (operator) rears animals for a livestock owner for a fixed fee per animal.
3. Share Farming – The outputs and some inputs are divided on a percentage basis, depending on the resources and costs each party contributes to the agreement.
4. Labour & Machinery Sharing – Two or more persons pool labour and machinery and coordinate administration and operation of these inputs.
5. Machinery Sharing – Two or more persons pool machinery and co-ordinate and administer machinery only.
6. Labour Sharing – Two or more persons pool labour and co-ordinate and administer labour only.
7. Other Agreements – A wide variety, including contract growing/processing (normally field vegetables).

Source: ADAS (2007:7)

For the purpose of this paper on England, we will broadly consider evidence of all categories of farmers cooperating, including not only share farming, contract farming, and other JVs documented by ADAS, Griffiths and Overton, and others, but also joint purchase and marketing groups, although our particular interest is in the under-researched dimension of cooperation in *production*.

3. HISTORY OF COOPERATION

In examining evidence of English farmers cooperating, both in the literature and in recent surveys, it is worth keeping in mind that what counts as cooperation can vary greatly, ranging from single purpose to multipurpose, to fully integrated. And much of it can be informal.

3.1 Medieval period to late nineteenth century

Agrarian historians argue that cooperation among farmers goes back a long way. Some trace it even to the eleventh century Norman conquest of England, when village committees regulated the pooling of livestock and implements and supported a common herdsman (Infield, 1956: 47). A study of farm technology and village by-laws provides further granular evidence of cooperation for specific operations. Ault (1972:20-21) notes, for example, that the *Domesday Book*, which contained elaborate accounts of estates based on a 1086 survey, listed only half as many ploughs as peasants, so it could be inferred that peasants would have had to cooperate in ploughing. He also provides indirect evidence of this in terms of complaints of broken agreements between farmers that came to the manor courts, such as of one landholder accusing another of walking away, leaving his land untilled after having agreed to plough together. Informal arrangements, whereby farmers lent horses and men for labour to a neighbour and received a similar loan in return, were common.

Moreover, technological needs drove cooperation. For example, Davis (1970:189-90)) argues that the open-field system in medieval England 'was designed pre-eminently so that the fields might be tilled with a heavy plough… [but] since none of the villagers individually could have afforded to maintain the full plough-team of eight oxen which was needed to draw it, the ploughing was done in common, each villager contributing one or two oxen to a plough-team.'[2]

Beyond cooperation for individual operations, there is a wide variety of evidence of share farming in subsequent periods, pulled together in particular by Griffiths and Overton (2009) who demonstrate that share farming existed in England in the fiftheenth and sixteenth centuries, at different levels of society (not dissimilar to Europe in that period) and across all 28 counties. Typically this took the form of sharecropping, with the tenant and landowner sharing cultivation costs and risks as well as the grain produced. However, these arrangements were informal and not institutionalised by law. They emerged, the authors argue, especially in times of economic hardship when tenants were unwilling to pay fixed rents, thus requiring a cost sharing arrangement between the landowner and the tenant:

> 'Sharefarming in England is a hidden institution which existed to supplement the working of more rigid systems of land tenure enshrined in law. These informal arrangements

[2] Under the open-field system that characterised medieval England (and parts of Northern Europe), narrow strips of land owned by peasants were left 'open' (unfenced). Each farmer's holding was subdivided into scattered strips and grouped into two or three 'great' village fields. In a three-field system, two of these consolidated fields were cropped and one was left fallow. The farmers would thus have had to follow a common rotation. In addition, each village had a common pasture, collectively managed (see, Orwin, 1938; Allen, 2001).

> came to the surface in times of crisis or particular need, most notably in the fifteenth, seventeenth and twentieth centuries, and landowners and farmers required more flexibility.' (Griffiths and Overton, 2009: 197)

Even in the eighteenth century, they argue, although sharecropping declined it did not entirely disappear – rather, it remained hidden in parts of England. In other words, there appears to have been an underlying persistence of farmer cooperation, notwithstanding its ebb and flow across centuries.

In the nineteenth century, and especially the late nineteeenth century, although there is little information on *share farming*, we begin to see insitutional promotion of agricultural cooperatives *per se*. In 1844, the Rochdale Pioneers set out principles for cooperation, and many trace the history of the modern cooperative movement in the UK to the Pioneers. For our purposes, though, the Pioneers are of limited relevance since their focus was on setting up consumer cooperatives rather than cooperatives to overcome production challenges (Opstal, 2010). The first agricultural cooperative – the Agricultural and Horticultural Association – was formed soon after that, in 1867 (Rayner and Ennew, 1987), and a few others emerged slowly thereafter, picking up strength sporadically till the turn of the century.

3.2 Early to mid-twentieth century

In the early 1900s, there was a return to share farming for credit and risk sharing arrangements between landlords and tenants, driven, according to Griffiths and Overton (2009), by government policies, such as land reform favouring tenants, as well as wartime economic depression. They draw on farm diaries and news items that show that farmers shared livestock upkeep with neighbours and landlords to tide over difficult times.

Other forms of agricultural cooperatives also grew in the 1920s and in the post-war period. These cooperatives were varied and more formal in structure.They especially included associations and societies formed by farmers for credit and marketing (Bonner, 1961; Rayner and Ennew, 1987). In 1920, excluding numerous smallholder and allotment societies, there were an estimated 381 cooperatives with a substantial membership of 'nearly 85,000, *perhaps one third of the farmers in England*' (Rayner and Ennew, 1987: 95, author's emphasis). In the post-war period, however, many faced financial difficulties as price support ended, and by 1930 the number of cooperatives in England declined to 230 with 67,000 members (Rayner and Ennew, 1987: 96). At the same time, although this decline continued over the period 1929 to 1945, the membership of the remaining cooperatives increased from just over 67,000 in 1929 to around 89,400 in 1945 (see Knapp, 1965 for details).

Alongside, in 1924, Horace Plunkett established a Foundation devoted to promoting agricultural cooperation. In the 1940s-1950s, several laws were also passed on agricultural marketing, some of which promoted cooperation. In particular, the Agricultural Act of 1947 encouraged cooperative financing for small farmers, and even encouraged two or three smallholders to farm together (Infield, 1956: 49).

Overall, following WW II, we find the climate for cooperation becoming increasingly favourable, but again mainly for marketing. Examples of fully integrated cooperation were rare. An important exception was the Cotswold Bruderhof group. As described by Infield (1956) this group farm was formed by refugees from Germany who moved to England in 1936 and bought land, growing to a community of 300 families from various parts of Europe. New groups emerged from the older ones, such as the Wheathill Bruderhof which, at the time Infield documented it in 1950, had 160 members cultivating 532 acres (215 ha) with crops, dairy and poultry, and producing a surplus for sale.

Lower levels of cooperation were more common, mainly for buying and selling. Digby (1968:1) notes that in 1966 nearly 420,000 farmers — constituting almost two-thirds of farmers in the United Kingdom — were members of agricultural cooperative societies, some set up a half century before. These societies were distributed across the country so that any farmer who wanted to could join, and even non-members 'used their nearest agricultural co-operative society for a part at least of their buying and selling'. In England alone, at the end of March 1967, there were 904 agricultural cooperative societies, with 301,240 members (Digby, 1968:76).

Moreover, accounts in the *Farmers Weekly* help us trace four main types of cooperative arrangements that emerged from the mid-1950s and continued into the 1970s.[3] Of these, the first two types described below relate to large numbers of farmers simply buying inputs or selling their output collectively, as also noted by Digby (1968) above. But the remaining two types involve varying degrees of cooperation in production. Although, our primary interest is in the latter types of arrangements, the selling/buying groups also have relevance in terms of the wider picture they provide of farmers' intererests in cooperating.

One type of cooperative that gets a mention especially in the 1960s is that constituted of farmers who wanted to do bulk purchase of inputs to get a discounted price, especially for fertiliers and machinery (FW: 24/4/1964; 8/5/1964).

The second type of cooperatives — also linked to increasing bargaining power in markets — were set up for selling produce, such as vegetables (FW: 18/8/1967), pigs (FW: 1/3/1974), or meat (FW: 1/3/1974; 22/3/1974). One pig selling co-operative functioning in 1974 reported being able to spread out sales and keep deals with meat companies, to avoid market price volatility that could drive people out of business. (FW: 1/3/1974). And the Framlingham farmers co-operative with 327 members aimed at selling meat directly to customers in a new venture (FW: 22/3/1974).

The third and most commonly mentioned cooperative arrangements in the 1960s, however, were those involving 'syndicates'. These were companies constituted of farmers as partners. The National Farmers Union (NFU) helped set up financing firms to fund syndicates. The most typical were single purpose syndicates, especially for sharing

[3] Historian Paul Warde, Director of the Centre for History and Economics (CHE), University of Cambridge, UK, generously shared with me his collection of *Farmers Weekly* documents from which a picture can be drawn.

machinery, such as grain dryers, tackles, etc. (FW: 10/4/1964; 14/8/1964; 11/11/1966; 11/9/1964; 9/2/1968). These were sometimes linked with sharing labour that would work the syndicate machines (FW:18/9/1964). In one grain drying syndicate with 19 members, for example, farmers sold grain to the syndicate at a set price over five years and the syndicate sold that at the best market price, deducting capital and storage costs (FW: 14/8/1964; 13/10/1967).

Some other types of syndicates also receive mention, although less often, such as for silage production (FW: 12/5/1967), or for housing lambs and ewes in winter (FW: 29/12/67). And some syndicates were multipurpose, such as a two-farmer corn and pig syndicate (FW: 11/9/1964), or a two farmer syndicate that shared several machines, including a corn harvesting and bailing machine and combine, sludge and fertiliser spreaders, a stock trailer, and a welding tackle (FW: 6/8/1965). Overall in May 1967, there were a reported 700 syndicates in operation (FW: 5/5/67).

The fourth way in which farmers cooperated was by forming partnerships, typically with family members (FW: 27/6/1968), but occasionally also with non-relatives, such as partnering for milking cows and reaping scale economies (FW: 31/7/1964), or neighbours sharing sheering arrangements to save on costs (FW: 23/6/1967); or six farmers coming together to cut feeding costs in a shared dairy (FW: 10/10/67). A 1965 survey of Devon farms by the University of Exeter found that 20% of farm businesses were partnerships, almost entirely between family members and one-third of the farms did not use hired labour, perhaps relying on neighbourliness (FW: 27/6/1968).

The examples mentioned in the *Farmers Weekly* involve both large and small farmers. But a new agricultural cooperation scheme of the government also began to give grants that appear to have benefitted larger farmers more. The *Weekly* mentions, for example, that the larger farmers were ‘first in the queue’ and there was ‘no real interest from people around 50-60 acres yet’ (FW: 2/2/68). In 1968, again, the Cooperative Council approved 150 grants and was considering a similar number of additional grants, mostly to large arable farmers (FW: 1/8/1968).

The *intent* of government policy in the 1960s was not particularly to favour larger farmers. In fact, according to Rayner and Ennew (1987: 99), agricultural cooperatives were seen as a way of enabling small and medium sized farmers to reap economies of scale in production and enhance their bargaining power in markets for input purchase and product sales; while farmers themselves saw cooperation ‘as a potential source of countervailing power’ in dealing with agri-business. The Agricultural Act of 1967 established the Agricultural and Horticultural Co-operation Scheme (AHCS) to provide grants to marketing and producer co-operatives for capital and non-capital projects that would help ‘organise, promote, encourage, develop or co-ordinate any form of cooperation in agriculture or horticulture including co-operation and mutual assistance in production, storage, preparation for market, marketing, transport, the provision of buildings, equipment and services . . . research and other incidental activities’ (Agriculture Act, 1967, cited in Rayner and Ennew, 1987: 100).

Notwithstanding this wide mandate, in actual practice what emerged were marketing, service and related cooperatives, that increased in number from a total of 565 in 1973 to 610 in 1984, rather than production cooperatives (Rayner and Ennew, 1987: 101). And as noted from the *FW* evidence, these are likely to have been cooperatives involving larger farmers.

In the 1950s-1970s, we thus see a growth of cooperation among farmers for cost saving on large capital equipment and inputs, or saving on labour, or getting better prices for their products, the last typically involving large numbers of farmers marketing jointly.

4. CONTEMPORARY COOPERATION

4.1 JV farmers: Incidence and area

In the contemporary period, to gain some idea of the extent and spread of cooperation in England, we are able to draw on surveys, although, again, as noted earlier, surveys do not capture the full spread of cooperative arrangements, since many arragements can be informal and fall below the radar of standard surveys. The two below are useful for giving a basic idea:

(a) Farm Business Income (FBS) surveys for England undertaken by the Government: The 2002-2004 figures are cited in ADAS (2007), and data from 2012 to 2020 was provided by Alison Wray from DEFRA.

(b) Two postal surveys conducted in 1990 and 2007 and analysed by Butler and Winter (2008)

Overall, whatever figures we take (see Table 1), the total percentage of farms formally doing share farming and contract farming range, in aggregate, between 3.63% (2003) to 1.44% (2018) for England (FBS figures), while Butler and Winter give a figure of 2.3% for England and Wales for *formal* unconventional arrangements (including contract and share farming and partnerships in 2007), based on their postal survey. Hence all the figures are under 4%. Griffiths and Overton argue that FBS figures are likely to be underestimates, since reporting is voluntary and some farmers may not report, but, either way, the percentage of such farms, while consequential, is small.

Notably though, Butler and Winter's surveys in both 1990 and 2007 also capture a range of *informal* unconventional farmer collaborations, such as sub-tenancies and grass keep which constitute 14.3% of the sampled weighted holdings in 2007, and which are not captured by the FBS surveys. Also, the proportions for both their formal unconventional farmers and their informal unconventional farmers show a rise between 1990 and 2007.

In terms of agricultural *area* occupied (Table 2), FBS data for 2020/21 show that 5.24% of cultivated land is under share farming or contract farming. Butler and Winter (2008) give a figure of 6.6% of area for the weighted conventional JVs in 2007 and 13.7% for both formal and informal unconventional JV farms. This is also closer to the assessment under

unconventional farming arrived at by Griffiths and Overton (2009), namely 10% of area in England. Again, while small, this is not a trivial percentage.

Table 1: Incidence of Joint ventures formal and informal

Source/study	**Year**	**Sample No. of farms**	**Share farms %**	**Contract farms %**		**All %**	
FBS England[1]	2002	2066	1.55	1.65		3.20	
	2003	2007	1.59	2.04		3.63	
	2004	1789	1.17	2.24		3.41	
FBS England [2]	2012					2.17	
	2014					1.83	
	2016					1.68	
	2018					1.44	
	2020					1.80	
			Unconventional JVs				
			Formal				Informal
			Share farms	Contract farms	Partner ships	All %	
Butler & Winter (2008: Table 2.4) [3]	2007	1192	0.3	1.2	0.8	2.3	14.3

Sources: [1] Cited in ADAS, 2007: Random sample of farms representative of England FBS does not record businesses in a labour or machine sharing arrangement.
[2] Obtained directly from DEFRA. We thank Alison Wray for providing these figures
[3] Postal survey England & Wales

Table 2: Area occupied and average farm size

Source/study	Date/ period	All % of UAA		Average farm size, UAA (ha)	
		Formal sharefarms & contract farms			
				Share farming	Contract farming
FBS England[1]	2012			285	350
	2014			314	329
	2016			278	253
	2018			N/A	N/A
	2020	5.24		N/A	N/A
	Unconventional farming				
		Formal	Informal		
Butler & Winter (2008: Table 2.4) [2]	2007	6.6 (w)	7.1 (w)		

Source: [1] Obtained directly from Alison Wray, DEFRA.
[2] Includes share farms, contract farms and partnerships raised to the level of England & Wales.
Note: N/A not available due to small sample or to protect farmer confidentiality.
UAA: Utilised Agricultural Area; w = weighted

Indeed, as we move from formal to informal cooperation we find it more widespread than captured by any of these surveys. For example, based on FBS data for three years: 2010/11, 2011/12 and 2012/13, Wilson et al (2014) interviewed 60 farmers in some depth and found that *four-fifths* were in some form of informal cooperation, and just under 30% were in formal cooperation, especially for sharing machines and breeding sires, joint harvesting, and swapping straw for manure.

Similarly, when Morris et al. (2017) interviewed 244 commercial farmers, cultivating over 20 hectares in 2015, in the government's Sustainable Intensification Research Platform (SIP) areas, they found that *almost all the farmers* (97.5%) were involved in some form of cooperative activity. This included producer groups, buying groups, groups sharing labour and/or machinery, and trade unions. But, of these, the first three were listed as the most important. Some 39% shared labour and 44% shared machinery with other farmers. Only 3% of the farmers were doing share farming. There was a dominance of cereal farmers and very large farmers. Overall, there was also a clear preference for informal cooperation, unless it was a large-scale initiative involving substantial financial investment. Typically cooperation was between people who knew each other well – neighbours, friends, relatives and family.

Although JVs are found across the country, there are some pockets of concentration. For example, of the 43 share farms spread across 23 counties in 2007, close to a third (12/43) were in just three counties in south-central England — Oxfordshire, Gloucestershire and Buckinghamshire (Griffiths and Overton, 2009: 190).

4.2 JV farmers: Profile

Who are the farmers entering into share or contract farming or other unconventional arrangements? Are they large or small, and what kinds of collaborations have they entered into?

Existing evidence indicates that the share and contract farms are medium to large sized, and larger than the average farms of all types. FBS figures for 2004 cited in ADAS (2007) give the average farm size for share farms as 359.8 ha and of contract farms as 436.2 ha, relative to the average of 128.4 ha for all farms (including those not in any joint ventures). In ADAS's 2007 survey, of some 300 share and contract farmers, 48% were above 200 ha in size, the average farm size for both types being 379 ha.

The majority of joint ventures are in cereal farming: in ADAS 2007 survey, 42% were doing cereal farming, 32% were in mixed farming, and only 15% in livestock, the rest being of other types. More recent FBS data also shows that cereal farms dominate joint ventures. However, according to Turner and Hamley (2005), based on their ground observations in England rather than any systematic survey, there is an increasing interest in JVs among dairy farmers. They predict that JVs in livestock will become more important in the coming years. This would move England somewhat in the direction of Europe, especially France and Norway, where farmers are found to collaborate more in livestock production then in cereals

due to the labour intensity of animal-related operations (see Agarwal & Dorin, 2018, for France; Almas, 2010, for Norway).

5. WHY WOULD FARMERS COLLABORATE?

It is useful to distinguish between conceptual factors that point to *potential* benefits of collaboration in England,[4] *farmers own expectations* of gains, and *actually observed* gains.

5.1 Conceptual reasons

Conceptually many authors (going back in time) make the case for farmer cooperation, highlighting different factors. Most focus on economic benefits of one form or other. Griffiths and Overton (2009) place particular emphasis on risk sharing between landowners and tenants in different contexts: to deal with times of economic difficulty, to realise higher profits on livestock, or take a gamble with the price in corn markets. Other authors focus more on the benefits of larger scale for small farmers who would be land and labour constrained, or may simply want to expand the farm by collaborating with another farmer. Expanding the scale, it is argued, would bring a range of benefits by increasing the bargaining power of farmers when purchasing inputs and machines, or undertaking processing linked to marketing, such as grading, canning fruit, making butter, etc. (Bonner, 1961)

Somewhat similarly, scholars such as Morely (1975) emphasise the benefits of cooperating for better use of inputs and greater efficiency in organising work; improved technical skills when members specialise; easier labour substitution if one farmer falls ill; and overall raising incomes and lowering costs. Turner & Hambly (2005) highlight scale economies and improvement in production due to sharing fixed costs, including labour, machines, land and administration. They also note that JVs can lead to a better use of farmers' skills and specialisation, since different farmers tend to be differently skilled, some being better at livestock, others at arable farming. JVs, in their view, can also create environmentally friendly production units and bring tax benefits. Notably, they emphasise collaboration in *production*, going beyond collaborating in marketing, processing, or input purchase.

Some authors also recognise non-economic benefits of forming JVs, such as an increase in leisure time (Morley, 1975; Turner and Hambly, 2005), easing access for new entrants, and enabling aging farmers to reduce their involvement in farming — thus bringing the benefits of their experience while lightening their work loads — or even helping them to exit farming altogether (Turner and Hambly, 2005, CLA 2014).

[4] For a more general discussion on the potential benefits of farmers cooperating in production, but not specific to England, see Agarwal (2010).

Julie Ingram (2022), listed the following factors on why, in her assessment, farmers cooperate.[5] Some of these factors overlap with what other authors have emphasized, while some factors are new:

- To gain access to knowledge, information and peer support
- To gain access to innovation opportunities: interactive learning and innovation networks for problem solving, social learning, etc.
- To provide public goods, nature-based solutions
- To share management of land, machines, as well as costs and resources
- To increase negotiating power
- To reduce transaction costs

A few authors also focus on drivers that enable cooperation. For example, Wilson, Lewis and Ackroyd (2014), list the following:

- Demonstrable financial benefits, economies of scale or efficiency improvements, such as via labour and machinery pooling
- Having farmers involved in discussion groups, or with strong social cohesion networks within a local area
- Presence of advisers and 'innovation brokers'
- Greater compatibility of labour and machinery technology between parties
- Presence of interactions along the marketing or value chain
- Clear leadership and decision making

Notwithstanding the anticipated gains, there is also a recognition of the potential difficulties that can arise in setting up JVs (Turner and Hamley, 2005; Wilson et al. 2014), such as:

- Limited institutional support
- Inadequate cohesion in management
- Late entry into the group
- Tensions over machine maintenance, including past experience where machines were not cleaned or repaired properly
- Biosecurity concerns.

5.2 Farmers' reasons

Farmers' own reasons and expectations for forming JVs for production overlap to some extent with the potential benefits outlined above by reseachers in conceptual terms. As an illustration, responses from 300 farmers in the ADAS 2007 telephonic survey are given in Box 2. The promise of financial benefits tops the list. These can take a range of forms: greater efficiency, cost effectiveness, higher incomes, and lower costs. Landowners are more likely to cite financial benefits (30%) relative to operators (25%).

In fact, expectation of financial gains appears to be the most important reason for why farmers cooperate. Morris et al (2017) interviewed 244 farmers within 7 SIP zones (mentioned earlier), and found that about half of them expected to benefit financially and

[5] This list is based on Ingram's short paper presented on 11 November 2022 at a workshop co-organised by Bina Agarwal and Paul Warde and hosted by CHE, University of Cambridge.

make a profit, through (a) reduced capital or fixed costs and well as lower input costs; (b) increase in yields; and (c) higher prices. A quarter wanted access to more resources, especially labour and machinery, but also land, breeding sires, and storage for grain. 'Sharing labour allows farmers to manage the capacity of the workforce, ensure availability at critical times, get jobs done more quickly and in a timely manner, and provide the flexibility to react to unexpected demands' (p. 104). Notably too, a few farmers mentioned potential increase in bargaining power in commercial agreements due to the strength of numbers.

Farmers also recognize potential difficulties in cooperation, such as delays in getting access to labour or machinery, damage to machines, limited institutional support, social incompatibility between partners, and various forms of conflict between the partners (see variously Morris et al. 2017; Wilson et al, 2014). Yet the fact that such a large proportion are cooperating indicates that these difficulties are surmountable.

Box 2: Farmers' reasons for forming JVs

Financial gains: 27%
Expand new staff/partners: 21%
Greater efficiency in prod: 21%
Reduce involvement in farming while retaining farm: 15%
Spend time in diverse activities: 9%
Cost effectiveness/inc income/reduce costs: 8%
Existing staff retiring 5%
Get entry into farming: 4%
Environmental benefits: 4%
Acquire more land: 4%
Ease of compliance with laws: 2%
Share machine costs: 2%
Continue with existing agreement: 2%

<u>Direct benefits perceived or expected:</u>

Overall cost reduction = 70%
Scale economies = 60%
Prod cost reduction: 59%
Productivity increase = 57%
Increased land access: 47%
Machine efficiency cited: 74%
Increased yields: 46%

Source: ADAS (2007: 14, 38)

Whether or not this cooperation leads to the benefits farmers anticipate is a key question, however.

6. OBSERVED IMPACT OF COOPERATION

Notwithstanding expected gains from cooperation, there are very few systematic studies on the actual impact of farmers cooperating by share farming, contract farming, or other forms of

JVs. Below, we examine two types of effects: (a) economic impact on productivity, cost saving, farm business income, etc. (b) non-economic impact, especially in resolving the issue of farm succession.

6.1 Productivity and financial benefits

In the farmers' perceptions, as noted above, the main expected benefits from JVs are reduction in production costs and increase in yields and productivity. But the FBS data for 2002, 2003, 2004 (cited in ADAS, 2007) does not show clear productivity differences between JV and non-JVF farmers for individual crops or products, in the three years for which they provide evidence.

Although Net Farm Income per hectare for share farms is higher than for all FBS farms and contract farms in 2003 and 2004, no statistical tests for differences in means are given to see if the differences are significant. The Report itself notes that the data 'does not prove that farms with JVF have better physical productivity or improved financial results' (ADAS, 2007, p.26).

More recent data, provided to us directly by DEFRA for 2016/17, similarly shows that net business income per hectare of share farms and all farms is not very different, while that of contract farmers is much lower. But, again, as with ADAS, small samples make it difficult to say anything definitive on this count.

On the positive side, one large survey does point to clear economic gains from JVs. This is the 2005/2006 Grant Thornton Survey (cited in ADAS 2007), which covers approximately 73,000 hectares farmed by their accountancy clients: Landowner Businesses with JV, Labour & Machinery JVs, and Joint Venture Companies. ADAS (2007:27) notes:

> 'The financial results from Grant Thornton show a clear improvement in profitability of those farms with a JVF agreement compared to non JVF farms. The results also show lower costs of labour and machinery on JVF agreement farms. It should be noted that the results from the farms in the Grant Thornton survey are shown without FBS adjustments, and both tenanted and owner occupied are included within the survey.'

Similarly, scattered reports in the *Farmers Weekly*, albeit for a small number of farms, show that JVs help save on costs of machinery, labour and administration. Our field interviews, reported in Section 7, also point in this direction. Impey's piece in the *Farmers's Weekly* (24.12.2014) is especially interesting. It is based on a discussion between Jamie Gwatkin, an independent rural business consultant, and a group of seven farm businesses with a total of 11,000 ha – called the Joint Venture Farming Group (JVFG) formed in 2003. The group is involved in JVs for sharing machines. Gwatkin's assessment provides a systematic overview of the financial benefits of such single purpose cooperation. As Table 3 shows, all costs (labour, machinery and admin and finance) are lower for the JVFG.

Table 3: Estimated savings of JVFG

List of items	**HSBC planner (£ /ha)**	**JVFG 2014 (£ /ha)**	**Difference (%)**
Labour costs	75.40	55.60	35.60
Machinery costs	230.50	174.10	32.40
Admin and Finance	48.90	34.90	40.10

Source: Impey (2014), https://www.fwi.co.uk/arable/driving-farm-machinery-labour-costs

Gwatkin notes that the biggest saving is in standing costs (depreciation and interest combined). Labour costs are also lower and there is efficiency improvement. For example, the group's average labour cost is £55.60 compared to £75.40 in the HSBC planner. The other costs are similarly lower in JVs. The cost of operations on a per-tonne basis for wheat and oilseed rape is also found to have gone down. These reported gains led some other farmers in the area to form JVs. Another benefit mentioned was the exchange of knowledge and ideas among the JVFG farmers.

All said, the evidence, such as exists, points broadly to a number of realised economic benefits of forming JVs in terms of cost saving and increased efficiency of machine and labour use. However, on crop productivity and profit differences between JVs and non-JVs we need systematic data gathering and analysis, based on large samples, to provide reliable assessments.

6.2 Qualitative economic benefits

While quantification of economic benefits from JVs is limited, qualitative economic benefits are better documented, such as those listed below:

Improvement in selling/buying power: Cooperation to form farmer producer groups (smaller scale) as well as farmer buying groups (some large scale such as the Anglia Farmers) have developed more selling/buying power when dealing with powerful retailers and agri-chemical suppliers (Ingram, 2022).

Knowledge sharing: There is a growing community of regenerative farmers (>3000 at a 2022 show) and a number of examples of on-farm experiments (Ingram, 2022). A study on the UK government's Catchment Sensitive Farming (CSF) initiative also found that catchment networks enhanced knowledge sharing among farmers (Thomas, Riley and Spees, 2020).[6]

*Machinery rings***:** These rings are constituted of groups of farmers who pay a small charge to join. The ring lists all the farmers and the machines they own. Ring members can hire the machines they need from other ring members for a charge. This reduces individual costs of machine purchase and upkeep and also has the benefit of convenience.

[6] Meta analysis for the USA shows that farmer networks can greatly improve information sharing and adoption of new practices (Baumgart-Getz et al., 2012).

However, a somewhat different and more effective type of machine sharing arrangement can be found in France and parts of Canada (Herbel, Rocchigiani & Ferrier, 2015). Here small groups of farmers constitute a CUMA (Coopérative d'Utilisation de Matériel Agricole), to jointly purchase agricultural equipment. Some CUMA also hire staff to maintain the equipment collectively (Lucas, 2021; Harris and Fulton, 2000). Unlike England's machine rings, a CUMA enables farmers to invest in machines they especially need but cannot afford individually, rather than depend on what a ring member may happen to have.

6.3 Succession: new entrants

The third benefit of JVs is to facilitate new farmer entry and succession among families with no clear successor, or where an aging farmer wants to semi-retire and needs a partner to take over some of the work.

Although most farm succession remains intergenerational, an aging population, young people having career options outside farming, and related factors have created an 'inheritance dilemma' (Gasson et al, 1998). Between 1990 and 2005, for example, the median age of farmholders rose from 55 to 58, and the UK farming population older than 55 rose from 49% to 68% (Ilbery et al, 2016). Yet most farmers do not plan to retire just yet. A 2019/20 postal survey on farm succession and inheritance by Wheeler et al (2020) of 688 farmers (415 in England, the rest in Scotland and Northern Ireland) found that almost half of them planned to retire only after the age of 70. Underlying the delay were practical and financial reasons (especially faced by small (20-49 ha) farms and cattle/sheep farms) as well as an attachment to farming as 'a way of life'. As one farmer told us in our field interviews, his father still 'wanted to rub his hands on the wheat and say, I grew that!'

Hence, many older farmers, while wanting to reduce their daily workload, also seek to remain involved via semi-retirement. The ADAS (2007) survey found that 39% of the older farmers wanted semi-retirement and 4% were already semi-retired. Owner occupiers, however, were found to be risk averse and reluctant to offer JV opportunities or tenancies to new entrants who had limited or no track record of farming. They were also reluctant to take partners or potential successors from outside the family. Only when a relationship had already been informally established was there a commitment to formalise a joint venture agreement with the person. In the end, as found by Wheeler et al (2020), in most cases children (predominantly sons) of the current farmers became the successors.

The UK government has also sought, from time to time, to help new farmers develop viable enterprizes as a career option,[7] and an aging population pass on their farms to a younger generation. The County Farms Estate (CFE) was introduced under the 1892 Small Holdings Act, and was applicable to help holdings of >1 acre but <50 acres. The more recent Fresh Start Initiative in Cornwall, which ran in 2005-2008, sought to promote partnerships

[7] A number of private consultancies have emerged in recent years, which identify the phased steps that need to be followed to set up various forms of joint/shared farms, and offer help, based on the clients needs (see, e.g. Cook and Grieve, 2009).

with new entrants (Ingram and Kirwan, 2011). Neither, however, has been very successful in achieving its aims.

The government's CFE programme was a national country-wide scheme, locally implemented by county councils. Initially this led to a notable growth in the number of farms in the first half of the twenthieth century, but subsequently farm numbers declined. CFE today accounts for only 1% of agricultural land and 3% of tenanted land in England and Wales. Among obstacles to the scheme were the farms being let out without farmhouses or outbuildings which the owners wanted to use for non-agricultural work.

The Fresh start initiative in Cornwall during 2005-2008 sought to facilitate new entrants to farms where families do not have children or relatives to take over the farm, and, more generally, to address the problem of a decline in farmers (Ilbery et al, 2016; Ingram and Kirwan, 2011). Ingram and Kirwan (2011), in particular, examined whether the initiative had facilitated the formation of joint ventures. The results were disappointing. Of 212 registrations with Fresh Start, 55 received support. Of these, 39 were new entrants. But most new entrants wanted to set up their own farm and only six sought support for forming a JV. Overall seven older farmers and six new entrants were seeking JVs.

Ingram and Kirwan identify a number of barriers to efforts to facilitate succession, including a lack of capital among the new entrants, inadequate returns within the new business to support two families, lack of housing for the new entrants, and difficulty of collaborating with a stranger. In other words, both the economic and the 'human side of matching' is important in using JVs for facilitating succession. There is no mention or exploration in these papers, however, of the French model of joint ventures, namely GAECs (*Groupement Agricole d'Exploitation en Commun*) or group farms. Agarwal and Dorin (2018) found that a fair proportion of GAECs are formed with non-family members: this could be a relative or a neighbour, or someone who has worked on the same GAEC for a while as an apprentice/trainee and found to be compatible enough to be inducted into a partnership.

7. INSIGHTS FROM FIELDWORK (Bina Agarwal and Steve Emery)

So far, this paper has provided an overview of farmer cooperation in England from existing data and studies. This section supplements the overview with insights from field interviews conducted by Bina Agarwal and Steve Emery during 2022. Ethical approval for this research was provided by the Board of Directors of Rural England CIC. We obtained prior informed consent from those interviewed to participate voluntarily with the right to review/withdraw if they wished. The names of individuals, farms and organisations are fully anonymised in the results presented below.

7.1 Logic and Method of case selection

Some joint ventures we studied are similar to those already discussed, while others have unique features. We wanted to focus on farms that were cooperating in the production

process, since cooperation in production involves close contact decision-making and offers the most potential for gains (as demonstrated by Agarwal's prior research in other countries: see, Agarwal, 2018, 201; Sugden et al, 2021). We thus excluded soley buying and selling groups as well as landscape-scale environmental initiatives facilitated by external advisors, and sought to identify production-related cases. We did so through web searches, the farming press, and the Joint Venture Farming Group. Finally, we selected eight farms, located in the East of England, West Midlands, and the Southwest of England.

In terms of levels of cooperation, they fell into four categories, the first three involving increasing levels of cooperation (as in Agarwal's 2014 typology) and the fourth being experimental in nature as below:

1. Single purpose cooperation: Joint ventures of machine and labour sharing: three cases
2. Multi-purpose cooperation: Joint ventures not only sharing machinery and labour but also cooperating in crop planning and farm management, yet keeping separate business accounts: two cases
3. Fully integrated cooperation: sharing all aspects of production: one case
4. Experiments in promoting small-scale farming among young farmers: two cases.

Interestingly, our cases cover all three levels of cooperation (single and multi-purpose and fully integrated). In terms of farm size, however, they sit at opposite ends, with categories 1 and 2 including large-scale 'conventional' arable co-operators, and categories 3 and 4 including small-scale, alternative, and mixed produce cooperators.

When identifying cases we were not looking for a particular farm size but for farmers who were cooperating in production. Hence, given that the average farm size in England is 88 ha (Govt of UK, 2024), our sample does not include examples of small or medium sized 'conventional' farmers. This could well reflect the ground situation, or we may have missed cooperation among small or medium sized farmers, especially if such cooperation was informal with no easy-to-trace records. Notably, though, our eight cases provide important vignettes of how production-related cooperation is working at the two scaler ends.

The cases are listed in Table 4. The names of farms and farmers have been changed to anonymise them. Consider below some of the insights obtained from these interviews.

7.2 Single purpose cooperation

The most common forms of JVs found in England (as noted earlier) are those involving machine and labour sharing. Labour sharing here is not like the old labour exchange systems where teams of villagers moved from farm to farm in the village for, say, harvesting each farmer's fields. Rather, the current JVs are linked to machine use and management. The three farms of our field study that fall in this category are **ET farms Ltd, SQ farm** and **LM farm LLP**. They have some characteristics in common but also differences. Below, the main features of each are described briefly and then all three are discussed in terms of the understanding they provide.

Table 4: Levels of cooperation in the farm enterprizes interviewed

Name of primary farm/JV	Partnership parties involved	Person interviewed	Type of farm & details
SINGLE PURPOSE			
1. ET Farms Ltd	Chuck and Anya with landowners	Chuck and Anya	Several contract farming and joint ventures agreements (5-6 agreements; some on 50:50 basis) Jointness: landowner gives land and C&A provide labour, machine and diesel, and manage the operation. Both parties take a fixed fee per acre of land and a fixed share of the profit.
2. SQ farm	Eric (negotiated through his manager) with Dave (land owner)	Ron (former manager)	JV, manager oversees machine and labour use on both farms. Both farms jointly own a new combine (replacing old individual combines) and save on rising machine costs and labour.
3. LM farm LLP	Andrew & Norman: both own land	Andrew	Joint venture: machinery and labour shared
MULTI PURPOSE			
4. MN Farms LLP	Rupert & family with Tom	Rupert	Joint venture on adjacent farms Share machine, labour, crop planning, harvesting but separate business accounts
5. GT Farm Ltd	John and Tomas	John	Joint venture They share machines, labour, and an agronomist; also share crop planning, fertilizing, harvesting and are part of the he same larger buying group for inputs, but keep separate business accounts.
FULLY INTEGRATED			
6. CC community farm	20 families jointly farming and sharing all costs and returns	Colin & Ramona	Group farm: 20 families cultivate land together, take production decisions, contribute labour & share benefits. The land is owned by the collective.
EXPERIMENTAL: FACILITATING NEW ENTRANTS			
7. ST Farm	Robert & Sonia own the land, cultivated via managers and share farmers	Wallace & Caroline (managers and share farmers)	Share farming on a single farm whereby they train young farmers who work with W&C, and split the farm workload. Normally the new entrants stay for 1-2 years after which they are left to find their own land to farm or other occupation.
8. EL Farm Cooperative (ELFC)	Facility for settling young farmers in organic, agro-ecological small scale farming	Helen	Buy land to settle young farmers in clusters on a permanent basis. But each farm family works individually, using agro-ecological practices on small plots. There is scope here for cooperating to share operations but has not yet been explored.

*Note*s: see Agarwal (2014) for levels of cooperation;
LLP = Limited Liability Partnership; Ltd: Limited company. LLPs (introduced by the UK government in 2001) and Ltds have features in common as well as differences. LLPs are a kind of 'halfway point' between a traditional partnership and a private limited company. Both LLPs and Ltds are limited companies that have to be incorporated at Companies House and involve higher reporting and filing requirements than a solo enterprize. LLPs tend to be partnerships between two people who want to scale up, and agree on the limit of each partner's liability. The partnership structure is flexible and can be changed as needed. Ltd companies normally have several shareholders and a more formal structure, with a Board of Directors. LLPs and Ltds are also subject to different tax liabilities. See also: https://www.theformationscompany.com/knowledge-base/llp-vs-ltd-whats-the-difference.

ET Farms Ltd, contains not one but 5-6 collaborative agreements with varying degrees of sharing. The owners own only 40 acres (16 ha), but have a range of machines, and possess substantial management skills and knowledge of farming practices. They cultivate their own land along with land taken under JV contract farming, as well as land obtained under standard rental agreements. In the JVs, ET Farms Ltd. provide machines, labour and fuel while the landowner provides land. Both parties take a fixed fee per acre on a quarterly basis and share net income in varying proportions (60:40 or 50:50). Some agreements last up to 10 years. Although, typically, the agreements cover machine and labour sharing, in some cases the landowner also provides seeds and fertilizers and these cases could be counted as doing multi-purpose cooperation.

SQ farm and **LM farm LLP** also have single purpose JVs. In both, machine and labour are shared. But, unlike ET Farms Ltd, these JVs involve a greater sharing of assets and decision making between the parties involved and would not be characterised as doing contract farming. Moreover, in SQ farm, the owner was fully occupied with non-farm businesses and hired a manager (Ron) to run the farm. The manager is the one who initiated the JV with a neighbouring farmer (Dave) whom he knew.

After taking an inventory of their respective machine assets, Ron and Dave decided to sell their old individual combines and buy a new one which could service both the farms (a total of 1600 acres [648 ha]). Ron managed and operated the machines based on his and Dave's joint decisions on what would be done when. Ron invoiced Dave for his time, as well as machine time and running costs. They realised substantial cost saving on machine purchase in a context of rising prices. However, they kept their crop sales and business accounts separate and did not go in for more integration, since they had different soil types with different yields.

The **LM farm LLP** was run by a very savvy businessman – Andrew – with excellent accounting skills. He also chaired the Joint Venture Farming Group for several years. He was keen on creating a joint venture and wrote to his neigbours that he wanted a partner to establish one. He finally entered into an agreement with Norman – a local farmer, whom he did not know before. Norman was an owner-operator. Andrew was farming 332 arable ha while Norman farmed 326 ha. They both owned machinery.

They established an LLP, and jointly bought new machines, sharing costs 50:50. They also shared labour costs and had a 50:50 profit sharing arrangement. The arrangement worked well for five years and they gained financially, according to Andrew, but then the partners fell into disagreement. As Andrew described it: 'Norman felt his grain must always be combined first'. He also 'wanted to use his combine on his farm first', even when, logically, it was not the most efficient thing to do. They finally decided to split the partnership, taking the machines that each wanted and selling the rest. This is an atypical case in that Andrew and Norman were strangers before they formed a JV. Usually, partnerships are formed between people who know each other.

7.3 Multipurpose cooperation

Two of our fieldsite farms — **MN Farms LLP** and **GT farms Ltd**. — went beyond simply machine and labour sharing to undertake additional activities jointly. They were clearly doing multipurpose cooperation.

MN Farms LLP is a joint venture between two adjoining farms where the owners — Rupert and Tom — have close family connections and have known each other for many years. They had neighbouring farms, one farming 370 arable ha and the other 501 arable ha. They decided to work together in 2004. They made an inventory of equipment on both farms and agreed to sell some old machines and buy some new ones. They began with a shared combine and in 2007 formed an LLP. Rupert, the owner-cum-manager of Farm 1 who works on behalf of the family company, now provides all the labour for machine driving and spraying, and keeps a record of his time and of machine time. He also makes the decisions on fertiliser and pesticide use for both farms. Tomas, the owner of Farm 2 puts in capital. The value of labour is calculated in hours and the cost of machine use includes hours of use, depreciation and fuel. These are arable farms with separate crop rotations. They sell their crops separately and keep separate business accounts.

GT Farm Ltd again involves a partnership with one other farm. Here too, the two partners, John and Thomas, had been friends for many years, and decided to go in for a joint venture to economise on machine use and save on labour costs. Both had arable farms. Machine time and labour time for running the machines were charged in similarly to that noted for MN Farms LLP. But, in addition to machine and labour sharing, they had an agreement on which crops to grow. They also shared the same agronomist and jointly purchased inputs through membership of a separate buying group. As John, whom we interviewed put it: ‘When we started the joint venture, we were, to all intents and purposes, equal partners, and decided everything jointly.’ ‘We treated all of it as one big farm’. But their soil types were different — one had mainly chalky soil and the other heavy clay — so the crop rotations were different, as were the yields. Hence, they did not combine their gross margins.

This takes us to the third category of cooperation where everything is shared, namely CC community farm.

7.4: Fully integrated cooperation

Unlike the JVs discussed above, which are driven basically by expected economic benefits, the formation of the CC community farm, located in the Midlands, was propelled by shared values and life-style choices. It is a farm collective constituted of 20 families and established over four decades ago. The site was initially an old estate owned by a wealthy family that could not pay the inheritance tax and handed the area to the County Council. Of this, 40 acres (16 ha), including a fruit orchard, is with the CC community farm.

The land is owned by the farm as joint property and cultivated collectively by the resident families. When a family moves out, another replaces it and there is a waiting list. To

cover farming costs, each household contributes to a cooperative fund, £40 per month for an adult and £20 for a child.

The farm has eight strips of arable land on which they do crop rotation, using minimum tillage. They work together, growing vegetables, maintaining a fruit orchard and rearing two dairy cows for milk, in addition to some sheep and chickens. Responsibilities are distributed to sub-groups (e.g. a field group, a cow group, and so on) and daily tasks are rotated within these sub-groups. They are not paid for their work and production is for self-consumption rather than sale. Typically people spend a certain proportion of time a week on the farm and the rest earning a living doing non-farm work outside the community, in a range of jobs such as in IT, a pharmaceutical company, or as a lighting technician, engineer, nurse, etc.

Overall the farm seeks to be self-sufficient in food. As Colin explained to us: 'We produce a large percentage of the food we eat and fulfil 60-80% of our food needs.' They also have a cheese cellar and storage for apples. They produce largely organically and say they have good yields. A small shop provides some items of daily use that are not grown on the farm, such as coffee, tea, etc.

All decisions are made by consensus at two monthly meetings. One meeting relates to the farm, and the other to the homes people live in, coordinated by the farm's housing association. On issues where there is no consensus, a 75% majority vote is taken, but if that too fails the matter is dropped. They do have differences in terms of preferences – some like visitors, others don't; some want more privacy, others are more social. But, according to the people we talked to, 'it is an amazing community' with more factors bringing them together than separating them.

7.5: Experimental groups facilitating new entrants

Our final two interviews were with two initiatives that have a similar purpose, but are using very different approaches. The common purpose is to encourage small-scale, sustainable farming and bring in new entrants. their approaches are different, however, although they could prove complementary if they coordinated other efforts.

ST farm in Somerset is a 250 acre (101 ha) organic farming estate owned by Robert and Sonia and managed by Wallace and Caroline (W&C) whom we interviewed. They have an open website which outlines their vision as follows: 'to have as many families as possible earning a sustainable livelihood from small-scale, regenerative farming businesses that complement each other'. They want to demonstrate that 'the British countryside is far better served by large numbers of small farms… selling their produce directly to those who are going to eat, rather than just by a few huge farms selling to the supermarkets'.

All those who run the farm share the Christian faith, but this is a consideration not a requirement. Their primary criteria are that the young farmers have an interest in long-term farming, and the ability to work flexibly and meet the challenges of cultivation. W&C advertise for young farmers on local facebook groups, on a few websites, and by word-of-mouth.

Those who join the farm are typically single or a couple or a small family, since the accommodation provides only a single bedroom or two bedrooms. When we interviewed W&C the farm had one single man in his mid-20s and a couple in their early 30s with a young daughter. Wallace and the two men were farming full time, splitting the work load between them.

The majority of those who join have little experience of farming. They train on the job, based on their particular skills and the farm's needs. They work as 'share farmers' on the estate's land, keeping a share of their gross income and giving a share to the estate for running costs and capital equipment. They are seen largely as 'self-employed', although they frequently cooperate with each other in terms of lending a hand if needed, for, say, apple picking, barn cleaning, or providing cover to allow for some off-farm or leisure activities.

All those farming on the estate meet once a week and share an evening meal. They stay on the estate for 1-2 years and then leave to try and set up a farm of their own. Since 2002, some nine out of 25 who had worked on ST Farm are still farming. Others have taken up other types of self-employment.

In contrast to the ST Farm, the **EL Farm cooperative (ELFC)** seeks to settle new entrants on a permanent and sustainable basis. Branches of ELFC are located in mid-Devon (where it started) and East Sussex. As Helen, their community development manager, explained to us, they want low input land-based livelihoods to flourish and to promote agroecological farming in England, based on small farms. For this purpose, they buy new land and seek to settle new entrants on it. They subdivide the land into several ecologically managed residential landholdings, establish a new smallholding 'cluster', and rent out the land. They make the land available in holdings of 5-9 acres (2.0-3.6 ha) to new entrants (termed 'stewards') who want to do ecological farming.

ELFC's land development manager locates land that is cheap and appropriate for farming in the open market via funders who like ELFC's mission, and also through a "Gift Your Land" campaign. ELFC then applies for temporary planning permission to farm, and once obtained they advertise for stewards via social media, their newsletter, and word-of-mouth. They evaluate if the person is willing to take on the land and is potentially viable. Each steward initially gets five years on a temporary planning permit. Then permanent planning permission is sought.

Those who move in have to prove that they can cover a minimum of just over 50% of the farm household's basic needs by agriculture and also have one full time person per household who works on the land. The stewards are also expected to regenerate the land by using ecological processes. ELFC monitors the stewards' accounts annually, evaluating them on various thresholds, including how much land is being used for agriculture, how much is being regenerated, and if they are meeting their basic needs.

Finding stewards is not always easy and the application process is long since they have to liaise with the planning authority and demonstrate the viability of each business. The stewards have to establish a brand new business, sometimes with limited farming

experience. Often they get a bare field site and temporary accommodation which could simply be a static caravan, so it makes for a difficult lifestyle. They have to pay a rent to ELFC for the land.

Nevertheless, several of the stewards have been able to make a success of the venture, investing in land fertility and business. ELFC today has six sites of which two are fully functional. The farmers settled here are involved in diverse ventures. One family started a lunch box business; another started a vegetable and salad business to sell in local markets; another kept pigs and geese; yet another went into herbal farming.

However, the farmers work separately rather than collaborating, even when living and working next to each other. When we asked about potential cooperation between them and about building a sense of community, Helen responded: 'That's not been the intention. If that were to happen across the sites, across the plots, I think that would be great. But that's not been the driving force behind it. So, essentially, we see three farms sitting next to each other. They don't have an outside body instructing them on how to build a community, but they can form a community, just as a street becomes a community.' At present there are no common meetings among the stewards, but ELFC was planning a workshop to bring them together.

In our view, there is potential complementarity and scope for cooperation between ST farm and ELFC. The former trains new entrants who then seek out land to farm, while ELFC helps new farmers obtain land. We suggested this to Helen, who agreed this could be something that they could consider.

7.6 In overview

In our eight cases, we have covered different levels of farmer cooperation and integration – ranging from single purpose, to multipurpose, to fully integrated. They also differ in their primary motives for cooperating. Categories 1 and 2 are driven mainly by the potential for cost-saving and higher profits through economies of scale by joint input purchase and management, whereas categories 3 and 4 are driven more by ideological and/or lifestyle and environmental motives.

No matter which level of cooperation they practice or what their motives, however, there are proven gains in all cases, but of different kinds:

(1) There are clear economic gains from single and multipurpose cooperators who share machinery, management, crop-planning, and input purchases (categories 1 and 2). These gains may or may not show up as higher yields (such data are not collected) but the cooperators report effective cost saving, and this would feed into higher profits. This is in keeping with the reports in *Farmer's Weekly* (as seen in Table 3).

(2) There are social gains from fully integrated cooperation in category 3 farms, in terms of building community values and sustainable lifestyles, driven by basic needs rather than greed.

(3) From category 4 farms, there are both individual and larger community gains. On the one hand, young farmers get an opportunity to train, practice and learn to build sustainable livelihoods, and, on the other hand, there is an expansion of the taste for and ability to undertake small scale, organic farming which has been disappearing in England. It provides an innovative (even though transaction-cost heavy) way of inducting new entrants into farming that differs from the government-driven methods that have had limited success.

8. CONCLUDING REFLECTIONS

Notwithstanding the popular perception that English farmers are too individualistic to be willing to cooperate with one another, the ground evidence indicates otherwise – both historically across the centuries and in the contemporary period. The forms such cooperation has taken, however, have varied over time and across regions. Typically, cooperation has been informal and its extent is never fully revealed in statistics or historical documentation. Yet, as an increasing number of localised studies show, in practice cooperation is fairly common, and it can and has been known to bring a range of economic and social benefits in contexts where there is risk or scarcity of one or more resource: labour, land or capital.

This paper sifts through a variety of evidence – historical studies, farm surveys, *Farmers Weeklies*, and field research – to provide an overview of which, how, and why farmers cooperate in England. Although by no means comprehensive, the paper gives a fair idea of the forms that such cooperation has taken earlier and the forms it is taking today. It thus provides new evidence on an important rural institution that has a long history in England and considerable potential for enabling sustainable farming in the future.

The paper draws on existing literature, government reports and data, as well as field interviews of different types of farmer cooperation. Although limited in number, the fieldwork cases were selected to cover a range of ‘models’ of cooperation that exist or are emerging, and which would be of interest for further research and policy formulation.

Overall, going by official figures, only about 4% of farms in England, covering about 5% of utilized farm land, have some form of formal jointness in production, variously under share farming, contract farming, or partnership arrangements. If we include estimates of informal unconventional farming arrangements, the percentage of joint ventures would go up to 14% of farms and about 14% of agricultural land. However, small regional surveys indicate that informal cooperation among farmers is much more widespread than these percentages reveal: farmers often cooperate for selling and buying machines and inputs, and sharing labour and other specific aspects of production. Most are found clustered in a few parts of England, especially in the south-central counties, and the majority are in arable farming, unlike in Europe (e.g. France and Norway) where group farms are concentrated more in livestock production. Even in England, though, some observe an increasing interest in JVs among livestock farmers.

The main driving force for farmer cooperation is to gain from scale economies in equipment use and saving on labour. The purchase of large machinery (such as combines) is

the most common and growing reason for forming joint ventures. But our field studies reveal that, in practice, actual cooperation, even among those that begin with machine sharing, often goes much further to include crop planning and joint purchase of inputs. The JV can also involve a manager employed by one of the partner landowners who may be occupied mainly in non-farm business. The manager then becomes the main coordinator on behalf of the JV and may even facilitate the formation of the JV. Business incomes and accounts, however, are normally kept separate, and community farms such as CC, that share all aspects of production and decision-making, are rare.

In entering cooperative arrangements, farmers expect financial gains such as cost savings, enhanced yields and higher profits. Evidence of actual gains is, however, limited. It appears to lie primarily in saving machine and labour costs. But the FBS data samples for share farming are too small to allow a reliable comparison with non-shared farms on yields or profits. In fact, we found no rigorously conducted study that provided robust estimates to make such comparisons. A study conceptualised and conducted with such a purpose in mind is clearly needed, of the kind undertaken, for instance, by Agarwal (2018) for India.

Moreover, while farmers in England, and more broadly in the UK, expect many gains from joint farming – both financial/economic and non-economic – most do not go all the way to fully integrated cooperation. This is brought out in the review of other studies, the reports in *Farmer's Weekly* over the years, as well as in five of our field studies. Our one case of full integration – CC community farm - is driven more by life-style choices than by the potential of economic gain. Partial cooperation reduces the likelihood of farmers reaping the full economic and social benefits of sharing. Here learning from France's experience of group farming could bring benefits.[8]

Two of the models from our field work – ELFC and ST farm – are unusual in that they embody efforts to increase organic and localised small-scale agriculture in England. These are not captured in the official statistics or systematic surveys undertaken so far. Such broad experiments hold the potential for creating farms that would gain greatly (in our assessment) from multi-level or fully integrated cooperation. So far, however, this possibility has not been examined by either ELFC or ST farm. Here learning from group farming models found especially in India, where there are many examples of small farmers cooperating, could point a way forward. We hope that our conversation about this with the ELFC manager and the discussion in this paper can sow the seeds for such thinking in the coming years.

References

ADAS. 2007. Study of Joint Venture Farming. Report to Defra, ADAS UK Ltd, Woodthorne, Wergs Road, Wolverhampton, WV6 8TQ.

Agarwal, Bina. 2014. 'Food sovereignty, food security and democratic choice: Critical contradictions, difficult conciliations', *Journal of Peasant Studies*, 41(6): 1247-1268.

[8] In Galway, Ireland, for instance, an effort was made in 1990s to study the French model of GAECs to see if it could be used in Ireland (Agarwal's 2023 interview with Ben Roche, formerly with Teagasc. He pioneered the establishment of farm partnerships in Ireland).

Agarwal, Bina. 2018. ‘Can group farms outperform individual family farms? Empirical insights from India’, *World Development*, 108: 57-73.

Agarwal, Bina. 2010. Rethinking agricultural production collectivities’, *Economic and Political Weekly*, 55(9): 64-78.

Agarwal, Bina & Dorin, Bruno. 2018. ‘Group farming in France: Why do some regions have more cooperative ventures than others?’ *Environment and Planning A: Economy and Space*, 51(3): 781-804.

Allen, R.C. 2001. Community and market in England: Open fields and enclosures revisited. IN M. Aoki and Yl Hayami (eds). Communities and Markets in Economic Development. Oxford: Oxford University Press.

Almas, Reidar. 2010. ‘I have seen the future and it works: How joint farming may solve contradictions between technological level and farm structure in Norwegian dairy production.’ In: Bonanno AB, Jussauma R, Kawamura Y, Shucksmith M (eds) *From Community to Consumption*. Bingley: Emerald Group Publishing Limited, pp. 3–16.

Ault, W.O. 1972. *Open-field farming in medieval England: A study of village by-laws*, London: George Allen and Unwin Ltd

Baumgart-Getz, Adam, Prokopy, Linda S., and Floress, Kristin. 2012. ‘Why farmers adopt best management practice in the United States: A meta-analysis of the adoption literature’, *Journal of Environmental Management*, 96(1):17-25.

Baviskar, B.S. 1980. *The Politics of Development: Sugar Cooperatives in Rural Maharashtra*, Delhi, Oxford University Press.

Bonner, Arnold. 1961. *British cooperation. The History, principles and Organisation of the British cooperative movement*, Manchester: Cooperative Union Ltd.
CLA. 2014. *An Option for enterprising farmers: CLA’s Assessment of Share Farming*, Report, 16 Belgrave Square, London.

Butler, Allan & Winter, Michael. 2008. *Agricultural Land Tenure in England and Wales,* CRPR Research Report No 24.

Chaudhuri, A & Maitra P. 2000. Sharecropping contracts in rural India: A note, *Journal of Contemporary Asia*, 30:1, 99-107.

Cook, Peter & Griere, John. 2009. ‘Getting New Talent into the Industry: A Guide for a Phased Entry into Farming’, The Rural Development Company.

Davis, RHC. 1970. *A History of Medieval Europe: From Constantine to Saint Louis*, Second Edition. London and New York: Longman.

Digby, M. 1968. Agricultural cooperation in the United Kingdom, Occasional Paper no 34, The Plunkett Foundation for Co-operative Studies, London

Domesday Book (1086): Medieval English survey record, London: National Archives

Gasson, Ruth, Errington, Andrew J., & Tranter, Richard. 1998. *Carry on Farming: A study of how English farmers have adapted to the changing pressures on farming*. University of London: Imperial College Press.

Government of UK (2024). *Agricultural facts: Summary*, Dept. for Environment, Food and Rural Affairs.

Griffiths, Elizabeth & Overton, Mark. 2009. *Farming to Halves: The hidden history of sharefarming in England from Medieval to Modern Times*, Palgrave Macmillan.

Harris, Andrea and Murray Fulton. 2000. 'Farm Machinery Co-operatives in Saskatchewan and Québec', Working Paper. Centre for the Study of Co-operatives University of Saskatchewan, Canada.

Herbel, Denis, Rocchigiani, Mariagrazi, & Ferrier, Christine. 2015.The role of the social and organisational capital in agricultural cooperatives' development: Practical lessons from the CUMA movement, *Journal of Co-operative Organization and Management*, 3: 24–31

lbery, Brian, Ingram, Julie, Kirwan, James, Maye, Damian & Prince, Nick. 2016. 'Non-successional Entry into UK Farming: An Examination of two Government-supported Schemes'. In Matt Lobley, John Baker, Ian Whitehead (Eds.). *Keeping it in the Family International Perspectives on Succession and Retirement on Family Farms*, London and New York: Routledge.

Impey, Louise. 2014. 'Driving down farm machinery and labour costs', *Farmers Weekly*, 8 December. https://www.fwi.co.uk/arable/driving-farm-machinery-labour-costs

Infield, Henrik F. 1956. *Utopia and Experiment Atlantic Press*, London.

Ingram, Julie. 2022. Paper presented at a workshop on 'Is there a case for cooperation among farmers' hosted by the Centre for History and Economics, University of Cambridge, 11 November.

Ingram, Julie & Kirwan, James. 2011. 'Matching New Entrants and Retiring Farmers Through Farm Joint Ventures: Insights from the Fresh Start Initiative in Cornwall, UK *Land Use Policy*, 28(4):917-927 DOI:10.1016/j.landusepol.2011.04.001

Knapp, Joseph Grant. 1965. *An analysis of agricultural co-operation in England*. London: Agricultural Central Co-operative Association Ltd.

Lucas, Véronique. 2021. 'A growing contribution of the French farm machinery cooperatives to the agroecological transition', paper presented at the International Cooperative Alliance CCR Europe Research Conference, Paris

Morley, John: 1975. *British agricultural cooperatives*. London: Hutchinson Benham.

Morris, Carol, Jarratt, Suzanne, Lobley, Matt & Wheeler, Rebecca. 2017. Baseline Farm Survey. Final Report, WP 2.2A Task 2. SIP, Sustainable Intensification Research Platform, University of Exeter, UK.

Opstal, W.N. 2010. Rochdale Society of Equitable Pioneers, In H. K. Anheier and S. Toepler (eds), *International Encyclopedia of Civil Society*. Springer Nature, pp. 1326-27.

Orwin, C. S. 1938. *The Open Fields*. Oxford: Clarendon Press.

Rayner, Anthony John & Ennew, Christine T. 1987. Agricultural Co-operation in the UK: A Historical Review, *Agric. Admin. & Extension*, 27: 93-108.

Sugden, Fraser, Agarwal, Bina, et al. 2021. 'Experiments in farmers' collectives in eastern

India and Nepal: Process, benefits, and challenges', *Journal of Agrarian Change*, 21(1): 90-121.

Surlia, V, and Meena, S. S. 2022. Contract Farming in India: An Overview, In S. S. Meena and H Prakash (eds). *Emerging Trends in Agribusiness and General Management*. Udaipur: Himanshu Publications.

Thomas, Emma, Riley, Mark & Spees, Jack. 2020. 'Knowledge flows: Farmers' social relations and knowledge sharing practices in "Catchment Sensitive Farming" ', *Land Use Policy,* 90:104254. DOI: 10.1016/j.landusepol.2019.104254

Turner, Martin & Hambly, John. 2005. 'Agricultural Restructuring: The Potential Role of Joint Venture Arrangements', in *Annual Report 2004*, Matt Lobley and Allan Butler (Eds.). University of Exeter.

Wheeler, Rebecca, Lobley, Matt and Soffe Richard. 2020. *Farm Succession and Inheritance in England, Scotland and Northern Ireland*, Report. Centre for Rural Policy Research, University of Exeter.

Wilson, Paul, Lewis, Mervyn & Ackroyd, Joanne. 2014. 'Farm Business Innovation, Cooperation and Performance'. Rural Business Research supported by DEFRA.

Winter, Michael, Richardson, Celia, Short, Christopher & Watkins, Charles. 1990. *Agricultural Land Tenure in England and Wales*. London: Royal Institution of Chartered Surveyors (RICS).

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