A Co-operative Path to Food Security in the UK

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The issue of food security is rising rapidly up the political agenda, especially in Europe. The broad parameters of the EU were developed in the immediate post-war years and, consequently, much of its early energy in the area of agriculture was devoted to supporting farmers and maximising food production. This led to over-production and a lack of attention to environmental standards in agriculture. More recently, a number of ecological and economic issues have combined to threaten supplies of food to some of Europe's developed nations, particularly the UK. This paper begins by outlining the nature of the problem facing the UK in terms of food supply. It sets the debate within the framework of climate change and resource insecurity, indicating that the UK's policy of trading financial services in return for food bought on the global market seems increasingly vulnerable. The paper then moves on to consider the role of co-operatives in food production and distribution and identifies the dominance of food in the history and current status of the co-operative movement in the UK. By way of conclusion, the paper questions how the co-operative economic model may be able to make a timely contribution to underpinning food security in the UK.

1. The Problem of Food Insecurity

During 2008 the issue of food security became of concern to policy-makers in the richer countries of the world for the first time in several decades. Data from the UN's Food and Agriculture Organisation indicating the rapid rise in world food prices during 2007/8 are reproduced in Table 1. While the prices of many foodstuffs has since declined, the table indicates the increased volatility of prices on world food markets in the past few years.

The reasons for the current food crisis are threefold: climate change is leading to more problematic conditions for farmers and consequently erratic and generally poorer harvests; competition for land with biofuel producers is putting pressure on the supply of staple food crops; and the rising price of oil has a heavy impact of food prices in a food economy where every calorie of food has taken 10 calories of input energy to be produced (Heinberg, 2003).

Figure 1 shows the rapid increase in the

Year	Month	Food Price Index ¹
2000		92
2001		94
2002		93
2003		102
2004		113
2005		116
2006		126
2007		156
2007	September	170
	October	174
	November	179
	December	186
2008	January	195
	February	215
	March	217
	April	214
	May	215
	June	219
	July	213
	August	201
	September	188

Table 1: FAO Food Price Index, 2000-2008

Notes: The Food Price Index consists of the average of six commodity group (meat, dairy, cereals, oils, fats and sugar) price indices mentioned above weighted with the average export shares of each of the groups for 1998-2000

The index is derived from an average based on 2002-4 = 100.

Source: FAO website.

quantities of food imported by the UK over the past 50 years. Some of the increases are the result of changing tastes, so that we are eating more bananas relative to apples and more curries and hence more rice. But others represent what is known as the 'great food swap' (Centre for Holistic Studies, 2010), with the same products passing each other on the world's oceans as they travel in opposite directions to distant markets. In the graph this is shown most clearly in the case of chicken meat, which can, of course, be produced domestically in the UK. The example of milk is also striking: in 2007 126 million litres of liquid milk were imported into the UK, while 270 million litres were exported. To give another example, UK imports of apples have increased rapidly since the Second World War, from 152,000 to 439,000 tonnes between 1952 and 1997, and since then to 522.100 tonnes in 2007. While some of the absolute increase in food trade can be accounted for by the increase in the UK and global population over that period, even the per capita trade in food commodities has doubled

in that time. This is an environmental concern due to the CO2 emissions it causes, and the rapid depletion of oil supplies also needs to be considered. As shown in Figure 2, the majority of the oil used in the production, distribution and consumption of food is accounted for by the agricultural system itself — as a result of the fossil-fuel dependent fertilisers and agricultural machinery. Although food miles are also of concern, they are responsible for only half as much consumption of oil and therefore also contribute about half as much to greenhouse gas emissions.

The UK is in a particularly vulnerable situation, the result of an economic policy that has focused on the knowledge economy and made Britain a world leader in financial services at a time when this sector is shrinking rapidly. The resulting 'weightless economy' is fine in theory, but as the value of the pound falls and food imports become more expensive, British consumers are likely to learn about its practical limitations. Government responses have moved from a complacent attitude that 'food security is neither necessary

	Rice, milled	Bananas	Apples	Chicken meat
1967	0.391	3.533	2.9	0.092
1977	1	3.046	3.389	0.0685
1987	1.273	3.594	4.429	0.7273
1997	1.402	6.343	4.069	1.494
2007	2.153	9.773	5.228	3.389

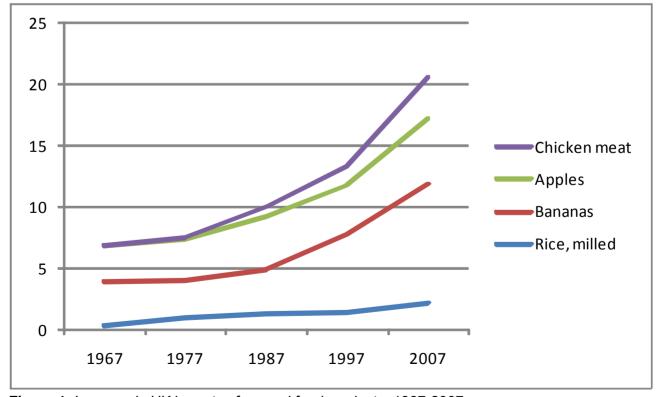
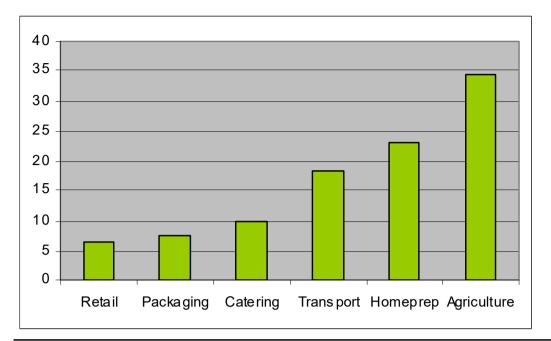


Figure 1: Increase in UK imports of several food products, 1967-2007 **Note:** Data are from the FAO database and are for imports measured in millions of tonnes.

Figure 2: Annual Energy Use Associated with UK Food Supplies: percentages expended on various aspects of food production and distribution *Source*: Lucas *et al.* 2007.



nor is it desirable' (Defra, 2003) to what is supposed to be a reassuring 'evidence and analysis paper' produced three years later which still relies on a global food market to feed UK citizens and concludes that "As a rich country, open to trade, the UK is well placed to access sufficient foodstuffs through a well-functioning world market" (Defra, 2006).

The UK's insecurity in terms of food provisioning is exacerbated by the weak position of the pound on world financial markets, a weakness that results from the failure of our financial sector, which was the basis of the generation of foreign earnings that were used to fund the import of food. Figure 3 compares the UK situation with that of a range of leading industrialised nations. It indicates that, although China has something like 150 times as many people as the UK, the sizes of our national food production gaps are approximately equivalent. The main difference is that China is the world's leading manufacturing nation and hence has products to trade in exchange for food. The figure also indicates that the other nations still have healthy food surpluses, that of the USA being particularly notable.

Despite the cheerful reassurance of the Defra (2010) assessments, (which are an almost complete reversal of previous policy), concerns have been raised by a range of researchers and campaigners about the vulnerability of the UK's food supply position (the work of Tim Lang (Barling *et al*, 2008) at City

University, London and the campaign groups Sustain and the Soil Association are of particular note). The most prominent voice calling for a change in food policy has been the government's Chief Scientific Advisor Sir John Beddingfield who, at the government's conference on sustainable development in 2009 said:

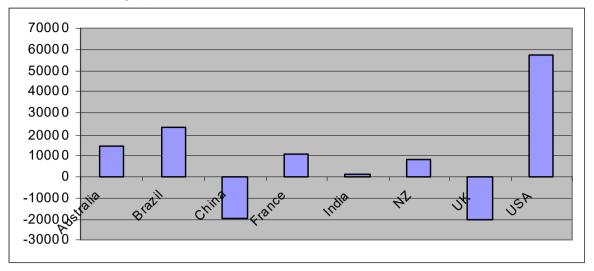
this is a major problem. You can see the catastrophic decline in those [food] reserves, over the last five years or so, indicates that we actually have a problem; we're not growing enough food, we're not able to put stuff into the reserves. And so what I expect to occur is significant volatility in food prices with the consequent problems for the poorest.

For environmental and security reasons, the call is for self-reliance in food, and as a minimum for the domestic production of the basic foodstuffs:

A system of farming that was truly designed to feed people and to go on doing so for the indefinite future, would be founded primarily on mixed farms and local production. In general, each country ... would contrive to be self-reliant in food. Self-reliant does not mean self-sufficient ... Self-reliance does mean, however, that each country would produce its own basic foods, and be able to get by in a crisis. (Tudge, 2003).

Figure 3: Absolute Magnitudes of Food Gaps for a Range of Countries

Note: The food gaps are measured in metric tonnes *Source*: Authors' graphic based on data from the FAO



As the remainder of this paper indicates, the activities and development of the co-operative movement in the UK have always been dominated by the food and farming sectors. Being owned by and democratically accountable to producers and consumers of food places it in a strong position to co-ordinate a speedy response to the food crisis. The paper indicates the range of co-operative activity both in terms of the variety of organisational forms and the variety of products. The conclusion is that the UK co-operative movement can play a vital role in ensuring that food production enables security of supply and with a lower level of environmental impact than is inherent in the global food distribution system.

2. Co-operative Food Production Processing and Distribution

The earliest examples of co-operative enterprise in the UK were in the food sector with flour mills and bakeries established initially in port towns such as Woolwich and Hull and then spreading across the North of England from the 1770s onwards (Birchall, 1994). These were followed by a generation of societies established during the 1830s and inspired by Robert Owen which aimed to purchase land on which the members could be housed and employed. While most of these businesses had been liquidated during the early 1840s when a string of bad harvests left members needing their share in co-operative's assets to buy food, the formation of the first really successful consumer co-operative in Rochdale in 1844 heralded a century of phenomenal growth for a model of co-operation based upon supplying pure and unadulterated food at fair prices. Many local co-operative societies purchased farm land and the Co-operative Wholesale Society, which they jointly owned, set up a network of factories, mills and food processing plants across the UK and internationally. It purchased its first farm land in 1896 and by the 1945 was one of the largest landowners in the country.

Today, the Co-operative Group is Britain's biggest farmer owning around 28,000 acres of land and farming a total of 50,000 acres including some owned by other landowners. There are also some local and regional consumer co-operatives which are still engaged in farming including Radstock Co-operative Society in Somerset and the Midlands Co-operative Society. If we include the various worker and producer co-operatives in the agri-food sector, data from Co-operatives UK indicate that during the 2008 trading year all but two of the top 20 co-operatives in the UK, ranked by turnover, were engaged in what we might broadly define as the food and agriculture sectors. Of the whole Co-operatives UK 100 for 2008, 83 of the co-operatives were involved in food and agriculture. Aside from financial services and a small number of other businesses, the UK co-operative movement is overwhelmingly a food movement.

Table 2 (reproduced from the Co-operative Review, 2009) indicates the scope of agricultural co-operatives in the UK. The Co-operative has used its strong market position to play an important role in expanding and mainstreaming

the consumption of fair trade products in the UK (Bibby and Shaw, 2005), and could play a similar role in developing more secure and sustainable food production and distribution systems. It can thus play a leading role in developing a new food economy that responds to environmental and food security pressures in the 21st century.

The following sections consider the scale and scope of co-operatives in a range of food-related sectors.1 First we consider co-operative farms, in which group the farmland owned by the Co-operative Group itself is dominant, although there are interesting developments on a very small scale in the areas of communitysupported agriculture and farms owned by community land trusts. Section 3 considers the power and potential role of the UK's consumer co-operatives, what most UK consumers would think of as 'the co-operative shop'. Section 4 considers the role that worker co-operatives play in the food economy, especially in the new food economy of wholefoods and fair trade. Section explores the sector of secondary co-operatives, or what are sometimes called 'co-operative consortia', in the areas of dairy production, meat production and fisheries, as well as agri-environment co-operatives.

3. Co-operative Farming

As noted above, the Co-operative Group's farming subsidiary, Co-operative Farms, is the UK's largest producer of food on the 70,000 acres of land it farms for itself and other landowners in England and Scotland: "Co-operative farms currently grow a variety of cereals and a growing range of fruit and vegetables including potatoes, strawberries, cider apples and peas" (Gosling, 2009: 10). In recent years there have been moves to more

closely align the products grown by the society's farming business with those sold in the shops it supplies. This has led to the development of the award-winning 'Grown by us' range and a policy to gradually refocus production away from cereals and towards vegetables. Already, Co-operative Farms grows or packs all the potatoes sold in co-operative stores in the UK, much of the wheat in its own-brand flour and an increasing proportion of soft fruit during the summer season. Continued development of these initiatives offers the prospect of co-operative farms growing a wider range of basic staple foods which are frequently imported into the UK at present.

3.1. Community Land Trusts

Community Land Trusts (CLTs) are an idea which originated in the USA in the late 1960s (Swann 1972) as an incorporated structure that could maintain the ownership of land in perpetuity for community benefit. However, the basic concept is arguably much older than this movement and the largest example in the UK is the National Trust, which is major landowner. While much recent interest in CLT structures in the UK has been focused on securing land for affordable housing, particularly in rural areas, some interesting models are also emerging in terms of land for the provision of local food. These developments tend to take the legal form of an Industrial & Provident Society for the Benefit of the Community which includes co-operative style participatory governance and enables capital to be raised from members for investment. Perhaps one of the most interesting potential future development paths for agricultural CLTs is in offering a viable future for the County Famers Estates held by many local authorities.

	Turnover (£000s)
First Milk Ltd	602,047
Milk Link Ltd	522,839
Openfield Group Limited	371,079
United Dairy Farmers Ltd	366,235
Fane Valley Co-operative Society Ltd	270,106
Mole Valley Farmers Ltd	243,361
ANM Group Ltd	206,021
Anglia Farmers Limited	145,738
Woldmarsh Producers Ltd	121,111
K G Growers Ltd	115,000

Table 2: Top 10 Agriculture Co-operatives – 2008

Source: Co-operative Review 2009

3.2. Community-supported Agriculture

In contrast to CLTs, in the case of communitysupported agriculture, the emphasis is more on the relationship between the farmer and the consumers of his or her produce than on the ownership of the land. As identified by the Plunkett Foundation, it is therefore more of a producer-consumer partnership:

CSA offers an innovative business approach where a food or farm enterprise has members who own 'shares' in the harvest and therefore also share in the risk. CSA enterprises range from allotments on farms and sponsoring apple trees, a community making an agreement in advance to purchase a particular crop from a producer, the community members making regular input of labour, to the purchase of land or related holdings or renting land and employing the producer. These enterprises engage and empower community members in the supply and/or production of their own food in a close relationship with a primary producer. (Making Local Food Work website).

Community-supported agriculture is a large movement in the USA with USDA figures showing that in 2007 there were more than 1200 such schemes (USDA, 2007). However, in the UK the movement has been much slower to expand with an estimate of only 30 being in

operation in 2006 (Cox et al, 2008). A leading example, Stroud Community Agriculture, is profiled as case-study 2. Stroud Community Agriculture has inspired imitators, although the majority of the growing number of CSAs in the UK are not co-operatives. Others that are include Tablehurst in Sussex (also biodynamic), Bradford-on-Avon, Exeter, Farnham, Hastings, and Whetstone in Leicester.

4. Co-operative Retailing

4.1. Consumer Co-operatives

The consumer co-operatives form the backbone of the UK co-operative movement. The Co-operative Group itself dominates: with an annual turnover of £9bn in 2008 which is likely to increase to c£13.5bn in 2010 due to the purchase of private grocery retailer Somerfield in March 2009. According to Defra figures (2010), the three co-operative retail organisations (Co-operative, Somerfield and Waitrose) have a combined share of 10% of the domestic retail market.

From over 1,000 local co-operative societies in 1900, there has been a long-running process of consolidation underway in the movement whereby societies have merged into a smaller number of larger and more financially secure businesses. The Co-operative Group is by far the largest society. It has a hybrid structure jointly owned by individual members in about 80% of the UK and the remaining regional and local

Case-Study 1. Fordhall Farm

Fordhall Farm in North Shropshire is a flourishing example of community involvement in farming — a farm which has been run organically for more than sixty years was threatened with closure but a public campaign combined with a share issue led to its passing into common ownership so that the existing tenants could continue farming there.

The story begins with Arthur Hollins, who took a tenancy on the farm in 1929. After the Second World War he converted to organic agriculture and moved into dairy production and the production of yoghurt. In spite of successful diversification into a country club and a restaurant the Farm was threatened when the neighbouring dairy business attempted to buy the land around the turn of the millennium. Financial pressures combined with a disastrous decline in sales as a result of the 2001 foot-and-mouth outbreak. This led to the establishment of the Fordhall Project in October 2003; its aim was to buy the land for the community.

The Fordhall Community Land Iniatitive that the project established is an industrial and provident society with charitable status. It has over 8,000 member-shareholders who purchased at least £50 of share capital and each have a single vote. In total, members invested £500k in share capital. The remaining £300k was funded through a loan of £100k from Triodos Bank plus private loans repayable by 2011. This has enabled Arthur Hollins's children, Charlotte and Ben, to continue farming organically on the land as tenants of the FCLI. They make their income from the farm shop, which also enables them to pay rent to the FCLI. The Initiative also uses the land for community benefit through events, volunteering and educational visits and celebrations.

Case-Study 2. Stroud Community Agriculture

Stroud Community Agriculture is a community-supported farm on two sites between Stroud and Gloucester in the West Country, UK. The farm sites are both owned by educational institutions and make up about 45 acres of farmland in total. They are both mixed farms with vegetables and animals, plus hay and grassland and green manures, all farmed according to biodynamic principles. One of the sites belongs to Wynstones Steiner School and was formerly called Kolisko Farm — a pioneering Steiner venture. By 2007 the SCA was supplying vegetables to 150 families on a share system, ie people paid a monthly sum to be members of the farm, in return for which they received a share of what was produced each month. The farm owns a certain amount of equipment but the major costs is farmers' wages. The farm is managed by a core group of members elected each year at the AGM. Connecting with the land is a key theme of the farm's activity, with a cycle of festivals reflecting the turning of the year. Seasonality is obviously also built into the provision of vegetables as is a near elimination of 'food miles'. Members of the farm are required to work on fortnightly workdays, and many also contribute extra time; for labour-intensive activities such as haymaking as many members as possible are involved. The farm shares farming skills with members and an apprentice.

For more information: http://www.stroudcommunityagriculture.org/

societies which trade in other places. There are about 30 'independent' consumer co-operative societies in the UK at time of writing. These range from large regional businesses such as Midlands Co-operative and Midcounties Co-operative which each turn over in excess of £700m per annum, through medium-sized societies such as Lincolnshire (£220m), Southern (£200m) and Channel Islands (£137m) to smaller operations with a handful of stores such as Tamworth (£23m), Radstock (£17m) and Penrith (£13m). There are also still a small number of single store co-operatives which have been trading in villages such as Allendale and Grosmont for over a century. These have been joined in recent years by an additional 220 community-owned village shops (see below).

From their inception right up to the 1950s, when market share peaked at approximately 30%, the consumer co-operatives were a movement based upon providing members with the very best quality food, at fair prices in the most modern stores of their day, with profits shared in proportion to trade (a dividend on custom not capital) and decisions made democratically. However, the rise of the multiple grocers and supermarkets had by the late 1960s and 1970s left the co-operatives playing a poor game of catch-up. Management often seemed focused on the business becoming a pale imitation of the competition and members were perceived as being a nuisance who got in the way of moving forward. Market share declined and financial performance suffered.

By the late 1980s, consumer concerns were again turning to a more 'ethical' agenda with concerns about food provenance beginning to be heard and the contribution of consumerism to issues such as the depletion of the ozone layer becoming widely recognised. A new generation of co-operative managers, many of whom had been trained by the Co-operative College, began to respond to this agenda and perhaps the first turning point in what has now become a co-operative renaissance was seen with the launch of the Co-operative Bank's Ethical Policy in 1992, which clearly showed that doing the right thing could also underpin financial success and lead the market into an area where private sector competitors could not follow.

The 1990s saw the beginning of the policy of supporting and promoting Fairtrade goods with the co-operatives becoming the first large retailer to stock CaféDirect coffee in 1994. This was followed by the development of the Responsible Retailing Policy in 1995, a report on food labelling (The Lie of the Label) in 1997 and Food Crimes in 2000. In 2001 the report of the Co-operative Commission made the point that there was a 'virtuous circle' whereby 'social goals' could provide a 'commercial advantage' and this would lead to 'commercial success' enabling the social goals to be delivered upon more effectively.

Given this growing ability to respond to the ethical agenda of the day in a positive and forward-looking way, it might have been predicted that the co-operative food retailers would be leading the movement towards local food supply into local shops. However, this has been a harder path for the co-operative shops

to take. As might be expected, small societies such as Wooldale in West Yorkshire play an active role in their local food economy, not just stocking local produce, but also providing office space for a new Community Supported Agriculture scheme in the Holme Valley. However, in some ways the response by the large consumer co-operatives to the call for more local food production and a reduction in food miles along the supply chain has been disappointing.

The introduction of the 'Grown by us' range by Co-operative Farms is welcome, but the centralisation of societies' food buying through the Co-operative Retail Trading Group has made linking local producers with local stores more challenging. Where progress is being made, it is led by the regional societies which have local organisational infrastructure and a strong sense of local identity. For example, Lincolnshire Society has always had its own local supply chain for meat and fresh produce and also owns a controlling stake in a local craft baker. This has formed the basis of a much wider initiative to promote and sell food produced within the county.

In terms of offering local produce via mainstream supermarkets, Midcounties Co-operative have lead the way with their 'Local Harvest' scheme whereby the society bears the cost of certifying small local producers supply chains so that they gain be registered as approved suppliers within a national framework of agreements. Similarly, Anglia Co-operative, East of England Society and the Southern Co-operative all carry extensive locally sourced ranges in their larger stores. 'Local Harvest' at Midcounties is particularly interesting because it grew out of a concern on the part of members with the plight faced by local farmers in the wake of the foot-and-mouth crisis in 2003. Midcounties conducted a survey whose resulted indicated that 85% of customers were in support of a local food purchasing scheme and it was listed in the top three issues of concern by a members' conference in 2007 (Gosling, 2009).

The scheme includes 150 products from 17 suppliers all within a 40-mile radius of the store. These include "dairy, meat, eggs, seasonal fruit and vegetables, breads and flour, beers and soft drinks, dried whole-foods, breakfast cereals, ice cream and cakes". It has received publicity and awards for its contribution to the local community and the environment and could provide a model for other co-operative societies.

It could also be deepened and broadened, especially if linked to production on co-operative farms, since many of the products currently branded as 'local' under the scheme are in reality only processed and packaged in the Midcounties area. Genuine food security and a significant reduction in food miles would require a local harvest as opposed to local packaging only.

4.2. Community Shops

The decline of local services in rural areas over the past 20 years has seen a renewed interest in the use of co-operative structures to deliver services such as village shops and Post Offices. Initially supported by ViRSA (the Village Retail Services Association), and now being taken forward by the Plunkett Foundation, there are now more than 220 community-owned village shops in the UK. Most of these are structured as Community Co-operatives and all make an effort to support a dynamic local food economy wherever possible (Perry & Alcock, 2010). Recent growth has been accelerated by the 'Village Core' project: delivered by a partnership between Plunkett, Co-operative & Community Finance and the Esmee Fairbairn Foundation, it offers a package of grants, loans and advice to new shops. The Co-operative Group's Enterprise Hub programme has also been used to support the development of new food retail co-operatives, most notably a community buy-out of the village greengrocer in Slaithwaite, West Yorkshire (www.slaithwaite.coop).

4.3. Country markets

One of the oft-forgotten parts of the local co-operative food economy is Country Markets Ltd which has an annual turnover of £10m across its national membership. Initially set up alongside the Women's Institute in the 1920s, a network of Country Market Societies (usually based on a county) exists across the UK. These are producer co-operatives whose members organise and staff markets in village halls and other venues across Britain every week providing an outlet for home-produced goods such as cakes, jam, plants, garden produce and craft goods. As part of the Big Lottery funded 'Making Local Food Work' project, Country Markets is being supported to develop the infrastructure to allow market societies to supply village shops and garden centres with produce, thereby widening the scope of their potential customer-base.

5. Dominance in Specific Food Sectors

5.1. Wholefoods

The growth in the 'alternative food economy' in the UK in recent years provides an interesting parallel with the early history of the co-operative movement. Concerns about the quality of food, in particular the spread of chemicals in both agriculture and food production and the absence of raw food in processed products, led to the growth of 'wholefoods', with a network of producers and suppliers growing up outside the conventional food economy from the 1970s onwards. Many of these businesses were established as worker co-operatives and still function as such today. They are some of the UK's most successful worker co-operatives. The Co-operative Review (2008) indicates that five of the top ten worker co-operatives (again ranked by turnover) are in the wholefood sector.

Amongst the larger players in this sector are the wholefood distributors — Suma, Essential and Infinity — which are all worker co-operatives. The largest is Halifax-based Suma, which trades under the group name of Triangle Wholefoods collective, and had a turnover of £24.7m in 2008. Founded in 1975, it has remained remarkably firm in its commitment to co-operative values and is still managed by all the employees. It also has a flat hierarchy, with sharing of roles between staff and equality of pay across the organisation. Infinity Foods was set up in Brighton in 1971 and became a workers' co-operative in 1979 — its turnover was £13.6m in 2008. Essential Trading Co-operative, based in Bristol, is the third largest player in this field and had a turnover of £12.4m in 2008.

5.2. Dairy

In many countries the dairy sector is dominated by co-operatives. In Norway 99% of dairy products are derived from co-operative businesses; in Finland the figure is 96% and in New Zealand 95%. Dairy production is also dominated by co-operatives in Ireland, India, Mexico, Kenya (76%), Poland (75%) and Slovenia (72%) (figures from the ICA). In the UK dairy sector there are a number of powerful co-operative players. While the largest, Dairy Farmers of Britain, was liquidated in 2009, Milk Link, First Milk and United Dairy Farmers all have turnovers of between £300m and £500m. Arla, the large Scandinavian Co-operative is also a major player in the UK milk supply industry and has recently re-structured its UK operations to

allow farmers here to become full members of the co-operative.

5.3. Fishing

The UK has 37 fishing co-operatives with a turnover greater than £25,000 per year, the largest based in Scotland (Co-operative Review, 2008). Their role is primarily to represent the individual fishermen/women to the local Fisheries Committees which determine how they can jointly manage the fishery. They are thus able to increase the voice of the local people, as well as using their expert knowledge to advise policy-makers.

Fisheries is an area of food production where the unsustainability of past practices threatens not only livelihoods but the very fish stocks upon which workers and consumers rely. The fisheries policy that was developed was based on three principles: the scientific determination of a Total Allowable Catch based on an estimate of remaining fish stocks; the national quotas allocating this limited catch between EU members; and the trading in these quotas between individual fishermen/women. In theory, this is a classic example applying a market solution (ie tradable quotas) to an environmental problem. In practice its consequences have proved disastrous, with many fish facing extinction (Thomson, 2006). Latest policy developments within the EU suggest a move away from centralised regulation and towards allowing local fishing communities to have more power of the management of fish stocks. Fishing co-operatives could play an important role in reducing competition for diminishing stocks and enabling the negotiation of systems of control and management that ensure a viable future for fisheries, and for the fish stocks they rely on.

6. Conclusion: Win-Win-Win

The data presented in this paper make clear that the co-operative movement in its widest sense already has a powerful role in the UK food economy and environmental pressures suggest that increasing the UK's food security will rise up the political and policy agenda in the coming years. Is it possible, then, to suggest reasons why these co-operatives might have a particular role to play in building a sustainable and secure food system, and, if so, what steps might we suggest that they could take to hasten this important move?

The co-operative advantage has always been

the negotiation of value between producers and consumers and the elimination of loss through intermediaries along the supply chain. Nowhere is this more important than in the food economy, where extended supply chains lead to poverty and hunger in the poorer world and overconsumption and insecurity in the richer countries. While this message may be clear to readers of this journal, co-operative food solutions are also politically and socially appealing, as is evident in the rapid spread of interest in farmers' markets and community farms. The challenge here for the co-operative movement is to ensure that these are genuinely co-operative with value being shared, rather than local middlemen profiting from the work of farmers who still lose the value of their labour.

As noted above, in the wholefood sector co-operatives have a strong role for reasons similar to those that first inspired the growth of consumer co-operatives. In the retail food market the co-operative movement is, for historical reasons, finding it harder to respond. One interesting opportunity that the large retail co-operatives might consider is to use their role as property managers, developers and landlords to provide affordable space for local food businesses adjacent to their larger food retail outlets. This would overcome the scale problem whereby it is very difficult to organise an efficient supply chain linking very small dispersed producers with a food distribution network built around large central warehouses. It would also create a local retail development much more resilient to competition from out of town supermarkets because it would provide a broad-based and distinctive offering to the public. If Allendale Society - one of the smallest is the country - can do this (they rent out a shop unit next to their main store to a local butcher) why not the larger societies?

Why should a co-operative response be best for the environment? Because it is, to quote the title of a paper presented to a seminar on the subject of food security, the simplest way of finding the shortest route between producers and consumers. From an environmental point of view this is essential to minimise the use of fossil fuels, to move towards a bioregional economy (Cato, 2007; Hunt, 2008). From a social justice point of view it is essential to minimise the extraction of surplus value and thus maintain viability in the farming sector. Which also explains why it is crucial if we are to guarantee food security and ensure that we able

to feed ourselves in spite of the weaknesses of the global economy.

The exemplar sustainable community of Stroud in Gloucester may be taken as a model for how local food economies might develop. Stroud Community Agriculture has already been mentioned, and Stroud also has a large number of well-tended allotment sites and growing taking place in private gardens that cannot easily be measured (MacMillan and Cockcroft, 2008). Its approach to food growing is entirely co-operative, with innovative developments such as a shared allotment which involves collaboration by seven families who share three allotments and their produce, and a growing number of community orchards. In terms of food purchase, Stroud has a very well patronised farmers' market, which has a co-operative history although it is currently run as a private business. There are also many informal food co-operatives, where groups of friends and neighbours share monthly food orders to the wholefood distribution co-operatives Suma and Essential, discussed in Section 5.1 above.

Stroud also has a range of co-operative shared eating groups. The first group to share preparation and consumption of food on a formal basis was the Springhill Co-housing, the UK's first new-build co-housing community which requires each of its members to cook once a month. Shared meals are available for three nights each week: they are nutritious organic meals, reasonably priced, and very popular. From this idea has sprung the Make A Meal of It group, in the nearby community of Uplands. A group of a similar size (around 75 people) they meet for a shared meal once a week at present, although there are plans to extend the number of meals and to other areas of Stroud. The purpose of the co-operative is partly to build community as well as offering people an opportunity to eat well without having to cook, and providing organic food at a reasonable cost.

Stroud's lastest food innovation is the Stroudco (as in Tesco) food hub (Newton and Franklin, 2010). According to its founders:

Stroudco is a democratically owned and run enterprise to trade local food equitably and build community. It uses a web based ordering system and a school hall as a drop off point and is staffed by volunteers and a part time manager, who is paid from a percentage of the turnover.

It has the legal form of a Community Interest Company but is in practice a producer and consumer co-operative. To guarantee the local nature of food supply producers must come from within 15 miles of Stroud. They supply food to the co-operative at lower than market prices and contribute 8% of their sale value to Stroudco to support running costs. They are also required to organise an annual event such as haymaking or camping and to share services with one another — both of which help to build the community of the co-operative. The aim is to have 20 producer members and 200 consumer members. Beyond this size and the co-operative would cease to operate as a community and so it would be preferable to create another along the same lines. The software and details of organisation are available to be shared freely with others wishing to take the same path.

What we see beginning to develop in Stroud is a new food culture or a new consumption ethic, where sharing of producing, cooking and eating food is undertaken for reasons of energy efficiency, conviviality and pleasure. This may be the path towards food security that we are seeking. Rather than the hair-shirt that sustainable food solutions are often identified with, it is a positive and enjoyable process of reempowerment through production, processing and consuming food. It is a system that is considerably less energy intensive and delivers higher-quality food. It also shares skills in both the production and the preparation of food and so helps to encourage local people to become the more involved and skilled citizenship that the sustainable future will require of us.

The businesses surveyed in this paper make clear the virtuous circle that can be created by a co-operative and environmental approach to the food economy. When a school starts an allotment garden to provide vegetables for the

school kitchen food miles are automatically reduced. But children also learn a new relationship with their environment, and basic life-skills, and a sense of self-confidence. When a local authority procures food from an organic co-operative farm, the value of procurement is anchored in the local economy, sustaining local jobs. But the environment is also enhanced and the security of food supplies is underpinned. Because The Co-operative store ('Good with Food') is such a fixture on the high street it is easy to underestimate the social and political importance of the role it could play in moving the UK food economy towards security and sustainability.

Co-operatives' distinctive ownership structure with democratic accountability to members gives them a mandate to 'do different' which their competitors would never get from stock-market investors. This has provided the basis for ideological leadership in ethical finance and the mainstreaming of 'fair trade' products in the supermarket supply chain. With a long history of leadership in the food sector, access to a network of suppliers through Co-operative Farms and the agricultural co-operative sector, the UK co-operative movement is capable of making a major contribution to addressing the urgent need to ensure food security and to lessen the environmental impact of our food production and distribution in the coming years. If it does not rise to this challenge, the long established retail co-operatives risk being confined to the dustbin of co-operative history. and co-operators in other sectors to either being acquired by global corporations or sovereign wealth funds (in the case of agricultural production and marketing), or becoming increasingly marginal in the case of community food initiatives.

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Notes

1. Excellent introductory information on the range of co-operative food initiatives can be found on the Making Local Food Work website: http://www.makinglocalfoodwork.co.uk. The Making Local Food Work programme an innovative partnership between Co-operatives UK, the Soil Association, Sustain, Plunkett Country Markets and the Campaign to Protect Rural England, has provided a welcome boost to a whole range of community food enterprises, many of them co-operative. There are hopeful signs that this momentum can be maintained after the lottery funding which has paid for MLFW finishes.

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