



**A Nuffield Farming Scholarships Trust  
Report**

*Award sponsored by*

**The Yorkshire Agricultural Society**



**Food chain revolutions:  
is Community Supported Agriculture a  
viable alternative?**

**Tamara Hall**

**July 2014**

**NUFFIELD UK**

## **NUFFIELD FARMING SCHOLARSHIPS TRUST (UK)**

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# A Nuffield (UK) Farming Scholarships Trust Report



Date of report: July 2014

*"Leading positive change in agriculture.  
Inspiring passion and potential in people."*

Title	Food chain revolutions: is Community Supported Agriculture a viable alternative?
Scholar	Tamara Hall
Sponsor	The Yorkshire Agricultural Society
Objectives of Study Tour	To find out whether Community Supported Agriculture offers a viable alternative to supplying supermarkets, having a farm shop or selling through farmers' markets.
Countries Visited	United States - June 2013 Finland and Sweden - November 2013 Japan and Singapore - May 2014 Greece - June 2014 Holland - June 2014 UK – various - 2012-14
Findings	<p>The CSA Model is viable for a small percentage of consumers and as such can allow a producer to earn a living from a small area of land. But CSA is disproportionately vulnerable to downturns in the economy.</p> <p>A CSA can be the way into the business for new entrants or for farmers' children.</p> <p>Other models using online shopping (e.g. Farmdrop), although deviating from the true meaning of a CSA, can give producers a better return on their sales and can also offer an alternative to a higher percentage of consumers than can true CSA.</p> <p>Mainstream supermarkets are struggling with their existing structures as consumers are shopping more frequently and want a better experience from food shopping.</p> <p>Modern technology is making alternatives more viable and will continue to do so.</p>

## **DISCLAIMER**

The opinions expressed in this report are my own and not necessarily those of the Nuffield Farming Scholarships Trust, or of my sponsor, or of any other sponsoring body.

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## 1.0. Introduction

I am not what most people think of as a traditional farmer - I was not bought up on a farm and did not go to agricultural college. I studied engineering at university but then decided to take a fashion course at Leeds College of Art and Design, following which I ran my own successful tailoring business, living and working in inner city Leeds.

At the age of 28, after suffering injuries in a riding accident, I came home to recuperate at my parents' home and ended up working on the family farm. I now run the farm, which consists of 500 hectares (1,250 acres) plus contracting - some stubble-to-stubble, some just combining. The farm is arable: winter wheat, winter oilseed rape, winter barley, vining peas and spring or winter beans. We joined the Higher Level Stewardship in 2006 with 10% of the farm managed primarily for wildlife. One of the capital works was converting disused buildings into a classroom and toilets with disabled access.

Since then we have gone on to host up to 50 school visits per year which include giving talks to outside groups about our farm and education and we are a host farm for Let Nature Feed Your Senses, hosting visits from elderly dementia sufferers when I have time. I started Open Farm School Days in 2011 and now we have about 500 children and their teachers on the farm during the week before Open Farm Sunday to learn about British farming. The event was rolled out nationally by LEAF in 2013.

In 2012 I set up a 70-plot Community Allotment on the farm including a 'not-for-profit' company ('Molesfarm Community Projects') to run this. I applied for and received a £10,000 National Lottery Awards-for-all grant to set up the allotment and encourage visits from people who do not usually have access to, or the option of, growing their own food. We have recently converted some old pig sheds into 1300 sq.ft. of commercial office space. This has all been let to a local solar panel business.

In the short term I want to continue to improve the running of the farm so it takes less intensive management; improving facilities and giving other members of staff the ability to make their own decisions about their time management. I am reducing cultivations to allow the soil to drain more efficiently, (we are below high tide on a large part of the farm and the pumps to drain the land are not in use anymore) which would in addition reduce costs. As well as improving work rates and profitability these steps will also free me up in the longer term to progress other projects outside the arable enterprise, thus making the most of our location.

In my free time I love playing guitar and am lucky to have a lovely partner, Robbie, who is a professional guitar teacher. I hope to have more time for guitar practice in the future!



Me, Tamara Hall





## 2.0. Community Supported Agriculture defined

The term “Community Supported Agriculture” originally implied various forms of partnership between food producers and the local community, in which the risks and rewards of farming were shared. Vegetables are the most common produce for CSAs, but produce can also include eggs, poultry, bread, fruit, pork, lamb, beef and dairy products. Examples of common models are given below.

But, for the purposes of this report, I shall regard the term as covering any form of transaction which takes place directly between the food producer and the consumer. These models are changing all the time, particularly with the advent of online ordering.

Examples of CSA models:

### Common CSA Models

#### 1. Producer Driven

Organised by the producer, to whom the members financially subscribe, but who has little other involvement; but this obviously varies between schemes. This kind of CSA is probably most common in the United States. In the UK this is equivalent to a producer-run vegetable box scheme, often with activities which bring customers to the farm.

#### 2. Community/consumer-driven

Consumers participate in, or may even run the scheme, working closely with the producer who produces what they want. The degree of consumer involvement is variable. It was this model of CSA that was first introduced into the USA. Stroud Community Agriculture and Camel CSA are good examples.

#### 3. Producer Co-operative

Producer-driven CSAs are where two or more farms co-operate to supply its members with a greater variety of produce. This model allows individual farms to specialise in the most appropriate farming for that holding (larger farms may concentrate on field scale production, smaller farms on specialist crops and upland farms on rearing livestock). There are several examples of this in Japan and Germany

#### 4. Producer-consumer co-operative

As described above, producers develop co-operative networks to access a variety of products but there is greater commitment by the consumers. Consumers may co-own land and other resources with the participating producers, and work together to produce and distribute food. Stroud Food Hub is a pioneering model where both producer and consumer jointly own the co-op.

I believe that Producer Co-operatives are the most likely to be capable of providing cost effective, high quality food on a large enough scale. The advantage for me would be that you could grow the produce that most suits your land. Co-ops are therefore also important to my studies.



### **Example of a pig club**

Consumers sign up with the producer for meat – usually  $\frac{1}{4}$  or  $\frac{1}{2}$  a pig. They pay 50% up front when the producer buys the piglets. The producer knows the cost of production and buys the feed at this point using this 50% investment. When the pigs are slaughtered the remaining 50% is paid and the members collect their meat boxes. If any of the members don't pay this remaining 50% then the meat can be sold at retail price hence still ensuring a profit. Because there is no risk of feed costs escalating, meat being unsold or extra marketing costs, the producer can afford to produce higher welfare, slowly produced, tastier meat. Some pig clubs include members helping by feeding the pigs, and holding visit days.

## **Other Direct Marketing alternatives for producers**

I will also be looking at other alternatives to CSAs to see what benefits are added by participation. These will be retail models where producers retain the majority of the premium for their produce, instead of receiving only a processor's wholesale price for the entire lot. The benefit to the consumer includes closer social ties and interaction with the producers.

### **5. Farmers' markets**

These involve the producer taking their produce to a market where they sell these items directly to the public. As with CSAs, this reduces the supermarkets' added costs of land, buildings, lighting and heating/air-conditioning. The disadvantages must be the staffing costs and unpredictable sales.

### **6. Farm shops**

Similar to the above but with higher costs added from the shop rental and overheads. They allow more flexibility to the customer over shopping hours and can also be a destination providing more than just food; a coffee shop and farm walk can attract recreational spending also.

### **7. Producer-driven online marketing**

Online marketing reduces the level of stock needed in a farmers' market or farm shop, plus time spent manning the stall/shop. Issues can be delivery costs and the expense of a quality online platform.



### 3.0. My study tour: where I went and why I chose those countries

<b>June/July 2013</b> United States – from New York to Austin and from Los Angeles to Sacramento	<b>4 weeks</b>
<b>November 2013</b> Scandinavia – Finland and Sweden	<b>10 days</b>
<b>April/May 2014</b> Japan and Singapore	<b>2 weeks</b>
<b>May 2014</b> Greece	<b>5 days</b>
<b>June 2014</b> Holland	<b>2 days</b>
<b>Various dates</b> United Kingdom	<b>On-going</b>

The US has thousands of CSAs so was an obvious choice plus we appear to follow the US in many ways so good to see how their food system was operating.

I had just finished reading a book about inequality in society, which is closely linked to food and health. The poorest people in most societies eat the worst diets and suffer from the most food related health problems meaning they have significantly shorter lives. The US is one of the wealthiest countries in the world (in income terms) and yet has the most inequality and negative issues arising from this inequality.

Japan and Scandinavia are the opposite in that they both more equal societies so I thought they were good comparisons to the US. Japan has many Teikeis which are the Japanese type of CSA and evolved independently of the Western model.

Scandinavia is similar to the UK in that CSAs are still in their infancy and the Scandinavian climate is also challenging.

The vertical farming in Singapore alone justified my visit there but the difference from the all other countries was also significant, especially to see how their wet markets supplied the majority of fresh produce.

Holland has a similar climate to the UK so was a perfect opportunity to visit a Nuffield Farming Scholar who had recently started a CSA.



## 4.0. United States

I took a road trip around the US, as I wanted to experience the country and its society as much as visiting specific CSA projects. The UK tends to follow the US trends so I thought it would be useful to get an idea of which way the UK is likely to go with regard to food and farming.

Although America was great in many respects it was also a warning – about 90% of the money Americans spend on food is spent on processed foods<sup>2</sup> and more than three quarters of Americans will be overweight – with many of them downright obese - by 2015.

<sup>3</sup> Johns Hopkins University, Obesity Journal, 2008

### 4.1. Community Supported Agriculture : examples

Please note that in all these examples of community supported agriculture there was an agreement with customers, who would pay upfront and be supplied with agreed produce.

#### 4.1.i. Buckhill Farm CSA, Lititz, just north of Lancaster City, Lancaster County, Pennsylvania. [www.buckhillfarm.net](http://www.buckhillfarm.net)

Andrew and Coral Buckwater run Buckhill Farm. Andrew's grandfather lost the land in the depression, then bought it back, so this farm has been in the same family for 50 years.

Before moving back to the farm, Andrew worked as a schoolteacher and college counsellor in Manhattan, spending the summers working on farms. He studied the links between what children were eating and the occurrence of behavioural issues such as ADHD. He also taught football and noticed how the children's fitness was affected by their diets. This research influenced his decision to move back to the farm and run the CSA.

**Hand weeding carrot seedlings is a skilled job. I needed more practice and hope my efforts didn't have a negative impact...!**

The farm is 100 acres and 10 acres of this is used for vegetable production. The CSA members do not do any work on the farm. I was interested that Andrew said that the 'share risk' part of a CSA actually made his job more stressful – due to the personal connection with his members; if he had a poor crop it would have more of an impact than just financial. This made me realise that the idea of 100% shared risk was not as ideal as it appeared.



The farm was very well run and tidy. Local restaurants were keen on their produce due to a surge in interest in Local food. Even Martha Stewart and Oprah Winfrey had been talking about CSAs on national media driving popularity (celebrity culture). One popular saying was 'putting a face to your food'.



### **Farm facts**

**Season:** May through November

**Since:** 2008

**Number of Shares:** 170

**Marketing:** Sell the extra produce to local restaurants

**Farm Size:** 100 acres of which 10 acres are for the vegetable CSA.

**Full Share cost:** \$685 (£400)

**1/2 Share cost:** \$390

### **Findings**

The importance of diet on children's behaviour cannot be overstated and is a good reason for encouraging customers. The fact that CSAs feature so prolifically in media and culture acts as free publicity in the US. We do not have this yet in the UK but I think it is media-friendly and so could feature more given a little encouragement.

I was very interested in the fact that the 'shared risk' aspect of a CSA wasn't always ideal for the grower.

#### **4.1.ii. Johnsons Backyard Farm, Austin, Texas. [www.jbgorganic.com](http://www.jbgorganic.com)**

In just three years, JBG grew from a backyard garden to a 1,000-member community supported agriculture operation. In 2004, the Johnston family (Brenton and Beth), started a small CSA and were able to provide weekly produce to about thirty Austin families. Their garden eventually took over the front and side yards, too. In the summer of 2006 they purchased 20 acres at Hergotz Lane, just five miles east of downtown Austin, and moved there in late September. This gave the farm lots more room to grow. In the spring of 2010, with the help of their CSA members, they purchased 40 more acres and leased an additional 10 on River Road in Cedar Creek, TX.

The Johnsons are in their thirties and have four children. After only farming full time for about a year annual sales were around \$1 million and climbing. Yet Brenton realises that passion and success aren't replacements for a family life and knows he can't be up at 5 a.m. packing boxes for his entire life. Brenton explained "...with everything we do, we always consider ways to make the system run itself. We've got amazing people working with us who are all capable of

*making decisions and creating solutions to the inevitable problems that come up every day. My brother and I have developed software to help us create seeding, planting and harvesting plans, which saves a lot of work in the long run. Every component of the farm is designed to maximise productivity and efficiency. Some day, this thing will be much bigger than me."*

*"Every component of the farm is designed to maximise productivity and efficiency. Some day, this thing will be much bigger than me."*

JBG now runs in Austin, Dallas, San Antonio, Houston and five other cities.



Over the longer term he wants the system he is building to sustain his family financially, without requiring constant input. But he also has more diverse plans and would like a big part of the farm to be used to train aspiring producers in organic food production and for educating the wider public. With this in mind, since I visited the farm, 'FarmshareAustin' has been started.

FarmshareAustin is a non-profit project offering *"on-farm education and training to aspiring producers, enable research for organic and sustainable farming practices, preserving land and natural resources needed for farming, and facilitating innovative giving programs that put organic food on the tables of those who are most food-insecure in our community."*

JBG offers many different options to its customers. You can choose to have your produce delivered to your house (with a small delivery charge) or to pick it up at most farmers' markets. If you pick up at the farmers' markets you can exchange the produce in your box with other produce offered at the stall. You can choose either weekly delivery/pick-up or every other week. Starting just recently, you can also choose among individual, small, medium and large boxes, based on your family size and consumption.

I realised they were a prime example of how a CSA should be run and contacted the farm to arrange a visit. I was asked to come on a Saturday to do a workshare, which is from 8am to 1pm. This seemed fine in the UK but it was 40 degrees C and incredibly humid when I was in Austin. Anyone who complains about rogueing wild oats or even blackgrass should try pulling out Johnson's grass from between sweet potatoes in extreme heat and humidity! It didn't seem possible to drink enough water to keep me hydrated. It was really interesting however, especially speaking to the other volunteers.

Volunteers get a veg box for two people for the five hours' work and do the work for a variety of reasons. There were eight of us on the day I volunteered. Volunteers need to book in beforehand as someone is needed to manage them on the day; the farm did not struggle to get enough volunteers.

One couple who were working had tried the CSA but found it too restrictive for what they wanted to eat. However they work there as they liked the concept, and were doing it to help JBG really, and because they enjoyed the gardening. Another woman said she liked it for the vegetables she got and enjoyed the exercise. One of the other volunteers said she was doing the work to lose weight.

Our group leader used to volunteer for workshare during the week. Now he works part time here and his other job is designing websites. He suggested the idea of running a Saturday workshare as it used to be just weekdays, and now he runs the Saturday workshare.



Some of my fellow work-sharers  
(one worker left early with heat stroke!)

#### Findings

**JBG is a successful and expanding CSA. Their logo design, packaging and brand identity are fantastic. And their community initiatives are also inspiring. They are a good business on which to model a CSA project**



**4.1.iii. Full Belly Farm, Guinda, California. [www.fullbellyfarm.com](http://www.fullbellyfarm.com)**

Fully Belly Farm is 350 acres and has been organic since 1985. It employs 70 staff.

**Buildings have solar panels which provide most of the electricity for the cold storage**

This is a very successful and well-established farm business producing for both a CSA and wholesale. They are near Sacramento, which is a couple of hours north of San Francisco.



They were the largest CSA I visited and will be one of the largest CSAs in the US. They began in 1992 and provide boxes for 1,100 families. When I arrived they were mid-pack with an amazing array of fresh tomatoes, courgettes etc. There were children helping to pack who were staying at the farm for a residential summer camp. They came mostly from families in San Francisco.

*Judith recommended CSAs as a good way for new businesses to get started, after which they can start doing more wholesale and markets.*

This business used to supply 1,500 boxes but numbers have declined. This reduction was believed to be a mixture of there now being more choice of CSAs available, and the economic downturn. I spoke to Judith who owns and runs Full Belly Farm who said that, for her members, the fact their CSA direct debit was itemised as an individual entry on their bank statement meant it was easier to cancel. The supermarket bill is just part of the overall bill for household running expenses and so, as such, is not highlighted and singled out for cancellation. Judith said they had also realised fruit and nuts needed to be offered as they were a staple part of their members' diets.

Full Belly Farm gets a lot of feedback without asking for it; plus they are active on Facebook and get quite a few posts which act as feedback. They keep their members informed with a weekly newsletter, which includes recipes corresponding to box contents. One comment was that people like the CSA as it helped them expand their cooking skills.



**Children from summer camp keeping cool in the cold store room**

Boxes mostly go to community sites to be collected; usually private porches, sometimes to stores, some to churches. This is all within a 120-mile radius, which in American terms is relatively local.

Originally they were 50% CSA and the rest restaurants and grocery stores. Now they are only 20% CSA, 15% farmers' markets, and 65% restaurants and grocery stores. There is an approximately 20% reduction in the sale price to wholesale outlets.

This farm started predominantly as a CSA but has now changed to supplying grocery stores. Judith recommended CSAs as a good way for new businesses to get started, after which they can start doing more wholesale and markets.



### Details

Either pay monthly, quarterly or annually. Boxes can be each week or every fortnight.

\$18.50/box if paid on a monthly basis (£10.75/box)

\$16.50/box if you pay quarterly

\$16.00/box for annual subscription (\$768 per year/£447)

### Findings

**CSAs do not need to be micro-businesses; they can be ethical and sustainable at much larger sizes.**

**As Judith said, CSAs are a great way for new-start producers to get up and running. I see this as a big benefit – from buying 10 acres of land for approx. £120,000 you can start farming.**

Tomatoes as they should be -  
c/o Full Belly Farm



It is interesting to note that CSA producers are much younger than farmers as a whole

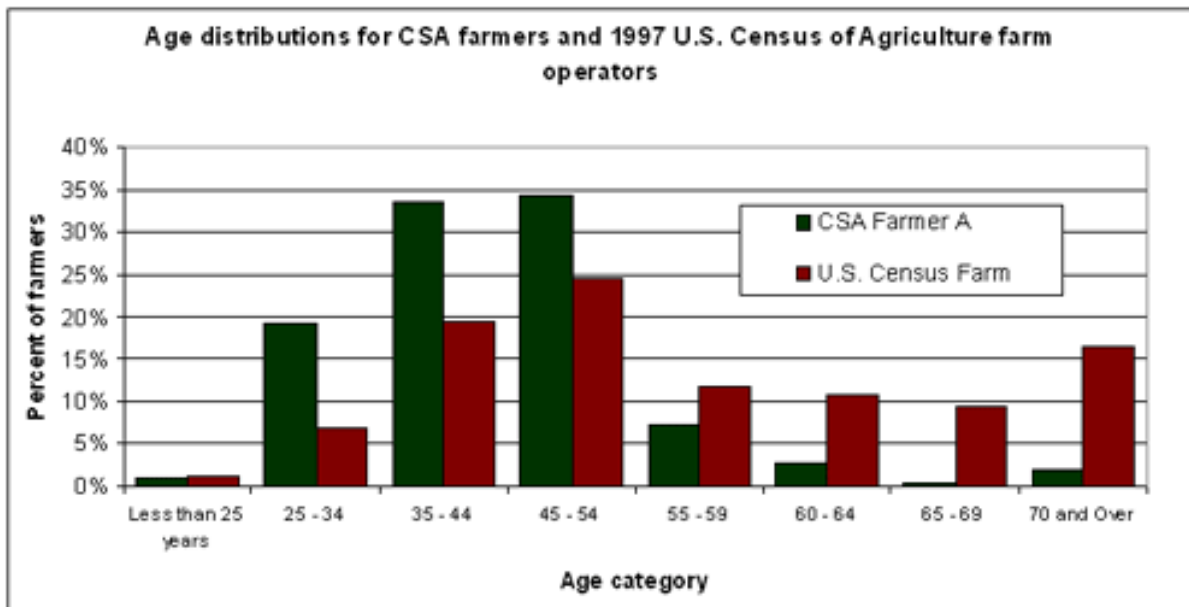


Chart to demonstrate that CSA growers are much younger than the average farmer





## 4.2 Farmers' markets

I visited farmers' markets to see how they worked overseas and if there were any lessons to be learnt. I think farmers' markets have limited appeal which is shown by their becoming less successful.

Other limiting factors for farmers' markets include:

- A lot of waste
- No formal feedback from customers to supplier
- Uncertainty of sales
- No contract
- Arbitrary selection process for stall holders (little quality control possible)
- Does not allow producer to take time off easily
- Weather dependent
- People don't like to carry shopping a long way back to their houses or cars

### 4.2.i. Union Square Farmers' Market, New York

The world famous Union Square Greenmarket began in 1976. This is the largest farmers' market in New York and runs four days each week, from 8am to 6pm. It is well run with information points dotted around the market, and manned by enthusiastic and helpful staff. Most days there are cookery demonstrations and there is an education station for school tours and other educational visits.

A network of 54 farmers' markets is run by GrowNYC which is a non-profit organisation started in 1976 to improve people's environment in NYC; including the education of young people about food plus running events such as farmers' markets to allow access to quality food. Rent for a stall at this farmers' market was £90. The majority of funding for GrowNYC comes from these rents. In comparison, one of our local farmers' markets back home in the UK charges £18 per stall and stallholders say this is too much!

I was directed to some of the most interesting and successful stallholders and was amazed by the quality of the produce. This was the first such place I had visited in the US and the variety of tomatoes was staggering. I love growing unusual tomato varieties at home as all taste different and have different qualities. Here I saw many of the varieties I have grown over the years. Many of the stallholders had, however, seen a reduction in sales recently (as much as 30% down) which most attributed to the recent financial downturn.

The most successful stallholders had specialised in whom they marketed to. Some communities - such as Russians - value fresh produce more. This is equally true in the UK and is an opportunity.

#### Findings

**A farmers' market in a city like New York is still viable but only truly successful for producers who are specialising in what they produce and who make real efforts with their marketing. I personally still think farmers' markets are not an efficient way to sell food; however the personal aspect works, as does the theory that 'people buy from people they like'.**



#### 4.2.ii. Hope Farmers' Market, Austin, Texas. [www.hopefarmersmarket.org](http://www.hopefarmersmarket.org)

This was held in a commuter's train station on a Sunday (when trains are not running) which was a great location.



#### Findings

In the US even small producers and retailers have good branding and packaging. It has often been said that we buy with our eyes and this influences our choices in how food is presented and/or packaged. In the UK most small businesses do not think this is something to prioritise; but I feel what I have seen in the US shows how important it is. Even if this concept goes against the principles of CSA we are so used to eye-catching packaging that I think it IS important.

### 4.3 Food Co-operatives

The unique thing about a Food Coop is that customers have a say in the running of it.

#### 4.3.i. Wheatsville Co-op, Austin, Texas. [www.wheatsville.coop](http://www.wheatsville.coop)

Wheatsville Food Co-op is a full service, natural foods co-operative grocery store, which has been operating in central Austin since 1976. Wheatsville is the only retail food co-operative in Texas and has over 15,000 invested owners. Austin is a liberal city, very different to the rest of Texas; probably in part due to the hippies who moved there in the 1960s, and also to its being a university town.

It is open from 7.30am-11pm and, for a one-off investment of \$70, you become a full voting member. Wheatsville Co-op has recently opened a second store.



One interesting point is that every Wednesday between January and October is 'Community Action Wednesday' where 1% of the profits are given to a local non-profit organisation. 1% of the profits are not going to affect the bottom line too much, especially as Wednesdays are a quieter day and it excludes the busy holiday dates (Thanksgiving and Christmas) but it gives a real community presence and a feel-good effect.



Wheatsville Coop, Austin

National Co-operative Grocers Association (NCGA) is a business services co-operative for retail food co-ops located throughout the United States. NCGA represents 142 food co-ops operating over 190 stores in 38 states with combined annual sales of over \$1.6 billion and over 1.3 million consumer-owners. NCGA helps unify natural food co-ops in order to optimise operational and marketing resources, strengthen purchasing power, and ultimately offer more value to natural food co-op owners and shoppers everywhere.



Their second store

**4.3.ii. Davis Food Co-op, Davis, California. [www.davidfood.coop](http://www.davidfood.coop)**

I visited the Davis Food as Full Belly Farm is one of their suppliers and recommended them as being a good example of a successful co-op.

Started in 1972, the Davis Food Co-op is now open from 7am-10pm nearly every day of the year and is owned and run by 10,000 local residents. It began in 1972.

The shelf price is the member price so that non-members pay a 5% surcharge. Member investment can include you and members of your household - they don't have to join separately. To become a new member you need to pay a \$5 fee & invest \$10 in shares. Members need to add \$20 to their investment in March every year. Once members reach \$300 invested in shares there are no more payments due.



**Findings**

**This was the last of many co-ops I had visited and it reinforced the importance of image alongside the more obvious good food and ethics. The length of time these co-ops have taken to evolve into a significant part of the food retail sector is noticeable.**



### 4.3.iii. Three Rivers Market, Knoxville, Tennessee. [www.threeriversmarket.coop/co-op-membership/](http://www.threeriversmarket.coop/co-op-membership/)

Three Rivers Market was Tennessee’s first and only food co-operative. They are open from 9am-10pm most days. As well as the shop there was also a café and dog area (a barking lot!).

Three Rivers Market is a customer-owned co-operative that provides the very best local, organic, and healthy food available to East Tennesseans. They also work to benefit their members:

*“by creating and nourishing a healthier environment, healthier people, and a healthier community through everything we do”.*

*“When you become a member of the cooperative, you become an owner of the cooperative. Each membership interest you purchase is equity in the business and member/owners have financial and governance rights of ownership. By becoming a member/owner, you are supporting a better way of doing business!*

*“Becoming a Member of Three Rivers Market is quick and easy to do. You can become a Fair Share Member with the purchase of eight (8) \$25 Membership Interests (\$200 total). Fair Share Members enjoy the full rights and benefits of ownership, including participation in the Patronage Refund program. Not ready for that just yet? That’s OK. You can build up to Fair Share Membership by purchasing a minimum of one \$25 Membership Interest per year. You will enjoy all the same rights and benefits as a Fair Share Member except for participation in the Patronage Refund program. You can purchase additional Membership Interests at any time and once you have eight (8) shares, you will be a Fair Share Member! Just ask at the Member and Customer Services Desk to get your membership started today!”*

Many of the CSAs I visited supplied local co-ops in addition to their veg box business. In the UK the word co-op has become linked to the Co-op brand but in the US most towns and cities have community and worker owned co-ops providing fantastic quality food.

Three Rivers Market had a beautiful new building which they moved into two years ago. Previous to this they had been running for 30 years so are well established. They sold a range of organic and non-certified organic. Smaller producers struggled with the cost of certification and, as in the UK, all organic certifications are different, some allowing products to be used just because they are naturally occurring but with slightly dubious justification.



Three Rivers's beautiful new building

One system they used was ‘Certified Naturally Grown’. This is described as *“CNG’s approach is called a Participatory Guarantee System. PGS is employed by tens of thousands of producers worldwide. These programs minimise paperwork and certification fees and employ a peer-inspection process built on local networks. They’re typically a better fit for small-scale producers who sell locally. Essentially it is regulated by local producers regulating other local producers and means a much lower cost of certification, suitable for smaller producers.”*



This was a P6 co-op. P6 stands for Principle Six: Co-operation among Co-ops. P6 is a co-operative trade movement, designed to build appreciation for awareness of "the little guy." A product is P6 if it meets two out of the three following criteria:

- Produced by a co-op or non-profit business
- Grown by a small farm or made by small-scale producers
- Local (within 100 miles of you)

#### Findings

Co-ops such as Three Rivers Market are a success and this could be replicated in the UK. However I really think that the alternatives in the US are poor, which helps make the co-ops viable. I visited a massive Wal-Mart in Memphis and was shocked by the quality of food on offer. Everything seemed to be processed; from flavoured chicken in microwave bags (so you don't even need to touch the chicken to cook it) to the cheese being squeazy, like Primula. Even the ham was reconstituted and the bread was sweetened. I only wanted some cheese, proper ham and bread but left with some blueberries which went bad before the next morning.

There have been numerous food health scares in the US. Mainstream food production largely ignores animal welfare. CAFOs (Concentrated Animal Feeding Operation), which do not really exist in the UK, are common and involve growth hormone use and grain-reared meat. In the UK the majority of red meat is grass reared. As a result the difference between conventional and organic is much greater in the US which helps drive the organic and local sector.

I loved the co-ops and would like to shop in one but I think there are only a few places in the UK where families have enough disposable income to enable them to do so. Most families could afford to spend more on better quality, ethical food but they have other priorities. When I said recently to somebody that people can't afford to pay more for their food they retaliated with '*if people couldn't afford to have choice they would be all wearing overalls*'. This is very true and shows what people in the UK society really value.

Some aspects could be useful in a farm shop though. The dry goods dispensing made a lot of sense in that the shopper can buy as much or little as they like, encouraging the trying out of new foods and there is no packaging cost. These co-ops all had long opening hours, which I personally think are essential to compete with supermarkets. This can be too expensive for small farm shops.



Dry goods dispensing at Three Rivers



## 4.4 Other

### 4.4.i. Piggly Wiggly's, The Pink Palace Museum, Memphis, Tennessee.

[www.memphismuseums.org](http://www.memphismuseums.org)

Piggly Wiggly was the first ever self-service grocery store and I visited the reconstruction of the first store in a museum in Memphis. This made me think about what the benefits of supermarkets are and what we can learn from their success to make *their* successors in food marketing even more successful.

*“Clarence Saunders (1881-1953) is the father of self-service shopping. The son of a poor Virginia tobacco farmer, Saunders left home at 14 to clerk in a grocery store. He moved to Memphis in 1904 to work as a salesman for a wholesale grocery. While calling on customers, Saunders saw that many stores were failing because they did not control costs and overheads. Traditionally, shoppers brought in a list of the goods they wanted and gave it to a clerk who selected the items, packaged them, charged the order and had the bags delivered. This was time consuming, inefficient, and expensive. Saunders developed a plan to correct these problems that literally revolutionised the way we shop. He designed a systematically arranged store that offered self-service/cash and carry shopping. He believed that if he offered lower prices than his competitors, people would wait on themselves, pay cash and carry the bags home. His store had a turnstile entry that forced customers to move in one direction and to pass all the items he offered. Impulse items like candy were stocked at the registers. After getting patent rights to his pricing and merchandising innovations, he opened his first store at 79 Jefferson in 1916. Our Piggly Wiggly exhibit is an exact replica. The origin of “Piggly Wiggly” isn’t clear. Sometimes Saunders said it just came to him; at other times he said he got the idea after seeing a group of piglets pushing and wiggling as they nursed. Whatever the origin, the name has always caught people’s attention.”*



Above and below: the recreated first Piggly Wiggly store



The main point of Piggly Wiggly's success was the self-service model as opposed to being served by a shopkeeper.

When supermarkets began in the UK they realised that the one essential thing consumers needed was milk. Thus began the underselling of milk to stop retailer milk rounds and, as a result, most



people need to visit supermarkets at least weekly to buy milk. When they are there they buy other items. Essential items such as milk and bread are important to stock.

### Findings

**I have spent a lot of time researching supermarkets and their shortcomings. As well as thinking about their shortcomings we also need to think about what they do which appeals to the consumer and mimic these points. Longer hours and free parking nearby are important points.**

**People are shopping differently – more often, and wanting a better shopping experience. People are on the whole short of time, with often both parents working. Local food retailing needs to take this into account.**

#### **4.4.ii. Black Star Brewery, Austin, Texas. [www.blackstar.coop](http://www.blackstar.coop)**

Steven Yarak decided to open a community-owned brewpub after spending times in Belgium where he frequented such a pub. Steven publicised the vision on the Internet and with flyers around town. On January 14, 2006, 16 people attended a meeting in an empty lot adjacent to a friend’s house to learn about the Co-op.



**Enthusiastic bar staff who are worker-owners**

The first general meeting of the Co-op was held on November 11, 2006, and at that meeting the membership decided to hold a large fundraising event which raised nearly \$500,000 from their member-owners. Black Star Co-op opened its doors to the public in September 2010. Situated in a business area surrounded by offices it is not the usual location for a pub but this just helps it seem more contemporary and unusual. There are 20 taps from local and not-so-local craft breweries and, after the usual American food (which I was utterly sick of by the time I arrived in Texas) the food was much appreciated.

The success and community support continue to drive efforts to meet the membership’s goals of providing exceptional products in a sustainable way, while treating workers fairly and growing the co-operative movement. I found the fact that the staff were paid a proper wage, and therefore no tips were needed, another relief.

Its workers and customers own Black Star Brewery. Each membership share is \$150 but you can start at \$40. Once you have paid \$150 you have no further fees to pay.

The benefits for members included:



- Member-owner pint nights weekly
- Member-only events like beer tastings
- Discounts at other Co-op events like pairing dinners and home brewing classes
- Monthly newsletter full of craft beer events and Co-op power
- Voting power
- Member appreciation events with discounted food and beer
- Future patronage refund
- Bragging rights
- Free “Birthday” Beer on the anniversary for when you joined the Coop

Even though it is in a remote location it was doing very well and after 3 years of trading was looking to expand to a second pub.

The community ownership really worked here; there was a fantastic atmosphere and the staff genuinely wanted you to have a good time, not just for the tips. Motivating staff is one of the hardest things in business and I really think this business structure achieves this.

After visiting Austin I flew to Los Angeles and stayed in Long Beach. In the evening I ate at a bar overlooking the marina. The selling point for this incredibly popular bar was that they had the most beers on tap in the whole of America. The beer was treated like wine with description of each. What was noticeable was that these were hip young Californians who were drinking real beer, not lager. I have heard it said that the market is flooded with microbreweries but I believe there could still be some space in the market. If the majority of the lager sales became real ale sales this is a large market.

The success of worker-owned businesses has been recognised recently and needs serious consideration. In business we need to detach the concept of investor from worker, and possibly more so in farming. My own allotments are run as ‘not-for-profit’ business. This means that the owner (Molescroft Farms Ltd) receives an annual rent of £400 per hectare for the land. Anybody working on the allotments is paid for their time (including the farm as contractors cutting the grass). No profit can be made so any profit goes into educational activities. There is a lot of goodwill from this system and everybody receives a fair payment for what they do. It really works. I wish more farm businesses could detach the idea of income from working and income from investing. This is what farm (and other) tenancies did successfully until recently. Short-term leases lead to short term farming which is not sustainable.

Motivating staff is one the hardest things about running a business, as most employees do not get personal benefit from the business’s success beyond some satisfaction of a job done well. With



**Clear instructions once you enter the pub ensure you feel instantly at ease.**





other pressures in life it is difficult for this to be enough. Quality control is easier in either family businesses or worker-incentivised business.

#### **Findings**

**We mustn't underestimate the value of bragging rights!**

**Microbreweries are a big thing in the US, which leads me to think they have still have future growth in the UK.**

**Worker-owned businesses can work, especially for staff motivation and quality control.**

#### **4.4.iii. Food Trucks, New York, Austin and San Francisco**

I don't want to focus on specific food trucks as there are a wide variety of successful ones, from Korean-Mexican fusion tacos to cupcake vans. I think the popularity of food trucks across the US is worth writing about as it is likely to be a trend that continues to spread over to the UK.

These food trucks are unlike the burger vans we usually visualise; they are about gourmet street food. The food is affordable due to the low investment required and small menus meaning less waste (restaurants are renowned for their level of waste which is also a problem for profitability).

Unlike the UK where food vans have a site which they frequent for the same periods each week, food trucks move around an area and use social media, usually twitter, to keep their customers updated as to where to come. There are areas where food trucks frequent such as parking lots next to trailer parks (little cooking facilities in trailer park accommodation) so if you go to one of these spots you are likely to find a collection of food trucks in the evening. Food trucks also do events and catering.

Their fans keenly follow popular food trucks and the fun of following the trucks is part of the appeal. This is bringing fun back into food and, I assume, part of the caveman drive to search for your food may have some appeal too. I know supermarkets get you to search for your food as this encourages buying due to the innate animal need to hunt and gather for food. If it is too easy shoppers aren't as likely to spend. It seems crazy to me as I hate going to the supermarket and not being able to find the one thing I went for!"

The Peached Tortilla who specialise in a mix of Southern and Asian flavours, is a good example. [www.thepeachedtortilla.com](http://www.thepeachedtortilla.com) has a good blog about how to run a food truck. They have since also started a restaurant so the food truck was a good start-up for the business.

This type of business is similar to the chicken drive-thru in Austin – I am certainly not advocating 100% homemade food for busy working people. I am suggesting that CSA-type veg and meat boxes can provide part of people's fresh food needs. People want affordable convenient food too but this doesn't have to be McDonalds. I think a high proportion of people are becoming much more conscious of 'you are what you eat', especially parents and even though they want affordability and convenience, healthy eating is also part of their requirements. A farm shop could run a food truck either for fresh produce or to add value to produce.



## Findings

Food trucks could be a useful part of direct selling of food and boost the local economy. I also think the same could be done for vegetable and other farm produce. Selling food near to where people live and at flexible times to fit in with working families must be a benefit. It could fit in with veg box deliveries, with the boxes being collected and any extras purchased. I think this service would need to be regular so you could plan, say, a Wednesday evening to stop on the way back from work.

### 4.4.iv. Fresa's Chicken, Al Carbon, Austin, Texas. [www.fresaschicken.com](http://www.fresaschicken.com)

Fresa's grill marinates pasture-raised chickens over oak charcoal, and makes fresh corn tortillas and sides from scratch. You can even order a whole chicken dinner with freshly made salsas, sides & salads, cold beer, wine, and margarita kits. This is an uncommonly high-quality, hand-prepared meal with the familiar speed and convenience of "fast-food."



Beautifully presented chicken tortilla with freshly made lemonade.

Open from 8am-11pm, breakfast consists of tacos made with pasture-raised, organic eggs, and 'Stumptown' coffee. The chicken I had was delicious and I would be a regular if I lived nearby.

This is what I think we need to do as producers - rather than complain that people want to buy KFC we need to provide what people want – fast, affordable food. The quality was great and I think there is a market for higher quality, but still affordable, fast food. The more public events I attend the more I realise that you can put on events but, unless they have an endless budget, people

will only come to the activities they are already interested in. The allotments back home are a good example of this. I got plenty of free publicity in the local media and have 70 let and 60 on the waiting list with no time or money spent on advertising. When we planted a 20-acre wood and had an open day as part of the funding, despite somebody doing publicity, nobody came! Occasionally outstanding people manage to

*... rather than complain that people ... buy KFC we need to provide what people want – fast, affordable food*

*I am still talking about a food revolution and thought a TED talk I saw a while ago describes how to start such a movement.*

change public opinion but this is rare and will lead to more unhappiness than success. I like the comment 'if you are a leader and nobody is following you then you are just taking a walk'.

Even though I say we as producers need to fit in with what is wanted, I am still talking about a food revolution and thought a TED talk I saw a while ago describes how to start such a movement. It is only a



3-minute film and well worth watching. Either Google 'TED how to start a movement' or follow this link: [http://www.ted.com/talks/derek\\_sivers\\_how\\_to\\_start\\_a\\_movement#t-159381](http://www.ted.com/talks/derek_sivers_how_to_start_a_movement#t-159381).

**Findings**

**As producers we need to embrace what the consumer wants. They don't want poor quality food. They do want convenience and affordability.**

**4.4.v. Los Angeles Guerrilla Gardening. [www.laguerrillagardening.org](http://www.laguerrillagardening.org)**

In 2008 Mr Stamen decided it would be cool to celebrate his birthday by running a guerrilla gardening event. This was the start of LA Guerrilla Gardening and there are now 20 gardens in LA plus many other areas which have been 'guerrilla gardened'.

The soil is clay and there is little rainfall so no food crops are grown on public land except apple trees, garlic and rosemary. The idea is more about improving the landscape and inspiring people to start gardening.



The people who get involved give up their time for free to improve the local neighbourhood. There is a great social mix, from apartment dwellers to experienced gardeners. It is publicised through word of mouth and social media.

Roly, who does work for L.A. guerrilla gardening, met me and described how they run a 'good bus', which holds monthly public rides where you pay to get on the bus and then get to try out volunteering in garden construction and maintenance. They have found that the biggest success is corporate team building events. They used a wide range of fund raising, such as getting celebrities to donate voicemail recordings and other one-offs which are sold online.



Guerrilla gardening actually began in London in 2004 by Richard Reynolds but I found out about the project in LA via TED Talks. There is an inspiring talk by Ron Finley: ([http://www.ted.com/talks/ron\\_finley\\_a\\_guerilla\\_gardener\\_in\\_south\\_central\\_la](http://www.ted.com/talks/ron_finley_a_guerilla_gardener_in_south_central_la)) where he talks about life in South Central, which is on the outskirts of L.A. He talks about it being a food desert and that, despite the high levels of violent crime, the drive-thru food is killing more people than the drive-by shootings; that the obesity rate is five times higher in his neighbourhood than in Beverley Hills (which is just a few miles away); wheel chairs are sold like used cars and dialysis centres are popping up like Starbucks. It is a



**A photo from Guerilla Gardening website of one of their sidewalk digs**



depressing story but then he talks about the success of guerrilla gardening – how youngsters are starting to see growing food as rebellious and sexy, in a positive way, and the joy, pride and honour in growing food. He says: “If kids grow kale, kids eat kale! If they grow tomatoes, kids eat tomatoes!” His talk got a standing ovation and is well worth watching if you have ten minutes free.

### Findings

**Alternative food can be popular due to a sense of rebellion and people taking control of their own destinies. I also saw this effect at Farmers Republic in Athens later in my travels. This is something to remember in marketing the ideas.**

#### 4.4.vi. Good Eggs. [www.goodeggs.com](http://www.goodeggs.com)

This was the kind of visit I had envisaged when I first thought about undertaking a Nuffield Farming Scholarship. Elissa Chandler showed me around Good Eggs’ San Francisco distribution centre and explained how the business worked and how it was expanding rapidly. It was a delight to visit such enthusiastic and helpful people and I left wishing that there were a Good Eggs in the UK.

Good Eggs is an online platform very much like online shopping via Waitrose, Tesco’s etc; however with the food coming direct from the producers. Each producer has items listed on the Good Eggs website, which customers can buy online, which triggers an email to the producer to say what number of each item they need to bring into the distribution centre the following day. There are over 30 people working on the website which is technically advanced, allowing each producer to set a number against each item which they can bring in to the centre. For example a tomato grower can alter the number available as the season progresses. Once the allotted numbers are sold they are no longer available for delivery the following day.

The producer/grower then brings the stated number of items in to the distribution centre by a set time. They are then packed into individual boxes for delivery to each customer. They go out by van to either a number of collection points (there are seven in San Francisco) or can be delivered to your house or workplace. Delivery to a collection point is free but there is a charge for home or work delivery. This system means the producer only has one drop-off to make which is much more efficient than farm shops or farmers’ markets and Good Eggs has an



Queue of Good Eggs vans outside the distribution centre ready for the next round of deliveries round San Francisco.



Lines of Apple computers at one end of the distribution centre



efficient delivery round. Customers pay for their goods by credit card when they place their online order.

I would advise looking at the website as it is very well done and visually effective. ([www.goodeggs.com](http://www.goodeggs.com)). Each producer brings a sample of their product into the distribution centre to be photographed so all the photos on the website are attractive and in a similar style. One chooses which food to buy with one's eyes as can most food can't be taste-tested, so this is an essential point.

Good Eggs started in 2011 in San Francisco, with private investment, and has now expanded to Los Angeles, New York and New Orleans. It was clear that they are expanding and appear to be a resounding success. Their customers are very mixed in ages and their prices compare to Whole Foods and other food co-ops so that is likely to keep their customers to a certain minimum income level.

#### Findings

**Online shopping is expanding exponentially and as such can allow producers to reap some of the rewards from food retailing rather than being at the mercy of the supermarkets' buying power. Online shopping needs investment in the website and online platform but has lower overheads than traditional supermarkets.**

## 4.5 Other similar examples

### 4.5.i. Quinciple. [www.quinciple.com](http://www.quinciple.com)

Quinciple is a weekly subscription service that creates a mixed box of groceries each week, including meat, fish, cheese, bread, produce, eggs and pantry staples. Every box contains enough ingredients to make at least two different dinners for two people.

*"In an effort to combine convenience and quality, this subscription service curates and packs orders in its South Williamsburg warehouse, then delivers them by cargo tricycle to Manhattan homes for \$49.90 [£30] a week. (In Brooklyn, smaller pickup boxes are \$37.90.) Each contains about fifteen items meant to provide two dinners for two people, plus recipe cards. Quinciple casts a wider sourcing net than the competition, with like-minded suppliers ranging from Greenmarket stalwarts to California citrus groves."*

This gives a higher value option to the consumer but still ensuring a more direct sales approach.

### 4.5.ii. The Vermont Sail Freight project. [www.vermontsailfreightproject.org](http://www.vermontsailfreightproject.org)

Erik Andrus, a Vermont rice and grass-fed-beef farmer is intent on reviving sail freight as an energy-efficient alternative. "A river will never get a pothole," he says.

It connects the farms and forests of Lake Champlain with the lower Hudson Valley (or, as Andrus puts it, "Non-perishables Direct"). **How it will work:** Aided by a volunteer crew and partly funded by Kickstarter, Andrus is building a sail-powered barge that holds twelve tons of shelf-stable cargo. The goal is for the Ceres to make its ten-day carbon-neutral maiden voyage this summer from Lake Champlain to Manhattan, dropping off pre-ordered goods along the way. Products available include



short-grain rice, Macintosh apples, cider syrup, dried beans, pickled beets and carrots, jams, apple butter, dulse (a seaweed), and dried herbs, all sourced from ten New York and Vermont farms.

#### **4.5.iii. Mad River Food Hub. [www.madriverfoodhub.com](http://www.madriverfoodhub.com)**

Since I visited the US I have heard that the future of American CSAs could be food hubs. These are where several producers get together to use shared facilities.

Mad River Food Hub in Vermont is a good example of this. It has a fully equipped, licensed and USDA-inspected meat and vegetable processing facility. Each processing room is available to rent by the day. The facility also offers dry, refrigerated and frozen storage as well as weekly distribution services to retail markets throughout the area. The experienced staff on site can also provide valuable business planning assistance and access to a large network of other food enterprises. The facility is specifically designed for the small-scale food producer who needs a licensed facility at an affordable rate, allowing them to grow their business, one step at a time.

In this way the smaller producers can get the efficiency of scale without the loss of detail that scale can lead to.

#### **4.5.iv. Whole Foods Market**

*“Whole Foods Market, Inc., with stores in the USA, Canada, and the UK, is an American foods supermarket chain specialising in natural and organic foods that first opened on September 20, 1980. Whole Foods Market is headquartered in Austin, Texas. Founder John Mackey currently serves as the CEO of the publicly traded company.”* Wikipedia

I had a guided tour of a Whole Foods Market in London before travelling to the US and was pleased to see such high quality food presented in a very user-friendly way. I was surprised by the high cost however and I do think it is only accessible to a relatively small percentage of the population.

I visited another Whole Foods Market in New York and was equally impressed. It is ideal for lunch if you work in an office and indeed their customers come for lunch and also buy something for their supper to take home at the end of the day. This seems to be a big selling point - allowing their customers to have a flexible social life by not shopping for a week's worth of food, but instead buying what they need as and when they want it. Economically this does make sense; wasted, unused food does have a cost and only buying what you need is cost effective even if it is more expensive. Whole Foods Market sells ready-meals which are healthy, not excessively processed, and quick and easy for people who work long hours and have small, modern kitchens.

Whole Foods donates a proportion of its profits to *‘alleviate poverty worldwide wherever Whole Foods Market sources products’*. They have numerous leaflets with advice such as *‘Cooking with whole grains’* and *‘Stock a healthy pantry’*. One big aspect of their business is regular cooking demonstrations and tastings.

#### **Findings**

**I believe that Whole Foods Market benefits the food retail sector but they are still a form of supermarket with a lot of the same inherent issues. They do have a lot of waste due to the beautiful, large displays of fresh produce although, to be fair, much of this waste goes to food banks. Even though this is a good intention, waste is still a problem for sustainable food and cost. In a successful local economy food banks would not be so widely needed.**



## 5.0. Finland

### 5.1. Community Supported Agriculture

#### 5.1.i. Ruokaosuuskunta CSA ('City with a field'), Helsinki, Finland. [www.ruokaosuuskunta.fi](http://www.ruokaosuuskunta.fi)

I couldn't believe my luck when I sat down on the Finnair flight to Helsinki and opened the inflight magazine to see an article about the CSA I was on my way to visit! This shows how much more mainstream the concept of CSAs is becoming and how the media is keen to promote the idea.

As it was November and very much out of season I met with Sini Forssell and Timo Raikonen - who are both founder members of the CSA - in Helsinki to discuss how it is working. Sini is doing a PhD in alternative food networks and their potential contribution to sustainability. She has just had an article published with one part called "The sustainability promise of alternative food networks: an examination through 'alternative' characteristics".

This is the first CSA in Finland and was begun in 2011 so has been active for 3 seasons now. Sini and Timo are members of another co-op locally and both have an interest in the CSA concept and ideas. It is a mixture of a Community Garden and a CSA, so not exactly a traditional CSA.

They rent a field and started with a core group of active members plus one regular employed grower and are actively cultivating three hectares at the moment. Members are expected to do 10 hours each year per household. Some members contribute things other than physical work in the field e.g. admin, marketing etc. However although all the members want to help it can tend to be the same people volunteering more often. I think they will soon stop this need to work and allow members to opt out of so much work.



Finnish in-flight magazine featuring the CSA I was going to visit

There are 160 members including households, restaurants and individuals. They use 3 distribution centres in Helsinki, where members come and collect what they want from the 30 different varieties of vegetables that are being produced, including carrots, potatoes, lettuces, beetroot, corn, green beans, cucumbers and different cabbage types. By late 2013 two growers were employed.

The age of members is typically the 30-40 years age range, which is much younger than in other countries I visited (Japan especially). This is very promising going forward. From her research Sini believes these schemes are especially beneficial in terms of social interactions and developing friendships and relationships.

Sini also said that marketing is very important to both get and keep people interested. People wish to know what they are going to get as a return. Unfortunately the first harvest was poor and some members dropped out.



Some producers seemed sceptical initially too; they had perhaps had some less than positive experiences of similar things/proposals in years gone by - Sini had heard some horror stories! However some other positive aspects discussed include:

- Possible work for children during school vacation times
- Entertainment/occupation for individuals living with mental disabilities or challenges

New members pay a 100-euro one-off joining fee and then 450 euros for their boxes for the growing season. Food is grown organically. There are 140 members and they have space for up to 200 members. I think this charge is low for what they got and they needed to have members working alongside the employed producers to keep the price so low.

This is a description of what they do, taken from their website:

*"The Urban Co-operative Farm concept originated with the idea that participants each get an area of a farm the size of a normal allotment, with a professional grower (whom we call a Personal Farmer) looking after it. The Personal Farmer cultivates your piece of the farm and keeps you up to date with what is being done there.*

*"Nobody can afford to hire a grower of their own, but the Urban Co-operative Farm Concept hire about 100 people collectively which makes it possible. The grower does not cultivate one area, but a hectare. Participants can volunteer to work in the field any time they wish. Households invest an annual fee in advance and the harvest from the field is distributed amongst participants weekly during the harvest season".*

This concept of having a farmed allotment is exactly what I perceived at the start of my Nuffield Farming Scholarship. I feel it is a positive step forward from traditional allotments; obviously not as competition but as an alternative.

Update back from Sini when I was writing this report:

*"Our CSA is doing well, on its fourth year now and growing in terms of membership. Budget is always tight and we had to raise the price of shares - but that's the 'real cost' of food for you. New this year is that some of our distribution points are now in city library branches. We're also likely to be switching to biogas vehicles in our logistics. What else? We're paying more attention to educating people about the various veggies they're getting and what to do with them. And at the end of last year, in our annual member survey, 80 % of respondents said that membership of the CSA had raised their awareness about sustainability issues in the food system in general, which I think is one of the really significant impacts CSAs can have."*

#### **Findings**

**The media interest in this project renewed my enthusiasm for CSAs and Sini and Timo were intelligent, educated, and forward thinking young people, which also inspired me.**

**The description of a farmed allotment is one I will re-use and their issues with members having to work were significant. I think you are best to allow this as an option for reduced price rather than a requirement.**





## 5.2 Food Co-operatives

### 5.2.i. Pellervo, Simonkatu 6, Helsinki, Finland

I met Per-Erik Lindstrom, Director of Pellervo, at their offices in Helsinki for a discussion about Cooperatives in Finland. Pellervo - Confederation of Finnish cooperatives - was founded in 1899. Today the Finnish producer cooperatives have over 150,000 members. Cooperatives are also common, however, in other sectors such as banking, insurance and consumer services, which makes Finland one of the leading countries in cooperative development. Most of the Finns are members of more than one cooperative and the cooperative groups are most often market leaders in their respective fields. The joint turnover exceeded 30 billion euros in 2011. The agricultural cooperatives have a market share of 97% in milk and 80% in meat.

*The (Finnish) agricultural cooperatives have a market share of 97% in milk and 80% in meat.*

Pellervo's main tasks include: providing services for Finnish cooperatives, acting as forum for cooperative activities, collecting together expertise related to cooperative activities, developing cooperatives and in general promoting its members' interests at national and international levels.

Following my visit to the US I am interested in co-ops and, speaking also as a member of the Woldmarsh buying group in the UK, I feel that we are better when we work together. Per-Erik told me about a friend of his called Rikard Korkman, an apple producer who wanted to form a co-op but



Apple CSA which Per-Erik talked about

instead he sold his crop to members who were allowed to buy their own tree. It is difficult to know if this is a co-op or did it have a members' club? Either way this is exactly what I am looking at.

Per Erik is in agreement with Jukka in that, although the intentions of Finnish people may be good, in practice consumers are often price-driven purchasers. That said, Erik stated that Finland is the most cooperative-

intensive country in the World.<sup>1</sup> Co-ops do very well in Finland, the big ones being those in milk (97%) and eggs (45%). Here the Finns have amongst the highest producer price in the EU.

<sup>1</sup> "It may be stipulated in the rules of the co-operative that its main purpose is an ideological goal. Therefore for instance a coalition of co-operatives as an interest group or a Village Association could operate as a co-operative and participate in economic activities." (Pellervo.)



I asked why the Finns are more conducive to cooperating and Per-Erik talked about the country's history and earlier development i.e. hardships endured leading naturally to cooperative approaches and ideals.

Per Erik said he felt that attitudes were changing, albeit slowly, particularly among younger people. It could be said however that a more corporate approach may be emerging in some younger producers as in some of the bigger firms/companies. *"Why cooperate? We could go for a bigger share or more profit"*. I think this is one of the reasons the milk industry in the UK is struggling, that they thought they could do better on their own.

A co-operative as a business model – *"The purpose of a co-operative is to promote the economic and business interests of its members by way of the pursuit of economic activity where members make use of the services provided by the co-operative directly or through a subsidiary or otherwise."*

#### Findings

**Co-operative businesses can be market leaders in their fields and we can learn a lot from the Finnish farming co-operatives.**  
**Along with many other producers I buy most of my inputs through a buying group (Woldmarsh). I think selling as a group isn't a big difference. I also think more community groups should be buying through buying groups e.g. electricity. This could be a way to build the community aspect.**

### 5.3 Farmers' Markets

#### 7.3.i. Eat & Joy Farmers Market, Helsinki

I was planning to visit this farmers' market but the main shop closed down shortly before I arrived in Helsinki which shows how difficult it is to make local food work. They had provided top-end food and still had a store in the airport. (see picture on next page)

#### Findings

**This strengthened my belief that Farmers' Markets are not the ideal way to market local food.**

#### 5.3.ii. Svarfvars Farm, Svarfvars Farm, Sökarvägen 90, FI-10300 Karis, Finland.

[www.svarsfars.fi](http://www.svarsfars.fi)

Jukka Ahonala has farmed at Svarfars since the 1970s and produces organic and biodynamic vegetables. He is also involved in the wholesale of similar products from other farms, especially out of season.

They provide home delivery of organic and biodynamic vegetables to the greater Helsinki area. This business works through the online shop. Over 2000 children in Steiner schools and kindergartens in Helsinki, Vantaa, Espoo and Tammissaari eat products sourced via this farm every week, as do many restaurant customers throughout the region. Jukka had just returned back from a trip to Paris to set



**The Eat and Joy farm shop in the airport sells top-end produce**

up a market for Finnish food exports in Paris. In the near future he plans to set up a farm shop heated with a biomass boiler fired with wood from the farm.

I asked Jukka about the CSA concept in Finland. I was interested to hear that the Finnish public are more similar to UK consumers than I would have expected. We spoke about the typical shopper and their desires for 'non-seasonal' produce i.e. people want to cook from recipe books and not understand the seasonality of fruit, vegetables and other ingredients. Jukka said that although they are fine as ideas, 8 out of 10 shops like 'Eat and Joy' (a farm shop in Helsinki) have closed. People perhaps find it difficult because of work commitments, ease of access

vs. the sheer convenience of supermarkets. I also think Finland mainstream food is

perceived to be fine, much like the UK, and so local, sustainable food doesn't have such an appeal as, say, in the US.

Jukka talked about 'drive through' markets as a concept i.e. you drive in, shout out your order and workers pack it up for you. I really like this idea. He also thought that Finland had mostly organic farming and could become a niche exporter of organic and GM-free produce if the whole country were to convert, and there would be little reduction in output.

Jukka also spoke about regulation/EU etc. and how we (farmers/producers) are so bound by directives which stifle and restrict particularly small businesses. For example, Finnish fishermen can't sell fresh catches straight to restaurants as it must go through the



**Jukka presenting the Martha Organization and the Martha restaurant with an award for exemplary promotion of Finnish gastronomy. Along with the certificate, they gave the Martha's a basketful of delicacies. Photo from [www.svarfvar.fi](http://www.svarfvar.fi)**



'correct' processes or channels, all of which mean it ends up being LESS fresh! This however is better than a local (UK) smokehouse I know who are not allowed to smoke chicken from small producers. The chicken processed have to have an EU number which is expensive. This means the local food chain is broken.

### **Findings**

**Even in countries like Finland where the inhabitants have more care for the environment and more social awareness, local food struggles.**

**The idea of drive-through farm shops is along the lines of 'click&collect' as carried out successfully by Tesco's. There is no reason a farm shop could not offer this as a service.**



## 6.0. Sweden

### 6.1. CSAs

#### 6.1.i. Ramsjogard, CSA in Uppsala, Sweden. [www.ramsjogard.net](http://www.ramsjogard.net)

Karin and Andres run the only CSA in Sweden. It has been going since 2001. Their CSA customers are residents of Uppsala which is a university town near Stockholm. Uppsala is the fourth largest city in Sweden after Stockholm, Gothenburg and Malmo, with 140,000 residents.

The CSA also supplies pre-schools with standard food orders. There are some restaurants sales but this is not so dependable. All the CSA goes to drop-off points in and around Uppsala.

Some other producers in Sweden have tried CSA but Karin says her and Andres's is the only real CSA.

Andres uses raised beds (not edged, more ridge and furrow) rather than fields – he doesn't use a tractor. He says his soil is not ideal. It is more like our own farmland – too wet generally, which gave me hope.

'Health' was the biggest attraction of a CSA, according to the majority of people they have surveyed.

They find the benefits of a CSA are popular - access to a local farm/producers, raspberries picking and pick-your-own apples (for CSA members only and then only if there is spare fruit)

This was the first place I saw 'Wwoofers' first hand. Wwoof is an organisation which links volunteers with organic producers and growers. This farm has about a dozen such volunteers who worked for bed and board. I think part of it is for the social side as they were educated and interesting young people usually working during a gap in education or employment. Wwoofers are a viable source of labour for organic farms such as this one.

#### Farm facts

Size of CSA part of farm 4-5 ha (10-12 acres)

Started in 1989

#### **Findings**

**Wwoofers are a valuable source of seasonal labour and can make a CSA more affordable. This also showed me that you do not need to have the same quality of land for a CSA as you must have for large-scale vegetable production.**

### 6.2 Other

#### **6.2.i. Tanto Allotments, Sodermalm, Stockholm**

As we have allotments on our farm at home I was keen to see how other countries ran their allotments. I wish I had had time to go to Germany as they are world leaders in allotments but I decided that some other countries offered more besides the allotments.



These allotments are on a hill in Stockholm, backing onto high-rise flats. However these flats, in true Swedish style, were well maintained and even the graffiti was tasteful and non-threatening!

Unlike their British equivalents, these allotments are also holiday homes for city dwellers. Many of the tiny cabins date from the 1920s-1940s. The allotments were started in 1915 and there are over 100.

The thing I noticed most about these allotments was the lack of security. Our farm allotments have locks on the gates and anything valuable is locked in an old shipping container. Members have been advised by the police to actively question any unrecognised visitors since our site was burgled just before I travelled to Scandinavia. At Tanto allotments the public are

free to walk around the gravel paths which wind between the lines of allotments. The wooden huts are probably locked but so were the sheds on our own allotment, which were burgled.

The Tanto allotment gardens are part of a 'secret' Stockholm that not many visitors experience. I would advise you to visit them if you travel to Stockholm.



An allotment plot with cabin. You can see the high-rise flats of Stockholm beyond the allotments

### Findings

Allotments which include a small cabin for residents to stay in overnight would probably work in the UK too, due to similar weather and cities. This idea could work alongside a farm CSA.



**6.2.ii. Adam Arnesson, Jannelunds Gard, Övratorp Jannelund, Mullhuttan, Sweden,**

[www.jannelundsgard.se](http://www.jannelundsgard.se)

Adam was in his last year at Uppsala University of Agricultural Sciences and was brought up on a farm in north Sweden. His parents farmed sheep but had previously had cattle.



His twitter name is @Ekobonden, which means 'the organic farmer' and through his twitter account, with 2,400 followers, he now sells all the farm's lamb via meat boxes.

The meat sells for less than in the supermarket but the farm's profits are double what they were when they sold on the open market. This was exactly what I was expecting to find on my Nuffield Farming travels. He was charming and helpful, a fantastic farming ambassador who had recently run '@sweden' on twitter for a week. This had further publicised what he was doing. He was essentially marketing all the meat from his family's farm whilst studying at university, and ensuring a small farm producing high quality meat was now viable.



**Above and below: sheep and lambs on the Arnesson family farm in Sweden**

He put the success of marketing via twitter down to the type of people who use that medium; people working in media and advertising who valued what he was doing and producing.



**Findings**

**Modern technologies such as social media can have a dramatic effect on whether local marketing can work. We must not underestimate it. The importance of being a 'people person' is also imperative for success in this area**



## 7.0. Singapore

### 7.1. Farmers' Markets

#### 7.1.i. Singapore food marketing

Singapore is very different to the UK in that 85% of Singapore citizens live in social housing which is run by the Housing Development Board (HDB). Singaporeans can buy or rent flats of varying size and price. Public housing has no stigma and is not seen as a sign of poverty or low quality housing. This public housing is planned in such a way as to produce self-contained small towns with schools, clinics, hawker centres (collection of street food vendors along with seating, and sports and recreational facilities). They also include wet markets where you can buy all the fresh produce you need from numerous small stalls selling everything from fish to vegetables. This means supermarkets are not as popular as people can buy all their food conveniently near to their homes, and just buy what they need for the next day or two. The stalls are run by small businesses so keep some of the profits in the local economy.

I thought this was fantastic town planning and would benefit our societies immensely if planning was carried out along these lines in the UK – from the community aspect to healthier eating, it has many benefits. These include the fact that older residents are able to shop within meters of their flats and so keep independent for longer.



Above – housing to left, wet market to the right



Fresh produce sold in the wet markets

#### 7.1.ii. Supermarkets

There are still some supermarkets such as **Cold Storage** which is an Australian business selling Waitrose-standard food. Obviously this is catering for the Aussie expats so not mainstream.

**NTUC Fairprice Co-op** is more popular with everyday Singaporeans as it is offering everyday prices with the usual appeal of a one-shop supermarket.





### 7.1.iii. Online shopping

There is hardly any fresh online shopping due to the heat and the issues of delivering it in good condition. Marketplace and Jason's Gourmet Grocery (run by Cold Storage) do fresh deliveries but are very expensive so not widely used.

Singapore is a benign (or benevolent) dictatorship, in that it is not a true democracy; but the dictatorship is run to benefit the whole society, not just the leaders. It is incredibly successful and has improved Singaporeans' lives dramatically in the last 50 years. However there are two sides to this - one person is executed each month. This is usually for armed robberies.

#### Findings

**Town planning ought to include possibilities for local food. As it is too late for much of the recent housing development in the UK, planning now needs to allow local food to be retailed in areas which are as appealing for the consumers as supermarkets. Singapore has an income inequality similar to that of the US.**



A hawker centre inside the building next to the wet market. Many stalls around the outside sell all sorts of freshly prepared takeaway food - perfect for lunch breaks or evening meals.

## 7.2 Other

### 7.2.i. Sky greens, Singapore

Mr Jack Ng, the founder of Sky Greens, is an engineer by trade rather than a farmer. Jack started building the prototype vertical farm in 2009 and it is now the world's largest vertical farm. This kind of farming is especially relevant in Singapore due to the high population density, which means only 8% of the vegetables consumed are produced in Singapore.



The business is involved in R&D and is a commercial farm. There are 2,000 vertical towers over 6 hectares, growing salad and vegetables in revolving racks. Each rack rotates once per 16 hours so that every 16 hours it is submerged in water at the bottom of the tower and is at the top of the tower for sunlight every 16 hours.

The towers can be 3, 6 or 9 meters high. Nine meters is the maximum height, as over this height the base width needs increasing, which reduces space efficiency. One tower gives 10 times the yield of a crop grown on one level (i.e. as in most greenhouses). These are not standard hydroponics as the plants are grown in soil pots. My concern prior to this visit was the poor taste quality I have experienced with hydroponic tomatoes.

The main driver was to retain natural growing methods but with engineering updates. Water-driven hydraulics rotate the racks; the water used for this and for the plants is rainwater. Tilapia fish are produced below some of the towers, in the plants' water.

The production is not organic as some pesticides are still used, but this is limited, and each growing area (tower) is separated from the others so only the areas which are affected need to be treated. They are moving towards organic.

Jack is interested in the idea of food hubs whereby producers get together to pack produce, thereby improving their power in the market and improve efficiency and food quality. This goes back to the idea of co-ops again.



Plants growing in the polystyrene pots which rotate within the vertical towers



Tilapia fish growing in the water below the towers with their waste providing plant food.

### 7.2.ii. Miscellaneous

- These vertical towers use natural sunlight; other vertical farms use LED lighting which has a high-energy use. Singapore has strong enough natural light year round.
- In China land has been polluted by industry and existing farming so this sort of technology should have a market in those situations.
- Hydraulics (using rainwater) drive the rotating racks which move very slowly.
- Low energy use low input
- The planting boxes last for two years



- Vegetables are packed on site. This means they are fresher when they reach the consumer. Fresher usually also means higher nutrient value. Plus less waste as only harvested as and when needed.
- This system produces better working conditions with improved ergonomics. The rotary system allows the troughs to be immediately adjusted for easy harvesting. Automation at the farm also means more productive workers per ton of vegetables produced.

### Findings

**A vertical farm such as Sky Greens definitely has a place in the food production of the future. Water conservation will be essential everywhere in the future, so Sky Greens is well placed, and these towers are efficient in many other ways too. These advantages could be promoted as an aspect of local food production and marketing.**



**An example of a vertical farm built around a home's car port – fresh home grown food with very little area and resources used.**

### 7.2.ii. Zenxin

Blk14 Wholesale Centre, Singapore  
[www.zenxin.com](http://www.zenxin.com)

Zenxin is Singapore's leading producer, distributor and retailer of organic food and the only one selling their own produce from their own farm. Mr Tai Kok Kong founded Zenxin in 2002 when his entrepreneurial father invested in a 100-acre farm in Malaysia. Tai began selling produce from the small shop in central Singapore which I visited. Now it has grown to several shops, a large online grocery store and supplier to other retailers. The original shop is still there but is now a minor part of the business now. Zenxin has recently been recognised as one of the top emerging SME's in Singapore. Interest has come from other countries such as Indonesia which is likely to result in further expansion.

A big aspect of their marketing is public cooking demonstrations and a lot of television appearances on cookery programmes. They advertise on positives: better taste and improved environment,



rather than negatives (fear of pesticides). Even though the UK organic sector is usually driven by people's fear of the unknown I really think selling with a positive story is a good thing in business.

They do not just sell Malaysian produce; a lot comes from Australia and even Holland and Spain. Vegetables such as cabbages will not grow in the tropical climate and cold-water fish such as salmon need importing.

There is a farm park in Malaysia that is open to the public and anybody can book a visit. This is actively encouraged and looks to be a well-organised facility. They are very interested in educating their customers as to why organic is relevant. Further details are on the website.

### Further points

- Singapore has a population of 6.9million people most of whom are from China originally.
- Expats used to be a large part of their customer base but the expats now appear to be less interested. It is the Chinese who are Zenxin's main customers now, particularly pregnant mothers and the better-educated people; 75% of Zenxin customers are Chinese.
- Zenxin also produce chickens for broiler and egg sales and this produces the manure used in the vegetable growing.
- Ceri Wolf, who showed me around the shop, said that people in Singapore like air conditioning and this means they would rather shop in air-conditioned shops than in markets.

### Findings

**Xenxin is a real success story and is expanding. I am sure this is due to Tai. He is fearless and a good networker. Most importantly he believes in organic production. Another point which they believe helps is that they are a family business, not just another faceless corporation.**

**This visit emphasised to me the importance of having a dynamic person at the front of a business.**



## 8.0. Japan

I decided to travel to Japan to see Teikei which is the name their system of community-supported agriculture goes under. Teikei is closely associated with small-scale, local, organic farming, and volunteer-based, non-profit partnerships between producers and consumers. Millions of Japanese consumers participate in teikei and it is widely cited as the origin of community-supported agriculture around the world.

Japan is very different socially to the US so I thought would be good to see as a comparison. I feel this is relevant as my project is about society, and their purchasing habits, alongside food.

I was also fascinated by the Japanese culture, including their food. Although I expected it to be the highlight of my travels I hadn't expected quite how much I would enjoy visiting Japan. The Japanese people are so kind and helpful that it makes everything so easy despite the language barrier.

Massive thanks to Mr Toshihisa Nagasaka who organised all my visits for me and without whom none of this travel would have happened. Mr Nagasaka arranged some meetings in Tokyo and for me to travel to Fukushima to spend two days being guided around the area by Hiroshi Hasegawa to see first-hand how the farmers are coping after the Fukushima Daiichi Nuclear Power Plant disaster.

Most importantly this was around engaging the consumers about the importance of shopping locally and hence the importance of producer-customer relationships. It certainly made me think differently about nuclear power being the ideal solution to our energy needs. The Japanese are meticulous and organised. If it can happen to them it could happen to any power station. I have since read about the Diablo Canyon power station in California which is located on several fault lines.



1' high hay bales for a small wagyu beef farm

Hiroshi met me at the Koriyama train station. Koriyama is two hours by bullet train from Tokyo. Over the two-day stay he took me to visit many farms, including staying on a farm. I have written about the most notable visits but they were all fascinating.

Another lucky recommendation was during the Teikei open day. Mr Kaneko arranged for me to meet up with Etona Orito, a doctoral student in Environmental Ethics, Food and Agriculture. I was slightly unsure about another meeting as so much had been arranged but this was a fantastic contact. Etona showed me around Tokyo and came to translate for me during a day of visits in Tokyo - all because she believed in what I was researching and was interested. This reaffirmed my experience of the Japanese being so helpful and kind.

### 8.1. Community Supported Agriculture

#### 8.1.i. Kirisato Farm Open Day, Organic Farm and Teikei, Ogawa-machi, Mr Yoshinori Kaneko

I was incredibly lucky to be able to attend a conference at the most established Teikei near Tokyo.



Mr Kaneko started the business as a Teikei system. Unfortunately this didn't work as the customers complained about high prices and inconsistent quality of the vegetables. The Teikei finished after 2 years. Then they started again with smaller number of customers (10) and just gave vegetables away rather than charging. This meant that people started to understand the issues of food production.

The customers also became like family so gave money rather than pay, but barter was used instead of money.



Above: the conference was fully booked

Now some members pay for four months in advance, some pay after receiving the vegetables. They have 30 families to provide for now. The open day/conference was part of keeping their members informed but I was interested in how many non-members were there – media people and researchers. This backs up my theory that CSA is a **media friendly** business and hence you can get free advertising.



Farm tour to demonstrate the practicalities of farming

Teikei members used to work on the farm but it proved too much for them and so this has been stopped. One important point was that you need people working as a layer between the producers and consumers.

Ten years after starting the Teikei, the farm begun to take on a trainee and now they now have ten of them. Ninety five per cent of trainees are not from a farming background. Conventional producers say don't go into farming as a job as it's too hard - so their children are not following them into the industry.

They find companion planting works well and plant leeks, chives and onions with other plants. These types of plants create natural antibiotics; two leeks between zucchini (courgettes), and the plant roots grow together. They plant barley with organic strawberries; the strawberries attract wasps that will kill the aphids. Chives are grown at the roots of tomatoes to protect them. They also mix legumes and tomatoes.

Fifty chickens are kept for egg, meat and manure. Every 2 years they get new chickens. Six cows are also kept, just for manure at the moment. The farm is self sufficient in fertiliser.

The tractor is run on old vegetable oil, which needs heating before using to remove the water. The tractor had two tanks; one for the oil, and one for diesel when the engine is started.



They use crossbred white domestic ducks (they cannot fly) to eat weeds in the rice fields; starting with ducklings when the rice is planted out since ducklings don't damage young rice plants. The ducks are then harvested at the same time as the rice. I wish pigeons were so beneficial to wheat fields!

The farm also works with local industries that understand the principles of the farm and will pay up to **three times the current market price for produce**. Some of the farm's rice is sold to a local business that part-pays their workers in rice. This is a type of barter. The business employees come every year with their families to work on the farm for a day, essentially as a team building exercise.

**Below: hot beds to get plants started in the spring. Made with fallen leaves, straw, cow manure and crushed soy beans. It is trampled on to slow down decomposing; works aerobically and anaerobically**

A local tofu producer works using only produce from this farm to make very famous tofu. One million yen/day of tofu is sold in the shop (£5,700/day).



They have a restaurant/cafe that has a different chef every day of the week. Only produce from the farm is used in the cafe. There were 80 customers on the day we visited.

**Farm facts**

- 1.5 hectares rice fields
- 1.5 hectares of 60 different types of vegetables
- 3 hectares forest

**Below: companion plantings of leeks with courgettes**

Vegetables are sold in the shop and the Teikei; there are two shops and a Sunday farmers' market: the split is 65% teikei, 35% market.



The farm has 10 trainees. These trainees also consume a significant percentage of the farm's produce.

**In the future**

This farm can provide food but also wants to provide energy - vegetable oil, solar power and biogas.

**Teikei issues**

- Markets want uniform vegetables; organic farming does not produce this naturally so need to educate members.
- Very difficult and expensive to get organic certification but can't sell in supermarkets without one. There are 12,000 organic farm in Japan but only 4000 registered.
- Organic produce is imported to Japan. This is not ideal.

**Some thoughts from the conference**

*"Food chain revolutions: is Community Supported Agriculture a viable alternative? ... by Tamara Hall*  
A Nuffield Farming Scholarships Trust report .. generously sponsored by The Yorkshire Agricultural Society



- There are not enough farming successors in Japan (similar to the UK); average age of a farmer is over 60
- Farms need to work on health of humans, future of tribe and not economic success.
- A farmer is a free man, not a salary man.
- Soil in the forest builds by 1 cm/100 years. They are trying to replicate this on the fields with fallen leaves, twigs, tofu by-products, manure, and rice bran to make compost. Very good compost is produced.
- Beneficial insects that predate crop pests, also feed 100-200 varieties of birds so provide a good balance of ecosystem.
- The most important thing in life is secure food, water and energy. These need to be available near to where people live.

### Findings

**I was surprised by how small the Teikei membership was considering how well established this farm is. The importance of keeping the members educated was obviously very important.**

**I liked the appearance of a food truck again and the business paying staff in rice. The importance and popularity of the restaurant was interesting, as was the supply to the tofu producer. I would like to produce chicken and ducks for a local award winning smokehouse near our farm. However EU rules mean that you need an expensive EU number to produce meat permitted to be smoked for sale to the public. Only large-scale, intensive meat producers can afford this.**

### 8.1.ii. Satoro Ohuchi, 40 year old farmer

Satoro is a dynamic vegetable producer who farms with his parents. The farm has been producing veg boxes for forty years. In his spare time he is a long distance runner and was in training for a 100km marathon. He was doing the majority of the physical work on the 7ha organic vegetable farm on his own. He definitely knew how to work and looked incredibly fit and healthy.

The family grow a massive range - Japanese green leaves, onions, daikon radish, lettuce, turnips, green onions etc., all organically. For fertiliser, they use compost from nearby farms which make it out of farm manure. The family used to keep chickens but have stopped.

They sell Teikei through a co-op and they did have 250 customers. Since the nuclear disaster they are down to 150 members. They also directly deliver to 30 customers



**Satoro at one of their small blocks of land.  
Behind me was an industrial estate.**





Satoro's father trimming the roots of the green onions before wrapping them in old newspaper and putting them in the veg boxes

Watching Satoro's parents making up that week's boxes it was noticeable how high the quality of the presentation was. The vegetables were spotlessly clean and carefully wrapped in plastic bags or newspaper, reminiscent of macramé. I think that the families they supply are traditional and have been members for some time as Satoro said that the seasonality of his produce was not a problem for his consumers.

### Points of interest

- Satoro's father is a specialist in organic vegetable growing and has published a manual on growing vegetables.
- They farm 7 hectares (20 acres) with bits of land spread all over. It is very fertile, black land on old river beds. Compost is used, made from cow muck and rice bran.
- Almost all the crops are rain-fed, although he does carry a tanker on the back of his van if they get desperate.
- Use fleece instead of polytunnels
- One part-time worker employed just for weeding
- Rotates rape, soy bean, wheat and occasionally sunflowers.
- Grow carrots for juicing. Heat suppresses the weeds to make growing a large amount of carrots possible

### Findings

**This visit confirmed to me how dedicated you need to be to run a successful Teikei business. The attention to detail was impressive. It is an important part of why this sort of purchasing – as opposed to buying from larger suppliers - appeals to customers.**



## 8.2. Farmers' Markets

### 8.2.i. Miszaho, Fukushima

I was looking forward to meeting Miszaho as she is a female producer - like me - and I wondered what her experience of working in a male dominated industry was like. Similarly to me she has not found it to be a hindrance although I think there are more female farmers in Japan than in the UK.

Miszaho who is 26, studied physical education at university. After five years ago she came home to be a farmer. She is a very good athlete and still plays sport at a high level.



Miszaho, me and my sister by her polytunnels

She is a vegetable grower, producing tomatoes, organic strawberries and runner beans. Produce is grown in polytunnels and using water from a well for irrigation.

The consumers buy straight from the farm or at farmers' markets. At the farmers' market a 'not for profit' co-op organisation sells the produce so she doesn't need to either man the stall or employ somebody else to man the store. The co-op is owned and run by producer members.

Miszaho is well known which helps sell her produce. She holds open days and people come from Tokyo for farm tours. Her publicity is via talks to schools, Facebook and a contract with a travel agency for the farm tours. Also private companies come for farming day (team-building). Miszaho has six planting days each year where companies send workers to plant out rice seedlings. The vast majority will never have set foot in a paddy field before. Miszaho is branching out and making farming accessible to more people.

She works six days a week, 6am-6pm, so it is not an easy life although I assume she has more time off out of season. Her one day off each week is to play sport. She has a strong family unit; her parents and grandma work with her. Her only employee is a young man who works for one month each year.

The Japanese government has a scheme to help new farmers, whereby they pay a farmer's salary for 2 years, up to 150,000 yen per month, which is about £10,000 per year.

Rent in Japan is 50,000 yen/hectare (£285/ha). Interestingly, In Japan you have to be a farmer to buy land.



**Findings**

**Use of the co-op to sell their produce at the farmers’ market is a great idea as shared costs of the market stall and a good mix of products available.**

**The importance of publicity and interaction with the consumer were again noticeable.**

**I liked the idea of registering with a travel agency to provide farm tours to gives some income plus it publicises your business.**

**I think the UK government would do well to consider a scheme to help new farmers although our land prices are another limiting factor. However you don’t need much land to produce vegetables in polytunnels. UK planning laws need to be relaxed re polytunnels and greenhouses to allow small farms to produce vegetables of improved quality and for a longer season. The Japanese climate is not dissimilar to ours and their countryside is peppered with polytunnels, often in the villages.**

**8.3 Other**

**8.3.i. Farm Stay. Tatsuhiro Ohno. [yuukinosato@piano.net](mailto:yuukinosato@piano.net)**

I stayed at a Japanese farmstay run by the Ohno family, which was a fantastic experience. It was a fraction of the price it would have been in Europe and I was treated like royalty! They were farming tomatoes, rice, vines for wine and emus (!)

Before the Fukushima disaster they grew shitake mushrooms which they dried. However these absorbed too much radiation and a whole year’s crop of mushrooms had to be disposed of as unfit for human consumption following the disaster.

We watched a documentary featuring the family farming after the nuclear disaster, showing the crops being scanned for radiation and the irrigation water being filtered. Dried clay was being applied to the rice fields to lock-up the radioactive particles. Scientists came to the farms to measure the radiation. All crops produced in the Fukushima area were checked before sale to check radiation levels were permissible.



**The farm where I stayed, with the Ohno family**

The Ohno children are fostered but the baby girl was taken away because of fear of radiation poisoning. It was heart breaking to see the film of the whole family crying as she was taken away. The local children are routinely scanned for radiation. Apparently adoption is unusual in Japan but was being encouraged as so many children lost their parents in the tsunami and power plant disaster.

Tatsuhiro was a real survivor and has now branched out into making cider, wine and sake. They were also taking in guests for farmstay B&Bs to bring in extra revenue.

He had been an important farmer in trying to change views on radiation and very involved in working with the government to educate the people on their problems.



Our guide, Hiroshi, who came to the farm stay with us. This photo was taken at the end of the evening dinner, which was fantastic! Note bottle and glass of homemade sake...!

I would thoroughly recommend a trip to Japan and to include a visit to the area. You take a two-hour bullet train ride from Tokyo (worth doing on its own!) The radiation levels away from the power plant are negligible (some areas of Cornwall have naturally occurring high background radiation). Japan is cheaper than Europe, possibly to do with the currency exchange rates, which is contrary to what I had heard before I visited. The Japanese are such lovely people and the scenery is outstanding.



I liked the compost spreading attachment which fitted onto the farm van

### Findings

Although I have been convinced in the past that nuclear power was probably the best option for energy, having seen Fukushima first hand and how it has affected people's lives, I am less convinced.

### 8.3.ii. JOAA (Japan Organic Agriculture Association/Teiki Head Office).

JOAA Office in Hongo, Tokyo

Professor Hiroko Kubota, Director of JOAA. [kubota@kokugakuin.ac.jp](mailto:kubota@kokugakuin.ac.jp)

Sixteen years ago Hiroko became a University Professor in Social Movements, including organic farming. As part of this she visits Teikei in Japan and CSAs in the UK. Hiroko worked for the Southern



government in consumer affairs. She researched consumer movement in Japan and food safety issues.

I asked her many questions about Japanese society but the more relevant ones include the following.

**Why do people buy organic food?**

People buy organic food because it is safe food and healthy. A lot of people are not conscious of environmental issues and although organic food tastes better, this seems to be simply an 'add on' rather than a primary reason for purchase.

**How do you publicise organic?**

Teikei started in the 70s in Japan, boomed in the 70s and 80s, and has declined since. Organic food is easy to get from other sources including farm shops (not all organic but fresh and looks great). People are not so concerned about organic plus the organic movement is disjointed and they do not work together well.

**Government policies?**

In Japan the government doesn't assist small farms so we need to support smaller farmers in the community. The Japanese have faith in Japanese produce. JOAA (the Japanese Organic Association, see page 45) do a lot of publicity to encourage people to buy Japanese food. In 2006 the Government started to support an organic farming promotion group and tried to promote Teikei at the same time.

**How many farms are running Teikei?**

Surveys are not reliable and it's hard to define a Teikei. 12,000 farms in Japan are organic. It's estimated 8,000 out of 12,000 have some sort of Teikei.

**What age is most interested in organic/Teikei?**

Above 60 years old - they have experience of bad additives, food scares and pollution incidents. The younger generation has only heard about these problems second hand.

**Further points**

- Attitude to organic is that organic producers are weird. This needs to change for organic to appeal to the mainstream.
- Producers and consumers need to come together, as a family. Not as competitors.
- 'Matchmaking on the farm' is an idea for getting Teikei members to do work shares. People can relax and speak naturally, make meals after working all day on the farm with new friends. Matchmaking is expanding as quickly as internet shopping – a massive number of people get into relationships after meeting through matchmaking groups/online sites.
- 'My farm' is a project which asks producers/landowners to use up unwanted land for allotments. A manager from 'My Farm' comes in to set up and runs the allotments so the landowner does not have to do anything. All tools are provided although the allotments are rather expensive. This sounds like a good project in theory and is expanding.



## Findings

I am still confused as to the importance of the personal safety of the consumer in driving organic food purchasing and Teikei. I like my organic veg box mostly for the taste and convenience plus I do now believe farming vegetables organically is more sustainable.

There are quite a few Teikei farms in Japan but not as many as I had expected and they are smaller than I had expected after visiting the US.

I was also sad to see how Teikei in Japan is supported mostly by the older generation. In Scandinavia it appeals to a younger generation but also in Scandinavia the producers are considered cool and more mainstream.

I liked the ideas of 'My Farm' and the matchmaking/social side of volunteering on a farm.

### 8.3.iii. Farm shop and restaurant, Fukushima

Before the nuclear accident the farm was a Teikei with 50 members, providing fortnightly veg boxes. The customer numbers dropped sharply following the disaster so they started selling boxes nationally.

They advertised on the internet and at farmers' markets in Tokyo and now have 150 customers.

The food is labelled with chemical and radioactive screening. Delivery is by truck which is charged at 600-900 yen (£3.50-£5) which they say is an issue as it makes boxes expensive. The boxes are 2,000 yen (£11.50).

As part of their plans following the disaster and drop in veg box numbers they opened a restaurant in July last year (2013). The restaurant opens on Wednesdays and Thursdays. It has been very tough getting it going and they are still not sure it is going to



Above: the shop selling local produce which you need to walk through to get to the restaurant which is shown below



Japanese taste and style is evident in the restaurant



work. The husband and son both work on the farm and the wife works in the restaurant as well as on the farm. Food served in the restaurant is produced from their farm and other local farms. It was fantastic quality, like all the Japanese food I ate. All the produce is, again, screened for radioactivity

Their average customer age is elderly and the customers feel guilty for the issues caused to the farmers in the Fukushima area so buy the veg boxes to try to help. This is typical of the Japanese people; they are much more socially driven than Europeans.

**Findings**

**Like farmers worldwide they were trying their hardest to keep on farming despite adversity. The best part was how well the publicising to the cities has worked and that the veg boxes were still viable. The fact that customers bought the vegetables to help the producers despite a small risk to their own health was a good example of what the Japanese people are like. I don't think we would have the same ethic in the UK!**

**8.3.iv. The Daichi Wo Mamoru Kai (The Group to Protect the Earth) Distributor of Organic Foods**

Mr Toyoshima.

In 1975, Daichi started as an NGO promoting organic farming and selling organic vegetables in an outdoor market. In 1977 they established a food distribution company, buying organic produce from Japanese organic producers and selling to consumers, in order to create a stable market for both consumers and producers. For over 30 years they have been working to connect producers and consumers to enable this.

They are both an NGO and a group of business corporations that conducts its business under the principles of the NGO. They have an annual turnover of over 15 billion yen (over £85,000,000).

Their members are 2,500 producers (farmers, fishermen, etc.) and 100,000 consumers. Its business operations extend to home delivery, online sales, wholesale, directly-run greengrocers, restaurants, cafes and more.

Daichi was set up by a farmer's son called Kazuyoshi Fujita, to protect producers - they pay farmers a fair price which is based on what is necessary to keep them farming. The price is set before produce is planted and Daichi promise to buy certain quantity.

Approximately 1 in 5 of all Japanese households belongs to a local retail co-op and 90% of all co-op members are women. \* (Takamura, 1995)



**Mr Toyoshima gave me a great presentation about Daichi**

I had a meeting with Hiroshi Toyoshima who talked with me at



length about the business. He has worked for 20 years at Daichi. He started in the meat department, as a butcher, and then transferred to overseas business. At the time they were setting up business in China. China has a big problem in food quality due to pollution so there should be a good market for this kind of direct marketing.

As well as their premium boxes they produce a box of 'random' or assorted veg. These are sold at a lower price than premium boxes, similar to a traditional CSA.

They have open days at their farms to educate their customers; however only a very small number attend; less than 10%, possibly only 5%. They try to publicise these visits and write up reports about them in the newsletter.

They advertise via the internet especially on Facebook; in newspapers, on the radio, sometimes television adverts. They employ an advertising agency to do this for them. This produces 1,000 new members a year, half of whom will remain as longer term customers, half won't.

When the business started you ordered via ticking boxes on a paper order form. Older people use the paper version, younger people use the internet.

There is no upfront payment for boxes but customers pay 1,000 yen (£5.50) membership fee/year to pay for social activities. You receive a refund if you leave.

### **In the future**

Over the last 5 years the CSA sector has become more competitive. They have a lot of competition from companies producing similar brochures but who are selling more cheaply with different principles.

Lawson's (large chain of convenience shops) have recently bought a lot of Daichi shares which was a big shock as Lawson will chase profits - which Daichi didn't do. Hiroshi was concerned about how it would work and I sensed unhappiness at how the business was evolving. Hiroshi asked if it will lose its social status and how it would they stick to original philosophy if profit becomes the primary driver.

### **Findings**

**This (The Group to protect the Earth) is exactly what I think we should try to replicate in the UK; producer-led retail is more possible with online marketing.**

**The sector will become flooded with similar offerings, often from less ethical retailers rebranding themselves with clever marketing but providing lower quality products. The importance of continual interaction with your consumers to educate them about the importance of the ethics and traceability in this sort of business will be even more important.**





## 9.0. Greece

### 9.1 Community Supported Agriculture and farmers' markets

#### 9.1.i. Gineagrotis – Farmers Republic, Athens

I was originally inspired to apply for a Nuffield Farming Scholarship by a newspaper article I read about a project in Greece called Gine Agrotis ('become a farmer')

City-dwellers rent a patch of land from a producer, and tell him what they would like grown on it; the producer does the work and consumers get their own fresh vegetables delivered to them weekly. And unlike some services elsewhere, it costs the Greeks on average 70% less than at the supermarket or greengrocers.

The benefits to the producer are significant. They know in advance what to plant, how much of it, and when to harvest. The crops can be grown at a discount, because the producer knows he will sell all he grows, with no waste. And they get a regular, guaranteed, stable income.

The customers register online and choose the size of plot they want, usually between 70m<sup>2</sup> and 100m<sup>2</sup>. At least a month in advance, they select the produce they want, choosing from a list of 10 summer and 10 winter vegetables. At 250m<sup>2</sup> the area of each plot is much smaller than the average UK allotment. The cost is 15 euros/week (800 euros/year, £635/year).

The vegetables are delivered weekly, on one of two pre-agreed days, and within 24 hours of being picked. If the customers are away or on holiday, they can ask for their delivery to be donated to an Athens soup kitchen. They can also opt to pay 10% more than their regular subscription, on the understanding that the producer will grow 10% more and it will be donated to an organisation helping the hungry or homeless.

More than 5,000 people have created accounts online and tried to rent a plot of land, rather overwhelming the organisation's resources. More than 900 producers have said they want to join up, and more than 1,000 emails have come in from people praising the idea and asking when it will be available where they live.

"This is going to be clean, honest and transparent," Dimitris said. "Nobody will cheat anybody. For farmers, it's all they ever wanted. For consumers, it's quality fresh food, much cheaper. We're fulfilling real social and economic needs. It'll work."

Dimitris studied economics at university and, before starting Gine Agrotis, he worked in his uncle's jewellery business. He was bringing home-grown tomatoes etc. into the office for his lunch and colleagues wanted to know where they could source such fantastic produce. This is what inspired him to start Gine Agrotis. I really liked the fact he knows about business as I think anything we do needs to be viable as a business and not just be a hobby.

Since starting Gine Agrotis two years ago, Dimitris has now rented an ex-car salesroom to set up Farmers Republic - a farm shop including online sales, café and a bi-weekly farmers' market. Gine Agrotis still works but Dimitris feels it has limited appeal and there need to be several different



alternatives for the shoppers. Before I visited Dimitris I had envisaged that this was the way such CSA projects could develop. It was great to see it actually in action.

The Farmers Republic brand is appealing to the Greeks as they are so disenfranchised with the status quo and their present economy. The rebellious nature of the business's title should engage consumers.



**Points of interest**

- The Greeks do prefer organic. This is mostly for the perceived health benefits.
- Customers have similar outlooks as in the UK and Scandinavia re ethical vs. affordability.
- The shop does not buy upfront the produce it sells and the producers can set the price. They get 80% of the sale price and Farmers Republic gets 20% for stocking the produce.
- Farmers' market stands costs 30 euros per pitch/day (£24)
- Dimitris thinks that from his research that local is as important as organic
- Farmers Republic website : [www.farmersrepublic.gr](http://www.farmersrepublic.gr) is now live and looking to move it to other countries. The website is expensive to set up (the business has a lot of funding from outside investors) but would be easy to re-use for other areas.

Ex car salesroom now contemporary farm shop and farmers' market



The building (see also photo above) has the farm shop at the far end, the café in the middle to the right and in the near ground there are a few of the farmers' market wooden stalls. The design was contemporary and industrial

**Findings**

**This was a fantastic penultimate trip for me as it summarised what I had been assimilating from my travels. CSAs are a great starting point to get publicity and a network but the concept does have limited appeal. There are a number of further ways to expand the businesses' appeal to a wider audience but still keeping the ethical foundation of the CSA.**

**I am also encouraged by the level of funding Dimitri has received from outside investors. If this were a senseless endeavour he would struggle with finding investors.**



## 10.0. Holland

### 10.1 Community Supported Agriculture

#### 10.1.i. Merlijn Albering N.Sch Kerkstraat 100, 9745CL Groningen, Netherlands.

[www.stadsakker.nl](http://www.stadsakker.nl)

For my last trip I took an overnight ferry from Hull to Rotterdam and then drove a few hours north to visit another Nuffield Farming Scholar Merlijn Albering (pronounced Merlin), who undertook her Scholarship in 2012. Merlijn's topic was: "What is the future of local and small-scale agriculture? Will the small-scale producer survive? What is the role of local food production on our society and environment?" In her report she highlighted the importance of local and that it will be the new organic. From what I have found in my travels I agree with her.

Merlijn started a CSA in January this year (2014) on a 2 hectare (five-acre) field which had been a football playing field. Even though the land is heavy clay and wet (like my farm), this field had sand added to make the football pitches. It had taken three years to find this site. Before starting the CSA Merlijn taught organic agriculture and more recently has opened a gardening shop in the nearby town, selling top-end gardening products - from locally handmade hoes to beautiful garden gloves. This shop is still a new venture but is successful. She said that one result of the recent recession is that people are not buying disposable items; they would rather save and buy a spade which will last a lifetime. The CSA produce is collected from this shop. I think this is an important aspect of their success.

#### Points of interest

- Fertiliser is in the form of delivered compost. Over the longer term they plan to have chickens and pigs which will provide the fertiliser.
- The CSA is on the edge of a village next to a town of 200,000 people.
- One interesting suggestion was that they provide seven different varieties of vegetables but the member picks just five. In this way they still have choice and Merlijn says that within two or three years they will know what the customers prefer and grow more of the popular varieties and less of the unpopular ones. From my experience of receiving veg boxes I would really like this option as I did find getting a swede each week for over a month a bit challenging. CSA customers hate throwing good food away and the guilt of not using some of the vegetables really can put you off getting the boxes.



Merlijn and her husband showing the model of the farm which was used for planning



### **Farm facts**

- In year 1 - 50 members
- Boxes are collected from their shop 5km away
- Some customers pay a weekly subscription; some opt for only three or four boxes each year
- Average age of customer is 35-50. Merlijn says that this is the age group who are most interested in sustainable living and who can also afford the upfront subscription. Cost is not the primary factor when they are buying their food.
- 325 euros/year for fortnightly boxes, 30-32 weeks of the year.
- They are organic but Merlijn said that local is more important.

### **Findings**

**As CSAs are in their early stages in Europe you are best to be near a large population as only a small percentage of that population will want to be customers.**

**Local is becoming more important than organic**

**Offering a choice of a couple of extra varieties of vegetable until you know what your customers want. (Even then a bit of a choice would work for me.)**

**The resilience of smaller scale agriculture is relevant with their customer relationships, plus volatility in weather and markets, going forward. I loved Merlijn's quote at the start of her report ([http://www.nuffieldinternational.org/rep\\_pdf/1393368567140225EnglishSummaryMerlijnAlberingGrou\\_FINAL.pdf](http://www.nuffieldinternational.org/rep_pdf/1393368567140225EnglishSummaryMerlijnAlberingGrou_FINAL.pdf)) – “Remember, amateurs built the ark; professionals built the Titanic”!**



**Items sold in Merlijn's gardening shop**

**Left: Handmade spade specifically for heavy land**

**Above: Birdboxes make good presents and so sell well**



## 11.0. UK

### 11.1. CSAs

#### **11.1.i. Canalside CSA, Canalside Community Food, Leasowe Farm, Leamington Spa, CV31 1TY [www.canalsidecommunityfood.org.uk](http://www.canalsidecommunityfood.org.uk)**

My first Nuffield Farming visit was to see a UK CSA as I had only *read* about CSAs before undertaking my studies and not actually *visited* any. I had been warned before my travels that visiting endless CSAs would not be constructive as there will be a lot of similarities. I chose Canalside Community Food which is based on Leasowe Farm near Leamington Spa, Warwickshire.



**Members' onion-planting together  
(Thanks to Tom Ingall for this photo  
and the one below)**

Tom Ingall and his wife Caz moved back to his parents' farm 8 years ago as partners in the farm business. They were very keen to be involved in more practical things and so Tom undertook an MSc in human ecology, including a module on plant-based nutrition and protein based food. He had very little prior knowledge of growing vegetables before starting the CSA.

Along with a couple of non-producers who had been keen for a number of years to establish a CSA, Canalside CSA held their first public meeting in 2006 to which 80 people came and, in their first season, 60 signed up for shares. Tom leased 7 acres of land on the farm and with the help of 2 other part time growers started the vegetable CSA. More recently they have expanded into fruit production. They borrowed £10,000 through an interest free loan, from a community member, in order to fund the setup of the CSA, and this needed to be repaid over a five year period.



**Having fun harvesting pumpkins!**

They are registered organic with the Soil Association and have seven polytunnels. They have seven regular 'workshare' members who work for half a day each week in exchange for a veg box. There is a 12-18 month waiting list for workshares so it is obviously popular and will work better having regular attendance as there is less training and supervision needed.

When I visited I was impressed by the yurt building where customers came to collect their vegetables and/or fruit. The produce was in boxes around the outside of the building with a small chalk board by each box letting you know how much was allowed for each share so you collected and packed it yourself. Anything you didn't want went into another area, free for any other members to take as extra. Any oddities like green tomatoes were also left out for people to help themselves to, but not included in your share as standard.



### Farm facts

- 7 hectares
- Veg boxes prices for small, medium and large - £6.67, £10.00 and £12.00
- Collection is free, but there is a £2.20 monthly delivery charge if collected from Leamington train station.
- Members are expected to contribute three 3-hour work shifts over the year, either on the farm or in other jobs such as paperwork.
- Membership is an annual subscription with monthly trial subscriptions also available.
- The Soil Association has a case study on this farm so much more detail is available on the Soil Association website.



Sign above the fruit share to say how much of each item you are entitled to. This means you can leave any item you do not like/need that week.

### Findings

**This is a thriving example of how a CSA can help people to start farming without substantial, and usually unaffordable, investment.**

**The collection system whereby you choose what you take and can leave items you don't want really appealed to me. This is similar to Merlijn's system in Holland.**

### 11.2. How CSAs are perceived in the UK

Some potential customers, simply because of their background, culture and expectations - brought about by lifelong exposure to corporate imagery, i.e. clean, sharp, fresh, dynamic - expect this from their food retailers. When confronted with more simplistic, idealistic and ethical approaches there is a culture clash and their expectations are not fulfilled. Furthermore a CSA approach may appear somewhat 'extremist' or 'hippie'.

I feel we need to be careful about the way CSAs are publicised and therefore perceived. I am not entirely sure about the name Community Supported Agriculture. There is a side to CSAs which feels more like a charity to me – supporting a business which is not viable is fine for some people but only a tiny minority. I have been surprised at the success of our allotments and media interest. I like the Finnish allotment description that their CSA is like a collection of allotments but with your own grower doing the work.

I know re-branding is rather a cliché but I think that, for CSAs to appeal to a wider proportion of the public, the concept needs to feel more accessible and less unusual. The fact the Pizza Express is such a success is partially down to how accessible and safe it is. Obviously CSAs don't want to lose their



edgy, revolutionary side but this still needs to be tempered if it is to reach a worthwhile proportion of consumers.

At the National CSA Conference this year there was a live web chat with someone from Justfoods in New York talking about their group of CSAs. They are comparatively large CSAs with only a small amount of interaction with the producers but they are reaching a lot of people. I thought this was fantastic - but was surprised to see that the majority of the audience were not as impressed. I think to make local food work we need to be less idealistic about points such as requiring the members to work on the farm.

*I think to make local food work we need to be less idealistic about points such as requiring the members to work on the farm.*

Several names of CSAs in the UK which don't use the CSA name include

- Fayre Share Farms
- Futurefarms
- Adopt-a-vine
- Sims Hill Shared Harvest
- Chagford Community Agriculture
- Dragon Orchard Crop Sharers

### Findings

**To bring the CSA concept to a more mainstream market and hence reach a larger market we should consider if any other names could be used and try to verge towards the Farmers Republic and Good Eggs image. I have found allotments have mass appeal and wonder if we should be coming more from this perspective such as 'Farmed Allotments'.**

## 11.2. Others

**11.2.i. Farmdrop, E2, London. [www.farmdrop.co](http://www.farmdrop.co).**



I first heard about Farmdrop when visiting the Farm Business Innovation Event in November 2013. This was following my US trip and visit to Good Eggs which are similar to Farmdrop in that they



enable small producers to sell to a larger audience, at low cost and with efficiency of scale, by delivering to just one drop-off point and using a large online platform for the sales.

Farmdrop is different in that it relies on 'keepers' who run each drop-off point and recruit new members. The keeper receives 10% of all the sales which acts to motivate them and they also act as quality control as, if any of the produce bought in is not up to spec, they will lose customers.

If a keeper had 40 members in their group, each spending £40 each week, then the keeper will receive £640 each month. It is an ideal job for a parent with young children or older person. Each group tends to be different by virtue of who the keeper is, and who is in his or her social circle. The keepers are carefully selected to ensure a person with the right inter-personal skills and contacts is appointed.

Essentially:

- Producers input what produce they are offering (and its pack size) and the price which they are prepared to accept.
- Members purchase their produce on the website
- Producers receive the orders, prepare the produce and bring it to the FarmDrop
- Members go to their local FarmDrop and collect their produce.

Farmdrop was set up by Ben Pugh and Ned Staple in the summer of 2012. Ben says "*In my previous life I spent a lot of time looking at supermarkets and food producers and became ever more fascinated with the economics of the UK food supply chain. The more I looked, the more I saw an industry that was ripe for positive, internet driven change...*"

By March 2013 they had set up their first three FarmDrops in London and have 15 new FarmDrop points being setup at the moment. Average basket sale is £28.

They believe their customer would still rather buy organic, but organic is not insisted upon/a necessity. Organic is labelled as such.

### Findings

**This sort of online marketplace (similar to Good Eggs in the US) will revolutionise food retailing and should prove to be a benefit to producers and food sustainability.**

#### **11.2.ii. Maru Market, Beverley, East Yorkshire, [www.marumarket.co.uk](http://www.marumarket.co.uk)**

John Cant set up Maru Market last year in my local town, Beverley.

In theory it was to be the link between busy customers and local food retailers. Essentially Maru Market listed meat, vegetables, baked products and other dry goods from a handful of high street shops. The customer input orders online, John collected the goods during the day and delivered the orders in the evening to the customers' homes. Sadly the business stopped trading after less than 18 months as it wasn't proving profitable.

John ran a great blog on reasons to shop locally and the issues involved. One of my favourite blog posts included:





*“I watched the latest instalment of BBC’s Supermarket Secrets the other day. One statistic which struck me was that an average shopper spends a total of 28:30 minutes in a supermarket per shop. So if it takes 10 minutes each way, then that’s about 48:30.*

*I had a look at some of our stats and the average time for a shopping visit on [www.marumarket.co.uk](http://www.marumarket.co.uk) is only 17:41 minutes. So, whilst it might **seem** like a long time to sit at the screen and do your order, **you’re actually saving 30 minutes compared to a supermarket shop.** (Not to mention getting great quality locally produced food, supporting your local economy and saving food miles).*

*How would you spend an extra 30 minutes each week?”*

He had blogged since the business folded about why it wasn’t a success. Reasons included:

- *It’s much more niche than I thought it would be.*
- *The supermarkets’ marketing machines are formidable. Everyone likes a bargain and very few people can resist some of the offers and incentives that supermarkets give out. I know one of my customers used to shop at Tesco before regularly using Marumarket. She then received lots of vouchers for fruit & vegetables to tempt her back when her clubcard alerted Tesco to the fact that she’d suddenly stopped buying fruit & veg there. Fortunately for me, she resisted, but I know not many can. I don’t blame people – we all like to save money when we can.*
- *Not stocking “everything” means that customers have to use supermarkets anyway. And if that’s the case then why pay for 2 deliveries.*
- *Changing people’s habits is hard. There were many more mature customers using the Marumarket service than I expected. When it comes to grocery shopping, most of the under 40s automatically think supermarket. For many people there is no other place to shop.*
- *Having no physical presence affected my sales. Out of sight, out of mind.*
- *Sharing the profits with my suppliers means that I have to sell **a lot** of groceries to make a delivery worthwhile - especially if I’m travelling further afield from Beverley. I recently had my busiest day ever. It should be something to celebrate. Yet I drove around for many hours, working hard, and didn’t make much money. It opened my eyes to the limitations of the business.*
- *I don’t want to be delivering groceries for ever - Now don’t get me wrong here, I have enjoyed it and meeting lots of lovely people but it’s been hard to have time off. And I’m unsure that the business is scaleable to the extent that it can employ delivery drivers.*
- *Marketing and getting new customers is much more expensive/time consuming than I had anticipated. I completely underestimated this side of the business.*
- *I don’t think it’s a scaleable business to the extent I originally thought it could be. I may be wrong and I may be missing a trick. But that’s my hunch. The investment required to make it so is more than the resources I have available.*

As a shopper at Maru Market I loved the concept but found the website less attractive than I was used to, having shopped online at Ocado and even Morrisons. Good Eggs website is better visually than Ocado/Morrison’s for me. Investment is needed to get the visual aspect right.

*Quality control is one point which has been regularly repeated as an issue for non-supermarket produce.*

I also found there were issues with quality control. Some steak I bought wasn’t particularly special



and cut in irregular thickness so one piece was thin and the other twice the depth. Each piece suited a different style of cooking and wasn't what I expected from a premium service. Some apples were reduced and I bought them for the office thinking they just had a lot of these. They were granular rather than crunchy. Sadly I didn't shop there again. Quality control is one point which has been regularly repeated as an issue for non-supermarket produce. People don't give it a second chance, one failure is enough.

**Findings**

**Quality control is key.**

**Changing people's habits is hard and marketing is essential so appropriate investment is needed to ensure success.**

**11.3.iii. HiSbe, 20-21 York Place, Brighton, BN1 4GU. [www.hisbe.co.uk](http://www.hisbe.co.uk)**

Slogan: "A happy supermarket chain for the 21st century!"

*"hiSbe stands for "how it Should be" and thinks supermarkets should be doing business in a more responsible way. "Our purpose is to help make the food industry more fair and sustainable.*

*"That starts with us selling better products from the brands and producers that care. Because what you buy matters; every pound you spend is either a vote for how it is or how it should be.*

*"When you shop at a hiSbe store you're using your Shopper Power to vote for a better food industry! We're not another health food or whole-foods store though; we sell normal, recognisable products that people on average budgets and everyday diets buy.*



*"We're about affordable food that is as local, healthy, natural, sustainable, GM and pesticide-free, fairly traded, high welfare, seasonal, minimally packaged, ethically produced and responsibly sourced as possible!"*

I have been watching the progress of hiSbe over the last couple of years and recently visited the first store in Brighton. HiSbe is the brainchild of sisters Amy (35) and Ruth (39) Anslow and is a social enterprise (a commercial business with a social purpose). They raised £200,000 through crowd funding (Buzzbnk) and have been open since December 2013. The idea is to source local, seasonal, nature friendly, ethical, welfare, low waste, and real foods. Staff pay is above the living wage<sup>2</sup> and the business takes a smaller profit margin than a regular supermarket. This is subsidised by letting out pods inside the store, including to Café Direct who sell hot drinks near the front of the store. "We are dispelling the myth that anything good has to have a massive premium beyond most people's budgets," says Amy. The shop is open Monday–Saturday 9am-8pm, Sundays 10am-6pm.

**Findings**

**This reminded me of the co-ops I saw in America. The business model looks good and I believe they are doing better than they budgeted for; one to watch perhaps?**

<sup>2</sup> A wage which is high enough to maintain a normal standard of living' Presently £7.65/hr ex. London



#### **11.2.iv. Riverford Organics Veg Box. [www.riverford.co.uk](http://www.riverford.co.uk)**

I subscribed to a small weekly box from Riverford for six months. It took me *ages* to actually sign up as I like cooking and didn't want to be limited to a pre-determined choice. Riverford are very similar to a traditional CSA but you do not need to subscribe for the whole year and you do not share the risk.

I chose Riverford because Andrew Janaway, (another Nuffield Farming Scholar from our year) is one of Riverford's growers and recounted to me how he was impressed by the organic production and how good it was for the wildlife on their farm.

Guy Watson started Riverford thirty years ago, when he began delivering vegetables to 40 friends. They now deliver around 47,000 boxes a week to homes around the UK, from regional farms. As well as the veg boxes you can buy a wide selection of fresh produce for delivery.

They are not a traditional CSA but I think they are very similar as they have a customer base and direct marketing. However you can cancel your subscription at any time or pause it while you are on holiday.

The small box I chose was just over £10 delivered. Every week I received a few potatoes, onions and carrots, plus a selection of three other vegetables.

I have been astounded by how much I enjoyed receiving the veg boxes. I loved not having to think about what to buy and always having vegetables in the house. I began to eat a lot more vegetables and therefore I think I spent less money on other food. I also buy some vegetables from a local farm shop and have almost stopped buying vegetables from the supermarket (I know it is rather hypocritical to have been a supermarket shopper but I work long hours and the only places open when I am not at work are the supermarkets). I definitely feel fitter from eating more vegetables (more than '5-a-day').

I found receiving swede for several weeks in a row was a bit challenging and I would have liked to opt out from swedes. I know Able & Cole who do a similar business ([www.ableandcole.co.uk](http://www.ableandcole.co.uk)) allow you to opt out of two different vegetables.

One thing I didn't like was the addition of imported salad in the winter. I like to eat hot food in the winter but I assume Riverford had done their research and this is what most of the members wanted.

I loved the recipes on their website and I do think that the internet will make finding recipes much easier and so promote less reliance on processed foods - especially if the consumer can realise that non-processed foods are cheaper AND healthier.

The other point to note, beyond the convenience of having vegetables delivered and not having to choose what to buy, was the taste. I have never tasted such delicious carrots. I honestly thought I didn't really like carrots as they were watery and bland. However organic carrots from Riverford are fantastic. They are not irrigated which probably has something to do with it – longer growing period allows taste to develop.



The vegetables I got from Riverford lasted longer than supermarket vegetables so a weekly delivery was fine.

**11.5.v. Arthurs Organics . [www.arthursorganics.com](http://www.arthursorganics.com)**

I have now changed my subscription to a local veg box from a vegetable shop in Hull. They offer shopping like Riverford, although they are a retailer rather than a grower. It is cheaper due to the reduced cost of delivery and I like the fact that their deliveryman is friendly and enthusiastic. My deliveryman for Riverford was nice but not very chatty. I am a great believer that given the choice ‘people buy from people they like’ (as opposed to shops they like). The flavour is still great but I am not sure the vegetables keep as long as the Riverford ones. Plus the selection is not as good as Riverford’s.

I have signed up for weekly deliveries but can cancel at any time.

I very rarely go to the supermarket now – I buy dry good and household products but I order them online and get them delivered. I am also now doing a lot of ‘click&collect’ as it is more convenient to have a time slot to drive and pick up the bags than wait at home for a 2-hour slot. Plus ‘click&collect’ is usually free. I think ‘click & collect’ will become more popular.

**Findings**

**The reality of veg boxes is great which gives me a lot of confidence.  
How to get people to actually try them and discover the benefits is going to be challenging!**

**11.2.vi. Online marketing similar to Farmdrop**

There has been a huge rise in direct-marketed products over the last couple of years. I have watched these whilst undertaking my project, to see what we can learn from them. In 2012 the value of the UK sharing market was estimated as £22.4bn<sup>4</sup>. They are all peer-to-peer, online businesses and show how the web is such a powerful tool. These include:

- [www.airbnb.co.uk](http://www.airbnb.co.uk) - which allows people to let extra space or the whole house whilst they are away.

*“Founded in August of 2008 and based in San Francisco, California, Airbnb is a trusted community marketplace for people to list, discover, and book unique accommodations around the world — online or from a mobile phone.*



Smarter parking  
**ParkatmyHouse**

*“Whether a flat for a night, a castle for a week, or a villa for a month, Airbnb connects people to unique travel experiences, at any price point, in more than 34,000 cities and 190 countries. And with world-class customer service*





*and a growing community of users, Airbnb is the easiest way for people to monetise their extra space and showcase it to an audience of millions”.*

- [www.borrowmydoggy.com](http://www.borrowmydoggy.com). Either borrow a dog for walks when you haven't got space/time to have one OR get your dog walked when you are too busy. Has 70,000 'likes' on Facebook.

*“Your first step is to create a pawsome profile, so that you can search for matches based on distance and availability.*

*“Once you've sniffed out a potential match, it's time to verify your details, submit your annual subscription fee and begin messaging other lovely members.*

*After you've found a pawsible match, you're ready to schedule your first meet and great, the 'Welcome Woof'.”*

- [www.parkatmyhouse.com](http://www.parkatmyhouse.com). Rent out drive space to people commuting into town to work OR receive a rent whilst you are at work, having driven there.

*“ParkatmyHouse is the world's largest online parking marketplace. We connect home and business owners who would like to earn money from renting their space with drivers in need of a convenient, safe and cost-effective place to park (find out how it works). The idea is simple just like this website. We manage the entire booking process and all the payments so you can be confident that you are always in safe hands“*

- [www.liftshare.com](http://www.liftshare.com). Share your car journey and halve your transport costs

*“Car-sharing is when there is more than one occupant in a private car. We all share cars regularly, with our friends and family, without thinking about it. But there are often times when a driver has empty seats in the car simply because they don't know of anyone who needs a lift.*

*“Liftshare enables organised car-sharing by connecting people travelling in the same direction so they can arrange to travel together and share the costs, whilst reducing congestion and pollution at the same time.”*

### Findings

**What all these web platforms have in common is connecting people, essentially producer and consumer, to reduce costs. This is exactly what websites such as Farmdrop and Good Eggs are doing. I am interested in CSAs to connect consumers with producers, giving a more reliable market for producers and better value for consumer. This can be achieved by imitating such technology.**

### 11.3.vii. UK CSA network and CSA example budget

The Soil Association has taken on the mission of promoting CSAs in the UK, much as JOAA have in Japan. Their website - [www.soilassociation.org](http://www.soilassociation.org) - provides everything you need to get started and they have just helped set up a CSA National Network to help CSAs develop in the UK.

There are many case studies on their website, one of which is for Stroud Community Farm, a successful CSA with 200 members. The Soil Association website includes a budget for the CSA. They



are obviously aiming at breaking even as the point is to pay a fair wage to the producer and a guaranteed income. I find it very useful to have a budget to help plan projects so this is great.

A Soil Association sample budget, based on their CSA experience, is shown below.

<b>11.3 Sample budgets based on SCA's experience</b>				
	<b>5 ACRE (including polytunnels)</b>		<b>1 ACRE (including polytunnels)</b>	
<b>INCOME</b>				
Subscriptions	100 shares x £35/month	42000	100 shares x £35/month	42000
sales of surplus		5000		
	<b>TOTAL INCOME</b>	<b>£47,000</b>		<b>£42,000</b>
<b>EXPENSES</b>				
seed		1300		900
potting mix		400		200
fuel		400		200
irrigation water		1000		800
electricity		200		200
fertility inputs		600		200
sundries		1000		600
bought in produce		1000		8000
contractor costs		800		400
seasonal labour	10 months x £12000/yr	10000	5 months x £12000/yr	5000
packing labour	8hrs/wk x £6/hr	2400	8hrs/wk x £6/hr	2400
	<b>TOTAL EXPENSES</b>	<b>£19,100</b>		<b>£18,900</b>
<b>OVERHEADS</b>				
accountants fee		400		400
admin/promotion		500		500
certification cost		500		500
insurance		1200		1200
rent		300		200
repairs/renewals		800		400
depreciation		2000		2000
farm manager	full time salary	18000	part time salary	15000
administrator	1 day/week x £15000	3000	1 day/week x £15000	3000
	<b>TOTAL O/HEAD</b>	<b>£26,700</b>		<b>£23,200</b>
	<b>NET PROFIT</b>	<b>£1,200</b>		<b>£-100</b>



## 12.0. Discussion

A simple or very basic explanation of a CSA enterprise is: *'a business arrangement or agreement where the customer pays the producer upfront for a specified supply of farm produce'*. Such produce is mainly vegetables, but can include dairy products and by-products, honey, and indeed anything produced on-farm (for example) fruit juices and cold pressed rape oil. The type of contracts between producer and customer vary widely but the essential element is that the customer is paying the producer upfront and direct.

The benefits of a CSA to the farmer are the reduction in risk when selling their product (they only produce what they have a market for) and the significant improvement in cash flow.

I have seen from my travels and research that there is demand from the customer (virtually worldwide) for the produce that CSAs offer and that the customer is prepared to honour the established system of payment.

The true model of CSA is viable but will always be only suited to a small proportion of the population. This is not to belittle them as a model or concept, indeed niche markets are very important for farmers and food producers. In the US there are other models that are moving away from the original definition, with local food hubs for producers to share facilities for adding value to their products and sharing costs.

The CSA customer is attracted by pickup points with plenty of free parking and long opening hours, obviously due to the convenience afforded and the need to maintain a reasonable work-life balance. Pickup points can be situated in cafes or existing farm shops to bring in further business. Delivery is also a popular option but the attraction of the goods being collected (apart from the cost saving) is that the customer can have a level of choice and leave any items they do not want. They prefer this to not being able to use all the items which arrive in the box.

Pickup points could perhaps be expanded to offer a farmers' market on certain days of the week. Farmers' markets in isolation are, in general, losing their appeal to the public. They aren't open sufficiently often, or for long enough hours, to suit most customers. Pickup points could also provide a base from whence a food truck facility could operate. Food trucks, particularly if they operate in the evening, are seeing a renaissance in the States, where they park for a short time in various venues in urban situations.

Farmers' Republic in Athens (see page 55 ) provides a successful model to emulate.

Overall, customers see 'local' as being as important as 'organic'. If a CSA markets itself as being local it would not need to be certified organic. However, the members of most of the CSAs I looked at were still keen on organic produce. Farmers involved said that actually, the added costs of organic weren't so high above conventional costs when applied to small-scale agriculture, such as these CSAs.

I feel I have really seen the future for local food with businesses such as Farmdrop (page 56) and Good Eggs (page 21). These are sophisticated, professionally conceived and organised by savvy



business entrepreneurs. They work via online ordering – and there is a bank of Apple computer operators receiving and dealing with orders. They differ slightly but offer a mix of the following:

- The producer inputs – on a daily basis, if needs be – what products he has on offer, plus the individual pack size, and the price he requires for the goods (Good Eggs only)
- Customers pay as and when they place their order online, and pick up from a central point.
- The producer is instructed (by the online hub) to deliver the ordered goods direct to the central pickup point.
- The pickup point is under the charge of a “keeper” who works on a commission basis and is responsible for the physical organisation of the pickup point (Farmdrop only).

Such pickup points have the potential to offer other services as well; a café for example or a site for a farmers’ market on certain days of the week, and should look at creating some of the other aspects of CSA that customers appreciate in other parts of the world. I am thinking of farm visits, pick-your-own days, and other special events for members.

It is important to note that the organisation of a Farmdrop type of enterprise requires professional management and that the setup costs, particularly in terms of IT requirements and site rental, would be considerable. It is NOT an amateur concept and requires investment.

The big threat to CSA and other local food enterprises – however sophisticated – is that they rely on customers who cook for their families using basic raw materials and until more of the population learn how to, or have time to cook, this will continue to decrease. Food hubs and food trucks can be a way for local producers to provide what the consumer wants in an ethical and sustainable way.

The whole subject of diet and healthy eating is a subject on its own and has been very effectively reported by Nuffield Farming Arden Scholar Caroline Drummond. See:

[http://www.nuffieldinternational.org/rep\\_pdf/1398327395Caroline-Drummond-2012-report.pdf](http://www.nuffieldinternational.org/rep_pdf/1398327395Caroline-Drummond-2012-report.pdf)





## 13.0. Conclusions and Recommendations

1. There is a very strong supermarket presence in the UK. Supermarkets have high running costs and are currently being forced to reduce prices in the presence of successful discounters. They will defend their position among competitors by cutting costs, which will mean 'squeezing' their suppliers and diverting their purchases to lower cost-producers overseas and by increasing sales of processed food which tends to have higher margins and longer shelf life but are less good for human health and wellbeing.
2. Alternatives for consumers at present are farm shops and/or farmers' markets. However, these also suffer from high costs and waste and are in competition with supermarkets, particularly the supermarkets' new version of 'local' shops. From my travels I have seen sales declining at farmers' markets and expect this will not change. Although allotments can provide local produce with little waste and low environmental impact, they tend not to be suitable for many with full time jobs or for those without the necessary skills or physical abilities required for this small scale localised method of food production.
3. Community Supported Agriculture (CSA) is another alternative to either supermarkets or farmers' markets/farm shops. In CSAs consumers buy "shares" in a farm's harvest in advance. Producers therefore get important early-season capital, have a guaranteed market for their produce reducing volatility and risk, and barring a disastrous harvest, consumers enjoy overall lower food costs, field-fresh produce, and greater access to high-demand fruits and vegetables such as heirloom tomatoes.
4. CSAs vary widely depending on where they are based and their local population. It is hence difficult to give set guidance on how to make a CSA work, although the Soil Association website does this reasonably well using case studies and 'real-life' budgets. From my travels, I don't think a high level of shared risk aspect is essential; I think the fact the members may get more of certain vegetables some years than other is enough to help the producer without expecting too much from the members. Quality control is essential as one hiccup can be all it takes for the customer to take their investment/custom elsewhere. Therefore continued interaction with customers in order to gauge satisfaction is an important element in maintaining the success of such an enterprise. The success of member work-shares (i.e. physical work on the production of food, in addition to or as an alternative to financial input) will vary depending on the motivation of the client base of the CSA or their available time commitment. To make it work you need someone to coordinate and train the volunteers, plus be very specific about what they are expected to do – most growers did not recommend it.



5. The perception of CSAs in the UK at present is that of a fringe concept. This does not need to be the case - the image needs to be one that appears accessible and not 'extremist' so as not to alienate potential customers. In the UK the term 'Community Supported Agriculture' is not well understood and can have the wrong implications. I have found the word allotment has more positive connotations and it might work well to use the term in the name.

Taking all the above observations into consideration, from my research I believe that CSAs *are* a viable alternative for dynamic, enthusiastic new entrants to begin their own farm business, or for an existing farm business to expand into vegetable and/or meat production.

CSAs will still be a niche market but once established, the CSA business can expand into other outlets from farm shops to online sales, such as Farmdrop.



## 14.0. After my study tour

I really believed before my travels that organic farming was wrong due to the lower yields. We only have a small amount of land to grow food on and this is reducing every year. However we also have a finite planet where inputs are concerned and these will run out with the present system. I think we need to dramatically reduce our inputs and waste, not in a backward looking manner, but positively such as I saw at Polyface Farm.

I do not believe organic needs to be all or nothing but that we need to considerably reduce our pesticide and fertiliser.

I also believe that the level of meat consumption in the western world is unsustainable. If we all eat meat two or three times each week we would be healthier and could farm with much less inputs and hence be sustainable beyond the next 100 years.

### 16.1. My future plans and aspirations

For the latest Open Farm School Days, which we run in June each year, I bought three piglets. They are Saddleback x British Lop and are living in a small paddock and will be butchered in October this year. They have their own Facebook page through which most of the meat has now been sold. I will allow this project to grow through social media, the local press, and word of mouth, but I hope to expand this and move on to chickens for meat and eggs next.

We will be planting an orchard this winter that will become a fruit share project where people can rent a tree for a year. A small field next to the allotments is in Higher Level Stewardship until 2016 when I hope it will become the first part of a vegetable CSA once I can find a suitable person to take ownership of this project. I would like to start a farm café and shop to bring all this together but due to planning restrictions this is just an idea at the moment.

I have also employed an apprentice to allow me to reduce my hours to four days a week and enjoy my life outside work too! I am also considering moving the whole farm to a four-day week in the winter, as I gather this



**MORE SLEEP  
MORE MUSIC  
MORE TEA  
MORE BOOKS  
MORE SUNSETS  
MORE CREATING  
MORE LONG WALKS  
MORE LAUGHTER  
MORE HUGS  
MORE DREAMING  
MORE ROAD TRIPS  
MORE FUN  
MORE LOVE**

actually can be more productive; involving 10-hour days worked and one weekday off each week when the weather is less suitable. As we have no livestock I this is achievable and I think it will improve the lives of the other farm staff too.



## 15.0. Executive Summary

In recent years the supermarkets have been taking a larger and larger share of customer spending. In correlation to this, reduced intake of fresh food and increased processed food in the western diet is leading to poor human health and the numerous related issues. By 2030 it is expected that 50% of the UK population will be obese<sup>8</sup>. Added to this is the fact that supermarkets try to increase sales of processed foods<sup>9</sup> due to their high shelf life and high profit margins.

However the larger supermarkets are suddenly in trouble themselves; customers want to shop more often and spend less time shopping. Supermarkets have set up their own equivalent of corner shops to satisfy this demand but profits are down. Do these new trends offer a new market for producers, of which Community Supported Agriculture can play a part?

I travelled to the US where there are thousands of Community Supported Agriculture businesses providing up to 1,500 veg boxes each week; to Scandinavia where the consumer is more informed and caring but producers still struggle to sell higher quality, local food; and then to Asia where Teikei in Japan is a well-known method of food supply for consumers who really care about local food and sustainable farming.

Modern technologies such as online shopping and social media can ensure direct marketing from farms is viable. This can also reconnect the consumer back to where their food is produced and hence value how their food is produced.

The main issues are how to attract the customers and how to ensure quality control once the business expands. There is also the problem of how to transform the customer's desire to buy sustainable, ethical products into actual purchases. For this education and interaction are essential.

Community supported businesses are starting to get media attention and this will be a greater driver than conventional advertising. The consumers' desire to give up some of their perceived choices in exchange for quality and integrity are what would drive these projects from a side-line to a revolution.

CSAs are a great way for enthusiastic, hard-working people to run their own farm business without large, and usually unaffordable, capital investment. Following from this initial start-up and once they have got their customer base, they can diversify into other markets.

However I believe that the online revolution will be the real change over the next few years in enabling local food retailing, with businesses such as Good Eggs and Farmdrop becoming the main direct-marketing alternatives to farm shops and farmers' markets.

<sup>8</sup> The Lancet, Early Online Publication, 29 May 2014

<sup>9</sup> Shopped, Joanne Blythman, 2010



## 16.0. Thanks

I can't thank enough all the farms and other businesses I visited, not just all the ones featured in my report but also the many others whom I didn't have space to write about.

**Extra thanks to:**

**Robbie for being his lovely self**

**My sister Camilla for being chief map reader and interpreter in Japan**

**My mother and father for holding the fort at home and coping with my demanding pets who needed endless trips to the vets every time I went away**

**Yorkshire Agricultural Society for sponsoring my travels and having faith in me**

**Stephen Fell and Tony Pexton for being my referees; these must have been good as my interview technique was terrible!**

#



## 17.0. Bibliography

Books that I have used as research, not all read cover to cover, sadly, as my estimation of time available to read was rather optimistic:

The Spirit Level – Why Equality is Better for Everyone, Richard Wilkinson & Kate Pickett  
Sharing The Harvest – A citizen guide to Community Supported Agriculture; Elizabeth Henderson & Robyn Van En  
Food Rules, Michael Pollan  
Prosperity without growth, Tim Jackson  
Waste, Tristram Stuart  
Shopped – The Shocking Power of British Supermarkets, Joanne Blythman  
The Omnivores Dilemma, Michael Pollan  
Fast Food Nation – What The All-American Meal is doing to the World, Eric Schlosser  
Economics for Everyone, Jim Stanford  
Organic Vegetable Production: A Complete Guide, Gareth Davies  
An Agricultural Testament, Sir Albert Howard  
You Can Farm: The Entrepreneur's Guide to Start & Succeed in a Farming Enterprise, Allan Nation & Joel Salatin  
Pastured Poultry Profit\$: Net \$25,000 in 6 months on 20 acres, Joel Salatin  
Purple Cow: Transform Your Business by Being Remarkable, Seth Godlin  
Rebirth of the Small Family Farm, Bob and Bonnie Gregson  
Many Lonely Planets including – New York, Sweden, Finland, Japan, Singapore and Athens

Films Forks over knives  
Food Inc.

Blogs Indie Farmer

TED talks [www.ted.com](http://www.ted.com). Richard Wilkinson : How economic inequality harms society

I am surprised how many people have not heard about TED (Technology, Entertainment and Design) Talks. They are short (less than 18 minutes), passionate YouTube videos covering almost all topics – from science to business to global issues. These are the most relevant talks I have seen.

Ron Findlay – A guerrilla gardener in South Central LA  
Terry Wahl – Minding your Mitochondria  
Malcolm Gladwell – Choice, happiness and spaghetti sauce  
Derek Sivers – How to start a movement  
Graham Hill – Why I'm a weekday vegetarian  
Dan Gilbert – The surprising science of happiness  
Jamie Oliver – Teach every child about food  
Dean Ornish – The killer American diet that's sweeping the planet  
Alan Savory – How to fight desertification (re. mob grazing)  
Boyd Varty – What I learned from Nelson Mandela  
Richard Wilkinson – How economic inequality harms society

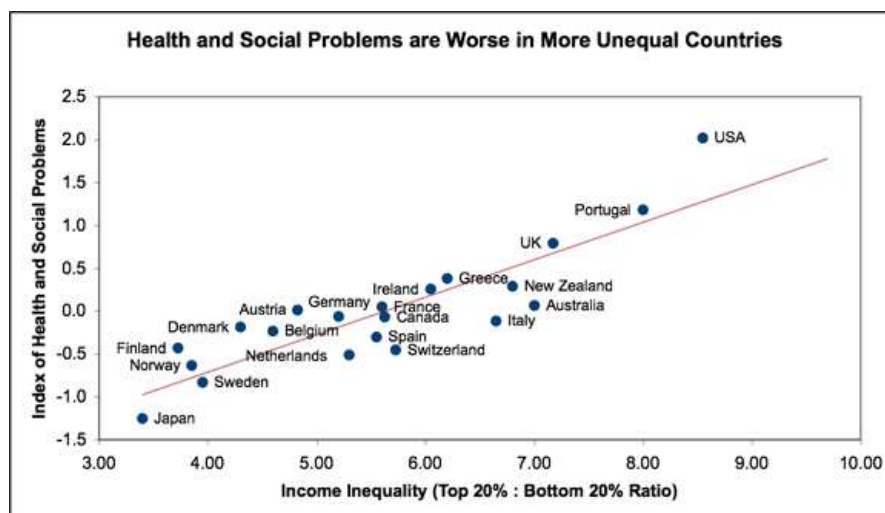
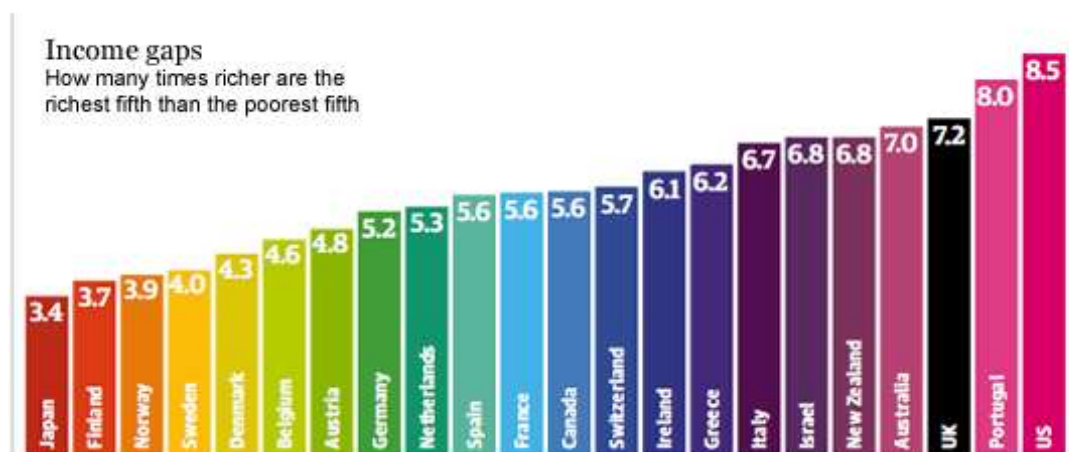


## 18.0. Appendix 1

### 18.1. Background on my choice of subject

As I mentioned in Chapter 5, I had just finished reading a book about inequality in society, which is closely linked to food and health. The poorest people in most societies eat the worst diets and suffer from the most food-related health problems meaning they have significantly shorter lives.

The US is one of the wealthiest countries in the world (in income terms) and yet has the most inequality and negative issues arising from this inequality. Although this may be seen by some as oversimplifying matters, it does seem that the societies with the lowest inequality also have the least social ills. Japan and Scandinavia are each more equal societies so I thought they were good comparisons to the US.



Inequality in the above chart is measured in terms of:

- Life expectancy
- Infant mortality



- Homicides
- Imprisonment
- Teenage births
- Trust
- Obesity
- Mental illness, including drug and alcohol addiction
- Social mobility
- Mathematical proficiency and literacy

As you can see from the graphs, the US performs most poorly but the UK is not far behind. It is interesting that America has more people in prison than it has farmers.

A recent study funded by NASA said *“global industrial civilisation could collapse in coming decades due to unsustainable resource exploitation and increasingly unequal wealth distribution”*.

## **18.2. Personal background on my subject choice**

In 2007 I was rushed into St. James Hospital in Leeds with sudden, unexplained liver failure. Six months later, having survived six weeks in a coma, two liver transplants, kidney failure, lung blood clots and various infections including fungal bone infection, I left hospital. Once I had recovered sufficiently to return to work and working on my perceived five-year life expectancy, I set about doing the things I meant to do before my illness. One of these was setting up a 4-acre allotment site on the farm which has been a huge success. Another was starting ‘Open Farm School Days’. Both are running well and having been lucky enough to be given a clean bill of health for the foreseeable future, I now want to build on this with the opportunities awarded to me with a Nuffield Farming Scholarship.

### **Allotments**

Our farm allotments have been very popular and have a long waiting list. I do not want to do more allotments as I think they are only suitable for a small proportion of people and I want to find an alternative project to run alongside the allotments. I have read about Community Supported Agriculture and would like to find out more about the business model and whether it is viable.

### **Education**

I am also passionate about educating people about where their food comes from to make them better consumers and healthier, happier people. I want to find ways to connect consumers back to their food.

### **Sustainable food retailing**

I believe we need to reduce the length of food supply chains; long chains are incredibly wasteful. They can be efficient in their large-scale production methods but by the time they reach the consumer and by offering every type of fresh produce every day in the supermarket, they become wasteful. In addition, the packaging needed for large-scale retailing is very wasteful.

### **Farm work**

I think we need to keep more labour on farms; the happiest people work in farming according to National Well Being, published by the Office for National Statistics in 2012. However numbers of





people working on farms is declining rapidly partly due to low incomes and partly as a push for larger-scale production to minimise costs which reduces the number of staff needed.

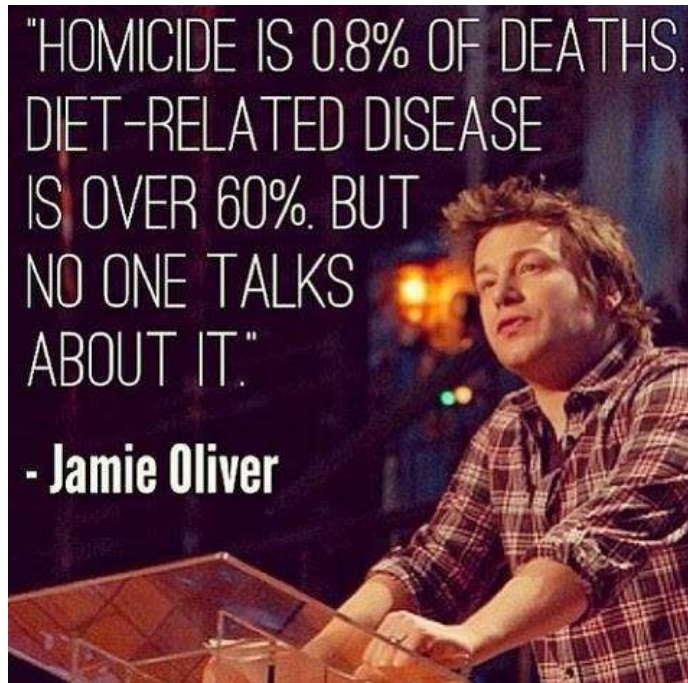
### Seasonality

Seasonal food is better for the environment; it grows naturally without extra inputs, does not need cold storage for months or air and sea freight). It also tastes better and is healthier due to its obvious freshness.

### Farm profits and consumer prices

I have researched how much food it is possible to produce per square meter of farmland and when I host school visits I share this information with the children. For example over a year, it is arguably possible to produce the following:

Bread	1 loaf
Oil	160 ml (160 g)
Lamb	40 g
Potatoes	450 g
Milk	2 litres (2000 g)
Cheese	200 g
Fava beans	400 g



One thing which interested me is how much more protein you can potentially get (per metre of land) from cheese and beans than meat! As this information presentation exercise was designed for children of primary school age, when I had a visit from the local secondary school I thought I had better up my game. I got them to work out how what prortion of the sale price of a loaf of bread goes back to the farmer. I thought it would be good to raise awareness among this age group as I was initially astounded to find it was **less than 10%**. This was similar for many other foods and started making me question whether our food retail system was actually producing value for our consumers.

### Healthy food

Highly processed food is much worse for human health than that processed to a lesser degree, benefitting mainly those with a stake in lengthier food supply chains. In fact it is now widely believed that the biggest food issue for human health is the amount or level of processing of our food. 10% of the NHS budgets are spent on Diabetes which is mostly due to poor diet and so entirely preventable.

Slowly grown plants and slowly produced meat have much higher nutrient value and better flavour, but are less profitable for longer supply chains. The difference in production cost is less significant when directly marketed.

### Supermarkets

Supermarkets as we know them are failing. They have high overheads and peoples shopping habits



are changing. Cut-price supermarkets such as Aldi and Lidl are meeting the demand for cheap food due to having lower overheads and less choice. People want to shop more often and not wish to do a large weekly shop anymore, as seen by the influx of supermarket corner shops. However this new way of shopping may not be suitable for modern high streets due to lack of free car parking and the distances between parking and the shops meaning heavy bags need to be carried a long way. Consumers are also becoming disengaged with faceless big business and realising it isn't always the best value. The banking crisis has helped this – the popularity of “Bank of Dave” (which is continuing to expand rapidly) is a good indication of this. ([www.burnleysavingsandloans.co.uk](http://www.burnleysavingsandloans.co.uk))

Supermarkets are ideal for retailing washing powders and other such mass-produced branded products but less suitable for fresh food. Online supermarket shopping, which is growing exponentially, allows people to buy their cleaning products etc. easily online and leaves them free to shop for fresh produce elsewhere. As farmers we mustn't miss this opportunity to capitalise on this.

### 18.3. What do we want from our lives?

After surviving a 90% chance of dying I am keen to decide what I want from life and what makes me happy. I think we are often guilty of '**spending money we don't have, on things we don't need, to impress people we don't like**'<sup>1</sup> and wonder whether I need to keep working flat out for the sake of having a 'nicer' house, better holidays and more material possessions just for the sake of having them.

When I was in hospital and thought I was going to die I certainly didn't wish I had worked harder or had more money. I was definitely glad of the good things I had done and wished I'd had more time for friends. I personally think chasing high salaries isn't so important and that many of us would be happier living simpler lives within our means, with enough money to pay essential bills. Keeping time for important things like friends and hobbies is much more important to me and perhaps for others who perceive such things as ways improving their quality of life. As much as business success is exciting, it isn't what memories are made of

As farmers I think we have been taken in by the idea we need to keep farming larger and larger areas and working as hard as possible for reasons of efficiency. However I believe this isn't necessarily for our own good, benefiting more those people further up the supply chain.

1 Growth Fetish, Clive Hamilton, 2003

### 18.4. Real vs. Processed Food

The word “processed” can causes some confusion, so I want to explain what I am referring to. Obviously, most foods we eat are processed in some way. Apples are cut from trees, minced beef has been minced in a machine and butter is cream that has been separated from the milk and churned.

But there is a difference between mechanical processing and *chemical* processing. If it's a single ingredient food with no added chemicals, then it doesn't matter if it's been ground or put into a jar. **It is still real food.** Foods that have been *chemically* processed and made from refined ingredients



and artificial substances are what are generally known as “processed food.” The issues with processed food include:

### 1. Processed Foods Are Usually High in Sugar and High Fructose Corn Syrup

Processed foods are usually loaded with added sugar, or even worse, High Fructose Corn Syrup. It is well known that sugar, when consumed in excess, is seriously harmful. As we all know, sugar is “empty” calories – it has no essential nutrients, but a large amount of energy.

But empty calories are really just the tip of the iceberg when it comes to the harmful effects of sugar. Many studies show that sugar can have **devastating** effects on metabolism that go way beyond its calorie content<sup>11</sup>. It can lead to insulin resistance, high triglycerides, increased levels of the harmful cholesterol and increased fat accumulation in the liver and abdominal cavity<sup>12, 13</sup>. Not surprisingly, sugar consumption is strongly associated with some of the world’s leading killers... including heart disease, diabetes, obesity and cancer<sup>14, 15, 16, 17, 18</sup>

Most people aren’t putting massive amounts of sugar in their coffee or on top of their cereal; they’re getting it from **processed** foods and sugar-sweetened beverages.

**Bottom Line:** Processed foods and beverages are the biggest sources of added sugar (and HFCS) in the diet. Sugar is very unhealthy and can have serious adverse effects on metabolism when consumed in excess.

### 2. Processed Foods Are “Hyper Rewarding” and Lead to Overconsumption

We all want to eat good food. That’s just human nature. Evolution provided us with taste buds that are supposed to help us navigate the natural food environment. Our appetite gravitates towards foods that are sweet, salty and fatty, because we know such foods contain energy and nutrients that we need for survival.

Obviously, if a food manufacturer wants to succeed and get people to buy their product, it has to taste good and massive resources are spent on making foods as desirable as possible. Many processed foods have been engineered to be so incredibly “rewarding” to the brain, that they overpower anything we might have come across in nature. We have complicated mechanisms in our bodies and brains that are supposed to regulate energy balance (how much we eat and how much we burn) – which, until very recently in evolutionary history, worked to keep us at a healthy weight.

There is quite a lot of evidence that the reward value of foods can bypass the innate defence mechanism and make us start eating much more than we need, so much more that it starts to compromise our health<sup>19, 20</sup>. This is also known as the “food reward hypothesis of obesity.” The truth is that processed foods are so **incredibly** rewarding to our brains that they affect our thoughts and behaviour, making us eat more and more until eventually we become sick.

**Bottom Line:** Food manufacturers spend massive amounts of resources on making their foods as “rewarding” as possible to the brain, which leads to overconsumption.



### 3. Processed Foods Contain All Sorts of Artificial Ingredients

If you look at the ingredients label for a processed, packaged food, chances are that you won't have a clue what some of the ingredients are. That's because many of the ingredients in there aren't actual food - they are artificial chemicals that are added for various purposes.

Highly processed foods often contain:

- **Preservatives**
- **Colourants**
- **Flavour**
- **Texturants**

Of course, most of these chemicals have allegedly been tested for safety but they are not natural and could well have unknown effects.

**Bottom Line:** Most highly processed foods are loaded with artificial chemicals, including flavourings, texturants, colorants and preservatives.

### 4. Many People Can Literally Become Addicted to Processed Junk Foods

The “hyper rewarding” nature of processed foods can have serious consequences for some people. Some people can literally become **addicted** to this stuff and completely lose control over their consumption.

Although food addiction is something that most people don't know about, it appears that it is a huge problem in society today. It is the main reason why some people just *can't* stop eating these foods, no matter how hard they try. They've had their brain biochemistry hijacked by the intense dopamine release that occurs in the brain when they eat these foods <sup>21</sup>. This is actually supported by many studies. Sugar and highly rewarding junk foods activate the same areas in the brain as drugs of abuse like cocaine <sup>22</sup>

**Bottom Line:** For many people, junk foods can hijack the biochemistry of the brain, leading to downright addiction and cause them to lose control over their consumption.

### 5. Processed Foods Are Often High in Refined Carbohydrates

There is a lot of controversy regarding carbohydrates in the diet. Some people think that the majority of our energy intake should be from carbs, while others think they should be avoided like the plague. But one thing that almost everyone agrees on, is that carbohydrates from whole foods are much better than refined carbohydrates. Processed foods are often high in carbs, but it is usually the refined variety.

One of the main problems is that refined, “simple” carbohydrates are quickly broken down in the digestive tract, leading to rapid spikes in blood sugar and insulin levels.

This can lead to carb cravings a few hours later when blood sugar levels go down again. This phenomenon is also called the “blood sugar roller coaster” – which many people who have been on a high-carb diet can relate to. Not surprisingly, eating a lot of refined carbohydrates is associated with negative health effects and many chronic diseases. <sup>23, 24, 25</sup> If you're going to eat carbs, get them from whole, single ingredient foods, not processed junk foods.

**Bottom Line:** The carbohydrates you find in processed foods are usually refined, “simple” carbohydrates. These lead to rapid spikes in blood sugar and insulin levels and cause negative health effects.



## 6. Most Processed Foods Are Low in Nutrients

Processed foods are extremely low in essential nutrients compared to whole, unprocessed foods. In some cases, synthetic vitamins and minerals are added to the foods to compensate for what was lost during processing. However, synthetic nutrients are NOT a good replacement for the nutrients found in whole foods. Real/whole foods contain much more than just the standard vitamins and minerals that we're all familiar with. Real foods like plants and animals, contain thousands of other trace nutrients that science is just beginning to grasp.

One day we may invent a chemical blend that can replace all these nutrients, but until that happens the **only** way to get them in your diet is to eat whole, unprocessed foods. The more you eat of processed foods, the less you will get of vitamins, minerals, antioxidants and various trace nutrients.

**Bottom Line:** There are many nutrients found in whole foods that are not found in processed foods. The more processed foods you eat, the less you will get of these nutrients.

## 7. Processed Foods tend to be Low in Fibre

Fibre, especially soluble, fermentable fibre, has various benefits. One of the main ones is that it functions as a prebiotic, feeding the friendly bacteria in the intestine<sup>26, 27</sup>. There is also evidence that fibre can slow down the absorption of carbohydrates and help us feel more satisfied with fewer calories.<sup>28, 29</sup> Soluble fibre can also help treat many cases of constipation, which is a very common problem today. The fibre that is found naturally in foods is often lost during processing, or intentionally removed. Therefore, most processed foods are very low in fibre.

**Bottom Line:** Soluble, fermentable fibre has various important health benefits, but most processed foods are very low in fibre because it is lost or intentionally removed during processing.

## 8. It Requires Less Energy and Time to Digest Processed Foods

**Food manufacturers want their processed food products to have a long shelf life.**

Given the way foods are processed, they are often very easy to chew and swallow. Sometimes, it's almost as if they melt in your mouth. Most of the fibre has been taken out and the ingredients are refined, isolated nutrients that don't resemble the whole foods they came from. One consequence of this is that it takes less energy to eat and digest processed foods.

We can eat more of them in a shorter amount of time and we also burn less energy digesting them than we would if they were unprocessed, whole foods. One study in 17 healthy men and women compared the difference in energy expenditure after consuming a processed vs. a whole foods-based meal<sup>30</sup>. They ate a sandwich, either with multi-grain bread and cheddar cheese (whole foods) or with white bread and processed cheese (processed foods). It turned out that they burned **twice as many calories** digesting the unprocessed meal.

The Thermic Effect of Food (TEF) is a measure of how much different foods stimulate energy expenditure after eating. It totals about 10% of total energy expenditure (metabolic rate) in the average person. According to this study, people who eat processed food will cut their TEF in half, effectively reducing the amount of calories they burn throughout the day.

**Bottom Line:** We only burn half as many calories digesting and metabolising processed foods compared to whole foods.



## 9. Processed Foods Are Often High in Trans Fats or Processed Vegetable Oils

Several studies show that when people eat more of these oils, they have a significantly increased risk of heart disease, which is the most common cause of death in Western countries today<sup>31, 32, 33</sup>. If the fats are hydrogenated, that makes them even worse. Hydrogenated (trans) fats are among the unhealthiest substances you can put into your body<sup>34</sup>.

*Excerpts and references from [www.authoritynutrition.com](http://www.authoritynutrition.com)*

### **Findings**

**I was surprised to find how much evidence there is about the ill-effects from eating processed food.**

**I am certain that a “processed food tax” would reduce consumption of processed foods in the same way that raising the cigarette tax has reduced smoking rates<sup>35</sup>. Last year experts said that half of all heart and stroke-related deaths could be avoided with higher taxes on processed foods and subsidies for fruits and vegetables.<sup>36</sup> Obviously it is difficult to define ‘processed’ but I think that the list above is a good start. The tax raised should be used to allow the NHS to treat existing diet related problems.**

**I appreciate that we live in a free society and people have freedom of choice over what they eat but as listed in points (2) and (4) above this freedom of choice has been taken away. As such I think the government needs to interfere in market forces where processed food is concerned.**

<sup>11</sup> <http://www.ncbi.nlm.nih.gov/pubmed/23594708>

<sup>12</sup> <http://www.nutritionandmetabolism.com/content/2/1/5>

<sup>13</sup> <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2673878/>

<sup>14</sup> <http://jama.jamanetwork.com/article.aspx?articleid=199317>

<sup>15</sup> <http://www.medpagetoday.com/upload/2013/3/1/journal.pone.0057873.pdf>

<sup>16</sup> <http://www.sciencedirect.com/science/article/pii/S0140673600040411>

<sup>17</sup> <http://ajcn.nutrition.org/content/86/4/899.short>

<sup>18</sup> <http://www.sciencedirect.com/science/article/pii/S0306987783900956>

<sup>19</sup> <http://www.ncbi.nlm.nih.gov/pubmed/22011680>

<sup>20</sup> <http://www.ncbi.nlm.nih.gov/pubmed/22016109>

<sup>21</sup> <http://www.hindawi.com/journals/isrn.obesity/2013/435027/>

<sup>22</sup> [http://journals.lww.com/co-clinicalnutrition/Abstract/2010/07000/Neurobiology\\_of\\_food\\_addiction.3.aspx](http://journals.lww.com/co-clinicalnutrition/Abstract/2010/07000/Neurobiology_of_food_addiction.3.aspx)

<sup>23</sup> <http://ajcn.nutrition.org/content/76/1/266S.short>

<sup>24</sup> <http://pediatrics.aappublications.org/content/103/3/e26.short>

<sup>25</sup> <http://ajcn.nutrition.org/content/91/6/1541.short>

<sup>26</sup> <http://www.ncbi.nlm.nih.gov/pubmed/16918875>

<sup>27</sup> <http://www.ncbi.nlm.nih.gov/pubmed/22555633>

<sup>28</sup> <http://www.ncbi.nlm.nih.gov/pubmed/18287346>

<sup>29</sup> <http://www.ncbi.nlm.nih.gov/pubmed/11396693>

<sup>30</sup> <http://www.foodandnutritionresearch.net/index.php/fnr/article/view/5144>

<sup>31</sup> <http://www.ncbi.nlm.nih.gov/pubmed/16387724>

<sup>32</sup> <http://jama.jamanetwork.com/article.aspx?articleid=662108>

<sup>33</sup> [http://link.springer.com/chapter/10.1007%2F978-1-4684-0967-3\\_18](http://link.springer.com/chapter/10.1007%2F978-1-4684-0967-3_18)

<sup>34</sup> <http://ajcn.nutrition.org/content/66/4/1006S.short>

<sup>35</sup> <http://www.telegraph.co.uk/health/healthnews/9423426/Fat-tax-on-junk-food-and-advertising-restrictions-could-save-100000-lives-a-year-experts.html>

<sup>36</sup> [http://tobaccocontrol.bmj.com/content/11/suppl\\_1/i62.full](http://tobaccocontrol.bmj.com/content/11/suppl_1/i62.full)