



**A Nuffield Farming Scholarships Trust
Report**

Award sponsored by

Central Region Farmers Trust



***How can corporate business
facilitate agricultural transition?***

Lucy MacLennan

October 2022

NUFFIELD UK

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A Nuffield (UK) Farming Scholarships Trust Report

Date of report: October 2022



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

Title	How can corporate business facilitate agricultural transition?
Scholar	Lucy MacLennan
Sponsor	Central Region Farmers Trust
Objectives of Study Tour	<ul style="list-style-type: none"> • What influences corporate business to develop their Environmental, Social and Governance (ESG) strategies to encourage agricultural change • If and how corporate ESG strategy cascades through supply chains to farmers • If and how farmers are able to influence corporate ESG strategies • Which ESG driven activities can help to deliver agricultural transition
Countries Visited	USA
Messages	<ul style="list-style-type: none"> • Away from the financial world and corporate boardroom there is little understanding of ESG in agricultural supply chains • Without full engagement ESG reporting can be little more than greenwash to manipulate a positive public image • ESG can effectively help transition agriculture to improve its impact on society and the planet, but to do so business has to prioritise public over private interests • ESG strategies could facilitate agricultural transition through providing much needed private investment in knowledge exchange, support services and research • The balance of risk and reward in delivering ESG strategies should be shared throughout supply chains

EXECUTIVE SUMMARY

The success of corporate business is measured in how much value it creates for shareholders. Over the years various financial metrics have been developed to indicate success such as profit generated which in turn influences share price and dividend yield. Yet the relentless focus on financial return has led to some questionable practices becoming commonplace such as those which exploit the world's natural resources, damage the environment and take advantage of the vulnerable.

It is only relatively recently that rather than just asking 'how much profit has been generated' the question of 'how profit is generated' has been posed. The world of finance has identified that those businesses who operate more morally, ethically and in an environmentally sensitive way are better at controlling risk and therefore constitute better investment options. In order to measure this, Environment, Social and Governance (ESG) reporting has been developed which measures the non-financial performance of a business. This is an emerging science which currently lacks statutory control, but it has become increasingly important to the world of investment.

Within the food and agriculture sectors, corporate businesses are now having to place greater emphasis on the impact of their supply chains on the environment and on labour exploitation. But different businesses have different approaches, and the relative complexity of supply chains highlights the difficulty of finding simple solutions which drive sustainable, positive impact.

The purpose of this project was to understand the ways in which corporate business can genuinely drive change throughout agricultural supply chains through seeking examples of different methods and approaches taken to understand what has worked well and what has not, and how these approaches have affected farm livelihoods.

There were several key findings which were identified:

- There is no simple solution. One size does not fit all, and it may be more appropriate to pursue a portfolio of desired outcomes which allow existing supply chains and farmers flexibility to identify their own solutions.
- The balance of risk and reward should be shared. The current focus is for farmers to change their agricultural practices, yet this can carry significant risk and their (corporate) customers should be prepared to help offset this risk and/or share in any associated reward.
- Duplication is inefficient. By aligning with charities, NGOs, or academics, corporate business can help to fund vital work by experts which will drive change across the sector for the greater good.
- Action should be in the common interest. Care must be taken in marketing the development of positive impact as a point of difference over the competition. Such action can lead to shortcuts (such as replacing supply chains rather than working with existing incumbents), greenwashing and customer confusion.
- Certification is not always the answer. Unless certification means something to the consumer or attracts a market premium, it can be expensive and time-consuming burden to the farmer and/or supply chain.

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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.

Please note that the content of this report is up to date and believed to be correct as at the date shown on the front cover

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Chapter 1: Personal Introduction

My name is Lucy MacLennan, I am now 48 (although I did meet the age requirement when I started my scholarship!) and I am Chief Executive of the Organic Research Centre.

Although I grew up in a farming community, my career in agriculture was far from inevitable. I am the daughter of the local GP and throughout school I developed a love of food and wanted to combine this with my interest in science so studied Nutrition and Food Science at university. That led me to a work placement year at Marks and Spencer (M&S) where I worked in new product development – a role I loved, and it opened my eyes to the potential of a career in the food industry.



I returned to Marks and Spencer as a graduate food technologist and spent the start of my career working across various categories, developing expertise in everything from Millennium party food to sourcing tea and coffee. However, it was working in procurement categories to understand the sourcing of raw materials and their production that I enjoyed the most.

That interest led me to work in fresh produce which I find the most wonderfully diverse and fascinating area of agriculture and allowed me to accelerate my career. Roles at Kettle Produce in Scotland and Head of Produce for Sainsburys led me to a consultancy career where I helped to develop M&S Field to Fork farm standards and also became the Chair of the Fresh Produce Sector Board for Red Tractor.

During my time in fresh produce, I became increasingly interested in sustainable agriculture and returned to university to undertake a part-time Postgraduate Diploma in Agrifood specialising in sustainable agriculture from the University of Nottingham which I completed in 2019. The course was a real eye opener to understand more about finite natural resources and the evaluation of sustainability. As a result, I started to question different agricultural practices in an effort to better understand how they had evolved and to try to identify ways in which they could lessen their environmental impact.

This interest led me to the Organic Research Centre, and I have spent the past three years learning as much as I can about organic food production, its strengths, and limitations.

Outside of my day job I still love fresh produce and spend most of my time working on my vegetable plot. Having become increasingly middle-aged, little gives me as much pleasure as growing and cooking a meal entirely sourced from my own garden.

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Chapter 2: Background to my Study Subject

Over recent years there has been an increasing awareness of the role of agriculture in climate change. A report by S&P Global Trucost has estimated that the cost of the global negative impact on the environment associated with agriculture is \$3 trillion annually. There are many reasons why reducing the impact of agriculture and food supply are so important:

- Farming and food account for about one third of current global greenhouse gas emissions, producing approximately 16 billion tonnes per year of carbon dioxide
- Agriculture accounts for 70% of global freshwater usage and there is predicted to be a 40% gap between supply and demand for freshwater by 2030
- 80% global deforestation is caused by agriculture
- Agriculture provides the livelihood for 30% of the global population

Such statistics can be difficult to translate to everyday farming life in the UK, but worldwide Governments have agreed to make changes in order to deliver the Paris accord (an international agreement to limit the global rise in temperature to below 2C above pre-industrial levels). Although Governments have developed targets, it is the private sector guided by policy, incentives and regulation that must implement them. British farming provides 64% food eaten in the UK, and food and drink is the UK's largest manufacturing sector contributing over £120bn to the economy.

Given that three quarters of adults in Great Britain worry about the impact of climate change, the supply chains that bring our agricultural produce to market have a significant role to play in encouraging change. Therefore, corporate businesses are working to improve their impact through the development of Environment, Social and Governance (ESG) strategies which are cascaded throughout their supply chains. But the corporate boardroom is far removed from everyday life on farm and many farmers may never get to personally meet, let alone interact with those who make decisions which impact their livelihoods. It is not always obvious to the farmer where or how ESG strategies are developed and there is often a disconnect between the short-term profit driven targets of corporate business with the long-term timescales required to drive change in agriculture.

Using the old adage 'money makes the world go around', ESG has also become an increasingly powerful tool adopted by the finance industry who have developed transparent reporting metrics that allow investors to discover just how well the corporates are performing. With this transparency, businesses are held to account over their actions and must show continuous improvement in order to satisfy stakeholders and access preferential rates of finance.

I wanted to spend my study tour exploring the interaction of corporates with farmers to understand the impact of corporate ESG strategies, how they are cascaded through the supply chain, and how farmers can be supported to change through sharing risk and reward. Given my background I was particularly interested in the impact on organic and/or fresh produce sectors.

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Chapter 3: My Study Tour

Impact of COVID-19 Pandemic

Although I was awarded my Nuffield Scholarship as a 2020 Nuffield Scholar, unfortunately the pandemic completely changed my Nuffield experience and travel plans. As a result of the delays, my scholarship developed into something of a hybrid with travel requirements reduced to four weeks, and a reliance on online interviews and meetings. Therefore, when I had the chance to travel, I took the decision to focus my travel on one country: the USA.

Overall Aims for the Trip

I chose to travel in the USA for several reasons – it is the original home of ESG reporting and metric development, the power of corporate America, and also the scale of agriculture and the value of the sector to the US economy. In addition, the USA has played a leading role in transitioning to organic and regenerative agriculture, and I wanted to discover if this was linked to ESG strategy. My objectives were to discover:

- What influences corporate business to develop their ESG strategies to encourage agricultural change
- If and how corporate ESG strategy cascades through supply chains to farmers and how farmers are able to influence them
- How farmers are supported to change through sharing risk and reward

Trip Schedule – May 2022

State Visited	Why
Pennsylvania	Second largest state producing organic produce – to meet farmers, growers, and producers Home to the Rodale Institute – heralded as the leading organic research organisation in the world
Boston	To understand the role of corporate America in driving sustainable practices in agriculture by visiting Harvard Business School and various business leaders
Washington DC	To understand the role of policy makers in agricultural change
New York	To understand the role of chefs and flavour in helping consumers change their perception of food by visiting chef Dan Barber at the Stone Barns Center
Washington State	To visit a corporate agricultural operation supplying 100% McDonalds potato requirement in the USA To visit university extension services championing knowledge exchange
California	The largest state producing organic produce – to meet farmers, growers, and producers To visit leading research organisations in agroecological and regenerative agriculture (UCSC and CSU-Chico) To visit leading farmers markets and retailers excelling in selling organic to consumers (in San Francisco)

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Chapter 4: Corporate Business and ESG Strategy

The role of corporate business

A corporation is a business entity that is owned by its shareholder(s), who elect a board of directors to oversee the organisation's activities. The corporation is liable for the actions and finances of the business – the shareholders are not. Typically, in the UK they are characterised as public limited companies (plc). For the purposes of this report, I have determined that a corporate business within food supply chains may be processors, brand owners and/or retailers or any combination thereof. In the USA they are typically listed in the consumer staples (eg Walmart, General Mills) or consumer discretionary sectors (e.g. McDonalds) but in the UK they are typically listed as Food & Tobacco (e.g. ABF, Greencore) or Food & Drug retailing (e.g. Tesco, Sainsburys).

The sphere of influence of corporate business in the supply chain is far-reaching. It influences upstream sourcing and agricultural practice, as well as downstream to the consumer but they also have power and influence outside their supply chains, for example over policy, research, and information services.

In 2020 approximately 85% of both UK and USA consumers purchased food in supermarkets at least once a week, so it follows that corporate business decisions affect the vast majority of agricultural produce and its associated supply chains. However, the relentless focus on profit has eroded moral values over the years and has led to environmentally and/or socially questionable practices becoming commonplace and unchallenged.

During my study tour I was fortunate to meet with various business leaders and academics who shared with me their knowledge and experience of the impact of Corporate America, both good and bad. Given that businesses work to gain competitive advantage, unsurprisingly corporates act in their own self-interest so that they can develop marketing strategies that sell their credentials to the consumer, but this is at odds with the need for agricultural change which is to deliver common benefit. It is naïve to expect that public interests be put before private interests when there are trade-offs to consider. Therefore, there may be a reluctance to invest in collective action because those benefits are shared by all rather than ringfenced for their advantage.

This foundation of commercial business was something that I reminded myself of throughout my travels with the aim to understand how to marry our overall altruistic societal aims with the competitive marketplace.

But there is a seed-change underway. During my travels I met with Professors at Harvard Business School who explained that Chief Executives (CEOs) seem genuine in their desire to do what they can to drive change. Because their responsibility is ultimately to shareholders, it can be a challenge for CEOs to encourage them to invest in activity which in essence is defensive and lacks any obvious financial return. For example, the use of sustainable palm oil or soy carries with it many benefits such as preventing deforestation, but these supply chains are more expensive and therefore investment is required to deliver change. This type of investment delivers brand protection and

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enhancement and resonates with employees and consumers but does not deliver profit. However, it is likely that eventually use of these sources will become business-as-usual and will become brand damaging if they are not used, therefore those that invest in them may achieve first-mover advantage.

What is ESG and why does it matter

Environmental, Social and Governance (ESG) is the measurement of non-financial factors affecting business performance. It has evolved over recent years to provide important information to analyse the risk to (and opportunities for) a business. Within financial circles, organisations which score better for ESG have been reported to have higher valuations, lower cost of capital, stronger cashflow, better risk management and experience less frequent severe incidents. In addition, organisations with high Social scores have been reported to generate the strongest performance return, whereas those with high Environment scores have been reported to demonstrate the strongest differentiation of risk.

To date there is no universal mandate that requires companies to report their ESG information. However, although it is not commonly part of financial reporting, increasingly businesses are voluntarily making ESG disclosures in their annual reports. These disclosures are replacing the previous Corporate Social Responsibility (CSR) reports which were more subjective whereas ESG performance is assessed by ratings and metrics.

How is ESG measured

It is important to highlight that the development of ESG metrics is an emerging science and still has some way to develop before it is completely objective. Because there is a lack of statutory guidance and standardised approach, a number of different privately generated ratings have emerged including for example Morgan Stanley Capital International (MSCI) or Sustainalytics. However, they are all currently unregulated and unaudited. They all assess businesses for their performance across similar areas although their measurements may differ as to where they source their information:

- Environmental Factors are those associated with conservation of the natural world
- Social Factors are those which give consideration to people and relationships
- Governance Factors are standards for running a company

A diagram showing the scope of considerations for MSCI scoring can be found in Appendix A. There is currently a suite of 37 different factors to assess businesses. Not all of these factors are used to assess every industry sector. Additional complexity is also built into the system because factors are weighted to indicate the difference in importance from one industry to another. For example, a comparison of factors for a bank and a food producer is shown in Table 1. Although this system compares industry peers, it does not produce a universal standard therefore can produce some surprising results such as an extractive fossil fuel company achieving a higher rating than, for example, a software company.



Table 1: A comparison of ESG factors considered for a bank and a food producer

Factor	Bank	Food Producer
Environment	Financing environmental impact	Raw material sourcing, water stress, packaging material and waste
Social	Human capital development, access to finance, consumer financial protection, privacy and data security	Supply chain labour standards, opportunities in nutrition and health, product safety and quality
Governance	Corporate governance, corporate behaviour	Corporate governance, corporate behaviour

Because there is no standardised approach, ESG metrics can be open to interpretation. Some factors may be assessed through data materiality (where insight is captured in a data point, for example carbon emissions) which provides an accurate and objective measure. However other factors may be assessed based on subjective data where opinion, experience or interpretation is applied, and this can lead to issues regarding the consistency of reporting because comparability is poor.

The ESG scores of a business are freely available online however, because of the amount of analysis required, they tend to only exist for the largest corporate organisations, but this will change over time. These published results will encourage organisational peer pressure to improve. A link to the MSCI tool is shown below:

<https://www.msci.com/our-solutions/esg-investing/esg-ratings-climate-search-tool>

ESG strategies

In order to address issues or to show continuous improvement, businesses are increasingly developing and publishing their ESG strategies. These strategies focus on improving the factors which they are measured against.

Developing the strategies is not straightforward and their implementation has far reaching consequences requiring buy in from all levels of the organization and its supply chains. Investors will make their decisions based on this strategy and so once published they must be implemented because the business will be publicly measured against its performance and either credited or derided accordingly.

‘G’ = Good governance

Within ESG scores the requirements for corporate governance and corporate behaviour are consistent across all businesses, irrespective of their market sector. They cover factors such as diversity and inclusion, pay and remuneration, accounting etc, which all indicate the degree of confidence that the financial markets can have in a business. For that reason, this report specifically focuses on the environmental and social elements of ESG.



Awareness of ESG

It became evident very quickly during my study tour that with the exception of business leaders and corporate ESG teams, relatively few people had ever heard of the ESG acronym, let alone had it explained to them so that they could understand how it might affect them and their business. This may be because ESG is at the early stages of adoption and has yet find its place in everyday parlance. However, people were familiar with some of the factors considered within ESG such as carbon footprinting, deforestation and worker exploitation, and they did understand that some corporate organisations were undertaking to reduce their supply chain impacts on society and the environment.

Because of the lack of knowledge of ESG there is little opportunity for businesses to be held to account over claims that they might make regarding their supply chains. There have been many examples of 'greenwashing' whereby an organisation might overplay their credentials in order to present a more positive public appearance. In fact, there is an active debate over whether ESG is actually greenwashing by the financial sector whereby they give the impression that their investments are made to support positive planetary impact, but actually the system demonstrates the impact of the world on an organisation's profits.

Regardless of whether ESG is greenwashing, it is influencing decisions that are being made within the agricultural sector and food supply chains. It is not a perfect science and will continue to evolve, but there is not time to wait until that is achieved. The need to address global environmental and societal impacts is immediate and if ESG can help to influence this then it should be welcomed.

Chapter Summary:

- Corporate business' pursuit of profit above all else has come at the expense of environmental, social and governance (ESG) values
- ESG ratings are a tool that has been developed to assess the non-financial performance of a business
- The factors measured as part of a business' ESG score are weighted dependent on the industry sector, but this means that scores for businesses in different sectors cannot be compared
- ESG rating development is an emerging science and depends on both objective and subjective data therefore can be open to interpretation, but this will improve with time
- There is currently little awareness or understanding of ESG beyond the financial sector or corporate ESG teams, although individuals are aware of business sustainability agendas

The next chapter considers in more detail how ESG affects agriculture and food supply chains.



Chapter 5: ESG in Agriculture and Food

During my study tour it emerged that agricultural and food businesses seemed generally comfortable with their responsibilities regarding Governance. However, many were still getting to grips with their responsibilities regarding the Environment and outside of the fresh produce sector (which is highly dependent on a large and mobile labour force), one contact suggested that industry could be described as rather 'squeamish' about addressing their Social responsibilities.

Disappointingly, a professor from Harvard Business School was very cynical about the degree to which transitioning agriculture could improve climate change. His view was that the only factors that will have any impact will be switching to nuclear fuel and extending the use of genetic editing. His view is unsurprising given that Harvard is one of the world's leading business schools where there is a primary focus on driving profit rather than environment or social benefit.

From a corporate perspective, the purpose of ESG is to facilitate measurable and meaningful change within agricultural and food supply chains. This may be through hard metrics such as agricultural emissions reporting, or through demonstrating the transition to environmentally and socially responsible systems such as organic or regenerative agriculture, or work to improve community engagement and understanding of food and its impact on health. Given that corporations have to publish their ESG report annually, they are keen to create case studies and success stories which bring them to life and can be used to showcase their activity to investors and generate positive PR.

However, although many of these organisations are actively working to find the best way to drive real and lasting change throughout their supply chains, care must be given to ensure that ESG does not become a glossy brochure that is little more than superficial greenwash, to paint the best possible public image of a business with relatively little vision or substance behind it.

The ESG strategy must be feasible to achieve within a business' organisational structure. Katharine Stewart, Group Corporate Responsibility Director at Associated British Foods (ABF), explained that their strategy is based on building objectives from the bottom up rather than the top down. Although ABF is a large organisation (with sales of £13.9 billion), it believes in giving individual businesses the scope and authority to run their businesses in the best way that they can, as they are closest to the opportunities and risks, and to take accountability for their actions. This translates into the development of ESG so that each business can take advantage of local and tacit knowledge. The central Group role is to provide a framework for best practice, ensure that collaborative working, and consistency of approach is encouraged and that the right teams are connected in order to leverage their networks, as well as to amalgamate Group ESG reporting.

Supply chain implications

The targets developed within an ESG strategy must also work across the supply chain. If a corporate business is to make any claims when they market their brands then they must ensure that not only the raw material entering their supply chains are appropriately sourced, but that the supply chain itself is able to ensure the integrity of any product carrying a claim. This adds a layer of complexity



to many operations who need to ensure traceability through processing and packing sites. For example, it is very difficult to achieve for high volume production to switch from conventional to organic and requires extensive clean-downs and segregation not to mention accurate completion of an auditable documentation system. This is more manageable in simple packing operations than it is for products requiring a recipe of different ingredients and processes. Any lack of conformance could lead to product mislabelling which, if shown to be intentional, could lead to legal claims of fraud.

Therefore, if a brand is to carry any marketable claim, this needs to be addressed at the new product development stage to ensure that there is appropriate supply chain capability. Given recent growth in the organic sector, businesses have identified this as a market opportunity so to that end some USA corporates such as General Mills have developed and grown organic brands which have their own dedicated production facilities which only handle organic products.

To certify or not to certify

Reporting the growth of organic brands has become a relatively easy solution to include within ESG reports. Some corporate organisations such as Cargill have aligned themselves to respected organic institutions such as the Rodale Institute in order to help facilitate change. Although they are not obvious bedfellows, Jeff Moyer, CEO at Rodale, explained that provided a corporate business is aligned to the Rodale mission to increase the acreage of land converted to organic then they will consider collaborating, even if the corporate business does not completely buy into the philosophy of organic.

Given that organic products are credence-based (ie their qualities can't be easily identified even after purchase), systems are needed to prevent food fraud whereby the public could be otherwise deceived into paying a premium for products not grown to the declared standard. Studies have shown that institutional trust of this kind is particularly vulnerable to fraud and so certification and audit systems have evolved to ensure supply chain integrity. Organic is a legally defined term and the rules associated with the legislation are designed to provide a clear structure for organic production to 'satisfy consumer demand for trustworthy organic products whilst providing a fair marketplace for producers'.

However, the biggest disadvantage to the development of ESG strategies which focus on transitioning to organic is the resulting product cost increase which is not feasible for many brands or consumers to absorb. Furthermore, the time required to convert an existing supply chain including farmland to organic includes two years of land conversion, therefore may require a whole new supply chain to achieve. That in turn may lead to questionable practices where supply may be switched in order to meet particular targets within particular deadlines rather than working to transition existing supply.

Over recent years alternative certification schemes that are similar to or build upon the United States Department of Agriculture (USDA) certified organic have evolved. During my tour I learned about 'Certified Naturally Grown' which is a self-certification scheme that is verified by others in the farming community. I also became aware of 'Regenerative Organic' which has been developed by the Rodale Institute using USDA organic as a baseline but with additional modules for soil health,



animal welfare and social fairness. Whilst these are commendable systems, they add a further degree of complexity to the certification debate.

During my travels several people discussed whether regenerative agriculture should become certified but concluded that if this was to happen then it would face the same challenges as organic and that would potentially lose farmer engagement.

Regenerative agriculture

Although organic could resolve the supply chain issue of certification, in general farmers are more interested in how the practice can be achieved than the integrity of supply chains. Those farmers who are certified organic are rightly proud of their achievement given the time, effort and energy needed to achieve it. However, from those who have not converted, there was criticism of the system when it was described as ‘exclusive, restrictive, prohibitive, expensive, stifles innovation, inputs focused, a tick-box exercise that is old-school and of its time’.

Rising agricultural input costs as well as policy developments to reward farmers with ‘public money for public goods’ have encouraged farmers to find alternative ways to farm which are less dependent on chemical inputs. In recent years there has been an emergence of regenerative agriculture (RA), the interest in which has eclipsed organic as a way to embrace changing farming practices. Both regenerative and organic practices focus on achieving healthy, regenerative soil. Regenerative agriculture is not legally defined and has no certification process associated with it. This means that unlike organic, RA was described by advocates as ‘inclusive, unrestrictive, imaginative, encourages innovation, outcome driven, allows farmers to work at their own pace’. Yet it is open to exploitation and the term can be used (inaccurately) by some to present a more progressive, environmentally responsible public image.

RA provides corporate businesses the chance to work with existing supply chains to help transition them to more environmentally and socially beneficial practices. General Mills have employed subject matter experts to help develop their strategies. Charlotte Vallaey, Natural and Organic Associate Expert at General Mills, works to advance organic strategies and initiatives. Like the UK, the US is ‘stuck’ with only around 1% farmland converted to organic and therefore, in order to change farming practices, their focus has shifted to advancing regenerative practices.

What’s in a name?

As discussed with Charlotte Vallaey, agricultural change should be outcomes led. But there is a risk of falling into a reductionist trap where the complexities associated with agricultural change are oversimplified or driven by a checklist of requirements, which end up ‘ticking the box but missing the point’. She stated that although outcomes are important, “it is how we get there that matters”. There should be a celebration of what is being done well and then focus on driving continuous improvement to address further change. Her view was that creating a viable certified organic business is a tremendous accomplishment that some farmers have excelled in achieving, and that driving regenerative practices across the sector (independent of the goal of organic certification) provides the opportunity for more farmers to engage. Charlotte explained that their strategy focuses



on processes. General Mills partners with organisations such as the Soil Health Academy and Organic Agronomy Training Service, to support farmers across regenerative and organic systems.

Whether farming or corporate business, investing in agriculture is risky because change is difficult and takes a long time. Given that typically there is only one harvest per year, if it takes five attempts to find the right solution then it follows that it would take at least five years to start to effect change. It requires capacity building and technical assistance which is hard to achieve. These time horizons can be difficult for the uninitiated to comprehend. In addition, the reasons for consumers and regulators placing value on sustainable agriculture vary across continents, consumers, and regulators. Legal and financial hurdles vary from country to country and region to region and furthermore private clients and trade groups have different standards.

Therefore, it is perhaps less important to focus on whether the ambition is specifically on increasing regenerative or organic systems, but more on how farming can be supported to drive overall change. Recognition should be given to the fact that ‘one size doesn’t fit all’. By supporting the farming community with appropriate technical assistance, it will not only encourage more engagement but will also help to provide sources of advice, support and mentoring which in turn help to reduce the risk associated.

Ultimately it is up to the farmer to decide to change their farming practices and, therefore, focus must be placed on how they might be incentivised to do so. Providing appropriate support is one route, but offering more long term, better paying contracts with clear associated outcomes is another. It is important for corporate businesses to acknowledge that because the farmer carries the risk associated with change, they should also share in the reward.

Chapter Summary:

- Supply chain complexities must be considered before any product can carry a legally enforceable claim.
- Organic is a legally defined term and for a product to be sold as organic its whole supply chain must be certified to ensure consumer trust, but certification is restrictive; a product is either compliant or not and therefore can be seen to be tick-box rather than allowing for creative/innovative ideas.
- Regenerative Agriculture is not legally defined or certified, which allows farmers to achieve similar outcomes to organic by their own methods and at their own pace, although it is open to corporate greenwash.
- It is more important for corporate organisations to support how farmers change their practices rather than the ultimate goal as to which system they adopt.

The next chapter seeks to explore ways in which farmers can be engaged in transitioning their practices in order to achieve an overall ESG objective.



Chapter 6: Engaging the Supply Chain in Delivering Change

Transitioning to a low/no input farming system

It is important for corporate business to understand that the decision to change a farming system is not an easy one for many farmers to make unless individuals have personal experience of it. It can be intimidating because it may require farmers to re-learn how to farm in a different way and with a different business model. This can carry high risk particularly if farm debt is linked to returns from the existing system, especially if there may be expectation of yield reduction or decreased productivity. It is not a decision to take lightly but those who succeed do so because they invest their time into learning and understanding an alternative way to farm in harmony with nature and the environment.

But, aside from this, the decision must be taken as a marriage of equals between the heart and the head – the heart being the farmer’s personal motivation and the head being the economic viability of the farm business. Without being a going concern, no amount of morality will generate a thriving business, but in turn without being personally driven to make the change it will be very difficult to achieve commercial success.

Personal motivation

Every farmer has their own personal reasons to change their farming system. For some it may be a desire to be at the forefront of change, knowing that change is inevitable; yet for others it may be a desire to conserve and protect the environment. This was certainly the case for the folk at First Fruits Farm in Pennsylvania who were driven to play their part in alleviating the pollution of Chesapeake Bay (caused by human-introduced nitrogen and phosphorous from synthetic fertiliser usage).

On my tour I met various organic farmers and found that their decisions were often driven by more deep-rooted personal beliefs or experience:

- Lundberg Family Farms, who are the biggest organic rice producer in the USA, is still a family-owned business. When the founders left Nebraska in the wake of the Dust Bowl (when drought struck the plains in the 1930s) to start a new life in California, they took with them a desire to cultivate rice in a way that protects the soil by working in harmony with nature and that same belief is still going strong and is at the heart of the organisation.
- For Kyle and Mel at Burns Blossom Farm in Chico, California starting their own Community Supported Agriculture (CSA) and selling at farmers markets was a long-held dream to create a better life for themselves and future generations.
- Ashley Walsh from Pocono Organics in Pennsylvania had personally suffered from gastroparesis (a stomach disorder which inhibits digestion) until she moved to an organic diet which has had a profound effect on improving her health. Her belief in organic production led her to found a thriving and entrepreneurial business farming organically



Figure 1: Photograph from JSM Organics showing marigolds planted amongst tomatoes to optimise use of space, California, USA

grown hemp, mushrooms and vegetables but also processing the raw materials into consumer-facing product ranges.

Regardless of an individual's personal motivation to farm with low/no inputs, unless they enjoy personal wealth or are willing to work voluntarily, any change of farming system must be planned and budgeted carefully to ensure that it is financially sustainable.

Economic viability

So much of the economic viability of farm transition is dependent on attitude to and mitigation of risk. There are many elements to consider, from farmer knowledge and experience, business model flexibility, debt structuring, equipment availability, potential for building collaborative agreements such as to bring a grazier in to manage livestock into rotations, and so the list goes on. The problem for many is how to start planning when they don't know where to begin.

There is no easy answer other than to start small and try things out. Because there is no cost effective, rapid result field test for soil health there is no 'one size fits all' approach. Different farms will have different start points and dependent on attitude to risk, one farmer may change their whole farming system starting on Day 1 (high risk!) whereas another may take several years of trying different options before they build enough confidence and expertise to fully transition.

The one thing that I have found on both sides of the Atlantic is that helping others to change by sharing personal experience is infectious. Farmers who have tried different practices on their farms and have observed particular results are more than willing to share their knowledge. In fact, the organic farming community is perhaps the most collaborative industry sector that I have ever encountered. By sharing experiences farmers can start to mitigate the issues that they have encountered to rebuild their farming knowledge into the new system.

There is much to learn from experienced farmers who have worked organic systems for many years. In particular, the experience of Javier Zamora and Lundberg Family Farms highlights how they have helped to drive their income and reduce the risk of their operations:

Anticipated reductions in yield or productivity may be overcome through systems such as enterprise stacking or operational diversification. For example, Javier Zamora, owner of JSM organics, explained that he didn't have a single unproductive area of his farm. Amongst his berry and tomato growing operations he had started to grow cut flowers, which now accounted for up to 8% turnover, but in addition to contributing financially, the flowers had become a USP at farmers markets that increased customer appeal and encouraged repeat purchase.



- Lundberg Family Farms in California have developed their own US market leading brand of organic rice, which they farm, process and pack in a family-owned operation. This makes them less dependent on the vagaries of supply chain contracts and promotes their operation directly to the consumer. At a different scale, the folk at Potomac Vegetable Farms in Virginia also valued selling direct to the consumer at the Dupont Circle Farmers Market and other regular markets in the area. They explained that building mutual trust with the consumer was invaluable in helping explain supply issues, seasonality etc and built customer loyalty.

But as well as sharing successes it is also important that farmers learn from what has not worked well. Again, the farmers that I met were willing to share their experience with others for example, Lamb Weston was a partner in an organic dairy operation in partnership with Watts Brothers Farms:

- In the USA there have been extensive problems in the organic milk market where the price has struggled to cover the costs (particularly of feed) and as a result the market has become oversupplied, and contracts have been pulled to devastating effect for some. Lamb Weston (itself a corporate organisation) invested in a state of the art 3,500 head organic dairy at their farm in Kennewick, WA which was the largest organic dairy in Washington state at the time. But their organic milk contract was not as secure as they had been led to believe and, due to market oversupply, their contract was pulled. Although they considered continuing to run the dairy organically, the cost of organic feed for the cattle was prohibitive and as a result it is now run as a conventional dairy operation.

This knowledge sharing is imperative in order to help drive change across the agricultural sector. By learning from one another, farmers can examine different business models, calculate projections, and create their own blueprint for transition on their farm.

Investing in support and advisory services

It is clear that support, advice, and research is a key requirement in order to increase the amount of land farmed in an environmentally sustainable way. There is an obvious role for corporate organisations to help facilitate farmer learning and knowledge exchange. For example, General Mills have worked to flip their approach in order to be more farmer-led and collaborative, harnessing what is already happening on the ground. However, when considering such programmes, ESG strategies need to be aware that the need is to act for common good rather than vested interests. By cooperating with other organisations and supporting existing viable initiatives there is less risk of duplication and inefficiency which will allow funding to be focused where it can deliver most impact.

In the USA there is a well-established state and federally funded support system in place for farmers. Since the dust bowl of the 1930s, soil conservation practices were put in place including the use of cover crops and tree planting, achieved through a federally-funded outreach and incentive programme. That programme still exists as the Natural Resources Conservation Service which is part of the USDA and runs a range of technical assistance programmes including planning support and financial assistance from local service centres across the country.



Figure 2: Author with members of the Lamb Weston team visiting OSU Hermiston Agricultural Research and Extension Center, Oregon, USA

The federally-funded programmes are recognised for their excellence, but they take time to come to fruition therefore there is a key role for universities. All US land-grant colleges and universities have extension services which bring practical information to agricultural producers. During my tour I visited the Oregon State University (OSU) Hermiston Agricultural Research and Extension Center as well as the Washington State University Extension Services in Kennewick. Both offered a real eye-opener, where they talked of offering the voice of the independent, unbiased expert that many farmers turn to in preference to their

agrichemical company-funded agronomist. Because they are locally (state) funded, they are able to respond promptly to local needs and therefore have become trusted sources of information. Dr Silvia Rondon, Director at OSU Hermiston, explained that interaction with their local farming community is key to the Center's success and sharing information is critical to drive actual change. She sees the Center as a hub of information to promote work on integrated pest management from around the state. Richard Burres, Director of Sustainability at Lamb Weston (a global food company with local operations) agreed that the work of the Center is an invaluable resource. The team are responsive and reliable in helping their team to address any identified issues and are a first port of call to provide independent guidance which is valued over and above any commercial agrichemical supplier.

In addition to the traditional state university extension services, other universities have also established centres of excellence. One such example is CSU, Chico Center for Regenerative Agriculture and Resilient Systems (CRARS) which are entirely self-funded through philanthropic donations. Co-Founders Cindy Daley and Tim LaSalle explained that the Center was established to investigate, develop, demonstrate, and educate about comprehensive, regenerative practices that both restore and enhance the resiliency of living systems and communities. When I met them, the team were buzzing with ideas, so much so that it felt very entrepreneurial with a positive 'anything is possible' atmosphere. They are working to produce applied research so that they can create objective evidence to support the need for change, but their key focus is on sharing that knowledge with the community. This is not just in Chico, but they are also working to establish a national network for regenerative agriculture.

Over and above university-based centres of excellence, other organisations have also been founded to help facilitate change. One is the Croatan Institute, which is 'an independent, non-profit research and action institute'. Its mission is to build social equity and ecological resilience by leveraging

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finance to create pathways to a just economy. I met with Christi Electris, Co-Founder who helped to explain how they have been able to link investors with farmers to achieve impact investing. They have created an integrated capital clearing house which allows them to package the right project for the right investor – a type of mission-aligned matchmaker. For example, they are currently experimenting with loan guarantees so that an investor might loan funds to a farmer to facilitate transition, but in order to reduce the risk to the investor they bring in a philanthropist to provide a loan-guarantee. In so doing, as well as de-risking the investment, they also provide education and advisory services to help ensure the financial health of the business. This achieves the overarching goals of delivering transformative ecological change along with societal equity.

There are many projects that Croatan is working on, all helping to provide finance to farmers and communities through impact investing to deliver change. Their primary focus is on improving soil, so they have coined the expression ‘soil wealth’ which resonates with investors. This is an exciting but emerging investment area that shows what can be possible through marrying creative thinking, funding change and a desire for environmental and social improvement.

Throughout my tour I also became aware of an increasing number of apprenticeship or internship schemes that are funded in order to share knowledge and improve understanding. For example, at the University of California Santa Cruz (UCSC) Center for Agroecology they were delighted to reinstate their apprenticeship programme following the pandemic lockdowns. Director Stacy Philpott explained that they have applicants from all around the world who participate in their 10 week fully immersive residential programme. It is specifically aimed at small scale producers who are keen to gain practical skills and knowledge in agroecological systems that benefit the environment and their local communities.

Another example of internships was at Rodale Institute which offers a range of different internships at their home in Kutztown Pennsylvania and at their various regional centres as well. Their internships stretch beyond farming to include communications and media. Maria Pop, Director of Education, explained that transformative change needs a variety of skills, and the aim of the programme is to engage the next generation so that when they become more senior during their careers, they continue to engage and link back to Rodale.

My final example of a programme which has helped to facilitate change is that described by Javier Zamora from JSM in Aromas California. Javier is a first-generation Mexican immigrant farmer who has established a vibrant and profitable organic fruit and vegetable business, but as well as caring about the environment, Javier also explained that he is a mentor and role model for other local small-scale growers and is an advocate for immigrant farmers and farmworkers. He values his team and believes that “you help others succeed because you’ve been given that opportunity. That’s the real American way”. Although he has informally been mentoring for many years, a new programme launched by the USDA in June 2022 means that he will be funded to help others, especially first-generation non-US born farmers.



The role of charities, NGOs, and other independent collaborators

Throughout my travels I visited an extensive network of organisations all existing within the same business ecosystem, working collaboratively and in a complimentary way, each fulfilling a different role to benefit the wider community. The role of charities and NGOs is incredibly important in helping to facilitate change, and partnerships with commercial organisations provide mutual benefit whereby the charity/NGO will gain scale and funding for their activity, whilst the commercial business will gain credibility and independent expert advice. Given that ESG strategies exist to deliver for the common good, the role of independent organisations to verify and provide objective evidence to support them is of importance. Such associations not only mitigate against accusations of greenwashing but also help to amplify messages and activities associated with the strategies.

Investing in research

Currently there is elevated interest from the financial sector regarding investment in agriculture, however the majority of that interest is associated with Agtech – agricultural technologies which can lead to the development of profit-making organisations which deliver a financial return to the investor. However, this is not the only investment that is needed in agriculture.

Much of agricultural transition requires change of working practice rather than the development of new products which generate revenue. Because of the lack of obvious monetary returns, there is less investment from both the public and private purse in research associated with practice change. But in addition, Cindy Daley (Director at CRARS) also pointed out that research into farming systems is a relatively new concept whereas most research has been based on reductionist strategies. Yet there is a clear need for this research to be carried out. The development of best practices which can improve yields for regenerative/organic farming systems will address farmer concerns and help to reduce the risk that they face in transitioning their farming systems. In addition, there is a real need for scientific evidence to support observed results from innovative farmers running their own field trials so that the results can be analysed and made available for others to replicate successes.

Discussions with leading privately funded research organisations such as CRARS and Rodale indicated a reliance on philanthropic donations by either individuals or trusts, or donations or sales of advisory or consultancy services to commercial organisations.

Rodale has been researching regenerative organic agriculture since 1947 and is perhaps most famous for its Farming Systems Trial which was initiated in 1981. This ongoing flagship study runs a side-by-side comparison of organic and conventional grain cropping systems which have yielded some astonishing results – namely, that by creating a healthy soil, yield is competitive with conventional after a five-year transition period and earns three to six times greater profits for farmers. There are also many examples of privately or commercially funded support, advisory and research services. CEO Jeff Moyer explained that they are always exploring barriers to adoption and offers a range of services to farmers – sometimes as a funded programme eg through USDA but at other times as a ‘fee-for’ service.

In addition, during my visit I discussed the newly announced \$300m USDA Organic Transition Initiative with Brise Tencer from the Organic Farming Research Foundation and Amber Scilligo from

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the Organic Center. The initiative provides much needed public funding in the USA to help facilitate the transition to organic agriculture by providing farmer support and market development. Both agreed that the availability of this scale of funding is unprecedented and marks a real step change in the USA Government's attitude to organic farming. It comes hot on the heels of the USDA's announcement to invest \$1bn into climate-smart agriculture – defined as practices that reduce greenhouse gas emissions or sequester carbon. This marks a real step change in US federal funding of agriculture under the Biden administration. It was explained to me that such investments are necessary because of the perception that the USA has lagged behind Europe and other developed regions in facilitating change.

Recognising indigenous agricultural practices

During my tour, several times people highlighted to me that much can be learned from indigenous communities, and that many of their practices have only recently been recognised but instead of crediting them, they have been 'wrapped up and remarketed' as if they have only just been discovered. There is still much that can be learnt from many of these communities, and it is an area for further exploration, although sadly not one that I could explore during this study tour.

During my time in Pennsylvania, I became aware of the work in Amish communities. As part of their beliefs, many Amish farmers practice organic farming, avoiding pesticides, using manure and crop rotations to maintain their traditional way of farming. Their beliefs are that an individual's life begins 100 years before they are born, therefore this drives a long-term viewpoint and communities strive to protect and enhance the natural environment. I visited Joe at Talking Breads in Mechanicsburg, who explained to me that he sources all his wheat for milling from a nearby Amish farmer who is part of the River Brethren community. The farmer cultivates his own, local wheat varieties which are unique to that area of Pennsylvania and the baker was insistent about the flavour difference that this makes to the product.

Building relationships

Over recent decades business has become increasingly transactional where a specification is set and, provided it is met, then the supplier will receive agreed recompense. There is little to no relationship involved or associated with the transaction, even if individuals are able to build some rapport to facilitate it. A typical example of this is the way that supermarket buyers work – their role is to secure the best possible purchase price of goods for their employer and to ensure that business remains transactional, buyers rarely stay in role for longer than a couple of years therefore few personal relationships can develop. This typifies modern business yet, given the role of ESG to deliver for the common good, such transactional relationships are not always appropriate.

Increasingly, the ESG world is characterised by collaborative, non-competitive and genuinely altruistic ways of working. From personal experience this environment of helping each other to achieve the greater good provides a more positive, fulfilling and less stressful workplace. This view was shared by others during my travels. But it can be difficult to achieve and there needs to be mission alignment and clear ways of working from the outset to ensure that the relationship is



balanced. As explained by Javier Zamora, change happens through partnership, but the challenge comes when you have to figure out the relationships to invest in that will deliver success.

Chapter Summary:

- Farming with low/no inputs for many requires completely re-learning their way of farming. It is knowledge intensive and requires significant personal commitment and motivation. RA could be used as a stepping-stone to organic conversion.
- The decision to change a farming system must be an equal balance between personal motivation and economic viability.
- Funding for advisory support and research in the USA has historically been driven by philanthropic and private investment but the USDA has recently announced significant public funding to drive agricultural change.
- The role of charities, NGOs and other independent organisations adds objectivity and independence to ensure delivery of results and avoidance of greenwashing.

A further consideration in the development of ESG strategy to effect agricultural change is the way that it can be communicated to consumers and/or stakeholders. This will be considered in the next chapter.



Chapter 7: ESG and the Consumer

As has previously been discussed, competitive commercial businesses exist to provide products or services that meet customer needs. As a result, they have to be able to effectively communicate their point of difference over and above their competitors. Whilst ESG exists to deliver common good, it is also necessary to ensure consumer understanding of any credence-based product so that the consumer can understand if/why they are charged a market premium.

Trust in the product

During my study tour I visited numerous farmers markets and met many smallholder farmers and small food producers. At Dupont Circle Farmers Market in Washington DC, I spent some time with the team from Potomac Vegetable Farms who explained that because of their direct interaction with the consumer they had established a mutual level of trust. As a result, they had taken a reasoned decision to allow their organic certification to lapse. This decision saved a significant amount of resource to maintain records, as well as the certification costs and, because of the established trust, did not lose them any custom.

However, more than 85% people purchase their groceries from a supermarket. As such they have no direct contact with the food producer or farmer and therefore have to trust the labels provided by the supermarket or brand to ensure that the product's credentials.

In addition, it is more likely that a consumer will trust an accredited claim rather than a marketing message which may give an inflated idea of a product's credentials.

Labelling

By touring various supermarket shelves in the USA, I found a plethora of different labels used to market different farming methods. By far the most widely used was organic but a range of other (not legally defined) claims were also made on pack, with examples shown in the following photographs. I found the range of messaging became quite bewildering and confusing. As consumers, they want to know that they are doing the right thing buying a particular product but, faced with so many alternative messages at the point of purchase, I could imagine that they might end up ignoring them all.

This is where organic has created a niche for itself. It is just one word consistently used across various brands. Yet despite being a commercially used term for more than 50 years, consumer understanding of what organic means is variable, with many confusing it as meaning pesticide-free or free-range. They may buy the product because it is perceived as more nutritious, natural, and environmentally friendly than non-organic alternatives. But in the USA a further motivation to purchase is that it is Genetic Modified Organism (GMO) free. By wrapping up all these credentials into one word, packaging is simplified, and brands/retailers can focus on promoting organic rather than a plethora of different credentials.



Figure 1: Examples of different product labels explaining ESG credentials

Purchase decisions

With so many messages bombarding the consumer at the point of purchase it can be quite difficult for them to decide whether to purchase a product or not. During my travels I was reminded that consumers will firstly decide how that product will benefit them directly – for example the right flavour or a trusted and liked brand; only once that decision has been made will the consumer consider any secondary motivator such as environmental impact which may then intensify the purchase decision and make the consumer also feel good about the choice that they have made.

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With this in mind, consideration needs to go into recognising what the customer needs to know at point-of-purchase. The majority are unlikely to spend time reading marketing messages to make their decision, particularly those that are not independently accredited. Therefore, it may be more appropriate for further information to be available to be looked up through QR codes rather than be listed on pack.

Further considerations

Discussions with the aforementioned Potomac Vegetable Farms also highlighted that a further reason that they had allowed their organic certification to lapse was because they felt that locally grown produce was a more important environmental credential to have than organic because they had observed air-freighted organic produce for sale which, given the associated carbon footprint, could not reasonably be perceived as environmentally friendly.

However, consumers have become conditioned to expect that any product will be available to them in their local supermarket at any time of year. Understanding of seasonality has all but been eliminated, for example with asparagus and strawberries available at Christmas due to the harnessing of global supply chains. But coupled with this is the fact that produce available out of season is more expensive and usually does not taste as good, let alone retain the same nutrient composition of fresher, seasonal, locally grown, and harvested product.



Figure 4: Radish served at Blue Hill at Stone Barns, New York

I explored these issues during my visit to the Stone Barns Center in New York State. Their Hudson Valley Campus is shared with their partner restaurant, the critically acclaimed Blue Hill at Stone Barns where chef Dan Barber runs the kitchen. Dan Barber is also known as the author of *The Third Plate* – a bestselling book which explores ‘an integrated system of vegetable, cereal and livestock production that is dictated by what we choose to cook for dinner’. I was fortunate to spend time with the whole team at Stone Barns whose mission is to catalyse ecological food culture. Their work extends from researching the best varieties for flavour through to educating those who visit the Center to better understand the intersect between good farming and good food. Tours of the farm are led by chefs rather than farmers who explain why the produce farmed in an environmentally and socially conscious way make a difference to their kitchen. It is a novel way of engaging the ‘foody’ consumer and offered a very different

perspective. Indeed, eating at Blue Hill at Stone Barns was surprising because, for example, one course served was just radishes, raw from the greenhouse. Other than washing them, they had not been prepared by the chef because it was felt that the radish themselves were perfect as they were.



Chefs and cooks play a critical role in educating the consumer and so the work at Stone Barns is valuable. They believe in working with other chefs to help educate the hospitality industry as well as the public to ensure that fresh, local, seasonal flavoursome produce is at the heart of the food movement. Yet, despite the work at Stone Barns, produce grown in an ecologically conscious way does not always taste better and it is not yet proven to be nutritionally superior, either. Flavour is not universally accessible – that is to say that those on lower incomes cannot afford to eat in places such as Stone Barns and they have to rely on what they can afford from the supermarket. Typically, varieties of fresh produce grown on an industrial scale are selected for their yield and ease of growing rather than their flavour or nutrient content. But this could be a missed opportunity.

During my travels I also had the chance to discuss this with Dr Jess Fanzo, Bloomberg Distinguished Professor of Global Food and Agricultural Policy and Ethics at Johns Hopkins University in Baltimore. Dr Fanzo highlighted that although it is ideal for produce to be grown in a sustainable way, consideration must be given to what has happened to get it to the point of consumption – for example, it may be highly processed or have to be packaged in less sustainable packaging. But, more importantly, consideration needs to be given to ensure that everyone, regardless of income, can access healthy food. In addition, Dr Fanzo and I also discussed what is considered healthy food. For example, there has been a surge in the development of alternative proteins to satisfy those who choose to consume less meat for a variety of reasons, yet some of these foods are more processed than animal-sourced foods which should also be considered from a human health perspective.

Chapter Summary:

- Consumers of corporate brands have to place their trust in on-pack labelling to determine whether a product has appropriate credentials and therefore whether to purchase a product or not.
- Consumers will select products based on the benefit to them first and foremost and to the environment as a secondary stage which may intensify a purchase decision.
- Consumers are, therefore, often bombarded with marketing messages which can make it difficult to understand which product is the best for the environment.
- Other factors such as flavour and health benefits of sustainably produced products may provide opportunities for future products.

The next chapter discusses the various points that have been explored throughout this report.



Chapter 8: Discussion

Given that my study tour was conducted in the USA, not all the findings are directly comparable to the UK. This largely relates to policy and in particular policy surrounding organic standards which differ from those adopted in the UK and Europe. Indeed, some of the USA standards around organic would not be acceptable to the UK, for example the ability to grow organic produce hydroponically (ie not grown in soil). Whilst the acceptance of this in the USA has allowed large scale fresh produce growers such as Driscolls to sell their produce labelled as organic, and therefore at an organic premium, this has upset more traditional organic growers who feel that the power of such a corporate business has diluted organic standards. In the UK and Europe standards are based on the International Federation of Organic Agriculture Movements (IFOAM) principles which are more closely managed to prevent the influence of corporate business.

Yet despite this difference in approach, and apparent flexibility of standards, the amount of organic farmland on both sides of the Atlantic remains resolutely static at 1-2% of all agricultural land. The recent popularity of regenerative farming systems offers a different route to environmental sustainability of agriculture which promises to cover a much larger acreage.

During my scholarship many of my discussions debated the relative merits of organic and regenerative farming systems. Organic has a stronger recognition by the consumer and also attracts a market premium, whereas regenerative seems to have more widespread appeal to the farming community. Yet many of these discussions concluded that what was right for one farmer was not necessarily right for the next, which is because no two farms, farming systems or businesses are exactly the same. There may well be trade-offs that are accepted by some and not others and that may depend upon the pressures that that individual business is under. Therefore, rather than seeking to set an absolute target such as '100% organic' or a reductionist target such as '25% less pesticides', it would be more productive to focus on what it is that the farmer is being directed to achieve, such as soil health. By focusing on a broad outcome of improving soil health this accepts that there may be many routes to achieve it, whether by pursuing organic or regenerative practices. This therefore stops the potentially divisive debate that one is better than the other, or that they are mutually exclusive.

Of particular relevance to the discussion was the economic risk posed by transitioning to environmentally sustainable farming systems. History has shown that there is usually an expectation that farmers have to carry this risk, rather than it being shared throughout the supply chain. This is largely due to the relative power throughout the supply chain, which predominantly sits with the brand owner/retailer. However, if a corporate business genuinely wants to engage their supply chain in driving change to a more environmentally sustainable agricultural system, then they need to recognise that they have the power to help by identifying and mitigating this risk.



Chapter 9: Conclusions

How can corporate business facilitate agricultural transition?

- Consumer marketing messages should be a secondary consideration
- One size doesn't fit all
- Farmers should have the freedom to achieve outcomes in their own way
- Risk and reward should be shared
- Partnerships with independents can offer win-win



Chapter 10: After my Study Tour

My scholarship research has been instrumental in my career since returning from my travels. My improved understanding of the potential for relationship-building between corporate business and independent research organisations has proved valuable not only in my work with the Organic Research Centre but also in my role running the Agricolgy Advisory Group and administering Agricolgy.

Agricolgy is an information hub that seeks to share both research and practical experience with farmers across the agricultural community so that they are provided with a 'one-stop-shop' of information and resources in order to explore different sustainable practices on farm. Information is shared from a collaboration of more than 40 different organisations. It is a well-recognised resource amongst the organic and regenerative farming community with many farmers sharing their experiences through farmer profiles or at events.

Both the Organic Research Centre and Agricolgy have the potential to provide services and credentials to the corporate sector. Having learned from the examples found in the USA, particularly from Rodale, I am keen to explore funding opportunities for both from corporate backers. Providing that corporate partners can recognise the value and benefit of working together to achieve similar missions, then there is the opportunity for our expertise to produce more fantastic resources in an efficient way that will deliver for the greater good of the environment.

Furthermore, my scholarship has also helped me to broaden my horizons and business networks and I am still frequently in touch with many of those that I met in the USA and am also exploring ways in which my team may also benefit from these connections through exchange programmes and/or scholarships.



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Finally, I would like to thank all of my family and friends for their continued love and support – I wouldn't be the person that I am without them.



Appendix A: ESG Metrics

Environment Pillar				Social Pillar				Governance Pillar	
Climate Change	Natural Capital	Pollution & Waste	Env. Opportunities	Human Capital	Product Liability	Stakeholder Opposition	Social Opportunities	Corporate Governance	Corporate Behavior
Carbon Emissions	Water Stress	Toxic Emissions & Waste	Opportunities in Clean Tech	Labor Management	Product Safety & Quality	Controversial Sourcing	Access to Communication	Board	Business Ethics
Product Carbon Footprint	Biodiversity & Land Use	Packaging Material & Waste	Opportunities in Green Building	Health & Safety	Chemical Safety		Access to Finance	Pay	Anti-Competitive Practices
Financing Environmental Impact	Raw Material Sourcing	Electronic Waste	Opportunities in Renewable Energy	Human Capital Development	Financial Product Safety		Access to Health Care	Ownership	Corruption & Instability
Climate Change Vulnerability				Supply Chain Labor Standards	Privacy & Data Security		Opportunities in Nutrition & Health	Accounting	Financial System Instability
					Responsible Investment				Tax Transparency
					Insuring Health & Demographic Risk				

SOURCE: MSCI ESG Research LLC.



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