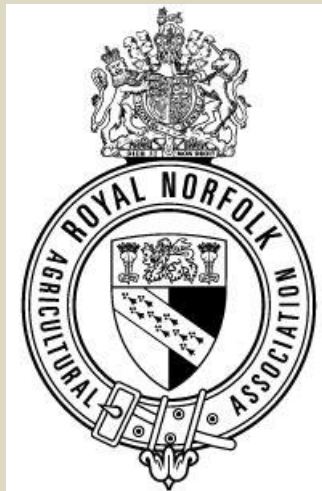




**A Nuffield Farming
Scholarships Trust Report**

Award sponsored by

Royal Norfolk Agricultural Association



**Breaking the Silos:
Global Best Practice in Agricultural
Policy Design**

Emily Norton

July 2019

NUFFIELD UK

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A Nuffield (UK) Farming Scholarships Trust Report

Date of report: July 2019



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

Title	Breaking the Silos: Global Best Practice in Agricultural Policy Design
Scholar	Emily Norton
Sponsor	Royal Norfolk Agricultural Association
Objectives of Study Tour	To investigate the macro- and micro-policy environments supporting global farming businesses and how forms of business support other than subsidy (such as taxation, investment, procurement, competition law etc) could provide a beneficial and secure trading environment for UK farm business.
Countries Visited	Netherlands (CSC), Oman, Taiwan, Hong Kong, Canada, Cuba, Isle of Man.
Messages	<ol style="list-style-type: none"> 1. Don't let the tail wag the dog in policy creation - the first step is to define a clear policy hierarchy based on trade, environment and food security (both quality and quantity), then use this to define a budget and intervention for agricultural support. 2. Farm businesses are as much influenced by the micro-economic trading environment as they are the macro-economic framework. Policy makers need to understand the mechanics of these drivers and their cross-departmental sources in seeking behavioural change. 3. Future agricultural policy in the UK appears to be changing the balance of risk and responsibility in farming, moving away from market intervention and income protection, and towards environmental protection and climate adaptation. Supply chains need to adjust to this as much as farmers do. 4. Production efficiency will continue to dominate the economics of food production, not least because it offers simple metrics when it is very hard to measure sustainability. Natural Capital Accounting may help rebalance economic thinking towards environmental reinvestment, but to do so it needs to be used in supply chains as much as in production systems. 5. Without intervention in our fundamental economic system, the twin drivers of efficiency and technology will continue to separate food production from natural resources. This may be exacerbated by net-zero policies in food production and land use, which may further undermine the viability of traditional mixed farming systems. 6. To avoid exporting production to third countries whilst driving a rising climate and biodiversity baseline on land use, Government should seek to regulate supply chains via a Modern Food Act, akin to the Modern Slavery Act but for food, to ensure that all UK consumed food meets implicit and explicit UK food production standards.

EXECUTIVE SUMMARY

We face a time of great uncertainty but also opportunity for UK land management. Debate in the UK is focusing on a new post-hoc justification for a budgetary transfer from taxpayers to land managers through environmental investment or climate mitigation. My travel insight is that agricultural policy only exists as a function of higher policy priorities. This does not mean that it is not necessary to invest in agriculture, simply that the value of the investment is dictated by the extraneous and broader factors surrounding agricultural businesses.

The broader economic rules in any country are the ones that really influence how farm businesses behave. These market organisation rules can be protective of farmers, or expose them to competition from imports or innovation. In the UK context, if current levels of protection were removed, farming would be forced to seek radical and transformational efficiencies. The difference between societal expectations of land use and the market reality created by national economic function creates the need and justification for agricultural policy investment. In this case, the budgetary need may be higher, or lower, than it is presently.

Risk and responsibility need to be allocated differently if Government wishes farming to be less reliant on subsidy.

The interaction between environmental policy and food policy is poor. This leads to tension and unconstructive debate over the organisation of food systems. Understanding the inherent contradictions in how farm businesses are judged is crucial, so that policy can be debated coherently and constructively. Government has a central role in managing this debate. As we move away from the CAP, I suggest that the agricultural industry must be open-minded if it is to embrace and evolve to meet the new expectations of social and political accountability.

A voluntary approach to protecting the environment in supply chains has been proven to be inadequate, as prevailing market organization rules do not require supply chain actors to deliver sustainability. Driven by the environmental and climate crisis, this expectation is changing, with corporates increasingly expected to adopt new practices. Natural capital accounting may be a useful tool in this, but it is limited by its incomplete allocation of property rights over natural assets. I don't consider full disclosure to be beneficial, but alternative standards in contractual food supply chain relations could help.

However, to drive real change in food systems, I propose that legislation will be necessary. Consider the way that the Modern Slavery Act 2015 works to require supply chains to verify that no human exploitation has occurred in their supply chains. A Modern Food Act could do the same for environmental reliance in supply chains. This would set out the hierarchy of principles under which food (and fibre and fuel) was sourced and produced for the UK and would ensure that no UK supply chain could undercut UK environmental protection standards by sourcing from uncertain or lower standard supply chains overseas.

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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.

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Nuffield Farming Scholars are available to speak to NFU Branches, Agricultural Discussion Groups and similar organisations



1. Introduction

1.1. 15 years ago, I studied for a Masters in Sustainable Agriculture at Harper Adams UC. It was the first time that I had taken the time to observe and understand the farming system that had evolved back at home: a family run mixed dairy and arable system not far north of Norwich. My grandfather Jack Norton bought the farm in 1947, and it is now a small, highly sustainable mixed farm, with high social and environmental value. Depending on the year, the whole business is more or less dependent on government subsidy. I wrote a business plan for one of my MSc modules, with a plan to diversify the dairy income stream using direct sales. This led to the creation of Nortons Dairy. We founded the on-farm dairy business in 2007 and I spent a lot of the next 10 years thinking about how to market our produce and trying to find messages that would resonate with consumers about our farm.

1.2. In 2014, I completed the Worshipful Company of Farmers Challenge of Rural Leadership course. It was this course which changed the direction of my life, allowing me to see the issues that were holding me back and offering me a means to do something about it. I took some pretty fundamental life decisions, which eventually lead to taking a second job off-farm providing agricultural policy advice to an MEP. It was this role that for the first time helped me to see the bigger picture of how the rules that surround our industry are influenced and defined, and also required me to think about agricultural policy from a 'blank piece of paper'. The job allowed me to spread my wings, intellectually and physically, and encouraged me to pursue future opportunities away from the family business. I am eternally grateful for the grounding that farming and my family have given me, and there is no acid test of a policy idea like explaining it to my father.





Chapter 2: Study Topic

2.1 As a farmer by birth and a lawyer by profession, I have always been interested in the regulatory framework around our industry. This blend of interests has meant that I have found it hard to sit comfortably in only one of these camps, but I think this has also given me an unusual and hopefully valuable perspective on our industry. As a result of my legal background, inevitably one of my roles at the farm was compliance, and the quantity of European derived regulatory form-filling that goes with it. I confess I had never paid much attention to the political process that went behind it all: the system was remote and bureaucratic. However, through the dairy business, I became more actively involved in the local food movement. I became aware of food politics and a wide range of voices claiming that the food system was 'broken'. This seemed to resonate with our own experience, where some sort of external uncontrollable force was making it extremely difficult for us to make a living from farming. I started thinking more actively about the links between farming, food and the rules that existed around us.

2.2 It was the Brexit referendum result itself that galvanised me to pursue the topic of integrated policy design further. Not only was there a once in a lifetime opportunity to influence agricultural policy at national level, I confess I felt an element of obligation to make sure that something better happened at a time of deep crisis and division with the UK. I defined my objective in this Nuffield study as looking at the ways in which governments used agricultural policy to incentivise farm level business performance, conscious that there was a link between the macro-level policies defining subsidy payments, and the micro-level issues that impacted the farm trading environment. My thesis was that integrating these different tools in national level policies would offer a better and more integrated approach to farm resilience than the CAP did. I set out to test this assumption by finding examples of countries that had control of their own domestic agricultural policy agendas and merited comparison to the UK.



Chapter 3: Where I went and why

3.1 There is a standard list of ‘famous’ agricultural policies that is well trodden and have recently been studied by Nuffield Scholars, including Switzerland, Norway, Japan, the US and China¹. The OECD also has a good amount of top level agricultural policy insights for its member countries². English-speaking and Commonwealth countries are relatively easy to research online, so despite numerous recommendations to go to Australia and New Zealand in particular, I did not think they would be as interesting to me. New Zealand is a repeated source of inspiration for managing the transition away from subsidies, and both Australia and New Zealand advocate free trade – something that resonates with the current messaging around the UK’s future system. However, both also employ very high biosecurity standards inhibiting imports, have high exposure to agriculture as a percentage of the economy, and use currency controls to facilitate exports. The transition is perhaps relevant but the other trade and economic conditions less so. Where these examples are relevant, I have mentioned them; but personally I chose to learn from the less well known but perhaps more geo-politically similar to the UK.

3.2 Given the political background to this study and its timing, it has been inevitable that I have spent a significant amount of time looking at what has been happening in the UK in terms of agricultural policy evolution. I am very grateful for the support of my employers, Savills UK Limited, for their generosity and encouragement in allowing me to engage in this topic and for giving me a platform to discuss my thoughts and findings.

3.3 **So, what is the UK? Fundamentally, it is a small crowded island with high environmental ideals and complicated food relations with its neighbours.**

3.4 This definition helped me narrow down a list of target countries that met those criteria: geographically small and with high population density, and with a dominant geo-political neighbour. Following leads and invitations, **I planned to visit the Isle of Man, Taiwan, Hong Kong, Cuba, Oman, Canada, and also the Netherlands through the CSC.** The intention was to cover a broad spectrum of social, political and cultural settings in order to understand the mechanisms by which agricultural policy exists and is delivered. In each country, I hoped to spend time with businesses to understand the context and delivery mechanism of domestic agricultural policy, as well as many agricultural policymakers, academics and influencers as I could access. The country details are set out in Appendix 1.

¹ <https://nuffieldinternational.org/live/Report/UK/2017/jonathan-baker>

² <http://www.oecd.org/agriculture/topics/agricultural-policy-monitoring-and-evaluation/>



Chapter 4: Why support agriculture?

4.1 I set out on my Nuffield journey assuming that I would find a series of individual policy interventions that best worked for incentivising farm business resilience whilst being conscious of the tension between the small business trading environment and fiscal tools used to assist farming. However, it is important to start from first principles and so the first crucial question in my study has to be ‘why?’³

Why should agriculture be supported at all?

4.2 If all forms of subsidy were taken away here in the UK, would the “right” outcomes happen in future business decision making around land use? For example, my home farming business believes that it does things because they are the right thing to do - bedding cattle on straw is a key example. It sustains the whole cycle of mixed dairy and arable farming, protects our soil and I believe enhances animal welfare. Yet it’s also expensive and time consuming, and cows would be fine on sand in cubicles of course. If, in the future, we do not receive any subsidy that cushions our business and enables these ‘inefficiencies’ to be sustained, will we carry on this system of farming at all?

4.3 On the odd occasion when I had the opportunity to discuss this dilemma with politicians or economists, I have been disappointed in my own ability to articulate why farming shouldn’t be subject to the same efficient allocation of resource arguments that other industries are subjected to. Aren’t we just a factory adding value to a throughput of resources for a supply chain? Who cares if we reinvest in our resource base or just return a profit, extracting capital flows to sustain the value chain? We should be responsible for the long-term viability of our farm businesses just as any other business is required to be.

4.4 Supply chains are judged on output efficiency, where maximum output is achieved at the lowest internal cost. However, environmental systems are evaluated on a completely different basis (such as purity, diversity, endurance) and one that is much harder to judge in financial terms. Farms exist on the cusp of where the two systems interact, producing primary resources from environmental systems. I have spent a lot of time thinking about whether and how to protect our farming system from the ravages of ‘conventional economics’. The economic logic is that we would only ever act to sustain our capital base, including soil, because if we didn’t, we wouldn’t have a business at all. But if the cost of this is not reflected in market prices, then it becomes unviable to continue economic activity. The reality is that farms carry a lot of inefficiency that can only be justified for its social and environmental value, and this is sustained through government intervention.

4.5 The challenge to this argument is the plea from developed agricultural economies, in Australia and New Zealand in particular, that agricultural subsidies should be phased out. Their argument goes that without government intervention, farmers can become ‘more productive and more influential’⁴. There are two points to note here. The first is that I don’t believe it to be true that antipodean farming is truly unsupported: the orientation of both economies is predicated on using geographical and

³ <https://simonsinek.com/about/simon-sinek>

⁴ https://dfat.gov.au/geo/europe/european-union/Documents/advancing_agriculture.pdf



sanitary and phytosanitary barriers to imports, the value of which is hard to judge⁵. Market research and development and currency measures are also used to facilitate agricultural exports. New Zealand indeed produces enough food for 40 million people, with a population of only 4.6 million⁶. Without a policy of facilitating exports, its domestic market would collapse through vast over-supply. Second, there is a big difference between policies that influence agricultural markets, and policies that influence the macro-economic conditions that impact on agriculture.

4.6 The economy of the UK is vastly different to that in either New Zealand or Australia. We may draw better insights from free-trading, financial services dominated Hong Kong. What I saw there made it clear that true economic liberalization, simply allowing market forces to guide land use decisions, does not produce socially or environmentally beneficial forms of land use. I travelled in Hong Kong because in my desk research I discovered that it had only very recently, in 2015, reintroduced an agricultural policy after 30 years without one. This was intended to seek to rectify some of the issues that occurred from trade liberalisation to support its financial services industry but without protecting land use. This resulted in around 85% of farmland being abandoned.

4.7 Unused agricultural land in Hong Kong tends to have been abandoned if inaccessible, or used for storage if near a main road. The Hong Kong authorities lost a planning case on temporary storage on agricultural land, with the consequence that the majority of land close to road access is now used for a variety of 'temporary' forms of storage. Despite this, Hong Kong has sustained an agricultural research station and addressing the environmental blight caused through a lack of agricultural policy has become a priority. Dr Jonathan Chen of Hong Kong University, who was responsible for drafting the new policy, advocated that encouraging land use for agricultural purposes was the best form of environmental protection between wild spaces and urban ones, whilst meeting the higher policy goals of trade liberalization and food security. The inclusion of a target for domestic food production is a critical element of the new Hong Kong policy.

Agricultural policy is the product of other policies

4.8 The CAP is seen as a distinct and discrete set of policy measures based around the Basic Payment Scheme. The key insight of my travels has been to see agricultural policy as a product and a consequence of other higher policy decisions. Agricultural policy can in fact only be understood as a product of three other policy areas: namely trade, environment, and food security (in its complete sense of quality, quantity and affordability of food available). Whereas micro-economic factors impact on how farm businesses exist and operate at domestic scale, the macro-economic context plays a crucial role in shaping the competitive environment in which these businesses have to exist.

4.9 Relatively low barriers to trade, high environmental protection and a libertarian approach to food security creates the need for an agricultural policy that has to prevent or address land abandonment or conversion to higher value uses (through planning gain) whilst incentivising environmental outcomes. For an example of where this has gone wrong, we could look to Hong Kong. In comparison, high barriers to import, relatively lower environmental protection standards and a strong

⁵ https://cebra.unimelb.edu.au/_data/assets/pdf_file/0006/2791770/CEBRA-Project-1607A-Year-1-FINAL-Report.pdf

⁶ <https://www.dailysignal.com/2016/09/22/what-happened-when-new-zealand-got-rid-of-government-subsidies-for-farmers/>



food agenda creates an agricultural policy that incentivises domestic food production to ensure availability or encourage export potential, such as in New Zealand.

4.10 The impact of high barriers to import and strong domestic food production policies can be seen at both ends of the global agricultural policy extremes. In Switzerland for example: with the highest level of producer support in the world in order to sustain agriculture in its mountainous terrain, Swiss policy focusses on tariff protection and market price support⁷ with only a recent shift to environmental conditionality. In comparison, and at the other end of the producer support scale, Australia focus on non-tariff measures like biosecurity standards⁸ as well as resource and risk management activities⁹ with an export focused economy. In both cases, the budget and mechanisms for the policy is set according to the need created by the higher policy priorities of trade, environment and food.

4.11 There is no standard setting for these policy drivers – each country makes its own cultural and geo-political assumptions about land use, environmental protection, and social and market organisation. The advantage of realising this is understanding that in order to address the failures of a given policy, a clear distinction can be drawn between policies that tackle the symptoms of these rules and those that address the causes. Furthermore, I believe that accepting that these higher policies have priority helps farming understand what type of intervention and support it is legitimately allowed to request.

4.12 Ensuring that all land contributes in some way to broader economic outcomes is implicit in delivering land use policy. Even a rewilding agenda implies a form of active management and socioeconomic benefit in delivering ecotourism ventures¹⁰. In all cases, some form of policy intervention is needed to prevent land abandonment and to contribute to those broader economic goals, with the amount of intervention needed dictated by those higher macro-economic policy spheres. The ‘why’ becomes the existential balance between the productive limitations of environmental policy and the social expectations of resource availability.

4.13 In The Isle of Man, this was described to me in a wonderfully simple way: the key justification for agricultural support on the Island is maintaining a functioning and beautiful space that attracts the workers needed to contribute to higher policy priority of keeping the island as a viable place to live. Oman articulated a similar ideology: agriculture is supported in a way so that rural spaces meets the needs of urban dwellers. As well as understanding the justification for the policy budget, formulating the terms of a ‘social contract’ between UK farmers and UK taxpayers in the context of UK land use will be crucial if we are to achieve a legitimate agricultural policy for the home nations.

⁷ https://read.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2018_agr_pol-2018-en#page187

⁸ <http://www.agriculture.gov.au/abares/research-topics/biosecurity/biosecurity-economics/farm-gate-value-biosecurity>

⁹ https://read.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2018_agr_pol-2018-en#page110

¹⁰ <https://labourlist.org/2019/09/lets-reach-net-zero-by-2030-without-exploiting-the-global-south/>



4.14 Undoubtedly, not all farming businesses operate on a level playing field. Those facing natural production constraints as a result of altitude, distance or topography could rarely expect to be as financially productive as a broad acre lowland arable enterprise. The role of Government includes social protection as well as taking economic decisions¹¹. For numerous social and environmental reasons, our more vulnerable producers currently receive a different level of protection (voluntary coupled support in Scotland for example). Enhanced protection for vulnerable socially and environmentally beneficial agriculture is not unique to the UK. Taiwan has a separate socially focused payment system for upland farmers, and even Cuba operates a separate payment scheme for new agro-ecological horticulture farms, taking just 20% of produce for use in state run enterprises, rather than 90-100%. I will come back to social resilience of farming below.

¹¹ <https://www.reference.com/government-politics/four-main-purposes-government-b6434dfd838c05a0>



Chapter 5: Understanding the UK policy context - Macro-economic

5.1 At the time of writing, the future macroeconomic dynamics are still too uncertain to create a fixed notion of agricultural policy for an independent UK. Based on various statements from the Conservative party, the current likely combination of policies could be a high level of environmental ambition, low or reducing global trade barriers, and a food policy based on quality and affordability. By understanding what the implications of these dynamics might be as they fall into place, the type and amount of support that UK land use may need becomes clear. At the moment, it suggests that a high level of public investment is going to be needed sustain land use in the UK and prevent it being abandoned.

5.2 There is a large degree of uncertainty about what the broader trading environment is going to become for the UK, and food policy in England arguably is wholly a corollary of trade policy. (Scotland and Wales perhaps do better at promoting national food identities¹².) The reliance on trade has been the case for England ever since the British Empire was founded on trade in durable food as a result of a need to feed the Navy¹³. In many ways it is now intrinsic to our identity to source the finest ingredients and off-season produce from around the Globe; it is symbolic of both our old power and influence, and modern-day multiculturalism. The role of Henry Dimbleby's Food Strategy in defining a food policy for the UK for the first time in 70 years will be critical in defining and managing the competing expectations around food affordability, availability, provenance and quality.

5.3 For the time being the UK has permitted a market dynamic that promotes consumer choice above all other interests. This includes environmental protectionism, which in an agricultural context has been left largely to the EU to regulate – and based on current indicators of environmental wellbeing, somewhat insufficiently so. Nonetheless, advocates of free trade argue that trade deals will be the best way to continue the pursuit of consumerism sourcing the cheapest produce from the most efficient sources globally. As I explain above, rather than using agriculture to argue against trade deals, I would propose that they actually create a stronger argument for investment in UK agriculture. UK farmers deliver substantially more than traded food products alone – expecting social and environmental investment from returns from globally set prices on traded goods in a UK regulatory context is non-sensical.

¹² See <https://www.scotland.org/about-scotland/food-and-drink> and <https://businesswales.gov.wales/foodanddrink/about-us/action-plan>

¹³ <https://www.amazon.co.uk/Taste-Empire-Britains-Shaped-Modern/dp/0465056660>



Chapter 6. Understanding the UK policy context - Micro-economic

Under this heading I consider the role that supply chains, land tenure and fiscal measures have on farm business viability nationally and globally.

6.1 Supply Chains

6.1.1 The influence of supply chains is perhaps the most controversial topic of modern day food politics. Looked at in isolation, food chains and how they link together in food systems is an immensely complex issue. Acknowledging this, in 2018, Michael Gove announced a new Food Strategy and appointed Henry Dimbleby, founder of the Leon restaurant chain, to lead the inquiry. Gove wrote to the EFRA Committee in October 2018 to set out the vision for the Strategy, *“to create an overarching, integrated food strategy for government. [The] intention is to ensure that our food system delivers healthy and affordable food for all people; restores and enhances the environment for the next generation; is robust in the face of future challenges and is built upon a resilient and sustainable agriculture sector”*. This is beginning to sound like a policy hierarchy for the UK, around which the rules of the food system might evolve, and one in which the food system takes more responsibility for environmental protection too. The Food Strategy Review was officially launched on 27 June 2019¹⁴.

6.1.2 Traditionally, the EU has supported farming through market intervention in the production of food. The English government has now confirmed that it wishes to pay farmers to deliver ‘public goods’ only, leaving the market to pay for private goods such as food. This will be a major ideological shift from the CAP, where the viability of farmers is primarily a European Union concern, not a supply chain concern, both in terms of income and in terms of capital investment. For the supported sectors of the UK agriculture industry, the CAP is a £3bn a year safety net that is transferred in value terms into underwriting the external and internal costs of food production. For some, including those in agricultural supply chains implicitly dependent on the current annual liquidity injection from Brussels, the change in policy may be a seismic shift that they do not survive. All elements of the agricultural supply and support industry need to adjust to the change in policy focus if they wish to progress through the transition period.

6.1.3 But the change in focus of policy investment is not the only element of the Agriculture Bill. There are also new powers proposed in s24-28 of the Bill seeking to change supply chain disclosure obligations and contractual relations. Supply chain relations in agriculture has been a topic of EU debate for several years, but I have always been cynical about disclosure obligations: as much as information and benchmarking can be valuable in setting a ‘fair’ price, it does not correct a fundamental imbalance in power between supply chain actors. Indeed, it may help more powerful actors to simply extract more value from producers.

6.1.4 In Oman, I visited a cooperative pack house and horticulture farm and spent time trying to understand the supply chain relations that governed the cooperative and its export markets, which

¹⁴ <https://www.gov.uk/government/publications/developing-a-national-food-strategy-independent-review-2019>



were largely to extremely high value uses in Japan. The farmers worked through a cooperative and an agent, who provided them with the export protocols and prices. The farmers then took it in turns to schedule time and staffing resources in the packhouse to meet the contract specification. The most interesting point that really puzzled me though was that there was simply no complaint that the supply chain and export arrangements were not working in the farmers' best interests.

6.1.5 Based on the principle of the “parity of fair exchange”, businesses in Oman are expected to act with due regard to the interests of other actors, and only if it can be proved to be so will the contract be enforceable under Islamic law. The principle of mutuality means that each party to a contract has to come with full disclosure, fair exchange of information and for the agreement to be of mutual benefit to both contracting parties to be enforceable. Furthermore, market concentration is resisted and suggests that a minimum number of actors is required to limit abuse of power. Under the Omani system, asymmetry in risk, contract terms or profit are de facto unenforceable and effectively an abuse of a dominant negotiating position.

6.1.6 What would be the outcome if these same contractual disclosure principles were adopted into UK food supply chain law? It would perhaps offer a much more simple mechanism by which fairness could be enforced, compared to the extensive and prescriptive information disclosure mechanisms in both the new Unfair Trading Practices directive and s24-28 of the Agriculture Bill. Rather than fairness being a matter of public concern and regulation, fairness becomes a private matter enforceable through a court of law.

6.1.7 Contractual fairness does not address the other chronic issue in UK food systems, being the over-production/over-consumption food waste paradigm¹⁵. In Cuba, I saw how Socialism eliminates consumer choice through allocating resources ‘fairly’ across a population, removing innovation and private enterprise in the process. Extreme market regulation is a logical, if unpalatable, conclusion to the ‘fair allocation of resources’ economic challenge. Being in a country with no consumer economy, no branding and little private sector activity is quite disorientating for anglicised eyes. In Cuba, agricultural policy is focused on allocating land rights through state ownership, with ‘rent’ paid for through compulsory purchase of produce at a basic market rate. The State looked to incentivize different forms of farming through altering the percentage of produce that it acquired, enabling low-key forms of private enterprise to sell the balance at a premium.

6.1.8 Cuba was celebrating 60 years of its agricultural revolution when I visited, but it was not entirely clear that the policy or social market organisation system was a success. The burgeoning organic and ecological horticulture movement is almost an anomaly, forced on Cuba by the US blockade but entirely vulnerable to liberalisation of any trade, highlighting the vulnerability of any ideology which defines itself as being ‘against’ something. Cuba was also trying to re-orientate itself to urban food production systems in order to bring fresh produce closer to consumers and to the people with the right skills to take on the challenge of agro-ecological production. Across the country though, there was noticeably minimal waste, and a highly functioning domestic waste processing system through pigs, chickens and dogs. Inevitably, the human and financial costs of sustaining Communism are considerable.

¹⁵ See e.g. <https://olioex.com/food-waste/the-problem-of-food-waste/>



6.2 Land Tenure

6.2.1 My understanding of nuances of land ownership in the both England and Scotland has dramatically increased as a result of my role as Head of Rural Research at Savills, with the interaction between land ownership, agricultural policy and planning being a particular area of interest to me. I come back below to the role that natural capital and a rising environmental baseline may have on land ownership, as opposed to agricultural policies focused on land management.

6.2.2 The influence that planning policy has on land usage is of course critical in a UK context, but not just in the sense of planning gain. Increasingly, urban dwellers expect more for their taxpayer investment in rural land management. I attended a fascinating discussion at Kings College London called 'Can we grow food on the Green Belt?'. Amongst the land reform campaigners present at the talk, there was a particular objection to growing 'rapeseed in Romford'. If urban dwellers have to suffer the consequences of a restrictive planning policy that increases house prices, so the argument was that there should be a balance in a positive obligation in how the green belt should be farmed in order to benefit those travelling to access that green space. Industrial crops such as OSR would be discouraged, and organic, open-access systems favoured. A home nation agricultural policy that integrated land use decisions to take account of local social and environmental priorities could be inevitable and beneficial to balance interest groups.

6.2.3 I would argue that for these reasons it is very necessary to have a clear policy hierarchy that takes competition over land use into account. There was a good example of this in Alberta, Canada in their Land Use Management Plan, which required a Regional Agricultural Management Plan. Acknowledging that good quality farmland is a precious resource and that growth of city spaces is inevitable under current economic wellbeing indicators, the plan created a zoning system for planning decisions that created a bias towards building 'up' before building 'out'. A key decision in creating ¹⁶a similar system for the UK is not only defining the land use hierarchy, but also the authorities who would be responsible for delivering it. Bringing together all of the stakeholder groups to agree policy priorities for land use will be necessary – Wales has a good model in the Wellbeing of Future Generations Act, and the RAMP system in Alberta also had its advantages in zoning and organizing access to land.

6.3 Fiscal measures

6.3.1 Fiscal measures to support agriculture can take the form of income subsidies, capital investments or taxation measures. Commentary on agricultural policy most frequently focusses on the direct support elements, as these are perceived to be the most distorting. Globally, the OECD estimates that 80% of the support given to agriculture is in the form of direct payments¹⁷. At the outset of my travel, I perhaps was looking for a set of policy measures that justified and made the most of these direct transfers. As I've described above, understanding the broader policy context creates the value of support **that is required in order to meet the need to keep land in active management**. However, the whole purpose of this study is in order to understand that there are other means through which farming can be supported

¹⁶ <http://emrb.ca/ramp/>

¹⁷ https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation_22217371



that do not require direct subsidy payments.

6.3.2 I witnessed a great number of less than ideal capital investment schemes during my travels, all of which were intended to improve agricultural productivity in some form. In Taiwan, the Government wanted to attract graduates into the industry, so students could qualify for a free university degree if they then worked in agriculture for 5 years afterwards. My hosts explained that there were a lot of younger people coming into the industry through this scheme, but not many staying after their time was up.

6.3.3 In Oman, the entire economic push was to move the country away from oil dependency: exploiting the genetic resources of Omani agriculture was a central element of this. Productivity measures can tend towards the interventionist, however. For example, there was an ongoing drive to make the country more self-sufficient in dairy produce. In order to raise productivity, Omani farmers were given a free bull in order to help improve their dairy genetics. The farms I visited weren't thrilled about this - they didn't like handling the bull and simply preferred their goats. And of course, the real issues were access to quality nutrition for the cows, and a complete lack of infrastructure in dairy processing facilities. But a free bull was easier to deliver it seems.

6.3.4 It is worth noting that in the UK, the Agriculture Bill has announced a transition phase away from direct payments to a system of 'public money for public goods', which clearly implies that fiscal transfers from taxpayers to land managers are expected. Of the countries I visited, Hong Kong expressly refused to provide direct payments to farmers due to their market distorting nature, however it has allocated HK\$500mn (about £50m) to a sustainable agriculture development fund, intended to *"designed to support practical, application-oriented projects, schemes or research work that would help farmers enhance their productivity and output, as well as contribute to fostering the sustainable development and enhancing the overall competitiveness of the agricultural industry"*¹⁸.

A future role for natural capital accounting

6.3.5 The UK's draft Environment Bill 2019 introduced the need and mechanism for substantial capital investment in UK environmental wellbeing, and the policy statement accompanying it suggests that this will be based on natural capital **accounting (NCA)**. At its simplest, NCA simply introduces a new class of asset into conventional accounting principles on the balance sheet of both trading businesses and the country as a whole. At its most complicated, it allows the quantification of the services derived from natural capital assets, so that the cost of providing services from those assets can be properly accounted for in the use of those assets. As such, it might become a mechanism through which supply chains can be held to account for the unpriced external costs of their supply chain sourcing decisions, driving demand for more sustainable production. The whole area merits a great deal of study to understand how NCA may influence land use policy.

6.3.6 The policy principles set out in the Environment Bill also include the Polluter Pays principle, which introduces the possibility for national taxation measures to be used to enforce and police a new

¹⁸ https://www.afcd.gov.hk/english/agriculture/sadf/sadf_aim.html



environmental baseline on land use. Given the need for major capital investment in achieving an improvement (or halting a continued decline) in most environmental indicators, I suspect that this sort of penalty will only be introduced piecemeal and over time in order to drive behavioural change. A tax on nitrogen fertilizer usage could be an early example.

6.3.7 The most frustrating element of considering the linkages between agricultural viability and taxation measures is ‘to be careful what you wish for’. I have seen first-hand how inheritance tax laws discourage retirement of older generations from farm businesses, despite numerous complaints about the average age of farmers increasing and the need for a new range of technological skills to meet the next generation of productivity and marketing challenges. It is also worth observing that capital allowances drive the machinery trade at the expense of other capital investments, particularly natural capital. And the current tenancy reform consultation in England is failing to take into account taxation laws, even though arguably in many cases tenancy structures are constructed for their tax exemption properties. Ireland has recently created a whole tenancy sector through taxation exemptions. If tenancy reforms are to be achieved, Treasury and Defra working together to achieve reform seems logical.

6.3.8 Changing taxation rules to drive better productivity outcomes of course could be ‘out of the frying pan and into the fire’. Fiscal incentives can be aimed at improving resilience in farming, and there also is a fundamental need to keep land in occupation to meet broader economic goals. Even concepts such as re-wilding do not imply land abandonment. Personally, I don’t believe that we should be afraid of tackling the inherent limitations of taxation policy if these are acting as a productive drag on farming. Protection from death duties is important for the inter-generational transfer of farms, but finding a better way to encourage a transfer of farm business management away from older generations might be preferable.

6.3.9 If new accounting rules require investment in natural resources as much as built and manufactured resources to prove business viability, I would argue that flexibility needs to be built into the social resources of agriculture, namely farmers’ income. Farmers are used to taking more or less from their businesses depending on the season and market fluctuation, and I believe that supporting them to do so is crucial. This could be done through the social welfare system, perhaps as a farmers’ tax credit or guaranteed minimum income for farmers, which would enable environmentally beneficial outcomes without undermining the social capital of vulnerable farming systems. The income support elements of the CAP have some merit in this regard and it is crucial that social protection is retained in some form within the UK system¹⁹.

¹⁹ Although see Prof Alan Matthews on why this means the number of farmers must continue to decline: <http://capreform.eu/why-farm-numbers-must-continue-to-fall/>



Chapter 7: How to engage in agricultural policy design

Where we are now

7.1 There is a huge difference between the circumstances prevailing at the time the CAP was created and today. Arguably the CAP's focus on supporting rural areas through food production has been very successful, with the EU now a net exporter of food. However, the other side of this policy paradigm is that in order to maintain the need for the huge EU farm policy budget, an ongoing justification for the policy is required. Various post-hoc justifications have emerged as the CAP has evolved under a variety of external and internal reform pressures²⁰, but it remains a fixed budget policy with a target annual spend. The budgetary scope for the EU to react to market 'crises' is pre-determined under the Multi-annual Financial Framework (MFF). But in my time working with an MEP in the Agriculture Committee, it became clear that the poor profitability of farmers remains a key lobbying motivator, but a near continuous state of 'crisis' is utilized partly to maintain justification for the policy commitment²¹.

7.2 As negotiations for the new budget period continue at the time of writing, there is a major call to re-orientate EU budgets to issues that matter most to EU citizens, particularly migration and internal security. Maintaining the state of 'crisis' in EU farming keeps the political motivation for financing the CAP alive. Undoubtedly, Brexit itself will provide convenient political capital for maintaining a crisis in European farming for the forthcoming years, as shown by the euro100m compensation fund already received by Irish beef farmers²².

Where might UK agricultural policy go?

7.3 The key question is of course how the UK industry will engage in agricultural policy design going forwards. The UK has not been very good at the collective action that predominates in other European agricultural economies, particularly France. Leaving the CAP means the loss of the collective pressure of many countries acting together on agricultural policy topics. Senior UK politicians suggest that alliances with environmental NGOs might be beneficial, in order to create widespread support for ongoing taxpayer investment in land management. For many in the industry, this will strike a note of fear.

7.4 On my travels, I saw how leaders have a particular role in challenging the status quo and influencing the policy landscape. Professor Chen in Hong Kong and Cllr Aaron Paquette in Canada would both fall into this category. Audrey Chet, the Taiwanese Digital minister, would be another. The Taiwanese have a novel process of inclusive policy design that very much starts with the users and the citizens who will be engaged in the policy rather than seeing them as a much later relevance in the

²⁰ See Matthews at

[http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2016\)585879](http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2016)585879) for a comprehensive study of how the EU's external actions have driven internal CAP reform

²¹ The French interestingly have begun to tackle this by demanding that supply chains pay farmers fairly; one could argue that being paid 'fairly' and deserving income support is contradictory <https://www.reuters.com/article/us-france-politics-food/french-farmers-retailers-sign-fair-price-agreement-for-produce-idUSKBN1DE2J7>

²² <https://www.fwi.co.uk/news/eu-referendum/irish-beef-producers-in-line-for-86m-brexit-compensation>



regulation process. The role of Government in Taiwan was to define the rules of engagement and discussion, and that the arbitrator role is necessary in a positive discussion that produces agreement, not further dispute. The Taiwanese experience of implementing this alternative policy design process was reported to be largely positive.

7.5 The problem is that there is yet no clear idea of the broader societal and macroeconomic frameworks that will be shaping the UK as an independent country or continuing member of the EU. Stepping up into that space with a coherent argument for support as an industry is critical if the opportunity to revolutionise land use for long term success is not missed. There is, therefore, the continuing issue of how to discuss agricultural issues with non-agricultural decision makers, and how this is established and maintained. There will undoubtedly continue to be multiple urban versus rural, environmental and food system reasons to disagree. Isolating the issues on which there is disagreement, therefore, is the challenge, and the role of government should be to create the rules in which this debate can occur. If government cannot do this due to other political concerns, then there is a need for a cross-sector forum to do the same.

7.6 My personal experience of this is the need to align messaging with familiar narratives, to create stories that resonate with voters. There are, in theory, only seven basic plot lines to all stories ever, as Christopher Booker explains in his book of the same name²³. I believe that if political messaging (or marketing messaging) is consistent with these, the idea will resonate more readily with the target audience. The organic and vegan lobby rely on the basic plot of ‘overcoming the monster’ in attacking a form of corporate agriculture that is motivated only by profit. Greta Thunberg is particularly effective in conveying her message around climate change because she portrays a message of both tragedy (inducing guilt) as well as the ‘David v Goliath’ element of overcoming the monster. The UK farming lobbies have not always been consistent in choosing which form of messaging to use to create political goodwill.

7.7 In terms of agriculture, the key tension that arises repeatedly is between the way that food supply chains are judged, which tends to be linear and requires constant efficiency and productivity improvements, and the way that environmental systems are judged, which is very much circular, based on leaving surplus and space for nature, and the sharing of resources for biodiversity, society and broader wellbeing. Farm business performance is evaluated using metrics such as Total Factor Productivity (TFP), yet increasingly farming is criticised for its environmental impact in a way that directly contradicts TFP as a driving measure of food production. The logical conclusion of efficiency as a factor of production is the exclusion of all climatic variables, and the reduction of the factors of existence down to the bare minimum needed for survival. Again and again, society suggests that the quest for efficiency and environmental manipulation has gone too far.

7.8 I gave a talk on my Nuffield findings to a group of pig producers where one of the topics of conversation was activists using covert CCTV equipment on their farms. I asked whether they would be prepared to livestream CCTV from their farms, so ‘owning’ their own images and meaning that the activists didn’t have to break in and cause trauma to the animals in the process. Only one of the

²³ https://en.wikipedia.org/wiki/The_Seven_Basic_Plots



audience of 50 farmers was prepared to do this. Even the farmers were not proud of the system of production that had evolved to meet ‘consumer expectations’. So, why do these intensive production systems exist? This is not the fault of farming, but of the economic context that sucks power into the hands of the consumer and price-focused supply chains in the name of efficiency. We have taken pigs and poultry, animals that existed symbiotically with humans and consumed waste and byproducts that humans cannot eat, and super-charged their production through nutrition, breeding, medicine and technology, to achieve maximum yields – forgetting about the role that the produce from those animals originally played in our diets and in our existences, as well as ours in theirs.

7.9 In the context of the EU, food affordability is a key policy driver under the CAP, but there is a specific social well-being indicator that looks at the percentage of people who can afford protein in at least every second meal²⁴. There are of course two ways that this indicator can be achieved: first is improving citizens’ incomes, so that protein is more affordable. The second is reducing the cost of protein to start with. Given the broader need to demonstrate improvements in this policy indicator, and facing a choice between policy instruments, the ones that reduce the cost of food and improve productivity are the ones that will be selected. And so the ability to resist the march of efficiency as a driving force in protein production is undermined.

7.10 Free choice for consumers is underpinned by market organisation rules. So ‘free choice’ actually is the ability of consumers to access products in a way defined by government. At present UK and EU competition law acts only in the interests of consumers, prohibiting forms of market abuse that seek to control prices. This largely inhibits farmers from demanding a better farm gate price other than through the official competition law exemptions offered by the Producer Organisation rules²⁵.

7.11 Elsewhere in the world, market organisation is handled differently. I don’t believe that we need to go as far as Cuba to ration the availability of food resources to consumers. It might minimise waste and ensure the availability of nutritious food at a cheap price, but the restriction of choice would be too radical to be accepted here. However, I believe the simplicity of the market structure of Oman, which allows free choice with more equitable contractual and competition law controls, would allow food producers to privately manage their returns on their capital base from the whole supply chain, rather than simply the elements that elected to care voluntarily. Natural capital could form the basis of the farm level assessment to ensure that land use systems are sustainable, but without adequate profit from the supply chain (or subsidy), the extraction of value that is adversely affecting sustainability will continue.

7.12 In the UK context, market organisation rules help explain why the drive for productivity seems so at odds with the drive for sustainability. Pretty much every indicator of environmental wellbeing is showing a decline under the current system, but indicators that embody pure market forces drive out

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https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwjqg_6NnJHjAhWZiVwKHb1CBm0QFjAAegQIABAC&url=http%3A%2F%2Fec.europa.eu%2Fsocial%2FblobServlet%3FdocId%3D19228%26langId%3Den&usg=AOvVaw343PIZWLDA7iINUhBpc2R6 Note that this definition was amended in 2009 to include ‘vegetarian equivalents’.

²⁵ The draft Agriculture Bill suggests PO rights are extended to a wider range of product types, including cereals



anything that might be inefficient. In The Netherlands I saw how the Dutch have excelled at this type of farm productivity. Through generous capital investment both in farm infrastructure and cooperative marketing assistance, and also vast landscape scale environmental manipulation and land drainage, the Dutch can boast some of the highest levels of farm productivity in the world²⁶. (During the CSC, we heard how the Dutch policy of food security and food exports was partly a response to the ‘Hunger Winter’ during World War 2²⁷). Environmental limits are now finally acting as a constraint on output, but the scale of land drainage, intensification of production and soil sealing under glass is monumental already²⁸.

7.13 Conversely in Cuba, with a protected income and rights equal across society, and an absence of productivity tools in the modern sense, long-term sustainability was the only motivating factor behind land-use. In this system, an agro-ecological approach to soil fertility and pest control was the only option, and environmental manipulation extended no further than simple cultivation and terracing to minimise soil erosion.

Efficiency drives intensification

7.14 If TFP and keeping the cost of food low remain the primary underlying drivers of agricultural-food policy in the UK, then factory farming of plants and animals is the only efficient economic outcome. In some ways, these outcomes could be consistent with the climate driven land use and environmental policy. One of the most logical ways to reduce environmental impacts is to make production more efficient, reducing wastage of inputs and the pollution this can cause. In fact, tilling the soil at all could be seen as a negative environmental impact that could be avoided by intensive indoor production (notwithstanding that every building housing this production stands on what was once a field). By the same token, eliminating the animal as a factor of production seems a logical consequence, if a more efficient way to produce protein without an animal exists.

7.15 TFP is only an appropriate indicator of agricultural policy success if this industrialised outcome is expected and desired. What was a highly sustainable and symbiotic diet, with cattle eating grass and pigs and chickens eating waste and bi-products, has been supercharged through the forces of economic efficiency and productivity to produce an unrecognizable system of intensive and non-related animal protein supply chains. In the context of our market economy, **policy mechanisms will deliver efficiency, but this is different from delivering sustainability**. Within the current economic framework, every efficiency improvement made on a farm is for the benefit of the supply chain, not the farmer or the farming system. Without addressing the broader framework within which these businesses exist to allow the benefits of productivity to be retained within the farming system, for example to benefit nature, there is limited point in investing in productivity improvements at all. The financial mechanisms

²⁶ https://read.oecd-ilibrary.org/agriculture-and-food/innovation-agricultural-productivity-and-sustainability-in-the-netherlands_9789264238473-en#page1

²⁷ See https://www.verzetsmuseum.org/museum/en/tweede-wereldoorlog/kingdomofthenetherlands/thenetherlands/thenetherlands,june_1944_-_may_1945/the_hunger_winter

²⁸ <https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/>



permitted in the Agriculture Bill will simply throw good money after bad, and the budget needed to try and maintain the status quo will need to expand continuously²⁹.

²⁹ <http://capreform.eu/why-farm-numbers-must-continue-to-fall/>



8. The need for a policy hierarchy

8.1 It was a conversation with the New Zealand trade commissioner in London that inspired me to think about the need for a clear policy hierarchy for the UK. One exists in New Zealand, Alberta has its RAMP, and the UN Sustainable Development Goals in a way offer a multinational example of the same, providing a framework in order to understand and evaluate trade-offs in individual policy decisions. Without this framework for the UK, productive debate over the inherent tensions that exist in agricultural land use for food and environmental outcomes will be more difficult and polarised. The simplest example of this debate will be over who should be responsible for farm viability, but there are multiple others, including the public versus private goods debate, and economic efficiency versus environmental sustainability described above. However, it seems likely that climate change will be the new driver that guides decision making in land use policy.

8.2 At a round table discussion on net-zero agriculture in May 2019, I listened to an academic discussing why farming carbon rich soils was incompatible with meeting the UK's climate change objectives. This was not about upland peat soils, but lowland fen, our most productive Grade 1 soils. The premise was that farming these soils was currently undermining our climate targets, due to the degradation being caused, so the implication was the need to take these soils out of production. Given that around 40% of UK fresh produce is grown on these soils, this seems inconceivable. Yet if climate change targets are more important in the policy hierarchy than food production, then nationalising these soils, or requiring that they are only used for carbon sequestration, seems inevitable. Sequestration should not be incompatible with cultivation, but it seems enforcing a change in management technique will be required under the current direction of travel. I feel there are major questions here raised about who will pay for the consequences of this policy decision, or whether those landowners who have degraded their soil resources to that extent should be compensated at all.

8.3 Government has confirmed that farms that currently have high levels of biodiversity and environmental value would not be penalised under a new environmental scheme, even if that new scheme had environmental improvement as one of its key objectives. However, logically farms that have degraded their natural capital asset base need to stand to gain the most from investment in environmental services. Where a farm's natural assets are in a poor state of repair, this will undermine the valuation of the farm. Strictly applied, it may undermine the solvency of the business if renewable assets on which the business depends are exhausted. The key question in my mind is whether a baseline of capital maintenance can be enforced. Banks are required to do this to prove solvency, and it would perhaps not be unreasonable to expect the guardians of the country's natural capital assets to do the same. A simple climate target is enough to show that some level of enforcement of carbon baselines may be used to drive compliance and a change of mindset in land users. In accountancy speak, the maintenance liability should be the first charge before profit, but there is a lack of clarity over the ownership of natural capital systems. If maintenance becomes the subject of regulation, meaning that the baseline has to be maintained at the owner's cost, then earnings have to be taken from the provision of services from the land, like food production, only.

8.4 What is the correct balance of responsibility to ensure that the current system of economic organisation in the UK, which promotes linear value chains rather than a 'circular economy', does not inadvertently permit the exploitation of the natural capital base beyond the point of sustainable return?



Should farmers be made to comply with a high environmental baseline by government, or should corporates be held accountable for unsustainable purchasing behaviour? Farmers who have always ‘done the right thing’ in soil and biodiversity protection and enhancement don’t currently get rewarded by supply chains, but I consider it only a matter of time before banks and buyers consider these farmers to present a lower climatic risk to their balance sheets³⁰.

8.5 It is possible to both regulate land use and regulate supply chain behaviour. In conversation with a global corporate agribusiness executive, I learnt about the compulsory corporate social responsibility agenda in India. Through an amendment to company law there, it has become compulsory for large corporates to invest 2% of their average profits in CSR projects³¹. Globally, the climate change agenda is causing an increasing number of corporates to take action on carbon storage in soils and trees, and innovators like Robert Saik, who I met in Canada, are turning this into feasible earning opportunities for farmers. Alberta has a compulsory cap and trade system for carbon, which requires emitters to invest in carbon credits with Albertan farmers³². It’s a simple way in which new rules can drive alternative investment models into agricultural systems. Could CSR be made compulsory in the UK, to turn the dial on corporate behaviour and rebalance the dynamics in favour of internalising environmental cost in supply chains?

8.6 The major caveat with requiring supply chains to behave differently is that in many cases no one purchaser can take responsibility for capital investment or climatic risk mitigation at farm level. The nature of rotational land use means that at each turn in the rotation, a different supply chain is responsible for a different piece of land. A broader and deeper obligation in partnership with the ultimate landowner may be needed to ensure that all of the multiple supply chains existing in a given area cumulatively meet the necessary environmental outcomes.

8.7 I believe that a voluntary approach has been shown to be inadequate. Corporates, supply chains and consumers have been able to pass on the cost for environmental degradation at farm level to the taxpayer. As a solution to this and taking into the account the vast improvements that data is bringing in improving traceability, I consider that stricter regulation of supply chains will be necessary to balance responsibility for environmental impact away from taxpayers and towards consumers. Consider the way that the Modern Slavery Act 2015 works to require supply chains to verify that no human exploitation has occurred in their supply chains. Wouldn’t it be powerful if a similar obligation on the exploitation of natural capital also applied to corporate supply chains? This would be the function of something that I would describe as a Modern Food Act. This would set out the hierarchy of principles under which food was sourced and produced for consumers in the UK. It would ensure that no UK based supply chain could undercut UK environmental production standards by sourcing from uncertain or lower standard supply chains overseas. Traceability and transparency would be essential, with no excuses for market aggregation and disaggregation inhibiting accountability.

³⁰ See e.g. <https://www.agriinvestor.com/impact-investing-continues-make-mark-australian-ag/> for an example of how impact investing is driving regenerative outcomes in Australian agriculture

³¹ <https://www.india-briefing.com/news/corporate-social-responsibility-india-5511.html/>

³² <https://www.alberta.ca/alberta-emission-offset-system.aspx>



8.8 By institutionalising sustainability in this way, the UK gets to achieve its high environmental ideals without compromising food security or trading aspirations. The announcement in August 2019 by major companies to pursue social goals as well as shareholder profit indicates the direction of travel here³³. Government can focus on progressive taxation reform to ensure the small business environment encourages beneficial capital investment and generational renewal, and it can seek to create a market that works at domestic and international level to ensure fairness in supply chain relations and to ensure that natural capital investment thresholds are taken into account. Government can create an environmental baseline that acknowledges the tensions between public expectations for affordable, safe food, and private property rights that enable financially productive land use. It can only do so through true integration of all of the policy spheres that influence farm businesses, from tax to trade, and contract law to conservation policy.

8.9 Once these puzzle pieces are known, farmers can make a case for the adequate support to mitigate the impact of unfair risks. This could be pricing of any negative restrictions on their ability to farm at competitive productivity, modifying supply chain relations to allow farms to price sustainability costs, or place regulations on supply chains to do the same, or seeking market development support to access new valuable export markets.

8.10 A Modern Food Act offers the opportunity to have a global impact on sustainability, consistent with the ‘unfrozen moment’ that exists to deliver real change at this time of climate crisis. There are simply no excuses left for resource-dependent supply chains not to deliver a product fit for a global 21st century and beyond.

³³ <https://www.economist.com/leaders/2019/08/22/what-companies-are-for>



9. Conclusion

9.1 During the course of my Nuffield, and indeed for the 25 years before that, I have been up, down, around and backwards through all of the different permutations that impact on the resilience and political accountability of UK farming. It has been exhausting and exhilarating, and I hope that in this report I have articulated clearly enough which elements might be good, bad or indifferent at delivering the change so desperately needed. My moonshot is to better balance power **away from consumption based growth** towards investment in the nature and natural resources that sustain that growth, and I can suggest multiple UK level actions that might assist here, including natural capital accounting, tax policy that drives investment in renewable resources or contract law based on the parity of fair exchange. The danger of failing to tackle the system in the round is that raising environmental protection standards in the UK simply exports our problems overseas. If the combination of climate and environmental activism means that environmental indicators become the primary motivator of UK land use, but without addressing the consumption paradigm, we will achieve climate neutral or net zero farming here in the UK, but have no global consequence on global heating in the slightest.

9.2 I encountered a variety of alternative economic structures on my travels, from Canada to Oman and Cuba. I have been most surprised by the Cree philosophy against deriving profit from nature, and the Islamic approach to markets, organisation and contracts, based on the principle of the “parity of fair exchange”. This parity system, which also avoids interest being charged, specifies that asymmetry in risk, contract terms or profit are de facto unenforceable. And, of course, Cuban socialism offers a stark comparison to western economic organisation, avoiding all elements of consumerism and ensuring the fair redistribution of wealth through guaranteed employment, free healthcare, free education and centralised state control of all food and enterprise.

9.3 Whereas some of these principles will be unacceptable to our market democracy and societal expectations, it is reasonable to accept that the current system is not the only permissible form of economic organisation for western economies. The evidence of winners and losers in our society is painfully obvious, and the impact on the environment around us stark. The case for reform is growing.

9.4 In the case of agriculture, the focus is now on a new post-hoc justification for a budgetary transfer from taxpayers to land managers for the delivery of environmental outcomes. However, agricultural policy only exists as a function of higher policy priorities. This does not mean that it is not necessary to invest in agriculture, simply that the value of the investment is dictated by the extraneous economic factors surrounding agricultural businesses.

9.5 I cannot argue that the tail should wag the dog in policy creation: the trade, environment and food agendas all fulfil much bigger societal values than farming in isolation. But they also imply a value to farming: to sustain economically beneficial land use.

9.6 Whilst there will undoubtedly be a challenge engaging in the design of the agricultural policy itself, creating structures around which the nuances of proposals for **environmental land management schemes** can be debated is critical. If climate targets are now really the most important factor, followed by a need to enable the UK financial services industry to be invigorated through global trade deals, then



a vision for a land management industry is needed that fulfils this society's aspirations and budgets. Adhering to climate-neutral targets might produce a vastly different land use sector to the current system of farms and farming.

9.7 Natural capital thinking could play an important role in balancing economic drivers in agriculture. Understanding its implications requires us all to be economists and face a future where land use is increasingly 'accountable to accountants'. Accountants assess on an annual basis the financial viability of a business – in future this might include ensuring an adequate natural capital balance sheet as well as a manufactured capital balance. Global businesses are beginning to react, but should all businesses be held to fundamentally different levels of social and environmental accountability? Now more than ever we need to pay back. Food security will be increasingly a socio-economic and geopolitical issue as climate change bites.

9.8 In all of this, my strongest belief is that food production is not something that the farming industry should be educating consumers on. Consumers are well placed to do this themselves, when they have time and inclination to engage. More importantly, when they do so, they are rejecting the consequences of the systems that have evolved to meet the needs of previous generations, such as efficiency-driven chemical-dependent crop production and intensive protein production. When we say 'they need to be educated', it is vital we are presenting an honest discussion about the systems that have been created to meet the broad spectrum of societal needs and expectations. Finding a mechanism to define food production standards that meet the needs of all parts of society, including the poorest, needs to be included as part of the social contract between food producers and food consumers that allows all to flourish. Government has to step up to the plate to define the rules on what the rules of this conversation should be. The industry needs to learn to respond, adapt and evolve to a new form of political accountability.

9.9 Supply chains need to step up to the plate here too. I believe that a voluntary approach to sustainability is inadequate: corporates and supply chains should not be able to make excuses that someone else is picking up the tab for environmental degradation at farm level. Consider the way that the Modern Slavery Act 2015 works to require supply chains to verify that no human exploitation has occurred in their supply chains. A Modern Food Act could do the same for environmental reliance and equality in supply chains. This would set out the hierarchy of principles under which food was sourced and produced for the UK, and would ensure that no UK based supply chain could undercut UK environmental production standards by sourcing from uncertain or lower standard sources overseas. Traceability and transparency would be essential, and could be facilitated by technological innovation like blockchain, with no excuses for market aggregation and disaggregation inhibiting accountability.

9.10 Let's assume that we're leaving the EU and will end up with a close relationship that still doesn't really keep everyone happy. It helps to remain eternally optimistic: like it or loath it, the vote to Leave at least provides the intellectual space for debating and challenging the status quo of a food system that was widely denounced for being broken. Food, trade, politics, the environment and economics are being debated in ways that have not been debated in decades. Increasing awareness of these linkages, impacts and influences will bring change no matter what.



10 Recommendations

1. Don't let the tail wag the dog - the first step is to define a clear policy hierarchy based on trade, environment and food security (in terms of both quality and quantity), then use this to define a budget and intervention for agricultural support.
2. Farm businesses are as much influenced by the micro-economic trading environment as they are the macro-economic framework. Policy makers need to understand the mechanics of these drivers and their cross-departmental sources in seeking behavioural change.
3. Future agricultural policy in the UK appears to be changing the balance of risk and responsibility in farming, moving away from market intervention and income protection, and towards environmental protection and climate adaptation. Supply chains need to adjust to this as much as farmers do.
4. Production efficiency will continue to dominate the economics of food production, not least because it offers simple metrics when it is very hard to measure sustainability. Natural Capital Accounting may help rebalance economic thinking towards environmental reinvestment, but to do so it needs to be used in supply chains as much as in production systems.
5. Without intervention in our fundamental economic system, the twin drivers of efficiency and technology will continue to separate food production from natural resources. This may be exacerbated by net-zero policies in food production and land use, which will further undermine the viability of traditional mixed farming systems.
6. To avoid exporting production to third countries whilst driving a rising climate and biodiversity baseline on land use, Government should seek to regulate supply chains via a Modern Food Act, akin to the Modern Slavery Act but for food, to ensure that all UK consumed food meets implicit and explicit UK food production standards.



11. After my study tour

I have been fortunate in that my Nuffield journey gave the opportunity to find my dream job. It has brought me to work in a high-profile role at a fantastic global firm, working with some of the biggest and most innovative landowners and farmers in the country. I intend to continue to use the platform that my role brings me to challenge the industry that I love and believe in, so that it is fit to face the challenges ahead.

I relish the opportunities that I am offered to speak with policymakers and influencers across the industry, and I am building a network of thinkers and doers who bring change where change is needed and defend those who's strength is inadequate to do so themselves.

I am proud to maintain strong links with Norfolk and my sponsors the RNAA, and look forward to involvement with the Royal Agricultural Societies of the Commonwealth conference to be hosted by the RNAA in 2020.

I am determined to continue to champion the role of women within this industry – I know we will have made progress on all of the issues that I have raised in this study report when as many women as men are working in the frontline of agriculture.

PS.

My mother told me I should be a lawyer because I was good at arguing – I found that I could see both sides of the story, so too often got caught on the fence. I think I have outgrown that inertia now.

My father taught me that if a job is worth doing then it's worth doing properly. He's right, but I'll never be perfect.

I learnt myself that I thrive on finding out about things and using it for the benefit of others. And this will guide every decision that I make in the future, whatever those opportunities may be.



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Emily Norton



Appendix 1 Country details

The countries I visited:

- 1) **Netherlands** – Contemporary Scholars Conference March 2018
 - a) The Netherlands is a low-lying but highly productive agricultural economy that is currently a member of the EU and therefore participating in the CAP. Its productive agricultural area is just 1.8mn hectares, of which 715,000ha is permanent pasture. The CSC focused on setting the scene for the CAP and the broader social context of the Dutch cooperative and opportunistic approach to food production and land management. Key presentations were from survivors of World War 2 ‘hunger winter’, Rabobank, and Wageningen University, as well as trips to organic vegetable producers, high-output horticultural farms and the markets in Rotterdam.
- 2) **Oman** – OAPGRC Conference and travel, May 2018
 - a) The Sultanate of Oman is a small country on the south-east corner of the Arabian Peninsula. I attended a conference organized by The Oman Animal & Plant Genetic Resources Centre as part of the country’s Oman Vision 2040, which is seeking economic opportunities for the country to diversify away from oil. I met with senior influencers in business and politics as well as taking trips out to visit Omani farms. Oman has 1.4mn ha of productive agricultural land³⁴ and the major constraint on all non-oil economic activity is water. Omani land use policy is, therefore, based on water resource allocation. This is organized through the *aflaj* irrigation system, which channels water from the highlands to farmland and urban areas.
 - b) One of the key methods for diversifying the Omani economy is leveraging the genetic resource capability of Omani biodiversity, and particularly its drought tolerant characteristics. The emphasis is to modernise agriculture whilst meeting the needs of urban populations.



³⁴ <http://www.fao.org/countryprofiles/index/en/?iso3=OMN>



3) **Taiwan** – independent travel, May 2018.

- a) Taiwan is officially known as the Republic of China, being the exiled home of the Chinese republican government that lost control of the mainland following the Chinese civil war in 1949. It is now a densely populated and relatively wealthy constitutional democracy, roughly the same size as Belgium and with around 30% of its land mass as productive agricultural land. The rest is urban, forest and mountains³⁵. My visits in Taiwan focussed on agri-tech innovation and uptake on farms, as well as an understanding the wider policy context.
- b) Taiwanese agricultural policy is based on 3 pillars and 10 key policies of delivery³⁶:
 - (1) *Establishing new agricultural paradigms: promote green payment on farmland, stabilize farmers' income, improve competition of livestock industry, advocate environment-friendly farming, support sustainable usage of agricultural resources, and develop innovation agriculture.*
 - (2) *Constructing food security and food Safety System: enhance food security and ensure agricultural product safety.*
 - (3) *Enhancing abilities of agricultural marketing: expand diverse domestic and overseas distribution channels for agricultural products, and increase agricultural added value.*
- c) I visited a range of farm enterprises to understand the farm and trading business context for these policies. Some of the more unusual policy ideas were around study grants for agriculture, which offered a free professional qualification provided that the student remained in employment in the industry for 5 years after. It was felt that this attracted good students into the industry. Capital payments favoured domestic manufacturing industry in terms of machinery and infrastructure. Farmers were encouraged to form regional associations in order to create locally and regionally appropriate ideas and pitch these into Government for support. As well as capital investment, Government also supported Taiwanese smallholders in the

³⁵ <http://en.worldstat.info/Asia/Taiwan/Land>

³⁶ <https://eng.coa.gov.tw/ws.php?id=2505385>



uplands through a system of direct payments and an increased capital grant, showing a clear understanding of the enhanced social benefit that these farmers delivered.



4) **Hong Kong** – independent travel, June 2018

- a) Hong Kong is an ex-UK colony adjacent to mainland China. Hong Kong was handed back to Chinese administration in 1997 subject to a 50 year transition. As the end of this transition draws into view, more focus is given to Hong Kong identity and autonomy. It is the world's fourth most densely populated area, with 7.5mn people in its 1,100sq km³⁷. It was originally made up of small farming and fishing villages, but had global commercial significance as a result of its ports and the opium trade. It was the remnants of these farming and fishing areas that I visited during my time there.

³⁷ https://en.wikipedia.org/wiki/Hong_Kong



- b) The total cultivatable area of Hong Kong is 7500ha, of which in 2014 only 730ha was in active use³⁸. This land abandonment was as a result of the liberalization of trade to support financial services in the 1980s, but without protecting traditional land use. Subsequent planning decisions have meant that a substantial amount of previously cultivable land has been converted to temporary and container storage, with substantial environmental degradation as a result³⁹. In 2014, the Hong Kong Administration consulted on the development of a new sustainable agricultural policy for Hong Kong and this was introduced in 2015.
- c) The new policy is summarised as follows:
- (1) *“Follows the general policy framework of free market. Except where social considerations are overriding, the allocation of resources in the economy is left to market forces with minimal government intervention*
 - (2) *The Government is responsible for the provision of basic infrastructure and technical support necessary for the development of modern, efficient, safe and environmentally acceptable farming, but leave the industries to adjust to market forces*
 - (3) *The Agriculture, Fisheries and Conservation Department is responsible to promote adaptive new production method and help the industries to take advantage of new market opportunities.*⁴⁰
- d) It was Hong Kong that had the most profound effect on me in terms of understanding the role of agricultural policy in meeting food and land use expectations. I met with academics and knowledge exchange officers at the forefront of the movement to introduce the policy, to understand their reasons and motivations for doing so.



³⁸ https://www.afcd.gov.hk/english/whatsnew/what_agr/files/consultation_on_agricultural_policy.pdf

³⁹ https://www.hk2030plus.hk/document/Planning%20for%20Agricultural%20Uses%20in%20Hong%20Kong_Eng.pdf

⁴⁰ https://www.afcd.gov.hk/english/agriculture/agr_hk/agr_hk.html



Cultivated and abandoned land in Hong Kong

- 5) **Canada** – Royal Agricultural Societies of the Commonwealth Conference 2018, Alberta, November 2018.
- a) At the request of my Nuffield sponsor I travelled to Edmonton to attend the RASC biennial conference, which was held in conjunction with the Northlands annual agricultural trade show. I had the opportunity to meet a variety of local politicians and farming advocates from across the US and Canada. Alberta has 21mn ha of productive agricultural soils, representing 31% of the total farm area of Canada, and it is the second biggest agricultural province of Canada⁴¹.
- b) Alberta is an innovative area for many reasons, but not least for its Regional Agricultural Management Plan, which forms part of the broader land use management plan⁴². Acknowledging that land exploitation has brought great economic advantage to Alberta, the plan requires sustainability considerations to be brought into local economic and land use planning, including for agricultural land uses. Many of the speakers at the main conference focused on citizen engagement and challenged the UK-typical experience of power dynamics in agricultural communications. Both farmers and the use of science were championed with a positive narrative.



- 6) **Cuba** – independent travel, April 2019.
- a) I chose to travel to Cuba because of its difficult trading relationship with the United States, which has forced a form of farming and nutritional regulation at the opposite end of the political spectrum to that prevailing in the UK. Cuba is a large island in the Caribbean, approximately 104,000km² of which approximately 30% is cultivated. Due to the nature of the

⁴¹ <https://albertawater.com/virtualwaterflows/agriculture-in-alberta>

⁴² <https://www.landuse.alberta.ca/PlanforAlberta/LanduseFramework/Pages/default.aspx>



Communist party control, it is hard to work out exactly how self-sufficient the island is⁴³, but in my travels it was clear that the government focusses on the rationed availability of mostly imported rice, wheat and beans, the commercial domestic cultivation of tobacco and sugar, and incentives to encourage fresh produce grown ad hoc by smallholders and urban farmers. I met with academics involved in agricultural research and a range of farm businesses in the Havana and Vinales regions.

- b) I walked through a farmed landscape in Cuba with a member of Los Aquaticos people, who can trace their farming ancestry way back before the Revolution. They maintain a deep connection with the biodiversity of the mountains and identify themselves as users of traditional medicine only, specialising in the health that the native plants can provide. The land is now all nationalised, but different levels of property rights prevail depending on when the contract for use of the land was granted. As we looked out across the valley, I asked whether the Cuban government tried to control how farmers used the land through land rights. Struggling to explain the concept, I noticed a field of cassava that sloped down to a stream at its base. 'Our government would say that we should not cultivate that field', I said, 'because of the risk of soil erosion when it rains'. My guide looked at me bewildered. 'Why would you farm in a way that meant you lost your soil?'



⁴³ <https://www.theguardian.com/environment/2017/oct/28/organic-or-starve-can-cubas-new-farming-model-provide-food-security>



7) **Isle of Man** - June 2019

- a) The Isle of Man is an independent dominion of the UK that retained its independence from the EU as a result of Protocol 3 of the UK's own accession treaty in 1973. It operates a preferable rate of corporate and personal taxation in order to attract financial services businesses in particular, with the micro-gaming industry now representing a substantial part of the domestic economy. Revenues are raised from VAT receipts. The Isle of Man is 572km², of which about 75% is farmed (107,201ac)⁴⁴, with land varying from productive arable lowlands to thin upland environments used for extensive grazing.
- b) The island operates an agricultural policy mirrored largely on the UK system, but with a sense of learning the mistakes that England and Scotland made in implementation. Payments are made on an area basis, but using 3D mapping. The whole island was mapped and registered, and with only 240 holdings it has been possible to have each field checked. There is a very high level of political accountability, and the quirks of the election system means that unifying the farming vote can bring high level success – 2 of the top three political roles on the island are currently fulfilled by farmers. Area based payments are, therefore, popular – and there is subsidy in the basic infrastructure needed to keep the livestock industry going too (fallen stock disposal and abattoir).
- c) Despite the investment in food supply chains and marketing, I met farm entrepreneurs frustrated at the relative inertia in Island provenance. The key insight for me in conversation with the Island's Head of Agriculture was his view that the purpose of supporting agriculture on the Island was to support the viability of the Island as a place to live and work. By sustaining a great environment, sufficient population mass was attracted to enable the balance of resources not produced on the Island (including food and energy) to be imported. The annual direct payments budget of £8mn was therefore a good and necessary investment of public funds.

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⁴⁴ www.gov.im/about-the-government/departments/environmnt-food-and-agriculture/agriculture-directorate/agricultural-statistics/

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