

Land Use and Development

Farming viability in a changing landscape

A report for:



By Bernadette Mortensen

2015 Nuffield Scholar

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Executive Summary

The aim of this study was to investigate agribusiness viability in a changing landscape in the context of land use and development. The key areas of investigation were the challenge of urban sensibilities on rural development and practice, and the effect of urban sprawl on existing land uses as well as the use of policy and legislation in shaping agribusiness growth. The countries visited are developed countries with comfortable, largely urbanised populations, similar to an Australian demographic. The key findings are that the world faces a resource management challenge which will require a renewed approach to communication, flexibility and understanding in planning and farm diversification, in order for farmers to remain financially viable and feed our growing global population.

Agribusiness has a public relations issue which should be taken seriously by the industry as a whole. A discerning population is looking for choice, with a nostalgic image of farming which can no longer feed them, based on technological advances they do not understand or trust. An anti-agribusiness movement has arisen which feeds consumers misleading information, and there is a mainstream media that celebrates shortcomings and hardships rather than achievements and successes. Confidence and trust in agribusiness is needed and this can only be achieved through improved communication.

For farmers, a fair financial return on investment in a volatile market environment can be an issue, with many seeking expansion and scale to ensure viability. Technology is available to improve the utilisation of resources. However, these are poorly understood by a non-farming population, including planners, who often believe that scale and intensification is unnatural and leads to poor environmental, quality of life and animal welfare outcomes. Investment researching the outcomes of technologies to support agribusinesses need for expansion and technology adoption through industry, research and government collaboration would be a step in establishing confidence or “social licence” in change.

Management of land in terms of policy and legislation was investigated to address the question “can the tide of urban populations be stopped, diverted or taught to live in harmony with their rural cousins?” Incentivising the use of land for agricultural purposes through taxation, securing land through trusts and specific planning designations plus policy and

legislative objectives which focus on key areas of agricultural development were investigated.

This report makes planning recommendations for Australia, based on research in other countries. These recommendations centre around improving the outcomes of agribusiness expansion and intensification through more effective engagement with the media and the general public. Government and agribusiness cooperation is needed to compile data on existing developments and create a database of approved technologies. The aim being to give planners added confidence in approving intensive farming developments, when such developments compete with the needs of urban expansion. Efforts to retain agricultural land in production through taxation and marketing intensive urban living as a desirable and environmentally friendly option, would ease the pressure on land release and reverse sensitivity by maintaining critical mass of both agribusiness and housing.

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Foreword

I am a first generation Australian; my parents are Maltese immigrant farmers. I farm avocados and free-range broilers on 12 hectares (ha) at Mangrove Mountain, on the Central Coast of New South Wales. I am a mother to three children as well as being a farmer. I am extremely proud when my daughter calls me “Farmer Mummy” and proud as a woman to perform well in what is predominantly a male dominated industry.

The study topic I chose is personal, as planning approval to expand my existing operation was denied due to conflicting land use and a local government unwilling to support agricultural expansion. In my opinion some of Australia’s prime agricultural land is being mismanaged. The viability of farming is hindered by a population that no longer understands the resources needed to produce food and a planning system that does not appreciate that agriculture is a long game, ever evolving, requiring flexibility, understanding and support from government and community.

I planned my travel destinations based on counties facing similar pressures. These countries have high export production, urban populations and similar limitations of landscape and environment to Australia.

Over a 15-month period I undertook four trips, travelling for 23 weeks. On my individual study I travelled to Abu Dhabi, Malta, England, Wales, Scotland, USA (Wisconsin, Illinois, Indiana, Missouri, Georgia, Detroit, California, Massachusetts and Tennessee), The Netherlands, Ireland, Denmark, New Zealand (North Island) and Canada (Ontario). The Contemporary Scholars Conference (CSC) and Global Focus Program (GFP) travel took me to France, Singapore, Indonesia, Japan, Israel, The Netherlands and the USA (Virginia and Delaware). The travelling has been rigorous and rewarding. One thing is certain; Nuffield is not a holiday.

Acknowledgments

Thanks to Woolworths, who through continued support of Nuffield Australia, has generously invested in expanding my horizons and perspective by supporting my exploration of the world.

The Board and selection committees of Nuffield Australia must also be acknowledged and thanked for seeing something within me that they hoped would flourish through the support of the Nuffield community and participation in the scholarship program. Special thanks to Byron Stein and James Baker for giving me a good reference and fellow Nuffield Scholar Jodie Redcliffe (2013) for being my muse. I would also like to thank Fiona Chilvers for her support as my mentor and Scholar Tim Hutchings (1983) for editing this report.

It is a humbling experience to gain access to so many wonderful people with whom the common bond of agriculture is shared. I am extremely grateful to the scholars and those others I have been fortunate to be acquainted with, many have been of great support throughout the scholarship, offering emotional support as well as sharing their homes and families with me. The memories we have shared will be treasured always and I thank each and every one of you for contributing to my experience.

Time is a precious commodity and most people are under pressure in their lives to maximise the hours, I am so thankful and humbled by the generosity of people who shared their time, expertise and experience, with no benefit to themselves other than meeting a Nuffield scholar. I hope to pay forward the time invested in me by these people by producing a quality report, hosting and sharing my experience with others and farming into the future.

Participation in the scholarship would not have been possible without the support of my family. As a woman and a mother to three young children asking permission of her husband, family and business partners to be excused from the duties of a daughter, sister, wife, mother, farmer and all-round doer of things is a major request. Initially there were mixed reactions on the home front, yet despite some reservations my family banded together in support of my application and were extremely proud when I was awarded. I never doubted my family's ability to adapt to the change in circumstances brought about by my periodic absences, they

are strong people and my pride in them knows no bounds. Thank you seems insufficient given the experience.

The scholarship itself has been a major event in my life, with many ups and downs, overall it has been a wonderful and positive experience. The true value of the scholarship program on my life will grow over time and carry on to my children. Moving into the future the most pleasing thing about Nuffield is the knowledge that the adventure will never be complete.



Figure 1: Galea Family (L-R): Bernadette, Andrea, Carmen, Joseph , Gabriel



Figure 2: Mortensen Family (L-R): George, Harry, Kate, Bernadette Ned, June 2015

Abbreviations

ARL - Agricultural Land Reserve

BC - British Columbia

CAP – Common Agricultural Policy

CSC – Contemporary Scholars Conference

EIS – Environmental Impact Statement

EPA - Environmental Protection Agency

GDP – Gross Domestic Product

GFIA – Global Forum for Innovations in Agriculture

GFP – Global Focus Program

HA – Hectare

HSUS – Humane Society of the United States

NIMBY – Not In My Back Yard

PETA – People for the Ethical Treatment of Animals

PIX – Poultry Industry Exchange Conference

PR – Public Relations

Objectives

The objectives of this report were to understand:

1. What motivates people to object to development?
2. How communities, planners and government bodies engage with agribusiness to prioritise the importance of farming land and agricultural systems.
3. What tools are in place to preserve agricultural land, their effectiveness and evolution.
4. How farmers on the urban fringe are adapting to a changing landscape in order to remain viable.
5. The search for innovative solutions which produce foods with fewer resources, more stringent social licence and in harsher climates.

Chapter 1: Introduction

Australia is a huge land mass, with the majority of the population on the East and South Eastern seaboard. Coastal areas have good rainfall, temperate climate and quality soils. Increasing distance from the coast sees a decrease in rainfall and an increase in average temperatures.

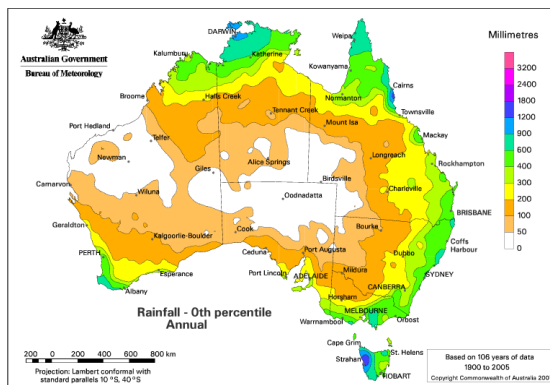


Figure 3: Australian Rainfall average

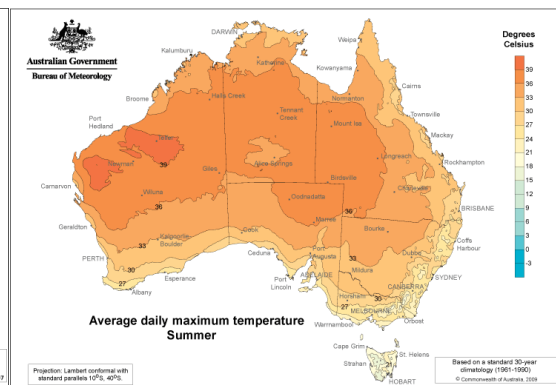


Figure 4: Australian maximum temperatures

Source: Australian Government Bureau of Meteorology

European settlement in Australia occurred in 1788, naturally land and climate which was considered good in terms of sustaining a new colony was settled. As time has passed industrialisation created new industries, urbanising over 98% of the population, with 60% of Australia's GDP generated by household services (Bill Evans, Westpac Chief Economist, business banking breakfast address, April 2016). The populations in the major cities has intensified and increased, with suburbs sprawling outward, paving over the land which was considered so valuable upon settlement. This urban expansion for our two major cities is shown in Figure 5.

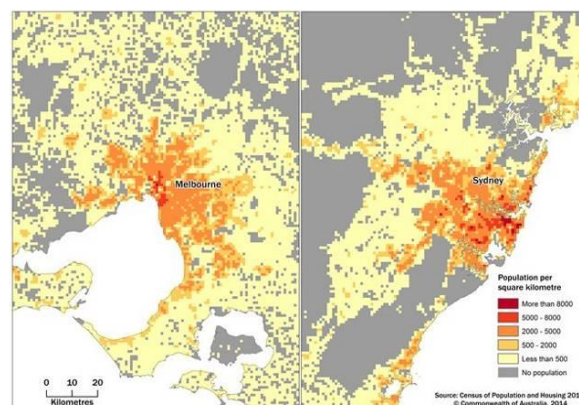


Figure 5: Population Density 1km2 Grid- August 2011 – Melbourne and Sydney (ABS, 2011)

Throughout the settled history, land has been designated for agricultural purpose in the form of rural zonings and green wedges on the fringes of the city. As population has grown and become more affluent, the desire for larger residential developments and suburban lifestyles has increased. Further to that, rural estate living has also become attractive and there has been a shift in the way land is viewed and valued. Qualities which made the land so suitable for farming, such as soil fertility, water availability, temperate climate and access to the cities, is valued for its amenity rather than productive potential. Significant financial gains can be made when farms on the urban fringe are purchased for this amenity and for the associated speculative value. Farmers have often welcomed this appreciation in asset value of their land with the view that greater amounts of cheaper land are available further from the cities. The increased asset value also allows the prospect of exiting from farming. This raises the question of how far agriculture can be pushed away from cities and what impact this has on the ability to produce food cost effectively. Any movement away from cities increases the costs of freight, infrastructure requirements to market, as well as the costs of changing the nature of production systems to produce with fewer natural resources and in harsher climatic conditions.



Figure 6: Forecast population growth by region. Hans Rosling "Don't Panic, showing the facts about population" 2013

Figure 6 shows the majority of forecast global population will live in the Asia Pacific region by 2100. Good planning decisions are required to ensure that Australian agriculture requirements for growth and development are flexible and accommodating. The “not in my back yard” (NIMBY) mentality is of genuine concern to farmers, particularly but not limited to, peri-urban situations. The movement of urban people into rural areas means the dilution of the rural population, a reduced understanding of common farming practice and a change to urban sensibilities, often the perception of country living is not always in line with the reality of country life.

Figure 7 below shows that by 2031 it is estimated that a 60% reduction in the amount of food produced locally will be lost if the Sydney basins urban sprawl is unchecked (<http://www.sydneyfoodfutures.net/interactive-maps/>, 2011)

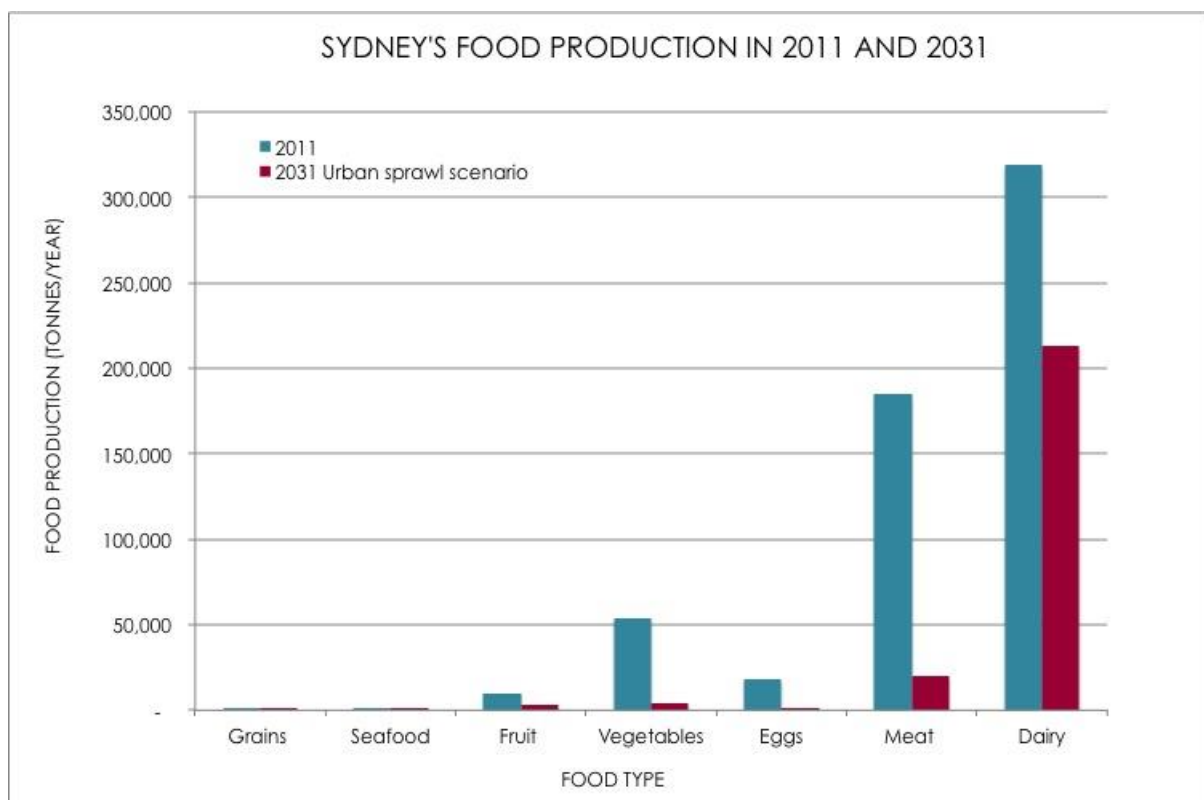


Figure 7: Projected loss of food production in the Sydney Basis due to urban sprawl
(University of Technology Sydney as represented by the Institute for Sustainable Futures)

Intensive agriculture, particularly those that require development consent, are often met with fear. Fear for the environment, quality of life, health concerns and property asset value for neighbours. Challenges to rural developments also occur for no reason other than fear of not objecting when given the chance.

Relationships between all aspects of society need to be built so that farming and urban communities can coexist.

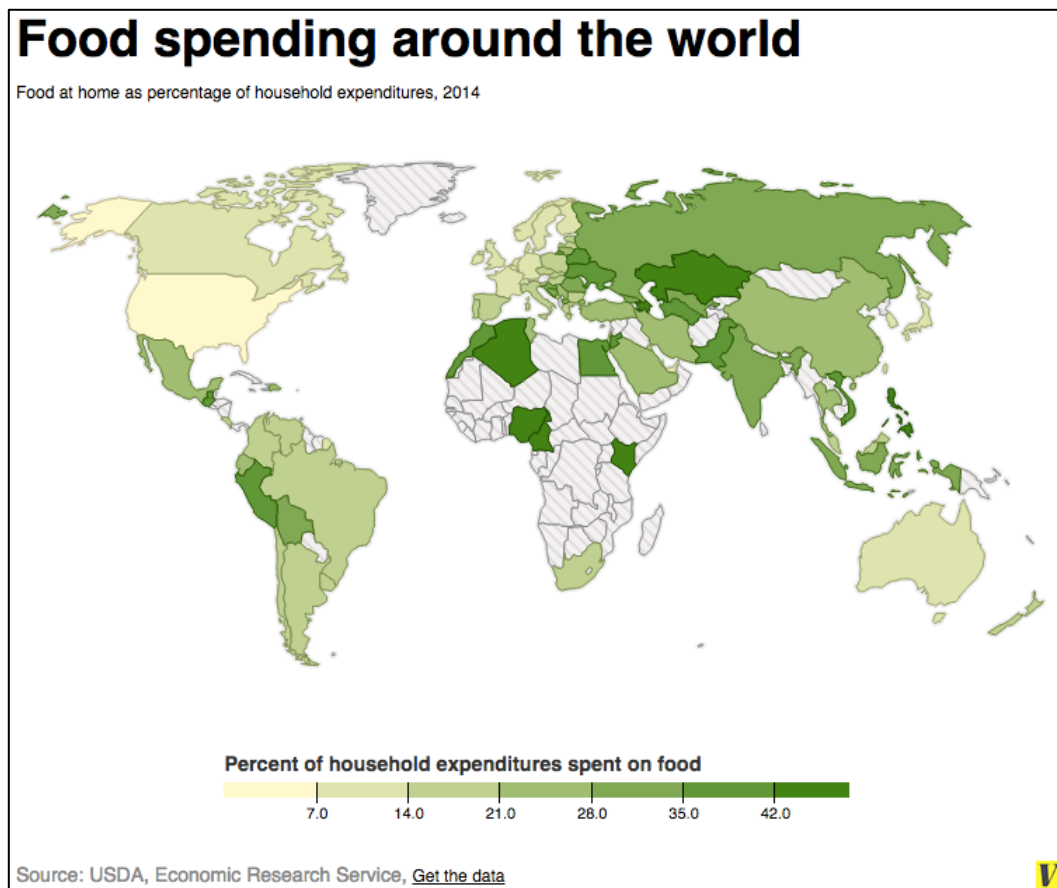


Figure 8: Percentage of income spent on food (USDA, Economic research service)

The importance of food has changed in Australia with less than 10% of income spent on food (Figure 8). With a stable environment free of conflict, food security is a concept that the majority of Australians do not consider. Food is now trend-forming; having ready access to food from around the world, Australians are spoiled for choice. Food is something that is enjoyed rather than seen as an essential ingredient to sustain life. Most food is sold through the supermarkets and farmers have become faceless or, even worse, a minority to be sympathised with.

Food movements value the nostalgic imagery of a farmer; what people used to know of farming, they understood and loved. Farmers represent a small percentage of a population that is largely urbanised, so naturally people no longer know who farms their food. As a result, there is a gap in the knowledge that urban people have of modern farming practice and what it takes to remain viable and competitive in a domestic and international market. Corporate structures within family farms, new technology and infrastructure, scale and intensification are mistrusted as they are not familiar. With the decline of farmer numbers, the evolution of our farming operations has not been communicated well. A false interpretation of those choices is being broadcast loudly by others who do not appreciate the innovations and technology that have been developed and adopted.

Engagement with the urban population is often talked about within farming groups. The farming youth want to make agriculture sexy in order to appeal to the urban population. Finding the balance between an emotive and scientific approach is needed. A way forward is to gain a “Social Licence” from a generation that is not hungry, has choice, likes technology and seeks adventure.

Federal, State and Local political agendas shape the way agricultural land can change. The current demographic influences legislation and the policy that is enacted and implemented. The role of community consultation is another factor which is shaping the way agriculture can develop.

The Climate Change Summit has set new targets for reducing emissions. Agriculture has a large role to play in this area and intensive agriculture is already under pressure from environmental groups in regard to emissions. Given the small number of people employed by agriculture it will be an easier area to effect change than other areas such as the building industry. Good science and cooperation between industry and government is required to support the development of the agricultural industry. *“Policy is driven by business opportunity”* (Marcel Vernooij, Ministry of economic affairs, Head of The Netherlands Food Security and Agricultural commodities, March 2015, GFIA conference presentation).

Chapter 2: Understanding what motivates people to object to development

It was apparent early in the study that farmers in developed countries are faced with the challenge of people objecting to designated development and common agricultural practice. The most immediate response to change noted is fear, as change potentially leads to a disruption and reduced quality of life, with the most common complaints relating to noise, odour, traffic, pollution, property values, aesthetics, health and animal welfare. It was observed that the density of population and proximity to development was not necessarily a factor in the success of change; rather it was the response and management of that fear reaction which was the critical factor. The success and failure of development proposals and continued agricultural practice was observed to be influenced by the size and type of development, socioeconomics, community vested interest, cultural sensibilities and government.

Do you understand your local political landscape?

The political agendas, relationships and existing infrastructure of all levels of governing bodies has an impact on the success or failure of development applications and the continuation of common practice. Gregory Silpher of the Indiana Farm Bureau suggested that laying the groundwork with decision makers early in the planning process to gauge government leanings was a good idea (personal communication, 21 July 2015). Having early conversations in order to understand limitations which may exist in the area of proposed development can save time and money.

One case study is the traditional cereal growing region of Nocton in Lincolnshire, England. The super dairy 'Nocton Dairy' proposal was abandoned as the social and political climate was strongly opposed to an intensive dairy development. Some comments regarding the experience are noted; the planning people said they would not have supported the application anyway, after it was pulled the second time. The EPA presented a list of impossible claims, one of which was where did all the underground streams go, which nobody knows and that is when they (the applicants) thought "forget it". (Richard Howard, personal

communication, 2 April 2015). Understanding the political and social climate when planning change is an important factor when deciding on whether an application is worth pursuing or adjusting to suit the time.

Do you understand your local “Social Licence”?

Who is supportive?

It was observed that communities with a vested interest in agribusiness, through the provision of local jobs and ongoing financial contributions to support businesses, are more likely to accept normal agricultural practice and look favourably on growth.

“Nocton is a pretty basic village, all the lorries drive through, they are used to things happening. Potterhanworth is much more “tweed”, it has a school and a pub. They were 4-5 miles from the dairy, yet they were more virulent than the Nocton people, who were on the whole very reasonable” (Richard Howard, personal communication, 2 April 2015).

Who is objecting?

Objectors or complainants are usually further removed from agribusiness, which includes the white-collar worker, the rural residential retiree, the urbanites and the activist.

“Seagrave residents, they are the NIMBY’s; 60% have lived there less than 20 years. People want the lovely rural village and atmosphere but what they don’t want is the smell of shit.” (Phillip Crawely, personal communication, 26 March 2015).

People who do not have a vested interest in agriculture, other than eating, generally believe that development and intensification leads to poor environment, health and animal welfare outcomes. These beliefs are generally unfounded in fact, logic or science, yet are powerful motivators to blocking development and disrupting usual practice.

“You cannot make a fact-based argument around a values-based issue, because you are not speaking the same language”. (Charlie Arnot, personal communication, 29 October 2015)

Managing the development process

The reasons for changing land-use activities is motivated by many factors. Motivators can include a plan to reduce or improve resource utilisation by adapting new technology,

increasing production which ensures continued and consistent supply of product, to improve servicing of clients to reduce overall cost of production, and also to improve farm gate return on investment through scale or diversification, or to satisfy policy or legislative change. To a farmer, all these issues appear to be positive and reasonable; therefore when confronted with emotive objections and complaints the common questions upon farmer's lips are, *"Why wouldn't they want this?"*, *"Where do they want me to go?"* and *"Why don't they understand and see the benefits of this development?"*

It is often assumed what the world looks like. Somebody else comes from a very different place and sees the world very differently, has different values and experiences that they draw on to understand the world. *"Unless we are able to open up avenues of dialogue, we are never going to see eye to eye, as we never have the chance to work through those things"*. (Keiran O'Doherty, personal communication, 4 November 2015).

Understanding that people view the world their own experience and may have a different perspective on what is acceptable, is an important factor in making plans.

Considerations

Acknowledging the questions of "why" and "where" with stakeholders before applying for development is the next step.

"The issue of having to work with different stakeholder groups typically begins not with one group saying: "you guys need to understand where I'm coming from"; it starts off with "let me understand where you are coming from", trying to understand and being willing to hear someone else's story. From a practical level it gets people to open up, whereas if there is a relationship of distrust, asking someone to understand where you are coming from isn't going to work". (Keiran O'Doherty, personal communication, 4 November 2015).

Being open to the ideas of complainants and objectors in discussions and keeping a cool head in engaging with objectors is essential.

Representation

Having quality representation, in the form of agriculture departments, agricultural representative bodies, consultants and community support can make or break a development

application. Ensure that the consultant is an engaging communicator, has a reputation for getting developments approved and has established positive relationships with decision makers. Employing scientific consultants, who are able to communicate well and distil science into common language, is highly recommended. Enlisting people of good character and standing within the community, or people who do not have a vested interest in the development backing your proposal, will build confidence with objectors, who may be unsure about a development and may appreciate a trusted independent perspective.

Methods for addressing concerns can be one-on-one, involve small groups or in large community-based sessions. Working through the stages of fear has been acknowledged as an essential part of the approval process and is commonly referred to as developing “Social Licence” to operate. There is value in identifying and engaging the “thought leader” in groups. There is usually a person who is dominant in a group and if their negative feelings towards the development can be changed, the majority will follow.

“Deal with the emotional part first which then gives us some additional permission to introduce some data over time. Joint fact-finding is something that can be very powerful”. (Charlie Arnot, personal communication, 29th October 2015).

Without doubt communication and engagement efforts will not work with everyone. This should not discourage applicants from taking steps to engage with objectors and complainants in the hope of gaining support for agricultural development. Swimming against the tide of objection can be expensive, both in terms of time and money. Both these things need consideration before applications are lodged, as highlighted by a dairy farmer from Welshpool, Wales:

“In the planning process there is a feeling of “we’ll bombard him and he will give up he’ll stop, he’ll have enough”. At times you have to have a quiet word with yourself and say I have to keep going and really work at this and hopefully get the right outcome. (Fraser Jones, personal communication, 23 March 2015).

Recommendations for Farmers prior to development

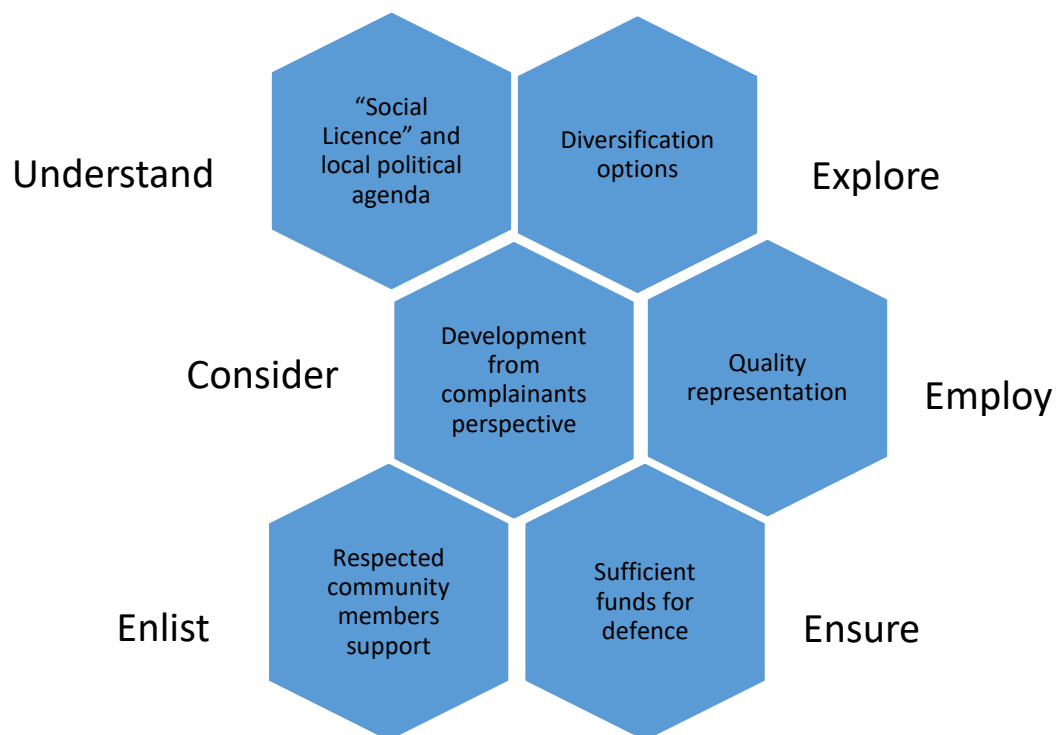


Figure 9: Recommended Steps for farmers considering designated development, (B. Mortensen, 2016)

Chapter 3: Stakeholder Engagement

How are communities, planners and government bodies engaged by agriculture going to ensure the importance of farming land and agricultural practice is understood?

The idea of what it means to engage with people was a concept that was challenged during the course of this research. At many agricultural conferences it has been said that agriculture and farmers need to “*tell their stories*”; perhaps in taking this approach people are talking to themselves rather than the target audience.

“When I speak to scientists about community engagement they typically say: “yes, I know I need to do more public engagement, I need to tell my story”. That’s not public engagement, that’s you telling your story. Good community engagement is about dialogue, engagement means dialogue.” (Keiran O’Doherty, personal communication, 4 November 2015).

Agriculture has been challenged by the public into justifying the types of practices and the scale of housing options which are used for food production.

“The key distinction is that science tells us whether or not we can do something, while society tells us whether or not we should. We have always argued the “can question”, but very rarely is that the question that is being asked. Most of the times we lose, we lose on the “should” question. “Should you be doing what you are doing”? That is where the debate is taking place and it tends to be the place where we lose” (Charlie Arnot, personal communication, 29 October 2015).

The agriculture industry as a whole has the task of engaging with the consumer, which raises the questions, is the target audience being reached? How do farmers know they are not just “*telling a story*” to themselves? This section discusses the challenges faced and the different forms of engagement employed in different countries.

Engagement challenges

Agribusiness is faced with passionate opposition from well organised and funded groups which have differing value sets. People for the Ethical Treatment of Animals (PETA), The

Humane Society of the United States (HSUS), Animals Australia and Compassion in World Farming are examples of groups who attack intensive agriculture daily. The efforts of these groups undermine confidence in modern agricultural systems, by running campaigns which demonise and vilify intensive production systems and glorify low intensity systems.



Figure 10: PETA



Figure 11: – Animals Australia

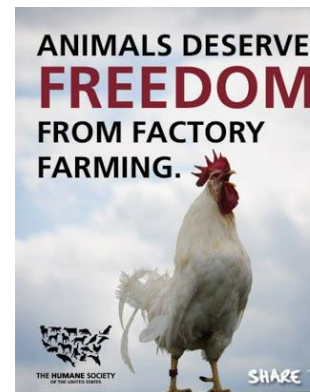


Figure 12: – HSUS

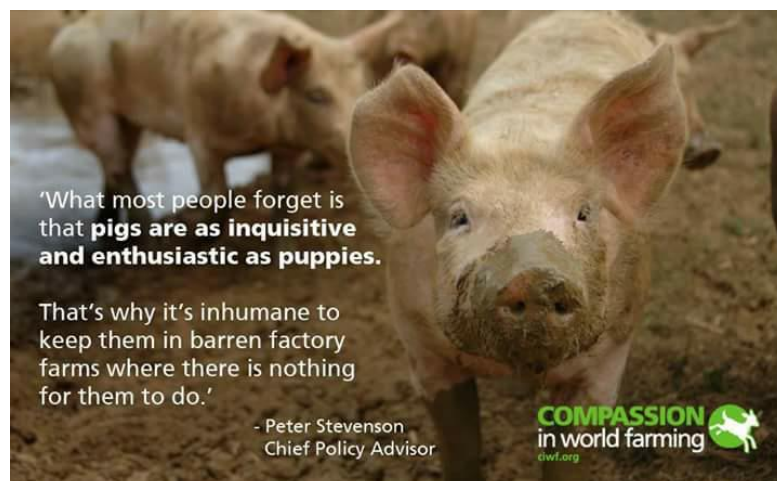


Figure 13: Compassion in world farming

Figures 10-13 are examples of the campaign against the intensive farming of animals for human consumption.

Agribusiness engagement efforts with the public

There are many ways which farmers can engage with the urban population.

Agricultural shows and fairs

Agricultural fairs attempt to engage the consumer in yearly showcases yet is a difficult environment to deliver a realistic view of agriculture to the broader public. At the Sydney Royal Easter Show, people walk through isles of shaved and shampooed farm animals and ancient farm machinery, whilst children line up for the farm animal petting zoos. It is difficult for the non-farming community to gain an appreciation of the scale and technology employed by agribusiness to sustain affordable food supply. Consequently, this affects the acceptance of intensive, technologically advanced practices.

These shows do generate funds for continued investment in research and support development programs for youth in agriculture and are therefore an important part of the agricultural chain.

Open farm visits

A good example of engagement is the open farm initiatives witnessed in Europe and in particular the UK. These programs allow people an opportunity to visit working farms on designated days. Concerns for biosecurity have long been a barrier between engaging with the public, leaving the industry open to trespass from the anti-agriculture lobby, creating a one-sided image of the industry. Frogmary Green farm in England (See Figure 14) gives visitors the opportunity to visualise the scale of farming from a viewing room, whilst addressing the biosecurity concerns of the industry. Australian farmers applying for development would benefit from these types of organised farm visits to reassure objectors of the commitment of farmers to address their concerns.



Figure 14: Frogmary Green Farm viewing room (Picture provided by Claire Bragg)

Display farms and education centres

Display farms incorporating education centres in principle are agricultures answer to an adventure park, these farms are open daily with facilities to educate as well as create a realistic view of modern farming practice. Two such facilities visited were Airfield Estate in County Dublin, Ireland, Rondeel Farm in The Netherlands and Fair Oaks Farm in Indiana, USA. The best example observed was Fair Oaks Farm, approximately 1.5 hours from the cities of Chicago and Indianapolis. This farm is 30,000 acres (12,000 ha) with 36,000 cows on 11 farm sites, including cropping. The farm was established in 1998 and has over 500,000 people visit per year. It is an excellent example of intensive farming production, with a dairy experience which shows a 2,800-cow dairy with a 75-cow carousel in action. A drive through a free stall barn on a “pig poo” powered bus shows the cows in a comfortable, stress free environment. Cows birthing can be witnessed in an amphitheatre (See Figure 16). The site also has a "pig adventure" where the process of artificial insemination, birthing in farrowing crates and rearing can be viewed with educational and interactive material available throughout the building. The farm also utilises an anaerobic digester (See Figure 15) and produces paper made from “cow poo” available for purchase at the gift shop. A working farm showcasing the environmental and welfare focused aspects of intensive farming, with the facility to educate and give confidence to consumers would go a long way to bridging the gap between agribusiness and consumers in Australia.

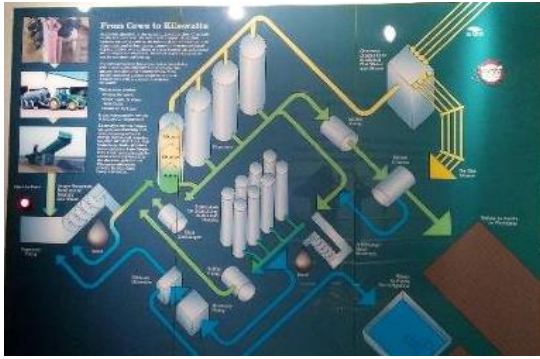


Figure 15: Information on alternate energy production from agricultural by products



Figure 16: Cow birthing amphitheater

(Source: Pictures of Fair Oaks Farm, by Bernadette Mortensen, July 2015)

Media

The anti-agriculture industry is well ahead in the game of engagement with the media. Until recent times agriculture mostly had a defensive, reactionary relationship with people when the industry faced challenges. The agriculture industry has an opportunity to learn from the effective engagement of anti-agriculture lobby groups, by utilising the same techniques, in order to deliver the positive message of agriculture. In this way the industry can build a foundation of trust to draw upon when challenged by the anti-agriculture lobby, or when the agribusiness is suffering inevitable hardships synonymous with the industry.

Social media

Agribusiness around the globe has seen the rise of Advocate, the 2015 Agchat Foundation's Annual conference in Tennessee, USA. This was an indication of the passion farmers have for the industry and the commitment to engaging with the public by opening up farms through social media, in an attempt to grow a "Social Licence". The key lesson learned here is that, in order for engagement to be effective, the messages need to be short and relevant to the audience. An important aspect of effective engagement is ensuring that the use of language is aligned with the target audience.

Mainstream Media

An area where Australian agriculture has not made its presence felt is mainstream media, unless of course there is a problem within the industry. The Danish Agriculture and Food Council has taken their positive message of farming onto the city streets in the form of

billboards, full page newspaper and magazine spreads and also onto main steam television. The messages of the Danish campaign were to:

- Communicate with theirsurrroundings – not with themselves.
- Show that agribusiness is going through a transformation and development – and that farmers WANT a change.
- Show farmer’s potential, which is part of the future – not the past.

The messaging is provocative and positive, creating awareness and curiosity whilst advocating the benefits of agribusiness to the wider community, as per the examples in Figures 17 and Figure 18 below, translated from Danish. Investment in this type of media is an excellent way to advocate for the industry in a positive and proactive way, that will resonate and be remembered by the wider public. The advertising is not selling a product but an idea, ideas that start conversations.



Figure 17 -It's the strangest thing that can save your life.

Most know that Denmark is world champion in pig production. That we are world champions in sausage casings, is less common knowledge.

But the sausage skins are not only of national economic interest In the production of sausage casings we know they are also capable of producing the drug heparin, which is used as anticoagulants in operations.

So next time you are on the operating table, do not be surprised if they give you a little sausage skin

Figure 17: Advertising by the Danish Agriculture and Food Council, translated from Danish



Figure 18 - Ok, windmills are nicer to look at, but they do not produce nearly as much energy.

75% of the renewable energy produced in Denmark comes from biomass. For example, straw, wood waste and biogas from manure.

Over the last 15 years we have actually doubled the share of renewable energy in our total energy consumption. But the aim must still be to become completely independent of fossil fuels.

Figure 18: Advertising by the Danish Agriculture and Food Council, translated from Danish

Agribusiness engagement efforts with planners and government

The developed world has become a risk-adverse culture operating on the precautionary principle; it is therefore no surprise that planning policy and the method for assessing development proposals reflects that. *“The provision for diversification in rural areas is a classic example; there is support for the principle in these policy documents, but when it gets down to spelling out the policy in detail, you can have diversification provided it does not have any impact on anything else at all.”* (Brian McCutcheon, personal communication, 13 June 2016). The use of language in policy documents is subjective and open to interpretation depending on personal perspective. *“It means somebody who wants to oppose something has a readymade list of points of objection”.* (Brian McCutcheon, personal communication, 13 June 2016)

The production of an Environmental Impact Statement (EIS) is a lengthy and expensive process. The modelling of environmental outcomes is the primary way in which EIS are produced, yet varying results can be achieved depending on the modelling software used. An EIS is therefore viewed as being a subjective method of estimating if a development will meet its environmental obligations. In an environment where favourable discretion is not exercised, this may leave agribusiness in a vulnerable position, having to provide sufficient

evidence to approval agencies of the development's lack of negative impact on objectors and surrounding areas.

A collaboration of industry, science and government to establish an approved technologies list that satisfies both the concerns of objectors and the environmental concerns of intensive agriculture has been established in Denmark. An approved technology list would be a valuable asset to Australian agriculture to aid in reducing the red tape associated with development applications. It was said by Dr Marcel Vernooij from the Ministry of Economic Affairs head of food security (GFIA conference presentation, March 2015) that the success of public private-partnerships is about building trust, open communication, a fair dialogue, and working in a true partnership, which respects the different rules and responsibilities of each of the players.

The farming community, industry and government research working in collaboration to gather information on existing developments to establish a record of compliance as well as investing in the testing of new approved technologies would give planners confidence in decision making. Developing a central database of statistical information of complying developments could change the requirements of intensive farming from designated developments to a complying development. This would reduce the burden of costs borne by individual farmers and decrease the time taken to gain approval for development.

Discussions with various planners, regarding the engagement of agribusiness representative bodies and agriculture's government representatives in the planning process showed their level of engagement varied from excellent to very poor.

In order to utilise the stretched human resources of agribusiness more effectively, it would be in agribusinesses' best interest if the planning and approval process for agribusiness development were dealt with by national-organisations, such as the Environmental Protection Agency (EPA). In this way engagement could be improved and a more specialised team of people could be employed to assess the applications relating to agriculture.

Chapter 4: Agricultural Land Preservation

Population growth and the desire to own agricultural land for its amenity value rather than its agricultural potential creates conflicting land use. Solutions which retain a supportive demographic and land in agricultural production are key to aiding in the reduction of nuisance complaints to normal agricultural production, which can give rise to objections when development of agricultural lands is proposed. Different methods of agricultural land preservation were investigated; this differed by country, as well as the states, counties, regions and municipalities within them.

Designated Areas for Agriculture

Zoning

Zoning refers to a set of guidelines which dictate the types of activity and building which can be done on a property. Each country visited possessed rural zoning guidelines, with the activities within the rural zoning being similar. The limitations of zonings are that they do not prevent the dilution of farming communities. There is no requirement when purchasing rurally-zoned land to undertake the practice of farming or the leasing of land in order that it be farmed. In this way there is a potential for the erosion of rural sensibilities when the issue of complaints and objections to agribusiness intensification and common agricultural practice occurs. Figure 19 shows the level of production and complaints over time at Te Mata mushroom farm in Hastings, New Zealand. The graph clearly displays the effects of reverse sensitivity as the housing comes closer to the existing land use.

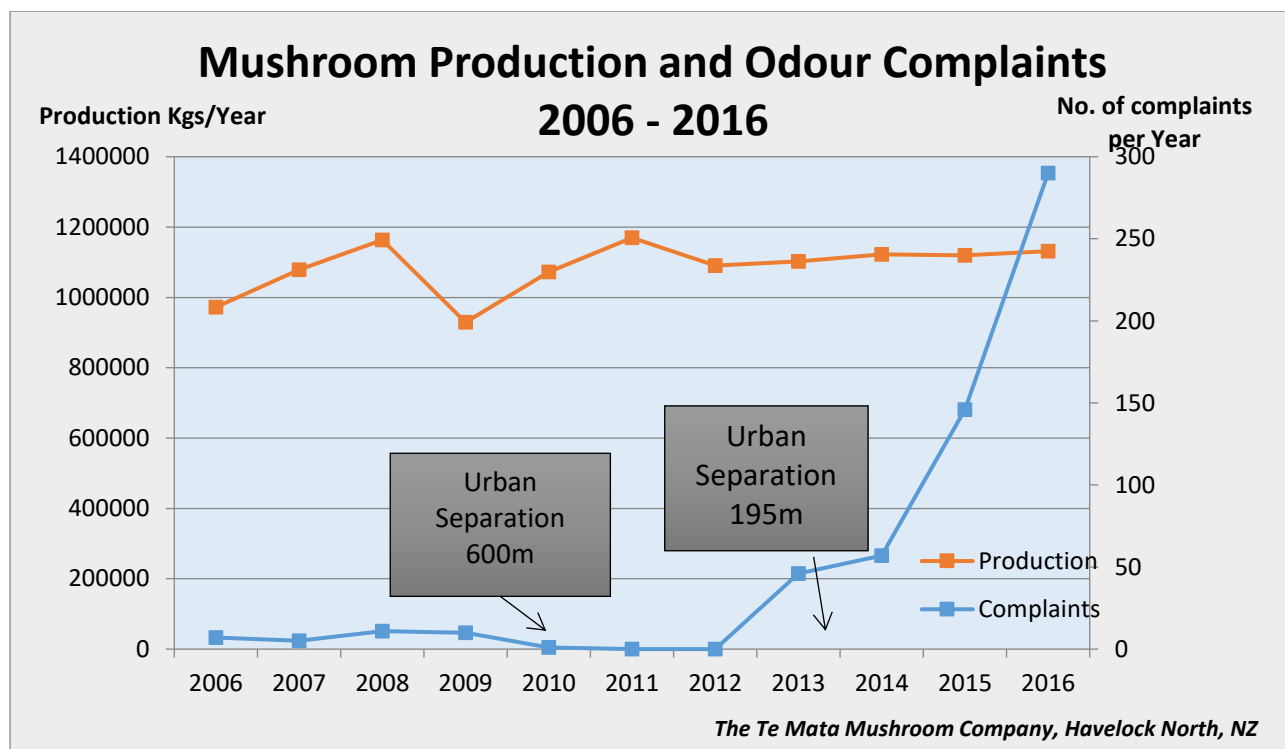


Figure 19: Te Mata Mushroom Company production and complaints data as housing has moved closer to the site (Source: Te Mata Mushroom Company, Havelock North, New Zealand, July 2016)

Designated areas

The Ontario Greenbelt Act was enacted in 2005, placing two million acres of land into the Greenbelt. The Act has various aims, including protecting highly productive agricultural land, allowing for conservation, tourism, resource extraction, environmentally sensitive transport infrastructure choices and limiting urban sprawl (Greenbelt Act, 2005, S.O. 2005, c. 1). During the visit to Ontario the Act was in its tenth year and under review. The farmers in the region had mixed feelings about the creation of the Greenbelt area and the effect on viability of smaller land holder's ability to expand or make changes. This resulted in farm land lying fallow or transitioning into estate living. (Niagara region's greenbelt plan review, 2013).

The review process has highlighted the need for assistance for farmers to create diversified business models, designed to ensure viability and retaining agricultural land in production. It is early days of the Act and it will remain to be seen how the many aims will coexist. A new dairy was observed being constructed in close proximity to a new housing development within the Greenbelt, suggesting that agricultural pursuits that are known to have associated odours and noise are being approved despite proximity to housing.

British Columbia (BC) created the Agricultural Land Reserve (ARL) in 1973. This Act covers 5% of the total land area in BC province. (Provincial Agricultural Land Commission, 2014). The Act is backed by a 'right to farm policy', taxation and growth strategy acts. Through its 40-year life span the land preserved in ARL has been traded for land further afield, increasing the amount of agricultural land but causing a decrease in the quality of attributes including soil, altitude and climate.

Incentive programs for retaining agricultural land for agriculture

Farm Land Trusts

Three land trust models were investigated during the course of travel.

In the United States, the government Farm Land Trust in the states of Delaware and Massachusetts plus a not-for-profit organisation – American Farm Land Trust – which operates in many states. The premise of the trusts is that farmers enter into a voluntary agreement that an easement is put on the land in order that the land be held in trust for the purposes of agricultural use. The land owner is paid a sum for the speculative value of the agricultural land and can receive benefits relating to taxation and relief from transfer fees. The advantages of such a program is that the speculative pressure on land is removed, easing the pressure of capital exclusion. Land in State trust is also given priority land usage by advising new buyers of potential disturbances associated with agribusiness pursuits, ensuring people are making informed decisions before purchasing in rural communities. Critical mass is also established as a pool of quality farmland is available for consolidation and expansion should scale be required, giving surety in investment for long term viability. Viability programs have also been introduced in Massachusetts to support farmers transitioning into value adding, direct marketing and business management. The limitation of the process is the voluntary nature of the programs, encouraging farmers to secure their land exclusively for a single use, can be off-putting. Farmers on the fringe who may not have a succession plan, or where the viability of the agribusiness is declining, may not appreciate the potential premium markets of non-rural development and lifestyle buyers being removed.

Land mobility and succession

In European countries, cultural sensibilities mean that agricultural land rarely comes up for sale, rather it is inherited. Ireland, through the young farmers association Macra Na Feirme and FDB trust company, has initiated a pilot program to facilitate the mobility of land in rural Ireland. This is achieved through facilitating leasing or share-farming relationships between land owners and other farmers. An attractive income tax incentive scheme has been established to encourage land leasing. Providing tax-free thresholds on rental income has seen an improvement in the productivity of land holdings, making land accessible for scale. The benefit of the program is that land can be retained in agricultural production under circumstances where succession within the family is not available, as well as being an avenue for young farmers to enter the industry without the need for expensive capital investment in land and equipment. An aging farming population without successors is not under pressure to sell land for non-agricultural pursuits, preserving the critical mass of rural production which is important for sustaining support industries and processors. Farmers have come under criticism for selling land to speculative and lifestyle buyers because of a lack of retirement funds; the implementation of this type of program would alleviate this pressure by giving farmers an ongoing income stream into retirement.

Government policy shaping agricultural practice and development

The level of importance that agriculture is given by the elected officials is critical in ensuring the long-term viability of farming in areas close to cities.

Common Agricultural Policy (CAP)

The European Union (EU) was established in the 1940s to foster peace and stability with the creation of a common market. Further to that, joint control over food production was decided in the 1960's so that everyone had enough to eat. (https://europa.eu/european-union/about-eu/history_en) It was recognised by the founding fathers of the EU that cooperation and strong policy for agriculture was essential to ensure stability in their region and reduce the threat of war over commodities. The CAP is a socially motivated tool to ensure production, viability and security for farmers and therefore the population of the EU. It was observed that the policy is a double-edged sword; it aids in keeping farm land in production by providing financial incentives to landowners in the form of direct payments, as well as funding

agricultural development through approved growth schemes called Rural Development Programs. Over the decades the CAP funding focus is changing focus from food supply to environmental management and stewardship of land, for the benefit of society as a whole. The CAP payments are also said to stifle innovation, skew the market and maintain farmers in unproductive systems. A removal of the CAP direct payment scheme would see a reduction in the number of farmers, consolidation of holdings as farmers attempt to gain scale, plus increasing pressure on agricultural land for speculative and lifestyle living. Whilst benefits were observed in Europe, it was clearly evident by the response of Australian farmers at the Contemporary Scholars Conference (Rheims France, March 2015) that this system would not be favoured by Australian farmers.

Right to farm legislation and policy

Right to Farm policy and legislation was investigated in the United States and in NSW, Australia.

The premise of the right to farm legislation and policy is that farming can create a disturbance to those residing close by, but if no environmental damage is being done farming practice can continue. The aim of these types of measures is to create awareness of the farming activity. This however does not stop farmers having to defend themselves against nuisance lawsuits or delays in development. Kyle Broshears, a farmer from Indiana, has spent two years in litigation with neighbours and other parties defending an approval to construct a hog barn on a rural property despite right to farm legislation (personal communication, 28th July 2015). This legislation has not been enacted all over the United States; some states have the support of the population and a strong connection to farming. Other States, such as Georgia, focus on supporting agribusiness through taxation, infrastructure and creating markets by encouraging the growth of manufacturing industries related to food production.

In a meeting, Gary Black, the Agricultural Commissioner in Georgia, explained that the focus should not be on the land, but on the farmer, as they are the best custodians of the land. The idea being that, if farmers are supported through government policy and given market opportunity, their ability to remain viable will ensure the land remains in agricultural production. (Gary Black, personal communication, 27 July 2015).

Resource accounting and mapping

One of the remarkable things about the countries visited was the exceptionally good growing conditions, in terms of water availability and climate that are enjoyed by the world, with the exception of Abu Dhabi and Malta. The mapping of land in NSW is primarily focused on soil quality capabilities, without consideration of climate as a contributor to the sustainability of production in a region and is not used in land use planning. There is value in assessing the versatility of land when grading and zoning areas. Research for production potential in regions based on their climatic qualities is being collated in New Zealand, this practice should be adopted and used in land use planning in Australia.

“One of the issues that we have found is systems which look at the soil are incapable of capturing a lot of the aspects that make land the most productive. Natural capital calculators, like Flanders Versatile, uses a number of factors like labour, access to markets, the right climate and access to water, all of these things that make it possible to utilise the land for high value use”. (Chris Keenan, personal communication, 13 July 2016).

One of the main objectives of the American Land Trust was to advocate for a review of urban living. This could be a solution to the pressures on green-field land release and the desire to move to rural areas. Australia would benefit from the intensification of suburban living and a rethink of what is desirable in a living space. This could satisfy the need for economic turnover and the need for more affordable housing, maintaining a critical mass of people close to the cities where people work, while maintaining agricultural land for production.

Chapter 5: How are farmers on the fringe adapting to a changing landscape in order to remain viable?

The effects of a changing landscape can be viewed by farmers in a positive and negative light as it can provide both challenges and opportunities. Depending on the perspective and financial situation, the options are to fight to retain the current activities or adapting to the changes in sensibility. Many options were observed during the course of travel.

The options

The fight

Farmers around the world are taking on the cost and risk associated with development, including lengthy court battles, in order to gain approval for developments which are not deemed by objectors as acceptable. Fraser Jones, from Welshpool in Wales, spent six years fighting for approval for a dairy upgrade and expansion project on a pre-existing site.

Despite some negative public sentiment towards intensive and large developments, there is scope within society for these developments, which fill the market with affordable produce. It was recognised that quality representation, good engagement, perseverance and funds are the most important aspects to see the fight through.

Flying under the radar

Developing slowly by adding to existing operations in small amounts rather than applying for large developments can reduce the time spent fighting and cost associated with larger development applications. This approach seems to generate less fear than a complete development which are often dubbed “mega” or “super” by objectors.

It was also suggested that building without permits, in the hope that no one will notice, then getting retrospective approval was an attractive option, as opposed to the development process involving community consultation. The appeal in doing so is apparent; building or growing an agricultural business and operating for a substantial amount of time without complaint can be in a farmer’s favour. Gaining retrospective approval for facilities that contribute to employment and the local economy, has the potential to provide evidence of

good environmental outcomes, which can make more economic sense than the lengthy delays experienced by intensive operators seeking to expand. There is however the risk of having a demolition order placed on the facility. A farmer in Georgia, USA suggested that asking for forgiveness was easier than asking for permission, as dealing with the authorities after the fact was easier than dealing with the red tape and emotive reactions of the public.

Adaptation

Fast food chains have taken up the call of consumers, consumer groups and activists into changing the nature of farming. Hungry Jacks in Australia pledged to stop the use of caged eggs by the end of 2017, or sooner if possible. There would appear to be an opportunity in this for farmers in developing new farms, given that the push for new growing systems is coming from community sentiment.

Diversification

A diversified system of production, including different farming system options and value adding to production, was observed to provide stability and reduce the effects of volatility by ensuring the income stream is not sourced from the one activity.

Niche markets

The consumer is looking for food choice options which presents an opportunity to capitalise on this desire. The free-range market is increasing its approval rating among the higher socio-economic groups who can afford the premium required to produce in an extensive system, at a lower density, with higher land requirement. This can be an attractive option for agribusiness expansion as many of these extensive systems do not require development consent and therefore the community consultation requirement is avoided.

Retail Options

Direct marketing of produce from farm as well as surrounding farms, in order to harness more of the value chain is a growth option used to aid in viability. The forms of direct marketing observed were shops and home delivery services. The scale depended on the access to population; larger fringe population and more commercial the shops became. Shops varied from a single value-added product, for example ice-cream from a dairy to multiple produce and value-added products for sale in Delaware.

Agritourism and services

Capitalising on the desires of people by selling the experience of farming was an area that was investigated. Restaurants and cafés, accommodation, adventure activities and boutique conference facilities in idyllic spots were examples viewed in countries visited. The public's desire for adventure away from city life includes experiencing farming activities in rural settings. In terms of pressure on development, agritourism could be a good alternative for people to visit rural areas, rather than live there. "Pick your own fruit" tourist attractions also have labour-saving cost benefits. It was observed that many of these ventures began small, with the re-development of existing farm buildings and flowed on to bigger developments requiring development consent.

Value adding

Value adding is the entrepreneurial step from pure commodity production to creating a new market for commodities through further processing for consumption. Adding a manufacturing component to the business increases viability by returning more money to the farmer, the premise being that the farmer needs to be successful for the chain to work.

The Martin Family from Ontario (personal communication, November 2015), began growing apples in the early 1970s and selling fruit in local markets, then expanding by building a packing house and marketing domestically and internationally, with 40% of the total grown themselves and 60% from local growers. The downgrade apples were traditionally sold for juice and apple sauce production; the family business invested in manufacturing equipment to produce Martins Crispy Apple Chips.

Another value adding family business was visited in San Diego where avocado oil was extracted and not only was the oil sold but the oil itself was made into beauty products.

Chapter 6: Innovative solutions for production with fewer resources

Moving forward, the challenge is one of acceptance to the inevitability of change and deciding how those changes will be managed. Increasing global population's need for food will see an increased pressure on natural resources including water, land, people and climate.

Agriculture has historically done well in developing new innovations. As the population has become urbanised, technology has taken the place of people and animals.

Many innovative methods were observed being employed by farmers in order to adapt to changes in growing conditions which ensured viability for these farmers, despite the prioritisation of other needs ahead of agriculture. For example, Hans Hassel, CEO of Plantagon, designs high rise buildings incorporating vertical farming into residential, retail and office buildings. Sky Greens in Singapore has 30 glass houses on 5.3 hectares of land, producing fresh Asian greens into Singapore which would otherwise import all of its food requirements. In Chicago hydroponic greens and fish are being grown in re-purposed warehouses, using fish water for plant nutrients. Drip irrigation technology from Netafim allows targeted use of water, enabling areas that are extremely arid and hot to produce food. Environmentally controlled systems utilise technology to create environments within areas that would otherwise not support many particular types of production.

Agribusiness is well placed in its ability to deal with land and climate change. This can be counter-productive for prioritising current agricultural land, as it can re-assure decision-makers that food security can be maintained with less land, hindering efforts to preserve quality land close to cities.

Conclusion

What could Australia learn or adopt from other countries?

This study into the global challenges and potential solutions for the intensification and development of agribusiness has been broad and varied. The topic is, in itself, complicated as it relies heavily on managing people's fears and uncertainties; the feeling of confidence in a situation needs to be established for development to occur.

Recommendations for farmers prior to development

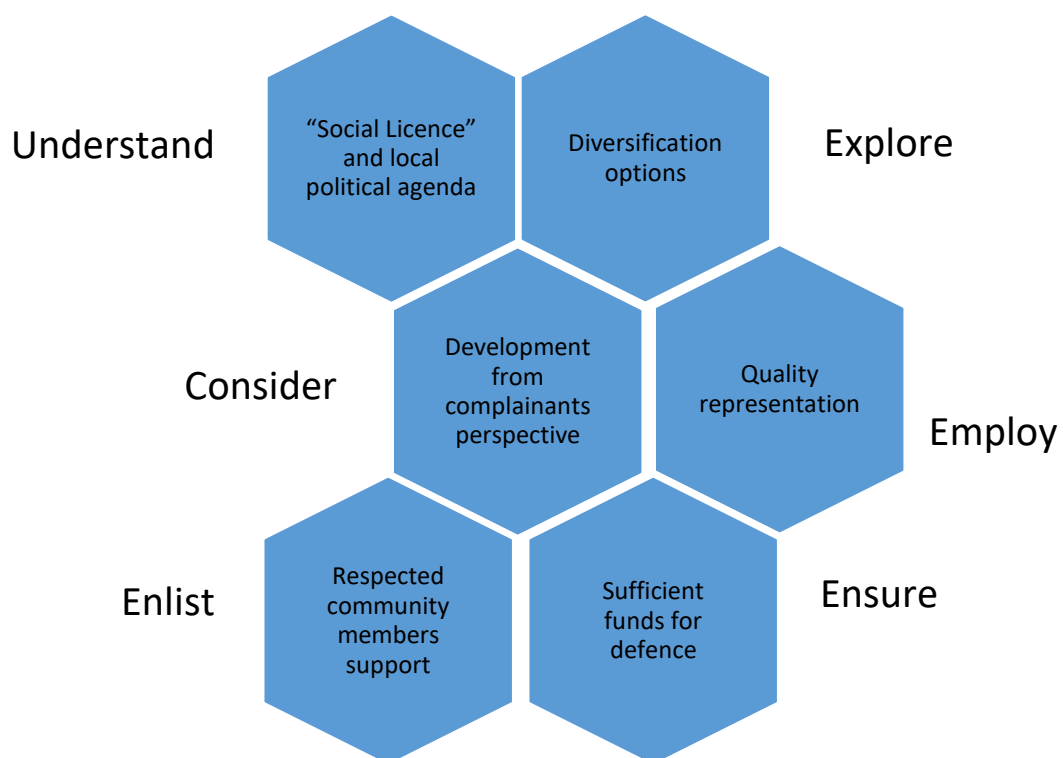


Figure 20: Recommended Steps for farmers considering designated development, (B. Mortensen, 2016)

Figure 20 outlines some key areas to guide and focus farmers looking to intensify, expand or develop their land. Having situational awareness of "social licence" and managing the fear response to change cannot be underestimated. Time and money can be saved by engaging with community stakeholders early. In doing so, Farmers have an opportunity to allow for

potential objectors fears and desires to be factored into development proposals, before investment in the proposal documentation is made. The understanding gained may send a farmer onto a different path to diversification based on their specific “social licence”, for example, niche products like ice-creams or agri-tourism. The understanding gained may allow for farmers to build “social licence” through the engagement of local “thought leaders”. Thought leaders are respected members of the community, who are able to influence the greater community. By engaging these types of people, the desires or fears of potential complainants can be mitigated or built into the development plan. It is true however that a farmer may have the rights under planning law, engage with stakeholders, explore diversification and still not gain “social licence”. There are times where the only solution is to ensure that the development proposal is still viable with the added cost of defending the proposal. The defence of the proposal can easily equal or exceed the original development documentation cost.

During the course of the study a variety of different legislation, policy and schemes were investigated to discover ways in which agribusiness could remain viable in a changing landscape. In analysing these there are a range of goals against which they have measured. Figure 21 summarises the desired outcomes of the research in terms of retaining agricultural land in production and limiting changes to the rural demographic. The green sections indicate the achievement of the study goal. As shown, no one policy achieves all of the goals. Australia is in a position to learn from international legislative experience in determining and establishing its own. The best policy for the Australian context will be a combination of the of key legislative features from around the world.

		Study Goals							
Program/Practice	Country Practice Observed	Promotes the Retention of Ag land	Recognition of food security	Consistent approach to growth	Prioritises agriculture	Reduces speculative pressure	Informing public of rural expectations	Improves agribusiness options	Promotes land consolidation or limits fragmentation
Zoning	All Countries								
Designated Areas (Green Belt)	Canada								
Development Rights Purchase	USA								
Land Mobility Scheme	Ireland								
Right to Farm Legislation	USA								
Common Agricultural Policy	Europe								

Figure 21: Study Goal outcomes for agricultural land retention and development schemes investigated (B.Mortensen, August 2016)

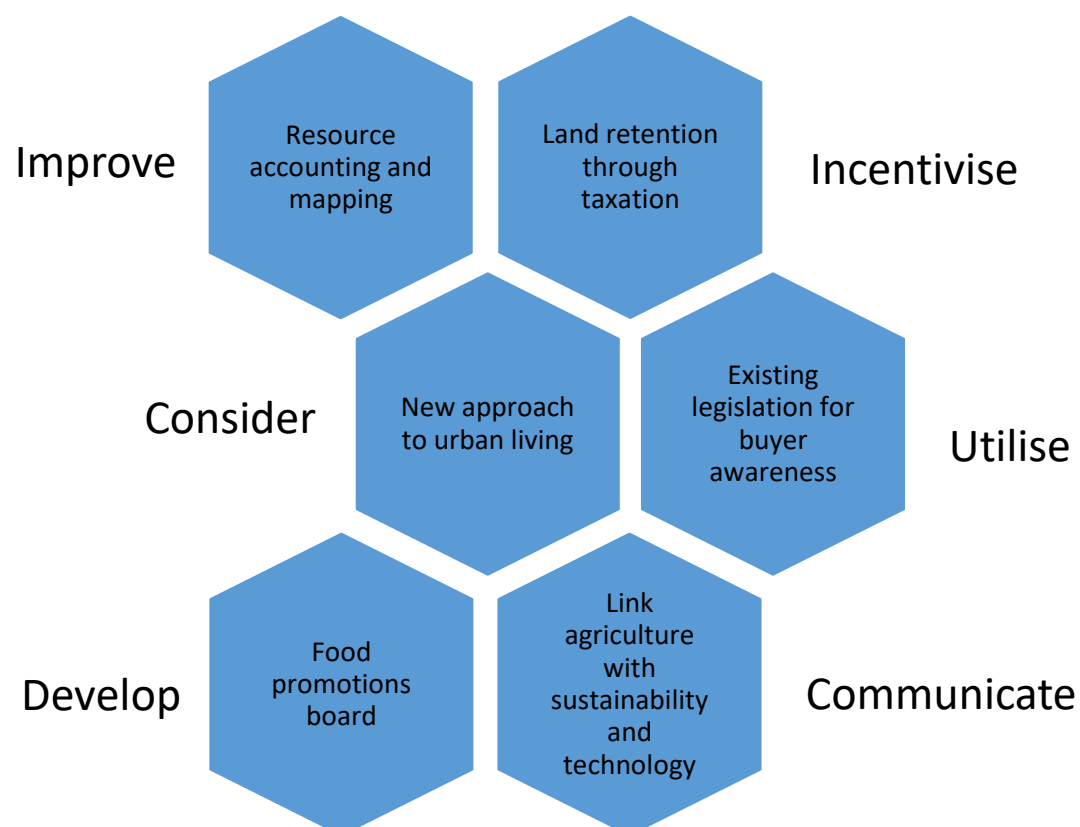
Of interest, it was noted that although rules can be established permitting or restricting people's use of land through legislation and policy, these same rules can be challenged by objectors and are subject to the changes of government priorities. Options such as 'Right to Farm' legislation, 'Zoning' and the 'Canadian Green Belt' did not overcome the challenge of the changing demographic, which is a bigger contributor to failed development attempts than lack of legislation. It is the author's opinion that coupling supportive designated areas and 'Right to Farm' legislation with taxation incentives, such as the 'Land Mobility Scheme' investigated in Ireland, would reduce the pressure on development applications by managing the changes to the rural demographic.

Australian farmers have come under criticism for selling land to speculative and lifestyle buyers to secure retirement funds; the implementation of a program which encouraged the leasing of land to other farmers has many benefits. The first benefit is to new entrant farmers or existing farmers not burdened with the capital expense of purchasing land, allowing for

capital to be spent on developments. Secondly it would alleviate the pressure of farmers having to sell their land to the highest bidder by giving farmers an option of a tax-free income stream into retirement. Lastly, an incentive of this nature would ensure a continued critical mass of farming activities, which has positive impacts not only on the sympathetic rural demographic but also on the economic front where services provided to agribusiness can be maintained.

Figure 22, below, summarises specific areas, which if addressed in Australian would ease the challenges on agribusiness development. These have the potential to retain agricultural land in production, build confidence in agribusiness “social licence” and reduce the pressure of urban sprawl.

Recommendations for retaining critical mass of quality farm land and building broader “social licence”



***Figure 22: Recommendations for retaining agricultural land for agricultural production
(Bernadette Mortensen, August 2016)***

Prioritising natural resources is recognised as an essential aspect of continued prosperity for humanity and the environment. Collaboration between industry, research and government to implement an improved method of natural accounting such as Flanders Versatile, is needed. The Flanders Versatile model encompasses more aspects of a system's sustainability giving a broader view of what makes an area suitable for agriculture or housing.

Redefining society's outlook on living and housing requirements would aid in land being retained in production and conserve more natural beauty for society to enjoy, rather than seeing hectare upon hectare of land converted for our current housing preferences. People are generally concerned with the environment and enjoy the "great outdoors" and natural settings to "escape" to. Beginning a new trend where downsizing or minimalistic living is attractive, socially more acceptable, better for themselves and the environment could be marketed to people. BASIX is a NSW planning approval system, setting minimum standards of energy efficiency and environmental considerations. Expanding this to include land use would reduce the requirement pressure of green field sites. Redeveloping the existing house and land packages to medium-to-high density alternatives and allowing for greater shared green spaces, would be an option. If the sprawl of urban developments is limited, creating higher densities of population in existing areas, it would allow greater investment in existing infrastructure as it removes the need to spread economic resources to provide and maintain new roads, schools, water and sewage.

Engaging with the consumer base in a language and style that is consistent with modern forms of communication is an expensive exercise, yet is an essential step in gaining consumer confidence and "social licence" to operate. As an industry, investment in mainstream media campaigns, as was done in Denmark by the Danish Agriculture and Food Council, connecting consumers to the benefits to society of Australian agriculture. The positive message of practices using modern technology can be connected to sustainability, such as reduced fuel usage though the implementation of GPS technology or improved animal welfare outcomes through housing design. There is an opportunity to learn how to be visible to the consumer base from the successful campaigns run by the opposition, utilising similar crowd-funding techniques and encouraging influential people, "thought leaders" to be spokespeople for the industry. It was noted that the use of language in planning documents can support objectors

in their complaint process, which makes it important for industry and farmers to be involved in the periodic planning policy review process.

The importance of developing society's confidence or "social licence" in agricultural systems and technology cannot be understated in terms of planning opportunity and flexibility for agriculture. Collaborative investment by the farming sector and government to generate a database of complying development would be useful. The aim would be to give community confidence by testing technologies to mitigate the impacts of development. A database of approved technologies is required to speed up and reduce cost of the approvals process, by giving planners confidence to approve developments, rather than operate under the precautionary principle theory.

Consolidating the responsibility of agribusiness development approvals to a single national agency like the EPA would be a huge benefit to Australian agribusiness, ensuring the resources are well utilised and that a specialist team could be assembled which understand the needs of agribusiness.

Agribusiness is well placed in its ability to deal with land and climate change through innovative solutions. This however can be counter-productive for prioritising current agricultural land, as it can re-assure decision-makers that food security can be maintained with lesser quality land or environmental conditions, hindering efforts to preserve quality growing conditions close to cities.

It is illustrated by the many cultural revolutions throughout history that social licence is a powerful force, capable of disrupting the very fabric of society. It is clear that managing and working to bolster social licence is key to future expansions of agribusiness. Understanding and working within the social licence of an area can be a cheaper and easier option and lead to new opportunities. In terms of natural resource management and cost, the existing social licence can sometimes not be the best option. It is in these instances that agribusiness must be proactive in building repour with communities by ensuring there are charismatic leaders communicating the benefits and importance of agribusiness.

Recommendations

When making development applications farmers need to:

- Understand the local “social licence” and local political agenda
- Explore diversification of existing systems and value adding to ensure viability
- Consider development from a complainants point of view
- Employ quality representation to engage with planners and complainants
- Enlist people of community standing without vested interest to support development
- Ensure funding for legal defence of the application.

Industry investment co-ordinated to:

- Link consumers with agribusiness’ use of technology, resource management and relevance to society using mainstream media to connect
- Develop display farms to display technology and common practice to the public

Government should:

- Promote agricultural land preservation through an introduction of a tax incentive program for the retention of agricultural land in production.
- Improve agricultural land preservation through an improved approach to resource accounting and mapping.
- Develop a consistent approach to development applications, by removing the application for intensive designated development to specialist teams within the Environmental Protection Agency rather than local government.
- Re-evaluate the release of land for sprawling development, rather investing in a more concentrated living environment for people.
- Local government should communicate with purchasers of the rural nature and possible disturbances in rural areas by using the Section 149 planning certificates.

Industry and Government Collaboration is required to:

- Create a database of complying development data and approved technologies for use by approval agencies.

- Developing trust, cooperation and collaboration between government bodies and industry to support growth through joint fact finding.
- Develop a food promotions board.

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McCutcheon, Brian (13th June 2016) Personal Communication, Director, McCutcheon, Halley, Walsh Chartered Planning Consultants, Cork, Ireland

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Plain English Compendium Summary

Project Title	Land Use and Development Farming viability in a changing landscape
Nuffield Australia Project Number Scholar Organisation Address Phone Fax Email	1522 Bernadette Mortensen Palm Maire Farms and Bloodtree Orsus 80 Bloodtree Road, Mangrove Mountain, N.S.W. 2250. Australia. +61 488021241 +61 2 43741233 b.mortensen@bigpond.com
Objectives	The key areas of investigation were the challenge of urban sensibilities on rural development and practice, the effect of urban sprawl on existing land use, as well as the use of policy and legislation in shaping agribusiness growth
Background	Agribusiness is facing a public relations issue which threatens the viability of farming in areas of high natural resource value close to cities. The agribusiness industry is under pressure from community expectations to modify their development plans to suit urban expectations, or at least not in their backyard.
Research	To research the management of development objectors and methods to retain agricultural land in production. Countries with a high urban density, export production and or similar constraints of landscape. 16 Countries were visited in 23 weeks over 15 months
Outcomes	The key findings are that the world faces a resource management challenge which will require a renewed approach to communication, flexibility and understanding in planning and farm diversification, in order for farmers to remain financially viable and feed our growing global population
Implications	Communication and collaboration of agribusiness industries will be essential in gaining support for high quality land preservation and the management of objectors. Mainstream media investment is needed to spread the positive message of the technology employed by agriculture is the future.
Publications	Presentation, at Nuffield National Conference, Adelaide, SA, September 2016