

EXAMPLE OF AN APPLICATION FOR THEME 1: MANAGING NATURAL CAPITAL

Subject: Progressing a Sustainable Agriculture Standard for Australia: Lessons from the USA
Summary: <p>The aim of this research is to progress the development of a sustainable agriculture standard for Australia with a particular focus on standards and frameworks for recognition and trade of sustainable food, fibre and ecosystem services from the farm gate, based on lessons from the USA experience of the development and use of both the National Sustainable Agriculture Standard (ANSI/LEO-4000) and the recently announced ANSI/ASABE S629, Framework to Evaluate the Sustainability of Agricultural Production Systems. There is a demand for clean, green sustainable agricultural products produced within sustainable agricultural systems, however there lacks the appropriate governance for recognition, validation and trade to occur. This research will include a USA case study literature review, semi-structured interviews and comparative governance analysis.</p>
Description:
Background <p>As each day passes over 200,000 people are born into to an already stressed planet (Tollefson 2011). Based on this global trend humanity requires a doubling of the current food production by 2050 to ensure we can feed the expected 9 billion people (FAO 2009). Is this possible in a world where there is now critical global natural resource scarcity, in particular water? Forty percent of the global grain yields have reached a photosynthetic ‘glass ceiling’, water resources in particular ground water are plummeting as are forests, soils and fisheries resources (Brown 2013; Postel 2010; European Commission 2014) with new land use conflicts emerging in rural regions across the planet including coal seam gas, biofuels, hydro power and large scale mining further threatening food production and biodiversity. At the same time food waste (a developed country issue driven largely by market forces) is estimated to be around 30% of the food produced globally (FAO 2013) giving rise to new forms of social justice issues for the world’s poor and implications for carbon and water footprints. Coupled with global population growth is a shift from a world that was predominantly rural based (1950 being 70%) to an expected 70% urban based population around 2050 (WHO 2014) raising questions of a potential further disconnect of humans from the environment and the sustainable carrying capacity of the Earth. Human populations became more urban based around 2010 with urban centres occupying just a few percent of the Earth's land surface yet consuming the majority of the Earth’s resources (WRI 1999).</p> <p>Small peasant farms and First Nations Peoples are managing food and biodiversity resources for the global community. It has been estimated that of the 525 million farms worldwide 85% are smallholders who cultivate plots of land around 2 hectares with these small farms producing the majority of food collectively (IAASTD 2009). Similarly, 80% of all biodiversity on the planet thrives in the 22% of global territories home to 370 million First Nations Peoples of the world (Corntassel and Bryce 2012). Reflecting the struggles of peasant farmers and First Nations Peoples, the La Via Campesina movement attended the United Nations Human Rights Council in Geneva in 2014 to advocate for the drafting of the ‘International Declaration on the Rights of Peasants and People Working in Rural Areas’ (La Via Campesina 2014). There are inherent social justice issues when Agrarian communities and First Nations Peoples are providing the majority of the global food production and protecting biodiversity resources for the dominant urban consuming users, yet are continually disempowered, dispossessed and disadvantaged by political and market forces driven by</p>

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dominating urban world views. The global pattern of marginalising Agrarian communities and First Nations Peoples is entrenched in Australia, as demonstrated in the new land use conflicts emerging in recent years particularly between the largely incompatible land uses of mining and agriculture, which has raised the question about the recognition and protection of sustainable agriculture and the Agrarian communities and First Nations Peoples who are 'caring for and on country'. This persistent lack of leadership to protect sustainable agriculture places Australia at risk in ways that are not being considered: collapse of the very human communities that underpin and manage these vital agri-environmental systems.

In Australia around 75% of native vegetation occurs on land mapped as agricultural (Harris-Adams et al 2012) which is of interest considering there are approximately 134,000 farm businesses in Australia, mostly family owned and operated (National Farmers Federation 2012) in a market environment where Australian farmers are the least supported in the world with producer support of 3%, the second lowest in the OECD (Australian Broadcasting Corporation 2014). Given the advent of native vegetation management laws of the cooperative federalism initiatives of the early 2000s, we collectively have engendered a challenging environmental responsibility for Agrarian and First Nations communities given the relatively small population base of 23.5 million (Australian Bureau of Statistics 2014a) and uneven distribution. Australia is one of the most urbanized countries on the planet with 87% of the population living in approximately 3% of the landscape (predominantly urban environments) and the remaining 13% of the population living in outer regional and remote Australia (Australian Bureau of Statistics 2014b). Natural resource law changes since the 1980s has led to Agrarian communities (around 60%) and First Nations Peoples (30%) managing most of the Australian landscape on behalf of all Australians, a consideration largely lost to urban communities and politicians. Are the costs and benefits distributed equitably in this shared responsibility: it doesn't seem so. Agrarian communities invest billions in NRM each year with First Nations Peoples investments largely unknown at this point: why do such significant public good investments on behalf of all Australians continue to be invisible in the current governance system? How can these communities sustain the resilience required to produce sustainable food and fibre and ecosystem services in such challenging political and market environments?

The distribution of both human populations and environmental assets combined with market forces and limited public funded farmer support has created challenges for the desired agri-environmental outcomes expected to be delivered by the general community of Australian rural communities. Australia is highly urbanized with 87% of the population living in approximately 3% of the landscape (predominantly urban environments) and the remaining 13% of the population living in outer regional and remote Australia (Australian Bureau of Statistics 2014c). Native vegetation laws in each state and territory since the early 2000s (Beeton et al 2006) have limited agricultural activities and at the same time vesting an enormous collective responsibility for biodiversity, water quality and native vegetation management to the farming sector with little if any shared cost burden of the provision of public good NRM from the farm.

Despite Australia being considered as one of the world's most efficient agricultural producers, it is questionable whether farming businesses in Australia can be sustained in an environment so unsupported, yet expecting to grow GDP and undertake public good natural resource management without equitable sharing of the costs and benefits between urban and rural communities. The argument is not to justify subsidies, instead the need for sharing the costs

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and the benefits between urban and rural Australia of the provision and maintenance of environmental assets and services that provide benefits for the broader community. Currently there is a vacuum for the appropriate governance systems and associated instruments to facilitate the recognition and trade of sustainable food, fibre and ecosystem services.

It is estimated that farmers invest at least \$3 billion annually in NRM and \$314 million annually in water related management activities (Australian Bureau of Statistics 2006; Australian Bureau of Statistics 2007; Australian Bureau of Statistics 2008). This is further exemplified in the Agricultural Resource Management Practices 2011-12 (Australian Bureau of Statistics 2013), which found that around 32% of all agricultural businesses reported setting aside a collective total of 8.4 million hectares of land for conservation or protection purposes. Farmers also revegetated nearly 70 million hectares of land with the main purposes being for livestock production (54% crop to pasture), environmental purposes (44% native vegetation) and plantation for harvest (1%). 68.9 million hectares of agricultural land had some sort of vegetation management practices undertaken with around 64% of this area having a reduction in grazing pressure to protect or regenerate vegetation. Weed management was undertaken on around 14.7 million hectares and fencing off or excluding stock was undertaken on around 3.8 million hectares, with 3.7 million hectares of agricultural land having soil improvement activities. Despite these significant stewardship related contributions, these investments remain largely invisible to governments and the broader community.

The failure to recognise farmers' public good NRM contributions (both on-farm and off farm) has ongoing implications as highlighted in the recent Inquiry into the Regulation of Australian Agriculture (Productivity Commission 2016) that found there is a cumulative burden of regulations with Australian farmers requiring better, less burdensome regulation and more integrated systems of governance to demonstrate good environmental management and sustainable systems. To support Agrarian communities and First Nations Peoples the definition of 'sustainable agriculture' in Australia in the 21st Century needs to be revisited: it needs to reflect sustainable food, fibre and the very ecosystems and human communities that underpin these services. The last attempts to define sustainable agriculture for Australia was in 1997 (see Natural Heritage Trust of Australia Act 1997 Cth) and 1998 (Standing Committee on Agriculture and Resource Management 1998), which failed to operationalize and recognise sustainable land managers and their communities. A suggestion in the Australian Parliament (House Debate 25th June 2014) to explore a Landcare certification system has merit as this could provide recognition (Williams 2011) at the farm gate and along the value chain of ecosystem farming approaches that have benefits for all Australians. There is a strong role for a sustainable agriculture standard to facilitate recognition, trade and cost sharing, that was identified in a workshop held in Canberra in 2009 (Williams et al 2009) however lack of government and industry leadership has seen little progress.

Importantly we need to recognise and support the very people who manage most of nature on our collective behalf, it won't be too long before globally 70% of humanity will rely on the remaining 30% to feed them and ensure that the very ecosystems that support life on this planet remain healthy and functioning. Australia has valuable lessons for a rapidly urbanising world, of the potential disconnect between humans, the environment and agri-food systems and the importance of a recognition system for sustainable agriculture to empower and recognise Agrarian communities and First Nations Peoples are important stewards of the environment and healthy food systems.

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How can Australia support and equitably share the costs and the benefits agri-environmental outcomes delivered by Agrarian communities and First Nations Peoples? This requires a clear definition, framework and standard of what constitutes sustainable agriculture that aligns with catchment, regional, national and international targets, treaties and outcomes.

Aim

This research intends to build on the existing foundation of my research work on a conceptual framework for sustainable agriculture in Australia (Williams 2011) that underpins agri-environmental outcomes from sustainable resilient ecosystems and Agrarian and First Nations communities.

The aim of this CRP fellowship research project is to investigate the applicability of the 'USA National Sustainable Agriculture Standard' (ANSI/LEO-4000) and the 'ANSI/ASABE S629 Framework to Evaluate the Sustainability of Agricultural Production Systems' to the Australian jurisdiction to facilitate recognition and trade of sustainable food, fibre and ecosystem services from the farm gate.

Methodology

The methodology is based on social science methods including a case study analysis via a literature review (USA being the case study), qualitative research (semi-structured interviews) and a comparative discussion on the applicability of transferring the USA standard and framework approach to the Australian jurisdiction.

* Literature review of the USA case study:

Identify crucial elements of the National Sustainable Agriculture Standard (ANSI/LEO-4000) and the ANSI/ASABE S629 Framework to Evaluate the Sustainability of Agricultural Production Systems

*Identify key stakeholders/actors along the sustainable agriculture value chain

*Identify the key linkages and pathways from policy to practice of sustainable agriculture

*Compare the synergies and barriers of governance for applicability of the USA National Sustainable Agriculture Standard (ANSI/LEO-4000) and the USA ANSI/ASABE S629 Framework to Evaluate the Sustainability of Agricultural Production Systems to the Australian jurisdiction

*Develop key questions from the literature review for semi-structured interviews of key stakeholder/actors to explore in depth more details of: the USA National Sustainable Agriculture Standard ANSI/LEO-4000; the USA ANSI/ASABE S629 Framework to Evaluate the Sustainability of Agricultural Production Systems, and USA policies and programs for sustainable agriculture

*Interviews (based on semi-structured questions informed from the literature review) of:

Sustainable Agriculture Policy and Program personnel
Standard and Framework organisations

Farmer/producer groups

Environmental groups

Individual farmers

Other key stakeholders/actors along the sustainable agriculture value chain

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*Report on the lessons from the USA National Sustainable Agriculture Standard (ANSI/LEO-4000) and the ANSI/ASABE S629 Framework to Evaluate the Sustainability of Agricultural Production Systems and the applicability to the Australian jurisdiction informed from the case study literature review, semi-structured interviews and comparative governance analysis.

Time frame

***Literature review:**

- Preliminary research prior to USA visit July 1st to 31st 2017
- Develop preliminary semi-structured interview questions
- Undertake ethics application and approval

***In depth case study research at Penn State University:**

- 1st to 14th August 2017

- Semi-structured interviews:

***Various locations in the USA (identified through case study analysis) and by phone:**

- 15th August to 14th September 2017

***Comparative governance analysis:**

- Preliminary research prior to USA visit July 1st to 31st 2017
- Incorporated in case study analysis and interviews

***Draft Report:**

- 15th to 29th September 2017

Mutual benefits

Australian farmers efficiency with little agricultural support (1.3% in 2015) may provide innovations and opportunities for USA (9.4% agricultural support in 2015). However both countries are still well below the OECD average of 17.6% and the research could potentially provide pathways to more appropriate governance for sharing the costs and benefits of sustainable agriculture systems (OECD 2016) through synergies of development of sustainable agriculture governance systems (both of which are cooperative federated government systems) and opportunities to establish comparative case studies in USA and Australia to build a collaborative research foundation on sustainable agriculture governance systems beyond the limited scope of organics.

Hosting Unit facilities and organisation of the stay

The University of New England and Penn State University have had many years of strong collaboration between the two regionally focussed institutions with a Memorandum of Understanding signed in 2014 formalising the global collaboration on regional issues. Professor Ted Alter is based at Department of Agricultural Economics, Sociology and Education at Penn State University. He is the Professor of Agricultural, Environmental and Regional Economics; Co-Director of the Center for Economic and Community Development, and Scholar in Residence at the Sustainability Institute. Professor Alter has had an association with the Australian Centre for Agriculture and Law (AgLaw Centre) at the University New England (UNE) since 2010, and has held an appointment as adjunct research fellow with the UNE Law School since 2011. Professor Alter has been a grant partner and research collaborator with the AgLaw Centre in the Australian Research Council funded 'Next generation rural landscape governance for Australia' (www.nextgengovernance.org) from

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2011 to 2015 and in the current Cooperative Research Centre Invasive Animals ‘facilitation of effective action’ initiative (<http://blog.une.edu.au/aglaw/files/2012/12/FINAL-INVASIVE-ANIMALS-CRC-WORKSHOP.pdf>) Penn State University often host researchers from the University of New England in particular collaborative researchers from the AgLaw Centre. They have the required resources such as expertise in the subject area and office/computer space, library and data resources to utilize for the proposed fellowship on sustainable agriculture. Professor Alter also has a wide range of networks both domestically and internationally in the field of sustainable agriculture.

Relevance to the selection criteria

*The promise of a relevant contribution to the achievement of the aims of the Programme: this research proposal is cross-disciplinary and is focused on the social, economic and environmental elements required for a sustainable agriculture standard for Australia. To ensure sustainability of the natural resource base and the human communities who steward these resources and produce sustainable food, fibre and ecosystem services, the appropriate instruments and governance to recognise and trade sustainable agricultural products is required. The outcomes of sustainability, food security and nutrition could be achieved through new innovative instruments and governance systems. A standard for sustainable agriculture in Australia is the key instrument required to build such a new governance system.

*Relevance to the Theme objective: this research proposal aligns with the theme ‘Managing Natural Capital for the Future’ as it aims to progress a sustainable agricultural standard for Australia to address the vacuum that exists in the production, recognition and trade of biologically sound food and fibre and ecosystem services delivered from the farm gate. This delivers on the requirements of ‘Integrated Agricultural Production Systems’ under the ‘Managing Natural Capital for the Future’ theme.

*Scientific excellence: the proposed research is underpinned by social science methodologies of which the fellow applicant can demonstrate extensive experience in prior research (see publications list). This research requires skills, experience and knowledge of the physical sciences, social science, law and governance

*The feasibility of achieving the goals: the activities and time frame to conduct the research is feasible, based on past research undertaken by the fellow applicant. The fellow will undertake considerable preparatory work prior to the USA visit so that the 8 weeks are utilised most effectively and efficiently.

*The scientific record and achievements of the fellow applicant: the list of publications (and awards) provided demonstrates the publishing record and achievements in particular across disciplines (including science), which is an extremely difficult task to successfully undertake and publish.

*Crossing disciplines: the nature of this research is cross-disciplinary. The fellow applicant has qualifications in environmental science and natural resource management, however has a wide experience and expertise in governance and law, hence the work is founded in cross-disciplines and will incorporate many sectors, disciplines and stakeholders.

*Dissemination: the reports generated will be disseminated widely with the stakeholders involved with the research based on an engaged scholarship approach. The reports will be made available via a web page access for downloading, and the reports will form the basis of scholarly journal articles and policy position papers to progress a standard for sustainable agriculture for Australia.

*Potential impact: this research has enormous potential impact to fill a vacuum in the recognition and trading of sustainable agricultural products and outcomes from Australia. The

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potential synergies, learnings and collaboration with the USA experience could provide a strong foundation for the development of a standard for sustainable agriculture in Australia. The fellow applicant has a large network of stakeholders including Government policy makers, Not for Profit Organisations and Industry bodies in Australia with an interest in progressing a standard for sustainable agriculture in Australia.

*Policy relevance: the issue of the lack of recognition of sustainable agriculture in Australia has been identified as a policy vacuum through research undertaken by the fellow applicant. The fellow applicant has strong existing networks that include state and Australian level government policy makers, farmer groups and Industry sectors all of whom have an interest in progressing innovative governance systems to support sustainable agriculture. The fellow applicant has an identified pathway from policy to practice to assist this research to become implemented through prior and present applied and research work.

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Where did you learn about the Programme?

Through monitoring the OECD website