

# No room for wild dogs, white ants or elephants: the imperative of leading practice as multi-dimensional adaptation strategy in Australian rangeland business and public policy

Glenn Ronan<sup>A</sup>, Anne-Maree Dowd<sup>B</sup> and Karen Cosgrove<sup>C</sup>

<sup>A</sup>Former Research Economist, Climate Adaptation, Primary Industries, Northern and Remote Australia, Cooperative Research Centre-Remote Economic Participation, Desert Knowledge Precinct, Alice Springs, NT. e: [glenn.ronan@nt.gov.au](mailto:glenn.ronan@nt.gov.au); m: 0401 121 897

<sup>B</sup>CSIRO, Kenmore, Queensland; e: [Anne-Maree.Dowd@csiro.au](mailto:Anne-Maree.Dowd@csiro.au); t: 07 3327 4468

<sup>C</sup>Social Innovations Pty Ltd, Perth, Western Australia, E: [karen.cosgrove@socialinnovations.com.au](mailto:karen.cosgrove@socialinnovations.com.au); t: 08 9490 7252

**Keywords:** Leading practice, transformational adaptation, business strategy

## Abstract

The risks and costs of sub-optimal performance at any time, on any market or non-market challenge, including climate change converging into climate variability, necessitates capacity for superior strategy and action in Australian rangeland business. Garnaut's 2008 and 2011 reviews suggest that market forces will drive adaptation to climate change in agriculture. More recently, Garnaut warns that when stress exceeds capacity to absorb change effective functioning of fractures can be expected in human institutions and markets: things fall apart. Regional scrutiny is required to gauge adaptation to shocks from all sources. Exploratory research was conducted into the adaptation capacity of pastoralists in the rangelands of Western Australia using stakeholder engagement methods. The project focused initially on developing and piloting two holistic economic models, based on a four quadrant design and utilising theory from a Five Capitals approach. Analysis of the Murchison and Kimberley regions affirm evidence from prior industry and regional studies that highlight weaknesses in the Five Capitals, requiring transformational adaptation options to be considered in strategic planning and decision making processes in the regions. This will likely be necessary to increase the potential for reversal, of what is locally described as, 'a century of landscape degradation' with associated adverse financial, human and social impacts. Developing human and social capital, consistent with 'leading practice', is identified as the best strategy to lift financial and environmental outcomes. Conceiving and successfully implementing leading practice has individual, community and public policy dimensions where, in the case of the Murchison, consensus has emerged that there is no room for wild dogs or other vermin and, analogously, no room for 'white ants' (public policies that are impediments to performance). The researchers suggest that in business strategic planning there is also no room for 'elephants in the room', including risk managing climate change. Synergistic leading practice by private and public stakeholders is advanced as the best frame in which to grapple with the complexity of multi-dimensional adaptation within rangeland communities.

## Introduction

Key challenges to Australian agricultural competitiveness include increasing import competition, globalisation of supply chains, increasing frequency and intensity of adverse weather events, reduction in population growth and access to skilled labour in regional areas (Commonwealth of Australia, 2014). Elements critical to sustainable sectoral and regional development include transformational leadership (Caldwell et al., 2012); enhanced adaptive capacity (Marshall et al., 2013); enhanced risk management (Marshall et al., 2014), and sustainable value chains (Ferne et al., 2012). These elements are integral to 'leading practice' adaptation, where stakeholders are private and public, the scope is holistic (market, environmental and social) and appreciation of business, chain and regional status requires use of effective diagnostic tools and engagement processes (Marshall et al., 2014; Michael and Crossley, 2012; Soosay et al., 2012).

The complexity of managing an agribusiness, and the associated risks, can be best showcased by the pastoral industry in western and central Australia. Recent research details the scope and scale of the

environmental challenges effecting pastoral industry performance, including optimisation of land management to animal production and profitability (Bray et al., 2013; Phelps et al., 2013; Holmes, 2014; Ansari, 2014). The sustainability of the livestock industry in the rangelands zone has been questioned, most recently for the northern cattle industry by Holmes (2014), McCosker et al. (2010), and McLean et al. (2014), for the Murchison and Pilbara regions of Western Australian (WA) rangelands by Safstrom and Waddell (2013), and by innovative, destocked pastoralists (Ansari, 2014). For one example, the prevalence of wild dogs as threats to livestock, and vermin as grazing competitors, are anathema to satisfactory or superior performance in pastoral businesses. Wild dogs are widespread in Queensland, the Northern Territory and much of Western Australia and South Australia and are known to have a significant detrimental market and non-market (social and environmental) impacts (Wicks et al., 2014:1).

Based on this evidence, effective adaptation is required. Therefore, management capacities (Marshall and Smajgl, 2013; Marshall et al., 2013), adopting genuine stakeholder engagement processes (Cosgrove, 2009, Cosgrove, 2010), facing climate change denial (Wheeler et al., 2013), increasing adaptation knowledge (Lawes and Kingwell, 2012), and implementing a 'leading practice' approach (Fearne et al., 2012; Michael and Crossley, 2012) are critical to adaptation and to achieving a superior business position. Central to this approach is the focus on leading practice. Leading practice is superior to 'best practice' through its focus on sustainable businesses and chains (Fearne et al., 2012), smart strategic planning, and holistic risk management (Michael and Crossley, 2012). The aim of this paper is to outline how our ongoing study, focused in the Murchison and Kimberley regions in Western Australia, is testing a Five Capitals diagnostic model that consolidates leading practice indicators with on-the-ground workshops conducted with producers who are trying to implement leading practice through a collaborative approach.

### **Research context**

Evidence that many rangeland enterprises and regions have been operating sub-optimally to leading practice and sustainability for considerable periods is in vast contrast to the idea that the need for interventions to deal with market failures in rural land is rare (Palutikof et al., 2013; Garnaut, 2008; Garnaut, 2014). Within Australia's rangelands, transformation to attain market competitiveness and environmental sustainability is indicated as imperative. This notion is supported by credible long-term business and regional case study research which variously diagnosed economic un-sustainability (Holmes, 2014) and multi-dimensional failure (Safstrom and Waddell, 2013). In order to extend this body of work, our research aims to work with two regions in Western Australia of apparent intractable, concurrent economic and environmental un-sustainability, using a Five Capitals approach combined with leading practice strategy.

A paradox in climate-exposed rural industries is that climate change is credibly deemed integral to extreme and all-weather incidence but a higher proportion of rural than urban residents are sceptical of the science (Buys et al., 2014). A smart strategy is needed to manage climate change discussions while lifting capacity to adapt to the climate challenge. The strategy under evaluation in this research is to contextualise climate adaptation under the imperative of 'multi-challenge adaptation'. The strategy involves three key elements: capitals based metrics to indicate region specific contexts; identification of the elements of leading practice as a sustainable management and community capacity- building concept; and engagement with stakeholders via leaders and workshops as an entry point.

Lead thinking on business performance and climate change challenge is that practice needs to reconcile on both criteria (Lowitt, 2014). The system advanced in this research indicates that the sustainability strategy needs to attend to a range of criteria. Reference to 'wild dogs', 'white ants' and 'elephants in the room' are metaphors for the scope of leading practice: all relevant challenges need to be dealt with to shift rangeland businesses from questionable viability (Holmes, 2014) into sustainable enterprises on all aspects of management (e.g. Laurence et al., 2012).

### **Differentiating 'leading practice' from 'Best Practice'**

Best Practice is a method, process and or activity considered to be more effective at delivering a particular outcome than any other technique, method, or process when applied to a particular condition or circumstance. Best practice is often regarded as the most efficient and effective method of completing a task, based on repeatable procedures that have proven themselves over time for large numbers of people. Best Practice is widely recognised in agriculture as a process that promotes sustainable agriculture and includes development and extension while simultaneously addressing risks (Walsh and Cowley, 2014a; Walsh and Cowley, 2014b; Walsh et al., 2014). For example, in an exploration of management strategies within future climate scenarios in northern Australian beef cattle grazing, Phelps et al. (2013) report that well-adapted management strategies under a changing climate are very similar to best practice within current climatic conditions.

Leading practice on the other hand is a practice that is more efficient and effective for delivering a particular outcome, based upon the constraints being applied to a business entity. Leading practices are leading only at a particular point in time, and are acknowledged to be continuously developing - once a practice is superseded, more effective practices then take precedence (Laurence et al., 2011). For example, the concept of leading practice is simply the best possible way of conducting activities for a given enterprise at a given time. The concept is consistent with Lowitt (2014), where an aim to survive climate change whilst maintaining a thriving business is articulated.

Applying the principles of leading practice in agribusiness enables the farmer, and those organisations in the supply chain, to achieve integration and cost cutting while at the same time extending their vision, thus remaining simultaneously competitive and innovative. The authors acknowledge that both terms practically address key climate adaptation questions: What to do? How much? When? However, leading practice is preferred for its tilt to specific business circumstances and dynamics; that is, best fit to the nature of the climate adaptation challenge presented, in line with other challenges to agribusiness at the time.

### **Modelling 'leading practice'**

Our study builds upon previous research which utilised a 'capitals stock' approach in order to develop a stakeholder engagement tool that could serve as a starting point for individuals or groups in their adaptation strategic planning processes. This holistic analysis is similar to that recently applied to Northern China grasslands by Ding et al. (2014). The tool consists of two stages:

**Stage 1:** *Assessment against the Five Capitals* (Table 1 and Figure 1)

**Stage 2:** *Plot capitals results against our leading practice model* (Figure 2)

Table 1: Five Capitals approach: Defining the variables

Capitals	Private indicators	Public indicators
Human	Capacity building for new required skills Technology transfer/uptake capability* Knowledge (technical, climate change & adaptation)* Access to labour* Leadership Succession planning Health and wellbeing of an individual Data and knowledge availability	Regional adaptive capacity Social /collaborative learning Population growth* Age distribution of a population Skills training/education facilities* Community health and wellbeing Industry leadership Technology development and uptake
Social	Information/knowledge networks* Social support networks* ( <b>reverse for transformational adaptation only</b> ) Attitudes, values, and beliefs* <ul style="list-style-type: none"> <li>• climate change beliefs</li> <li>• environmental attitudes</li> <li>• orientation to holding onto traditional business practices (<b>reverse for all adaptation</b>)</li> <li>• identity (<b>reverse for transformational adaptation only</b>)</li> <li>• place attachment (<b>reverse for transformational adaptation only</b>)</li> </ul> Relationship with key stakeholders (e.g. supply/value chain members)	Industry relations Effectiveness of Natural Resource Management (NRM) groups and associations Number of sport and recreation facilities Number of social organisations Community wellbeing* Policies conducive to human/community welfare and wellbeing in the community at large
Natural	Climate adaptation thinking* (i.e. attitude) Climate adaptation management *(i.e. behaviour) Soil Biodiversity* Biosecurity Water* Resource use Chemical use	Environmental (biophysical) impacts Climate change impacts* (rainfall & temperature) Policies conducive to long-term sustainability (i.e. NRM/Climate Adaptation) in the region
Physical	State of business assets* (physical)	State of public assets critical to business performance Regional infrastructure investment* (e.g. roads, water, energy)
Financial	Capital structure & sources Farm business profit* Equity ratio* (debt to asset ratio) Rate of return on capital* Rate of return on equity	Level of industry financial investment Level of foreign investment Supply / value chain factors Markets Economic wealth of region Sector profitability* (aggregate viability) Policies conducive to industry & international competitiveness (government incentives and subsidies)

\* Indicates the indicators used in the Five Capitals Assessment for both regions

The purpose of our preliminary application of the tool was to test its ability to gain insight into the similarities and differences among the various capital stocks within the two livestock regions. Figure 1 provides a comparison of each case study assessment across the Five Capitals. Each indicator was assigned a score from 0 (inadequate) to 5 (strongly adequate) to specify the relative degree to which it would constrain or enable capacity to adapt in the year 2014.

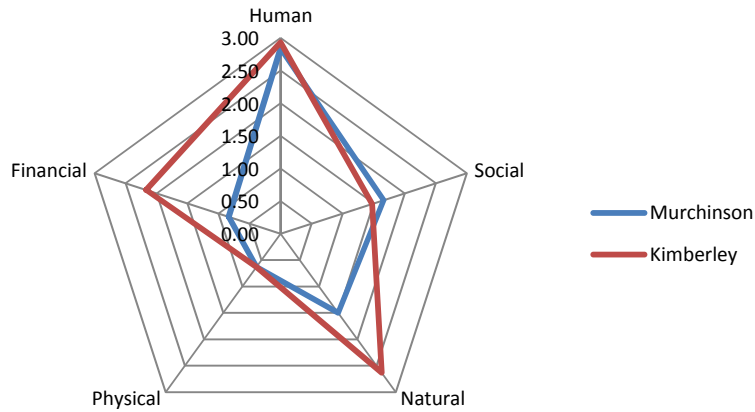


Figure 1: Five Capital assessments: Cross-comparison

Following the Five Capitals assessment, the regions were then plotted onto the four quadrant model (Figure 2.). The vertical axis consolidated the capitals related to the current socio-economic conditions (human, social and financial capitals) and the horizontal axis consolidated the environmental factors (natural and physical capitals). Case studies were plotted on a scale from 0 (inadequate) to 5 (strongly adequate) by calculating the average ratings obtained from the capitals assessment across both the private and public indicators. It was found that both rangeland regions were unsustainable financially, environmentally and socially; a sub-optimal situation on all criteria; and questionable capacity to arrest decline and recover. A sub-optimal result, requiring major business adjustment and major assistance to adapt in order to satisfy the welfare needs of the producers in those regions.

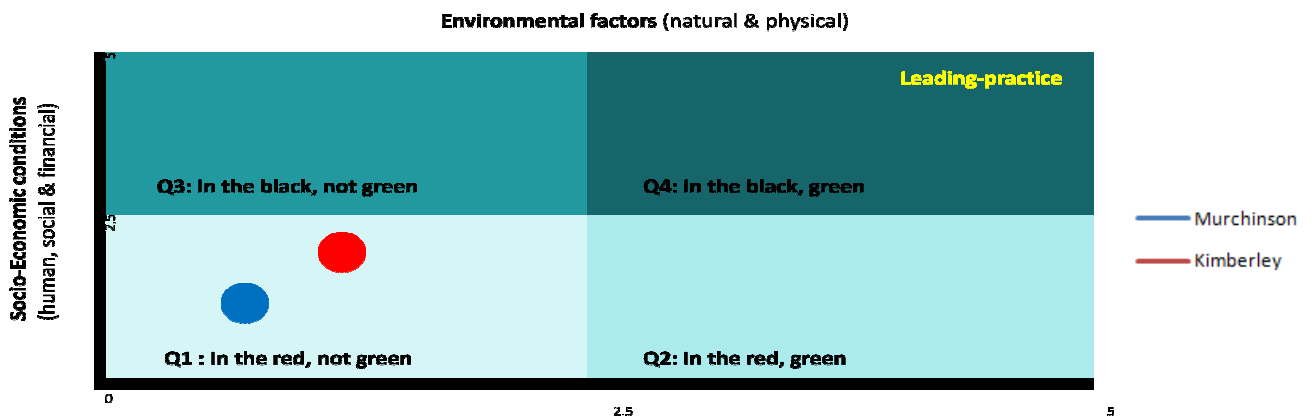


Figure 2: Plotting against leading practice

## Putting 'leading practice' into practice

As a result of participating in, and subsequent to, the study a number of respondents (who were members of a loosely formed Producers Group) expressed a keen interest to formally establish a 'Leading Practice Group' for the purpose of addressing opportunities and challenges. The notion of leading practice was considered by respondents as elementary to lifting adaptation capacity consistent with market competitiveness and risk management. Moreover, respondents recognised the assessment and management of cumulative impacts requires greater collaboration and coordination amongst stakeholders.

Consequently the group applied for and received funding from the Commonwealth Government to formally establish a Leading Practice Group. The initial steps in this process will consist of a two day strategic planning workshop for those interested in becoming members, to be followed by the development of a strategic plan and subsequent action plans for on-ground activities or actions to be undertaken by the group. A key feature of leading practice is the measurement of variables and performance outcomes to identify potential modifications to the processes for the mutual benefit of all stakeholders (Laurence et al., 2011). A component of the action planning process will be the development of a program what will monitor inputs, processes and outputs. This information will be incorporated in one or a number of management systems developed by the group. Overall, respondents recognised that two fundamental tenets of leading practice are holistic engagement and collaboration between participants within supply and value chains. To this end, respondents accurately regarded leading practice to be as much about approach and attitude as it is about innovative practices or particular technologies.

## Conclusion

Climate change is recognised to present opportunities as well as challenges, with contemporary policy reviews looking to lift sectoral competitiveness and development in northern and remote Australia. Appreciating externalities, such as environmental degradation, market fluctuations and access to skilled labour, are sources of competitive advantage; they can also be points of leverage critical to transformation. Economic review of climate change in agriculture supports the expectation that market forces will drive climate adaptation, with failure likely to be rare as this mechanism seldom fails. Extensive regions across Western Australia's rangelands have recently been diagnosed with multi-dimensional failure. The importance of engaging key stakeholders in implementing leading practice is strategic and imperative. The Murchison and Kimberley regions in Western Australia serve as a pilot to evolve a framework using leading practice and a Five Capitals approach in a collaborative and engaged process.

## References

- Ansari, T. (2014). *Letter from Wooleen*. Australian Story, ABC-TV, Last retrieved 24 November 2014, <http://www.abc.net.au/austory/content/2014/s4131794.htm>
- Bray, S., Walsh, D., Phelps, D., Rolfe, J., Rohan, P., Daniels, B., Stokes, C. and Foulkes, D. (2013). *Climate savvy beef: On-farm demonstration of adaptation and mitigation options for climate change in northern Australia*. Meat and Livestock Australia Limited, North Sydney, NSW.
- Buys, L., Aird, R., van Megen, K., Miller, E. and Sommerfeld J. (2012). *Perceptions of climate change and trust in information providers in rural Australia*. Public Understanding of Science published online 24 July 2012, DOI: 10.1177/0963662512449948, <http://pus.sagepub.com/content/early/2012/07/06/0963662512449948>
- Caldwell, C., Dixon, R. D., Floyd, L.A., Chaudoin, J., Post, J. and Cheokas, G. (2012). Transformative leadership: achieving unparalleled excellence. *Journal Business Ethics* 109, 175-187.

- Commonwealth of Australia. (2014). *Agricultural Competitiveness Green Paper*, Canberra, October
- Cosgrove, K., Meyer, M. and Nicholls, H. (2009). *Improving sustainability of Australia's rangelands: Western Australia and South Australia*. Rural Solutions SA, Government of South Australia.
- Cosgrove, K. (2010). *Bridging the Gap: Recognising the role of community in natural resource management*. PhD Thesis. Geography and Environmental Studies. University of Adelaide.
- Ding, W., Ren, W., Li, P., Hou, X., Sun, X., Li, X., Xie, J. and Ding, Y. (2014). Evaluation of the livelihood vulnerability of pastoral households in Northern China to natural disasters and climate change. *The Rangeland Journal* 36, 535-543.
- Duncan, W. (2012). The Rangelands Reform program: implementing a plan for economic diversity in the Western Australian rangelands. *Australian Rangeland Society 17th Biennial Conference*. <http://www.austrangesoc.com.au/userfiles/file/2012%20ARS%20Conference/ARS%20Proceedings%20v4.pdf>
- Fearne A., Martinez, M.G. and Dent, B. (2012). Dimensions of sustainable value chains: implications for value chain analysis. *Supply Chain Management: An International Journal* 17 (6), 575-581.
- Garnaut, R. (2008). *The Garnaut climate change review*. Cambridge University Press, Melbourne.
- Garnaut, R. (2011). *Garnaut climate change review update paper 4, Transforming rural land use*. Last retrieved 29 January 2015, [www.garnautreview.org.au](http://www.garnautreview.org.au)
- Garnaut, R. (2014). *Compounding social and economic costs. Four Degrees of Global Warming: Australia in a Hot World*, Edited by Peter Christoff, Earthscan for Routledge.
- Government of Western Australia. (2009). *A Review of the Economic and Ecological Sustainability of Pastoralism in the Southern Rangelands of Western Australia*. Southern Rangelands Pastoral Advisory Group, Government of Western Australia, Perth, WA.
- Holmes, P. (2014). *The environmental and financial sustainability of pastoralism in Australian arid rangelands: a case study approach*. PhD Doctorate, University of Sydney, May.
- Laurence, D., Stamford, C., Barry, S., Oosting, N., Andryszczak, H., Fawcett, M., McCombe, C., McLean, R. and Jones, D. (2011). *A Guide to Leading Practice Sustainable Development in Mining, Australian Centre for Sustainable Mining Practices*. Department of Resources, Energy and Tourism, Canberra 1-198.
- Lawes, R.A. and Kingwell, R.S. (2012). A longitudinal examination of business performance indicators for drought-affected farms. *Agricultural Systems* 106, 94-101.
- Lowitt, E. (2014). How to survive climate change and still run a thriving business. *Harvard Business Review* April, 86-92.
- Marshall, N. A., Stokes, C.J., Webb, N.P. Marshall, P.A. and Lankester, A.J. (2014). Social vulnerability to climate change in primary producers: A typology approach. *Agriculture Ecosystems and Environment* 186, 86-93.
- Marshall, N. A. and Smajgl, A. (2013). Understanding variability in adaptive capacity on rangelands. *Rangeland Ecology and Management* 66, 88-94.

- Marshall, N.A. Dowd, A-M., Fleming, A., Gambley, C., Howden, M., Jakku, E., Larsen, C., Marshall, P. A., Moon, K., Park, S. and Thorburn, P. J. (2013). Transformational capacity in Australian peanut farmers for better climate adaptation. *Agronomy Sustainable Development* 34, 583-591.
- McCosker, T. McLean, D. and Holmes, P. (2010). *Northern beef situation analysis 2009*. Meat and Livestock Australia, Sydney, NSW.
- McLean, I., Holmes, P. and Counsell, D. (2014). *The northern beef report: 2013 situation analysis*. Meat and Livestock Australia Limited, North Sydney, NSW.
- Michael, D.T. and Crossley, R.L. (2012). *Food security, risk management and climate change*. National Climate Change Adaptation Research Facility, Gold Coast.
- Palutikof, J., Parry, M. and Stafford Smith, M. (2013). *The past, present and future of adaptation. Chapter 1, Climate Adaptation Futures*, Wiley-Blackwell.
- Phelps, D., Broad, K., Cowley, R., Emery, T., English, B., Gunther, R., Jones, P., Karfs, B., MacLeod, N., Pahl, L., Paton, C., Pryor, J., Rolfe, J., Scanlon, J., Stockdale, M., Walsh, D. and Whish, G. (2013). *Climate savvy grazing: Developing improved grazing and related practices to assist beef production enterprises across northern Australia adapt to a changing and more variable climate*. Meat and Livestock Australia.
- Safstrom, R. D. and Waddell, P-J. (2013). Using economic, social and ecological spatial patterns to guide policy development in the Pilbara and Southern Rangelands of Western Australia. *The Rangeland Journal* 35, 231-239.
- Soosay, C., Fearne, A. and Dent, B. (2012). Sustainable value chain analysis – a case study of Oxford Landing from “vine to dine”. *Supply Chain Management: An International Journal* 17 (1), 68-77.
- Wheeler, S., Zuo, A. and Bjornlund, H. (2013). Farmers’ climate change beliefs and adaptation strategies for a water scarce future in Australia. *Global Environmental Change* 23, 537-547.
- Walsh, D. and Cowley, R.A. (2014a). *Best-bet practices for managing grazing lands in the Barkly Tableland region of the Northern Territory*. Northern Territory Government, Australia. Technical Bulletin No. 350.
- Walsh, D. and Cowley, R.A. (2014b). *Best-bet practices for managing grazing lands in the Victoria River District of the Northern Territory*. Northern Territory Government, Australia. Technical Bulletin No. 352.
- Walsh, D., Kain, A., and Cowley, R.A. (2014). *Best-bet practices for managing grazing lands in the Alice Springs region of the Northern Territory*. Northern Territory Government, Australia. Technical Bulletin No. 351.
- Wicks, S., Mazur, K., Please, P., Ecker, S and Buetre, B., (2014). *An Integrated Assessment of the Impact of Wild Dogs in Australia*. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra.