



Repairing the Environmental Deficit in the Land Management Sector:

Public and Market Driven Solutions Compared

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Workshop Introduction

Welcome everyone and thank you for joining us today.

I'd first like to acknowledge the traditional custodians of the land, pay respect to the Elders, past and present, and extend that respect to other Aboriginal and Torres Strait Islander peoples.

The theme of this workshop is, "Repairing the environmental deficit in the land management sector: public and market driven solutions compared". Before we get into the nitty gritty of this topic, I'd like to take a few minutes of your time to consider a preliminary question:

Where are we at?

I'm going to share my thoughts on this question with you now. And I invite all of you to share your thoughts and reflections too, throughout the day's proceedings.

So: Where are we at?

Well, there is plenty of good news:

First of all, on biodiversity – Australia is one of 17 mega-diverse countries that collectively hold around 70% of the world's flora and fauna. It is home to an estimated 570,000 different species! Australia has also recorded more endemic species than any other country. 87% of our mammals; 93% of our reptiles and 94% of our amphibians are all endemic to Australia.¹ For an immigrant from the UK, such as myself, Australia's biodiversity is simply mind boggling. For example, Britain has 41 species of ants; here in Australia, we have an estimated 4,000 ant species.² Can you believe it?!

Nearly 20% of Australia's landmass is protected in the Commonwealth's National Reserve System (NRS).³ In Queensland the protected area network covers more than 14.2 million hectares including five World Heritage Areas.⁴ Interestingly, Queensland's Private Protected Areas Program – which

¹ Australian Bureau of Statistics, *Australia's Biodiversity*, Year Book Australia 2009-10, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1301.0Feature+Article12009%E2%80%9310>

² Australian Bureau of Statistics, *Australia's Biodiversity*, Year Book Australia 2009-10, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1301.0Feature+Article12009%E2%80%9310>

³ Commonwealth Department of Agriculture, Water and Environment, *National Reserve System*, <https://www.environment.gov.au/land/nrs/science/protected-area-locations>

⁴ Department of Environment and Science, *Queensland's Protected Area Strategy 2020-2030*, 2020, State of Queensland, p 6.

works with private landholders to reserve and manage conservation areas on privately held land - now comprises 31% of Queensland's total protected area network.

Turning now to agricultural production, Australia again has much to boast about. Australian agriculture is a \$67 billion industry⁵ and in the past twenty years, the value of our agricultural, fisheries and forestry production has increased by 7% in real terms. The National Farmers Federation is aiming for a \$100 billion industry by 2030.⁶

On sustainable and resilient modes of production, there is also some good news. Conservation Agriculture is a form of agriculture involving minimum or zero tillage, partial or full retention of crop residues and rotation of cereals, oilseeds and legumes over time. These farming techniques conserve soil moisture and work to retain or restore soil health. Farmers' experiments with Conservation Agriculture began in the 1960s. Nowadays, more than 80% of Australia's winter crops are grown using techniques associated with Conservation Agriculture.⁷

Regenerative agriculture extends on these principles. Regenerative agriculture is a method of farming that seeks to mimic nature, for example, by encouraging polycultures of different plant and life forms; or grazing animals in ways that mimic their movements in natural settings. It aims to enrich and revitalise soil, vegetation, biodiversity and animal systems to progressively improve the ecosystem in which food is grown.⁸ So conserving biodiversity works hand in hand with this method of farming.

While there are not many statistics on the current uptake of regenerative farming in Australia, there is certainly a lot of interest in it. Charles Massey's book, *Call of the Reed Warbler* is witness to its potential and an absolutely engaging read for everyone.

So much for private investment in sustainable land management - what about public investment?

This Table lists some of the more significant Commonwealth funding programs for sustainable land management. We will hear more about some of these programs later today.

Also noteworthy is the Commonwealth's Indigenous Ranger Program which, since 2007, has created more than 2,000 jobs in land and sea management.⁹ Regional and remote Indigenous communities are becoming increasingly active in the environmental space. And that is rightly so – because Native Title – with rights to live on Country and /or access land for traditional purposes - now extends over approximately 40% of the Australian land mass.¹⁰

⁵ Commonwealth Department of Agriculture, Water and Environment, *Snapshot of Australian Agriculture 2021*, <https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture-2021>

⁶ National Farmers Federation, *2030 Roadmap*, <https://nff.org.au/policies/roadmap/>

⁷ Bellotti, B and Rochecouste, JF, *The development of conservation agriculture in Australia: farmers as innovators* (2014) International Soil and Water Conservation Research 2(1) pp 21-34, <https://www.sciencedirect.com/science/article/pii/S2095633915300113>

⁸ Perroni, E, *A regenerative era in Australian agriculture is emerging*, 14/06/2019, <https://sustainablefoodtrust.org/articles/a-regenerative-era-in-australian-agriculture-is-emerging/>

⁹ National Indigenous Australians Agency, *Indigenous ranger programs*, <https://www.niaa.gov.au/indigenous-affairs/environment/indigenous-ranger-programs>

¹⁰ Australian Trade and Investment Commission, *Native Title*, <https://www.austrade.gov.au/land-tenure/native-title/native-title>

These are exciting times.

So are we to conclude that all is going well in rural and remote Australia?

Sadly, this rosy picture is not the whole story. Flipping the coin, I find there is another storyline that is much more concerning. Here I note a few trends in the environment, agricultural and community wellbeing of rural and remote Australia which illustrate the point.

Returning first to **biodiversity** – Over the past 200 years, Australia has experienced the largest documented decline in biodiversity of any continent.¹¹ The *Environment Protection and Biodiversity Conservation Act* lists 533 animal species and 1,385 plant species as ‘threatened’ in some way (including presumed extinction). We are yet to turn the tide. This slide shows species decline in two areas of Northern Australia over a 25 year period.

Land clearing is a major contributor to biodiversity loss but feral animals, invasive weeds and changed patterns of fire have also wreaked havoc across the Australian landscape.¹² These drivers of environmental deterioration are often mutually re-enforcing. Take, for example, the spread of Gamba Grass across northern Australia:¹³ Gamba grass, an exotic pasture species, grows to at least four metres, is closely spaced and vigorous. It tends to dry out later than most native grasses, so forms a dense layer of highly flammable herbage well into the dry season. Fires in areas with Gamba Grass typically burn from five to twenty times more intensely than in comparable areas without it. Repeated incidences of such fires can reduce tree cover by 50% in just 12 years.¹⁴ Gamba Grass has the potential to turn the diverse woodlands of northern Australia, with all their biodiversity, into vast monocultures of African grass.¹⁵

Returning next to trends in the agricultural economy, I previously noted overall growth of 7% in gross production over the past twenty years. But this figure masks another story - one characterised by declining terms of trade, high levels of debt and an increasing concentration of production in a small number of larger farms. It seems fair to say, the agricultural sector is in the midst of a long, term seismic shift in character.

I cannot tell this story better than Ben Rees, whose work in this area paints a profoundly disturbing picture of declining profitability, increasing income inequality and financial vulnerability. His scholarship ably demonstrates that, since the 1970s, when Australian governments liberalised the economy and opened it up to non-protectionist, export oriented, free trade, Australian agriculture has become, “engulfed in events beyond farm gate control.”¹⁶ The consequence, as Rees compellingly argues, has been, “falling farm real incomes, collapsing land values, and [declining] enterprise

¹¹ Australian Bureau of Statistics, *Australia’s Biodiversity*, Year Book Australia 2009-10, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1301.0Feature+Article12009%E2%80%9310>

¹² Professor John Woinarski, J, Traill, B and Booth, C, *The Modern Outback*, 2014, Pew Charitable Trusts, p 147. See also, Australia: State of the environment 2016 at: <https://soe.environment.gov.au/sites/default/files/soe2016-land-final-web.pdf?v=1492063205>

¹³ Professor John Woinarski, J, Traill, B and Booth, C, *The Modern Outback*, 2014, Pew Charitable Trusts, p 149.

¹⁴ Petty A (2013) “Field of nightmares: gamba grass in the Top End” 19/02/2013, *The Conversation*, <https://theconversation.com/field-of-nightmares-gamba-grass-in-the-top-end-12178>

¹⁵ Petty A (2013) “Field of nightmares: gamba grass in the Top End” 19/02/2013, *The Conversation*, <https://theconversation.com/field-of-nightmares-gamba-grass-in-the-top-end-12178>

¹⁶ Rees, B, Appendix 4: Review by Mr Ben Rees, in Katter, R, *Addressing debt and drought problems in rural Queensland*, Rural debt and drought taskforce, Chairman’s report, 2016, p 29.

solvency.”¹⁷ This graph shows the increasing gap between rural debt (the red line) and net value farm production (the black line) from 1969 to 2015. The overall trend in economic profitability is unmistakably deteriorating and the inescapable truth is that, for a great many stakeholders, long term financial stability is by no means assured.

The next part of the story relates to the growth of large farms – defined as those with receipts above \$1 million per year in real terms. In the past four decades, large farms have grown from around 3% of the farming community to 14%. Their share of the value of total outputs has also increased, from 25% to around 59%. So, that means, 14% of farm enterprises now account for 59% of total farm outputs. These high-revenue farms account for one fifth of our professional farmers but control two thirds of our land, farm income and output.¹⁸ That is great news for these enterprises but it suggests the picture is disproportionately bleak for the remaining four fifths of the farming community.

The third part of this story, in my view, relates to the intensifying impacts of climate variability. Since 2010, Queensland has been impacted by more than 50 significant natural disaster events.¹⁹ In December 2019, 67% of Queensland was officially declared drought affected.²⁰ Yet only 11 months earlier, 600,000 cattle were killed in catastrophic floods across northern Queensland.²¹ Climate change is expected to intensify the frequency and intensity of these natural disasters. How will exposed and vulnerable communities – both human and ecological – cope?

And, if the threat of natural disasters is not enough, the latest climate change ‘impact’ is the growing debate about greenhouse gas emissions emanating from the land management sector. Agriculture comprises about 13% of our overall emissions and the sector also contributes to transport and other emissions. The production of red meat is sometimes singled out for its emissions contribution. On a global scale, farm animals account for 14.5% of total greenhouse gas emissions and producing red meat accounts for 41% of those emissions.²² That’s particularly bad news for Australia (and Queensland) because livestock comprises 51% of the value of our farm production.²³ It all seems a little ironic when the same landholders that raise cattle in Queensland, effectively bore the brunt of Australia’s actions to meet (and exceed) its Kyoto emissions reduction targets.²⁴

¹⁷ Rees, B, Appendix 4: Review by Mr Ben Rees, in Katter, R, *Addressing debt and drought problems in rural Queensland*, Rural debt and drought taskforce, Chairman’s report, 2016, p 29.

¹⁸ Commonwealth Department of Agriculture, Water and Environment, *Snapshot of Australian Agriculture 2021*, <https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture-2021>

¹⁹ Queensland Reconstruction Authority, *Queensland Strategy for Disaster Resilience*, 2017 p 5, <https://www.qra.qld.gov.au/qsdr>

²⁰ The most common index used to define and monitor drought is the Palmer Drought Severity Index (PDSI), which attempts to measure the duration and intensity of long-term, spatially extensive drought, based on precipitation, temperature, and available water content data.

²¹ Crowley, G and Pearce, N, “Queensland floods killed 600 000 cattle and devastated native species” (23/08/2019) *The Conversation*, theconversation.com/catastrophic-queensland-floods-killed-600-000-cattle-and-devastated-native-species-120753

²² Gerreston, I, “What your red meat habit is doing to the planet” (01/09/2021) *The Independent*, <https://www.independent.co.uk/climate-change/red-meat-beef-carbon-footprint-b1854133.html>

²³ Commonwealth Department of Agriculture, Water and Environment, *Snapshot of Australian Agriculture 2021*, <https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture-2021>

²⁴ Australia’s emissions from forest clearing in 1990 constituted approximately one quarter of total emissions, or 131.5 million tonnes of carbon. Van Oosterzee, “Today Australia’s Kyoto climate targets end and our Paris cop out begins” (01/07/2021) *The Conversation* <https://theconversation.com/today-australias-kyoto-climate-targets-end-and-our-paris-cop-out-begins-thats-nothing-to-be-proud-of-mr-taylor-131137>

Lastly, on trends in community wellbeing

Across regional and rural Australia, population ageing, population decline, high unemployment rates, low levels of tertiary education and a high incidence of serious mental health conditions paint a very concerning picture. The facts speak for themselves. In the five years to 2020, the Queensland population grew overall by 1.6% but population fell by 1% or more in Longreach, Winton and other rural areas. This decline confirms a long term trend. The rural population is also ageing.²⁵ In 2011, almost 25% of farmers were aged 65 or more.²⁶

From a health perspective, older people in rural and remote areas are more likely to be living with a chronic condition, chronic pain or disability, than their urban counterparts. Most disturbingly, the suicide rate among men aged 15-29 years living outside major cities is almost twice the rate of their urban counterparts. The same is true of men aged 85 and over.²⁷ At least in pre-COVID days, rural communities were experiencing higher than average levels of anxiety, depression, family breakdown, grief and anger, especially during periods of prolonged drought. Isolation and financial insecurity compound these issues.²⁸

Overall and in combination, these facts paint a much less rosy picture. They tell a story of decline, vulnerability, maladaptation, piecemeal measures and stop-start initiatives. In this light, regional Australians, and the landscapes that sustain them, look more exposed, more vulnerable and more stratified than ever before.

So, to recall the question, where are we at? Is this glass half full or half empty?

The answer to this question probably depends on where your personal experience and knowledge base has taken you. Drawing on your own personal experience, you may see the situation as:

- Dynamic, progressive and filled with opportunity; or you might see:
- Turbulence and risk – this is not for the faint hearted; or, more sadly, your experience of the situation might be:
- Traumatic and soul destroying – a situation in which both the environment and its people are close to breaking point.

And why is all this significant?

²⁵ Australian Institute of Health and Welfare, *Australia's Health 2012*, <https://www.aihw.gov.au/reports-data/australias-health>.

²⁶ Queensland Government Statisticians Office, *Queensland regional profiles*, <https://statistics.qgso.qld.gov.au/qld-regional-profiles>; Foran, B, et al, "Australian rangeland futures: time now for systemic responses to interconnected challenges" (2019) *The Rangeland Journal* 41.

²⁷ National rural health Alliance Inc, *Mental Health in Rural and Remote Australia, 2017 Factsheet*, <https://www.ruralhealth.org.au/sites/default/files/publications/nrha-mental-health-factsheet-dec-2017.pdf>

²⁸ Department of Health and Ageing, *National action plan for promotion, prevention and early intervention for mental health*, Australian Government, <https://www.familyconcernpublishing.com.au/national-action-plan-for-ppei-for-mental-health-2000/>

Because, I suggest, if we don't understand the overall context and where people are coming from, there is a strong likelihood any type of investment – whether public or market driven – will simply miss the mark and go the way of many past initiatives – approximately nowhere in the long term.

So what does all this mean for policy makers and external investors? I see a situation in which we have at least three very different types of stakeholders in operation – the family farm business model; the large corporate model (including not for profit landholders) and Indigenous community groups. And whilst they may all share some common ground, each group also has its own interests and concerns. My observation is that, for external environmental investors of all types, the safest and most promising course of action is to partner with the best organised, most progressive and most optimistic stakeholders – for instance, large corporate landholders. On one score, that is all very well and good. After all, if one fifth of our farmers control two thirds of our land, why bother looking anywhere else to fix up our environmental issues on privately held land? Why not let the market-driven forces of economic restructuring continue on their path? Why should – and anyway how could - environmental investors stand in the path of progress and resist such compelling market trends? What kind of folly would that be? How much waste of resources would that lead to!

But, I say, beware the long term implications of this reasoning! There are few short cuts in this game and my experience researching the impacts of the *Vegetation Management Act* leads me to think this recipe for environmental investment will breed further distress, apathy, angst and opposition. So to all potential investors out there, I say, looking at the issues more broadly and beyond each isolated project's two, five or even ten year performance indicators, how is your investment contributing to a healthier, more sustainable and prosperous community, both human and ecological?

Finally, at the risk of sounding ridiculous and benign, I suggest that healthy landscapes will require: thriving communities; sustainable enterprises and secure and empowered individuals and families in each and every one of our stakeholder groups. Of course, that is all a lot easier said than done, but I suggest that should be Our Vision. Because, just like a thriving ecosystem, all these issues are interlinked.

So, with all this in mind (which admittedly is a lot!), our task for today is to consider what's worked well - and not so well - in the past; to examine what's out there now; and to exchange ideas on what might actually deliver moving into the future.

Good luck everyone and happy deliberating!

Philippa England

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