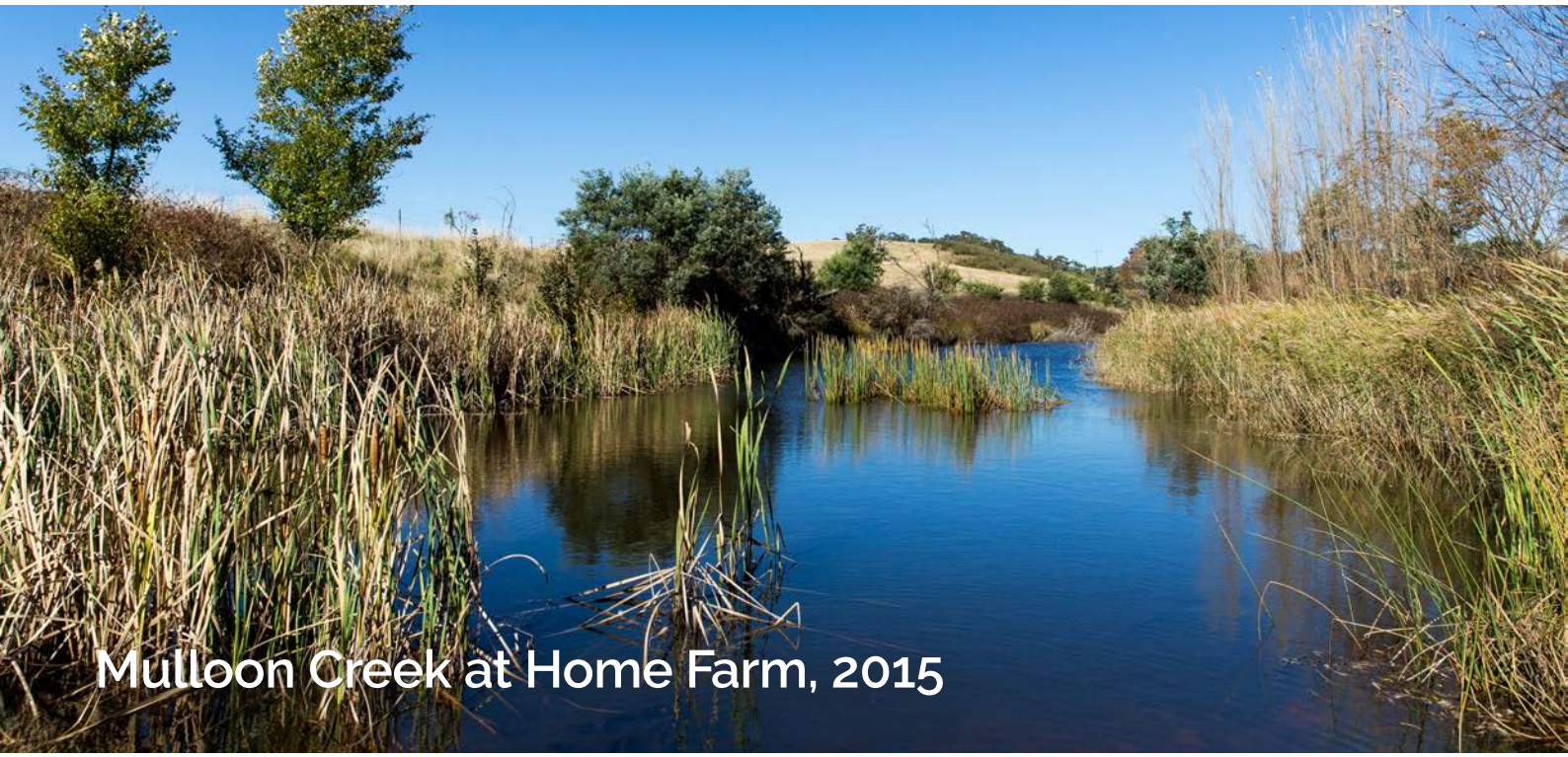
Mulloon Institute

ECONOMICS OF LAND DEGRADATION INITIATIVE

Economics of Drought: An Australian Perspective

Mulloon Rehydration Initiative Case Study

Mulloon Creek at Home Farm, 1977



Mulloon Creek at Home Farm, 2015

Landscape rehydration techniques can deliver economic, environmental, and social benefits while enhancing Australia's drought resilience. Adopting these practices at scale would strengthen the nation's resilience to drought and land degradation and contribute to global efforts to combat desertification and promote sustainable development.

Overview

This is an executive summary of a detailed case study for the Economics of Drought Report which explored how long-term Landscape Rehydration techniques can increase drought resilience, providing a detailed cost-benefit analysis (CBA) of the Mulloon Rehydration Initiative. It also examined the potential for scaling these nature-based solutions nationally to amplify economic, environmental, and social benefits, aligning with the United Nations Convention to Combat Desertification (UNCCD) targets, including gender equality and other co-benefits of Landscape Rehydration and Sustainable Land Management.

Policy Settings

The Australian National Drought Agreement (ANDA) serves as a governance framework providing high-level guidelines for drought management across various government levels in Australia.

While it establishes essential principles for collaboration and resilience, its role is primarily about governance and policy alignment rather than the direct implementation of drought resilience strategies.

The Australian Government Drought Plan explains the Australian Government's drought policy and how they support farming businesses and communities to prepare for, manage through and recover from drought.

Mulloon Rehydration Initiative – delivering drought resilience

The Mulloon Rehydration Initiative demonstrates how Landscape Rehydration and Sustainable Land Management techniques offer cost-effective solutions to mitigate drought impacts in Australia. Located in southern New South Wales, this innovative project spans 23,000 hectares, includes over 50 kilometres of streams and tributaries (with 20 kilometres rehabilitated), and involves more than 20 landholders.

The community collaborates to reverse erosion, rejuvenating Mulloon Creek with natural infrastructure solutions to support a restored, thriving ecosystem.

These solutions include strategic instream interventions (rock and log leaky weirs), contours and tree planting, and regenerative land management to enhance water, carbon and nutrient cycles.

The Initiative is recognised globally by the UN Sustainable Development Solutions Network. The project contributes to UNSD Goals 6, 13, 14, 15, and 17 and serves as a model for other national initiatives, empowering farmers and First Nations people.

Economic Impacts of Drought in Australia

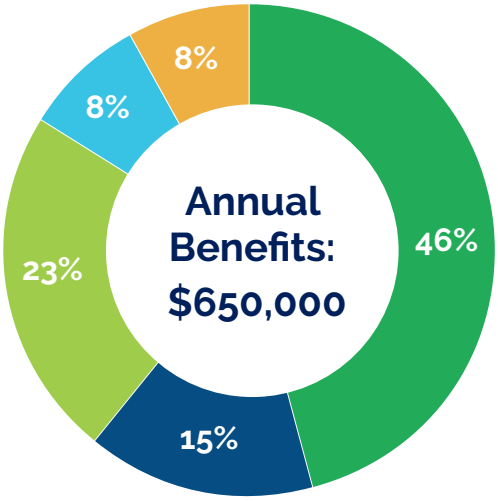
Australia frequently experiences severe droughts, leading to substantial reductions in agricultural productivity and economic stability. According to the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), the 2018–2019 drought caused a 21% decrease in national crop production and a 6% reduction in livestock production, resulting in an estimated economic loss of $1.6 billion for the sector.

Source: The effects of drought and climate variability on Australian farms. ABARES (2019). Section: 'How can governments help to manage farm climate risk?', pp. 4–7

Economic Analysis

The Mulloon Rehydration Initiative provides evidence that restoring natural water cycles through Landscape Rehydration enhances a region's drought resilience.

The Initiative demonstrates a positive cost-benefit ratio with significant economic returns:



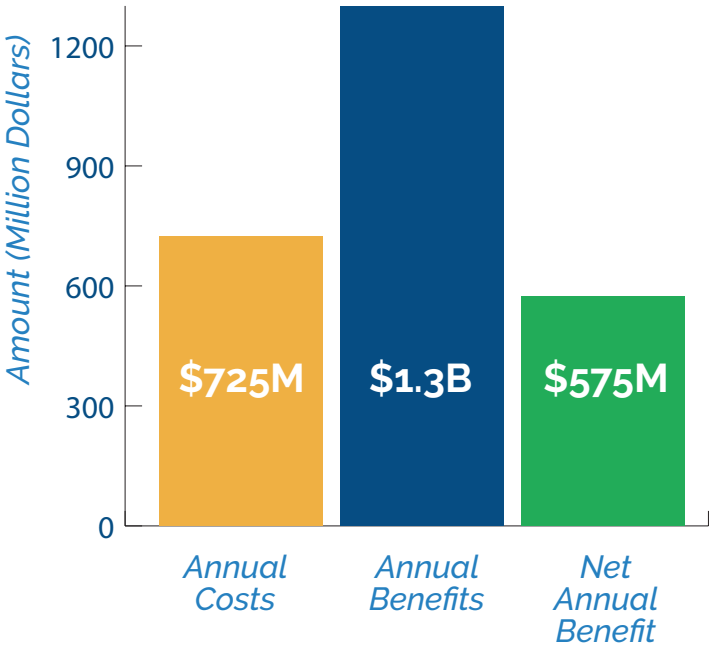
- Infrastructure Development: $100,000 (amortized)
- Vegetation Restoration: $25,000 (amortized)
- Monitoring and Research: $300,000
- Maintenance: $50,000
- Community Programs: $50,000

- Increased Agricultural Productivity: $300,000
- Improved Water Quality: $150,000
- Reduced Water Costs: $100,000
- Carbon Sequestration: $50,000
- Educational and Community Benefits: $50,000

National Scale-up Potential

Landscape Rehydration can be applied across degraded agricultural landscapes that cover 60% of Australia. Projections for implementing similar practices across 10% of Australia's river systems (approximately 43,000 km):

National scaling potential of MRI (Million Dollars)



Key Co-Benefits

- **Environmental Sustainability:** Improved water quality, increased carbon sequestration, and biodiversity conservation.
- **Social Equity:** Inclusive community engagement ensuring women and marginalised groups (including First Nations) have equitable access to resources and decision-making processes.
- **Food Security:** Enhanced agricultural productivity and water management strengthening resilience to climate variability.
- **Economic Resilience:** Increased farm profitability and reduced vulnerability to drought conditions.

Landholder Feedback

Participants report increased confidence in handling future droughts, with observations of improved water retention and pasture health, allowing for maintained stocking rates even during dry periods.

Conclusion

The Mulloon Rehydration Initiative serves as a compelling model for drought resilience through landscape rehydration. By scaling these solutions nationally, Australia could transform its agricultural landscape while achieving multiple sustainability goals aligned with United Nations Convention to Combat Desertification targets.

The Initiative demonstrates how ecological restoration can simultaneously deliver economic, environmental, and social benefits through innovative water management practices.

The Mulloon Rehydration Initiative is the Australian Case Study prepared and funded by Mulloon Institute for the UNCCD Secretariat commissioned the Economics of Drought Report prepared by Economics of Land Degradation Initiative 2024.

Mulloon Institute

PO Box 126, Bungendore NSW 2621 AUSTRALIA
info@mullooninstitute.org | mullooninstitute.org

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