AUSTRALIAN CONSERVATION FOUNDATION

Land and water reform in the Murray-Darling Basin

How governments can secure benefits for industry, communities and the environment by integrating investment in water acquisition, infrastructure improvement and structural adjustment in geographically targeted zones

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This paper describes how regional communities, businesses and land managers that want to participate in targeted land and water reform can work together with Murray-Darling Basin state and federal governments on the buyback of water entitlements, structural adjustment and infrastructure investment.

Proposal

A targeted land and water reform package would help reverse the decline in the condition of rivers and wetlands, improve the profitability of agriculture and boost the confidence of rural communities of the Murray-Darling Basin.

ACF proposes a geographically targeted land and water reform package under the *Water for the Future* program that would accelerate and integrate investment of the $3.1 billion *Restoring the Balance* water buyback money with the $5.8 billion *Sustainable Rural Water Use and Infrastructure* efficiency and structural adjustment funds.

Coordinated and targeted government investment should aim to secure multiple benefits for Murray-Darling Basin communities and the environment across short, medium and long-term timescales.

Other government and non-government funding options, like emerging carbon sequestration opportunities and stewardship and ecosystem services payments, can be integrated into the package as appropriate.

A targeted approach to land and water reform would benefit the Murray-Darling Basin by securing water entitlements with a reliability that will provide secure environmental flows to restore system health. Identifying and improving the management of high conservation value freshwater assets could follow on from targeted water and land reform.[1]

Irrigators and irrigation dependent communities will benefit from debt retirement, structural adjustment, local investment and increased certainty about their future in light of the ongoing drought, the growing impacts of climate change and governments' water reform agendas.

Such an approach would make a valuable contribution to reversing the decline in the condition of rivers and wetlands, improve the profitability of agriculture and boost the confidence of rural communities in the Murray-Darling Basin. It would capitalise on a once in a lifetime opportunity to redesign irrigation systems for the future.

What does a targeted investment in water and land reform package involve?

The package involves locally driven land and water capability assessments of irrigation districts, incorporating the CSIRO *Sustainable Yields* predicted impacts of climate change on water availability over the next 30 years, along with all existing local and regional natural resource management (NRM) and environmental data. The analysis results in an NRM 'traffic light' rating across the irrigation district that divides areas into three categories.

Districts in the first category ('green') have good prospects of remaining viable for irrigation in the future. They are close to the river or to 'backbone' channels of the irrigation system, they have good soils, have no salinity issues, or have other beneficial characteristics.

Districts in the second category ('red') are classified as unlikely to be viable in the future.

Districts in the third category ('amber') are districts where conclusions about future viability cannot currently be drawn from rigorous scrutiny of available data.

The traffic light mapping enables reconfiguration and land use plans to be developed and funded appropriately. Specifically:

- 'green' areas: good prospects for sustainable irrigation in the future. They should be prioritised for infrastructure investment that optimises their water use and production efficiency;

[1] Substantial work has been completed since 2003 to identify and quantify the flow regimes needed to restore iconic Murray environments as part of The Living Murray Initiative. In addition, the Victorian Environmental Assessment Council recently completed its River Red Gum Forests Investigation that has mapped and documented the flood dependent natural values along the Murray and its Victorian tributaries in detail.

- 'red' areas: not suitable now or will not be suitable in the future for irrigated agriculture. They should be prioritised for water buyback, structural adjustment, decommissioning of irrigation components and other transitional assistance to dryland farming, grazing or other suitable land use including participation in novel or emerging markets for carbon or other ecosystem services; and
- 'amber' areas: require further analysis to determine what their optimal, future land use might be before any future major public / private investment takes place there.

The analysis behind the traffic light mapping should consider the natural resource condition, ecological assets, socio-economic pressures and access to markets and other matters of significance, particularly the anticipated impact of climate change on the Murray-Darling Basin. The analysis focuses on irrigation areas at a district level and funnels an appropriate mix of investment vehicles towards them that reflects their optimum, future land and water use.

In 'red' areas targeted for water buyback, water entitlements should be purchased with funds from the Commonwealth Government's $3.1 billion *Restoring the Balance in the Murray Darling Basin* program. Once water has been purchased from a 'red zone' it cannot be traded back in. Water traded out of these zones through this package should not be included in the current 4 per cent limit on the trading of water out of an irrigation area.

Funds from the Commonwealth's $5.8 billion *Sustainable Rural Water Use and Infrastructure* program should be used to support the decommissioning, rationalisation, reconfiguration and modernisation of irrigation infrastructure as appropriate depending on whether the area is red, amber or green, and provide structural adjustment and transitional assistance where required. Water savings made from public investment in decommissioning irrigation channels and other infrastructure should become environmental water entitlements. Governments should explore opportunities to work in partnership with private landholders and investors to reconfigure irrigation systems in ways that maximise regional and basin-wide benefits.

Other existing Commonwealth and state government policy commitments and funding streams should be integrated on a case by case basis, including those for stewardship payment programs and carbon and ecosystem service markets.

Private enterprise can also play a critical role in the renewal of regional landscapes and communities through the reconfiguration of unsustainable or unsuitable irrigation systems. Partnerships between irrigators, conservation interests and companies seeking to invest in sustainable agricultural industries in rural Australia are emerging throughout the Murray-Darling Basin. For example, VicSuper is investing $40 million to improve farming practices on the River Murray floodplains of northern Victoria. The venture, called *Future Farming Landscapes*, may expand to

$250 million and is aimed at generating economic returns while preserving the environment.[2]

A targeted package of water and land reform should also enable the strategic purchase of land and water entitlements when multiple environmental and irrigation reconfiguration benefits are provided. These benefits would include:

- re-establishing lateral and longitudinal connectivity between a river and its floodplain;
- increased protection for high-conservation value wetlands and other natural assets;
- improved salinity and nutrient management and the development of ecosystem markets for these and other services, such as carbon sequestration;
- extension of the National Reserve System; and
- the application of conservation tools including covenants and land stewardship payments suited to local conditions.

Case study

Across the Murray-Darling Basin irrigation communities are examining their future prospects in the context of the ongoing drought, the anticipated impacts of climate change and the risks and opportunities that might arise from government water reform agendas and funding packages. At least one such community is developing an adaptation strategy consistent with this proposal for integrated water buyback, structural adjustment and irrigation infrastructure decommissioning and investment. This represents a good example of how such a proposal might work in practice.

Torrumbarry Irrigation Area, Victoria

Through the Torrumbarry Reconfiguration & Asset Modernisation Strategy (TRAMS), Goulburn-Murray Water has developed a strategy for redesigning the Torrumbarry Irrigation Area (TIA) with a view to retaining irrigation in the future but in a more targeted way than at present. The TIA is located in northern Victoria and includes the Cohuna, Kerang and Swan Hill Regions from the Torrumbarry Weir to Nyah. The irrigation area utilises man-made and natural carriers, including RAMSAR listed wetlands, to deliver irrigation water. Goulburn-Murray Water seeks to ensure 'a more sustainable irrigation system that enables profitable and diverse agriculture, environmental respect and community strength'.

The strategy envisages a future that involves a 30 per cent reduction in Goulburn-Murray Water assets, 50 per cent of the delivery system modernised, fewer assets and hence less costs, improved customer service, improved outcomes for local

[2] http://www.theage.com.au/news/businessinnovations/a-happy-marriage-of-green-and-gold/2007/11/30/1196530637867.html

ecological assets and increased irrigator and community confidence in the future. Goulburn-Murray Water is in the process of adopting the 'traffic light' model and will use it as the basis for planning the reconfiguration of their irrigation infrastructure and land use change, and community consultation on the need for change. The water authority is developing zones for targeted water purchase and other initiatives with a view to moving water away from the 30 per cent of irrigation infrastructure scheduled for decommissioning.

TRAMS shows how communities can plan for large scale change from the bottom up if given the appropriate information and the opportunity to do so.

A key characteristic of the TIA is the use of natural carriers and lakes for water storage and transfer, which results in significant evaporation and other water losses. Goulburn-Murray Water is working with other agencies to better manage these issues to improve water use efficiency, environmental, economic and social outcomes. This includes recognition of the value of water to the community wellbeing including aesthetic, recreation and tourism benefits.

Further information about TRAMS can be found by calling: 1800 013 357 (toll free).

How can the geographically targeted, integrated package improve on opportunistic buyback or isolated infrastructure investments?

A targeted water and land reform package could allow local communities to understand, own and drive the process of change that will affect all regions of the Murray-Darling Basin. Planning with a 30-year time horizon and incorporating the risks of climate change and consequent reductions in water availability will reduce the uncertainty many irrigators and irrigation dependent communities feel about the future and will increase investment certainty.

Assessing long term land and water capability first and allowing the traffic light assessment to drive the investment of funds, mitigates the risk of investing public money in creating world-class irrigation infrastructure which will become world-class stranded assets if it occurs in areas unsuitable for long-term irrigation. There is no sense concreting in the mistakes of the past.

How can the package fit into existing Commonwealth water reform policy and funding commitments?

The Commonwealth *Water for the Future* program comprises two key investment strategies including $3.1 billion for buying back water from willing sellers and $5.8 billion for structural adjustment and infrastructure improvement, which the Government has expressed an intention to roll out simultaneously.

On 3 July 2008 the Commonwealth, Victorian, NSW, South Australian, Queensland and Australian Capital Territory governments signed an agreement on Murray-

Darling Basin reform. This agreement set out the priorities and principles for Commonwealth investment in water reform projects.

The objectives of the Commonwealth's investments in priority projects are to:

- implement water saving infrastructure projects;
- return water to the environment and restore river health; and
- adapt to climate change in an environment of reduced water availability.

The Commonwealth has established the following investment priorities:

- projects must be able to secure a long-term sustainable future for irrigation communities, in the context of climate change and reduced water availability in the future;
- projects must deliver substantial and lasting returns of water to the environment to secure real improvements in river health; and
- projects must be value for money in the context of the first two tests.[3]

The package ACF is proposing meets these objectives and enables simultaneous investment of both the $3.1 billion and $5.8 billion programs. This package also avoids the risk of creating world-class irrigation infrastructure that will quickly become world-class stranded assets in areas that will be unable to sustain irrigation in the future as a result of climate change and other pressures.

Who would prepare the traffic light ratings and develop the package?

In conducting the land and water capability assessments and developing the traffic light ratings, catchment management authorities, departments of primary industries, water, natural resources, environment and related disciplines, water authorities and irrigation infrastructure owners or operators should collaborate in working groups with irrigators, land holders and local environmental organisations to establish blueprints that set out a vision for their areas. An expression of interest in accessing an appropriate investment packages would then be provided to the Commonwealth under the *Water for the Future* program.

What criteria should be applied by the Commonwealth in identifying and investing in such a package?

Appropriate criteria for identifying and investing in targeted water buyback zones have already been established by the Commonwealth Government (see 'Due Diligence Criteria for Basin State Priority Projects' in Appendix 1 as attached).[4]

[3] MDB IGA p.22.
[4] For further information: http://www.environment.gov.au/water/programs/off farm/pubs/guidelines.pdf

Conclusion

Australia has a historic opportunity to prepare irrigation industries for the impacts of climate change and restore the Murray-Darling Basin to health. Australians have made it clear they want to be able to enjoy a healthy Murray-Darling Basin. To bequeath to future generations an ecological disaster would be a symbol of national failure.

A targeted water and land reform package would create renewed hope in the Basin and help revive Australia's greatest river system. Achieving this goal will require the combined energy of governments and communities. The Australians who established irrigation settlements 50, 70 or 100 years ago applied courage, perseverance and vision to their task. Our nation needs those same qualities applied again to the challenges of the Murray-Darling Basin.

The authors

The Australian Conservation Foundation (ACF) is committed to inspiring people to achieve a healthy environment for all Australians. For more than 40 years it has been a strong voice for the environment, promoting solutions through research, consultation, education and partnerships. It works with the community, business and government to protect, restore and sustain our environment.

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Appendix 1[5]

In undertaking the due diligence assessment of priority projects the Commonwealth will consider the social, economic, environmental, financial and technical aspects of the project.

1. Economic and social criteria
Projects must be able to secure a long-term sustainable future for irrigation communities, in the context of climate change and reduced water availability into the future:

- projects must contribute towards regional investment and development, secure regional economies and support the local community; and
- projects must demonstrate a long-term economic and environmental benefit that can be sustained over a 20 year horizon, preferably supported by an irrigation modernisation plan consistent with the Commonwealth's guidelines for irrigation modernisation planning assistance.

2. Environmental criteria
Projects must deliver substantial and lasting returns of water to the environment to secure real improvements in river health:

- projects must be based on a technically valid calculations of net water savings, with
- projections to take into account the impacts of climate change;
- projects must be able to deliver water in the form of a secure and transferable water entitlement to the Commonwealth Environmental Water Holder; and
- the Commonwealth's share of water saved must be capable of being used for purposes that reflect the Commonwealth's environmental priorities

3. Value for money criteria
Projects must deliver value for money in the context of the first two criterion:

- projects must have a suitable dollar per megalitre benchmark against local/regional water, including multiple benefit values, eg, reduced River Murray salinity, and flood plain restoration.
- market prices and represent cost- and time-effective strategies for achieving water savings;
- projects must demonstrate a positive cost-benefit outcome for a range of investment scenarios, compared with a no change option; and
- there must be clearly defined, and agreed, cost sharing arrangements.

4. Water reform criteria

[5] Inter Governmental Agreement of Murray-Darling Basin Reform, COAG, 2008.

All activities associated with the funding of projects must be in accordance with Council of Australian Governments and National Water Initiative agreements. Jurisdictions or other parties must make progress towards key water reforms, including those previously agreed to by jurisdictions under the National Water Initiative, including, but not limited to:

- competitively neutral and independently regulated water market and trading arrangements across the southern connected Basin;
- water charging regimes that reflect the full cost of supply to end users, including environmental externalities where feasible and practical;
- publicly accessible and compatible water register arrangements across all Basin jurisdictions (including a national water register information database);
- strategic investment to accelerate development of a best practice and consistent Basin water modelling platform, noting that the Murray-Darling Basin Authority will be developing such a platform in consultation with Basin States;
- compliance with any other COAG water and National Water Initiative reforms.

5. Other due diligence criteria

Projects must be consistent with best practice and other national approaches and standards being adopted for planning and implementation of *Water for the Future*. Projects will need to integrate with Basin State water planning documents and processes. Projects involving irrigation systems will require independently-conducted water loss hotspot assessment and modernisation plans. Funding will be provided for on-ground works related expenditure only and not for financial restructuring or other purposes. Suitable project management capability and capacity must be demonstrated. Project specifications must include:

- appropriate governance arrangements for the project to ensure it delivers on time, within budget and against all key objectives;
- compliance with relevant state environmental legislation and the *Environment Protection and Biodiversity Conservation Act 1999*;
- compliance with other relevant jurisdictional legislation;
- indemnification of the Commonwealth against any environmental or other third party damage caused by the project;
- no responsibility to the Commonwealth for any past, present or future taxation liabilities arising from investments;
- warranties on investments; and
- no allocation of responsibility to the Commonwealth for any legal contracts already entered into, except where explicitly agreed.

The Commonwealth will take into account other relevant matters where necessary in undertaking its due diligence.