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Droplets explore ideas and propositions, which if developed further, might improve water use. They develop ideas and search for the fundamental concepts and building blocks that one might consider if not constrained by prior decisions.

Securing water: What is the best and fairest way to secure water for the environment?

"Change and adjustment is an essential and inevitable outcome of economic growth and is a process without beginning and without end." – Jim McColl

A river can be described as "over-allocated" when its entitlement regime allocates too much water to users and not enough to the river, its aquifers and the wetlands dependent upon it.

One of the essential steps in solving an over-allocation problem is to fix those parts of the allocation system that caused the problem to emerge. Otherwise the problem will re-occur. Fixing the causes of over-allocation commonly involves complex changes to legislation, governance arrangements and water resource plans that inevitably take time to negotiate and implement. It's a lengthy, time-consuming process.

In the meantime and parallel with the reforms necessary to prevent re-occurrence, the existing over-allocation problem has to be solved by a) changing the rules used to determine how much water each entitlement holder gets; and/or b) securing a larger proportion of entitlements for the environment.

In Australia's seriously over-allocated Murray-Darling Basin, new legislation is in place, a new Authority is finding its feet and a new Basin Plan is being prepared. The causes are being addressed. At the same time, an attempt is being made to solve the existing over-allocation problem by purchasing water for the environment from willing sellers and by investing in a suite of infrastructure "modernisation" projects aimed at reducing conveyance and delivery losses and transferring a share of the "net savings" to the environment. Due diligence assessments of savings projects have been promised.

In the case of the Murray Darling Basin, the Commonwealth Government recently announced that it had overspent its budget for the purchase of environmental water by $193 million. Progress is being made but, as the recent A$303m purchase of water from one of Australia's largest agricultural companies has shown, not everyone agrees with this approach. Objections include claims that the impact on local communities is too great, that the wrong types of water entitlements are being purchased, and that water is being purchased in the wrong areas. In response to the last objection, the NSW government announced it would not allow the Commonwealth Government to buy any more water for the environment from NSW – they want more water bought from Victoria. Others want more money invested to improve the efficiency of supply infrastructure and on-farm water use. In short, solving the over-allocation problem in a timely manner is proving to be convoluted and difficult.

To make matters worse, all the above is being undertaken during what is either a prolonged drought or, quite possibly, a step-change to a drier regime. Storages, the river and associated aquifers are at extremely low levels. Future prospects look grim. Unless the Basin has an unexpected run of very wet years, it will take a considerable time to get storages and the river back to a reasonable state.

Given this challenging environment, how long should be taken to solve an over-allocation problem? And, if a government wanted to solve this problem quickly, what is the best and fairest way to do it?

Change and adjustment

Most Australian farmers understand that structural adjustment is the norm – a never-ending process that has no end. In irrigation, as elsewhere, this process favours those best able to adopt new technologies and manage efficiently. The process encourages others, for various reasons, to leave the industry.

As set out in our report, Managing Change, whenever governments step in and give money to the less able managers, the more talented managers can't compete and move to other areas in a manner that can cause regional economies to go backwards. Money follows opportunity, not barriers, to change.

The same process can also occur at the regional level. When one region is given a grant to modernise its water supply infrastructure, other regions and water users who have modernised at their own expense are disadvantaged. Great, for those on the receiving end of the subsidy or "modernisation program." Awful, for those on the losing end.

As agreed by the Commonwealth and all State Governments when they signed the National Water Initiative, Australia and the irrigation industry as a whole will be better off if and when all water users are required to pay the full cost of providing access to water supply infrastructure and of delivering water. Most professional policy analysts do not recommend subsidies to existing irrigators, but support sensible grants to help facilitate adjustment by those wishing to exit the industry.

The effects of environmental buy-backs

Whenever a new player enters a market, demand increases and the price goes up or at least remains higher than it otherwise would be. Unfortunately, when a government chooses to solve an over-allocation problem by buying water entitlements, this discourages irrigators from adjusting and innovating in the ways that keep their industry prosperous. To put it bluntly, few irrigators can compete with a government

cheque book. Provided the process used is fair, just and efficient, the faster an over-allocation problem is fixed, the more prosperous an irrigation industry can expect its future to be.

What about regional impacts?

Not all the money invested used to buyback water entitlements leaves a region. To the surprise of many, a recent Monash University assessment of the implications of buying back water in the Southern Connected River Murray system found that "buyback raises rather than lowers aggregate consumption in each region." Across the system, the impact on regional GDP was less than 1% and in several regions, including Victoria's Goulburn district, buybacks were found to increase (not decrease) regional GDP. In times like the current one, when many are receiving no or little water, buybacks should be seen as similar to a rapid financial stimulus package.

How much water is needed?

How much water is needed for the environment depends upon on the structure of the entitlement regime and basin-wide sharing regime that is put in place. In our report on Future Proofing the Basin, we argued that managers should differentiate between the water needed to maintain a minimum flow and convey water to users, and that needed for the environment. In the Southern Murray-Darling system, the simplest approach is to aim to a secure a similar percentage of each type of entitlement for the environment – including high security entitlements.

Three options

The real challenge is to find a way to solve the over-allocation problem quickly. One option is to continue to buy water but at a dramatically accelerated rate. This is likely to be administratively very difficult.

Another option is to issue the environment a proportional share of each entitlement type. This approach would solve the over-allocation problem in one single step. Ministers would simply issue a suite of entitlements to the environment. Overnight, the environment would become a shareholder whose status would be equivalent to all other users.

Given past policy commitments, principles of fairness and justice would suggest the need for a compensating payment to all users well in advance of the environmental share being issued. Once made, irrigators would then be well resourced and free to compete and innovate in water and land markets that are about the future of their industry rather than about the cost of past mistakes.

If the above option seems unacceptable, then an alternative approach is to run a reverse tender and buy all the water needed for the environment in one hit. Reverse tender share buybacks are often used by companies to buyback shares. A range of offer prices are set and participants are invited to indicate how many shares they would sell at that price. A clearing price is determined and all who offered to sell at less than that price are paid the clearing price. Usually, the clearing price is well above market value.

Where to from here?

Ultimately fixing an over-allocation problem means that less water can be used for irrigation. As indicated above, there are a number of possible ways to fix an existing over-allocation problem. The quicker the process, the greater the regional benefits. Every Basin community would be stimulated by the rapid injection of cash into their economy and able to plan for their future with greater confidence. There would be an end to policy uncertainty. Importantly, the water market would be returned to one that is about the value of future of opportunities to profit from using water and improving businesses.

Speeding up the process will lead also to considerably better environmental outcomes. Many environmental assets within the Basin need a share of available water now. Some time in the future may be too late. River health is in a perilous state, time is no longer on much of the Basin's side.

Perhaps the best way forward is to continue buying through the rest of this coming irrigation season (if NSW and Victoria will allow the Commonwealth to do this), and then commit to totally resolving the over-allocation problem before the start of the next irrigation season. With the agreement of relevant Basin Governments, this could be done in the period between May and June 2010. Either of the two options presented above – an environmental share issue or a reverse tender – could be used to do this.

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References (Access them by clicking on the links embedded in this Droplet.)

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