SUBMISSION ON THE PRODUCTIVITY COMMISSION DISCUSSION DRAFT-RURAL WATER USE AND THE ENVIRONMENT: THE ROLE OF MARKET MECHANISMS

HARVEY WATER
James Stirling Place
HARVEY WA 6220

Harvey Water believes that the Productivity Commission Discussion Draft on Rural Water Use and the Environment: The Role of Market Mechanisms makes the fundamental error of assuming that water is water wherever and however it is found and therefore can be traded as one uniform product. This is plainly not the case in practice and the determined focus on the market has been done at the cost of ignoring the practicalities of both normal business operations and water management. The Discussion Draft is irretrievably weakened by this approach.

Harvey Water & Trading

Harvey Water supports most trading opportunities as a means of making the best use of increasingly scarce water and we have some experience in it. In Harvey Water's case we have been internally trading water for 10 years and our experience mirrors that of the eastern states in that about 10% of our water sales each year relate to temporary trades between farmers and about 1% are permanent transfers.

However we make the very important proviso that we do not agree with the concept that individual irrigators be allowed to permanently trade irrigation water entitlement externally from a cooperatively managed enterprise such as Harvey Water. To do so would basically mean the end of the irrigation scheme here which has been universally recognised as a major success in management of water in WA.

Harvey Water has initiated the permanent and temporary trade of saved water with the benefits used for the members of the cooperative. We are considering the opportunities for the temporary trade of water entitlement. There are also environmental benefits from saving and trading water but we have been bemused to have been approached by government who have effectively said that they appreciate irrigators spending their own funds to save water ($18m to save 10GL in this case) but now they want them to give the government/environment some of that for free ! That is not much of a market approach !

As to external trade of irrigation water entitlement by individual irrigators we note the following. Any irrigator who wants to permanently trade his water within this cooperative can do so freely at well established market prices of about $35 / ML in Collie (high salinity water), $450 / ML in Harvey (high demand) and $250 in Waroona. These markets operate well, prices respond to supply and demand and the market information is freely available.

It is human nature and normal market behaviour to want to profit maximise and to seek a higher priced market. A very limited number of irrigators perceive a potentially higher price if they could trade with the Water Corporation. On the best but very limited information established by calculation and not by market intelligence, there is a possibility they could obtain about double what is available internally. Or, if the monopoly acts according to normal and sensible business behaviour (not market behaviour and there is a very real and very large difference) they might only get just marginally more than they get internally – take it or leave it ! That is, if there is effectively only one buyer then it is not a true free market and the price offered will reflect that.

If irrigators are allowed to trade externally and enough of them do so then the costs of operating the irrigation area will be spread amongst fewer irrigators who will struggle to afford it. As the volume of water and the number of irrigators decreases the need for a cooperative organisation like Harvey Water and its ability to be financially viable will decline.

It would then be a curious paradox that government competition policy which lead to the privatisation of Harvey Water because the government was not able to operate the irrigation area properly or profitably, could also lead, by inappropriate trading policy, to the decline of the cooperative organisation and its inevitable return to government control. This would be disappointing but also remarkable, as by any measure, the irrigation cooperatives in WA have been an outstanding success.

That said, we don't believe there will be much trade in water in WA and this will make the development of an efficient market very difficult. It will be a thin market.

Pre-conditions for Trade

Some of the **preconditions** that are needed for efficient trade are clear understandings of:

- Title
- Transferability
- The resource and its boundaries
- Payment mechanisms
- Measurement
- Transport from seller to buyer

In the case of Harvey Water and Ord River Irrigation we have title through a licence and our irrigators have shares which are easily transferred between them. We know how much water there is because we have surface water licences in various dams, a defined area of distribution and a distribution and measurement system in place to move water to each customer. In the Gascoyne Water situation they also have those pre-conditions but having a groundwater resource means that their knowledge of this is less definite than a dam.

There are not too many other places in WA where those pre-conditions exist. There are no other major irrigation dams and so we are left with groundwater resources and we all know there is an awful lot more work needed on them to understand how they perform. This may all change in future with better knowledge but currently the pre-conditions have mentioned above aren't well understood.

Characteristics of Efficient Markets
An efficient market needs a good number of competitive buyers and sellers with more or less equal access to market formation so that the price discovery mechanism can operate properly. For example in Harvey Water's internal trade market we publicise trade prices between individuals in an aggregated form and we hold auctions and the market price responds well to supply and demand forces.

But in WA, we effectively have only **one buyer externally**, which is the Water Corporation although the WA Treasurer has commented on some future changes including the possible participation of other players. There may be a limited number of other buyers, such as industry who are currently either self suppliers in the majority of cases or serviced by the Water Corporation.

So there will clearly be a lack of competition in the market and who knows how the price will be determined in that situation and what confidence can there be in that price? There is not an effective monopoly around that does not use its market power to its advantage. In such cases, economic theories about markets are readily and continually disproved by hard headed business practice and the market as originally conceived does not have an "innate moral conscience". Not all participants benefit equally in those cases and the market fails.

Externalities
Environment

Free markets traditionally operate to satisfy free enterprise consumptive users. However in our world now and in the eyes of the NWI the environment also has needs for water. If the market is the sole or major determinant for the distribution of water resources who will stand in the market to compete on behalf of the environment? It is most likely to be government, but again, one buyer for the environment is hardly a competitive market place.

And if the decision is made not to compete on behalf of the environment but to obtain water by regulation or some other mechanism, then the market mechanism is fundamentally flawed and cannot be relied on.

The NWI focuses heavily on the economic aspects of water trade but it also recognises the need for that magic concept, "sustainability" for public benefit.

For example, can a market encompass social wants and needs such as green lawns in the city which in our opinion simply reflects a greater capacity to pay for water rather than an intrinsically higher value use? Or for the recreational and tourism value of water in its natural state or even in man made locations? Will the fishermen and the water skiers stand in the market to pay for their access to water and its benefits or will it be government by proxy again ?

It is our very strong opinion that the term "higher value use" is misused and misunderstood. The fact that someone in the market can pay more for a product does not, *ipso facto*, mean therefore that the use the product is then put to is a higher value use. In a very great number of cases water use for urban situations,

particularly in the cosmetic applications, is a case of a greater capacity to pay and a greater affordability by the buyer. Therefore trade of water from rural areas where it may have been used for food production to an urban use where it may be used for keeping road verges green and pleasant does not mean it is a higher value use. It may be the case if the traded water is used solely for potable purposes but all the studies show that potable purposes are only a small (around10%) part of water use.

Water is a critical element for human life but should its use and disposition be determined by the operation of the traditional free market which reduces the possibility of public benefit? For example, the transfer of saved water from a regional area such as Harvey Water has multiple benefits to many sectors of society. But if the transfer of water starts to include individual irrigation entitlement then you run into some different issues. Certainly there are some financial benefits for the water seller. But, land without water has a much lower value and so you then start to get lower rate revenue for local shires which means either increases in rates or reduction in services.

Another example is the risk of stranded assets. An irrigation area may invest to provide an excellent water delivery system which has mostly fixed overheads. If water is moved out of the system you find assets are not being used to their fullest potential and also that the fixed overhead costs are borne by a smaller number of people which is inequitable. You can apply exit fees and other mechanisms to try to overcome these problems but again they are non-market methods designed to counter the inefficient effects of the market.

Another concern with markets is that they do not always reconcile the short term interests of participants with the long term needs of society.

The obvious step is seek to understand and predict what the unwanted effects might be and attempt mitigation measures but these would most likely be funded by the public purse. Governments often establish institutions with licensing and regulatory powers to protect the community from adverse outcomes. The Economic Regulation Authority is a recent and high profile example of that kind of institution in WA and one which has responsibilities in gas, electricity water that it is already exercising outside the market.

And you can therefore ask the question if we have all these externalities and they have to be addressed by non-market manoeuvres is the market really working properly?

Water ain't Water !

Let us turn now to some of the practical aspects of water trading. We propose that, contrary to common superficial assumption, that Water Ain't Water. It is not the same wherever and however you find it.

A statement we hear made is that "Farmers are using most of the water in WA/Australia; they should give some of it to the urban areas". If you really examine water in the regional and agricultural areas you easily find that the transition from "farm to faucet" is usually neither easy nor cheap.

For example:

- **Aggregation.** Water in agricultural areas exists in tens of thousands of farm dams and local bores from north of Geraldton to east of Merredin and out to Esperance as well as in the South West. How on earth are you ever going to get those micro sources together to form one major exploitable source? In practical terms you can't.

  In the cooperative irrigation areas in the Ord, Gascoyne and in Harvey there is an aggregation of sources in large dams of various sizes and in defined aquifers. Ord and Gascoyne are financially out of the question as sources, as the Appleyard report has clearly demonstrated, while we at Harvey have recognised the opportunity some years ago and are full-on in developing it. We believe it is only where you have well defined and well understood aquifers or surface water sources of significant volume that trade becomes a realistic possibility.

  There is an apparent article of faith in WA that there is a lot of water to be had by irrigators trading externally. A few years ago after the last major drought in 2001 the Water Corporation came to Harvey Water irrigators and said they wanted to buy some water. When asked what they would pay, they said they didn't know. That says enough by itself but also, the next day, one irrigator came to Harvey Water and said that he had heard that "Water Corporation was short of water and he had 10 ML to offer, maybe 12 ML at a pinch, but certainly 10 ML." That volume of water (10ML) is what the WA Integrated Water Supply System uses in about 15 minutes. So, it is going to take an awful lot of small bits of water over a very long time before any meaningful quantity of water is available from irrigators.

  Harvey Water does an annual Customer Survey and in anticipation of water trade being a topic of major public interest included two questions. The first question related to whether water allocated to agriculture should be converted to non-agricultural uses and 62% did not agree with this. The second question related to whether individual irrigators should be allowed to permanently trade irrigation water entitlement outside of the cooperative and this was opposed by 83% of irrigators.

  One reason for this strong opposition is that every farmer in this irrigation area has seen the devastating effects of misguided, naive and superficial economic theory on the dairy industry and will have no part of any new ideas being spouted by economic theorists who do not have to take any responsibility for the havoc they wreak.

- **Transport.** In a sense this is an aspect of aggregation but even if you have a good source, the greater the distance from the urban areas weighs heavily on the economics because of the costs of treatment and transport. Piping is not cheap. For example, the Stirling Trunk Main to Perth cost about twice as much as the new Harvey Dam. One of the truisms about water is that it is better to have people closer to water than to move water to the people. This

doesn't mean we should all move to the Kimberley as one commentator has suggested.

- **Quality.**

    - Where water is **contaminated** by human activity including direct body contact or by farming or other catchment activities there are public health risks associated with using it for potable purposes. Treatment plants and processes are possible but they are not cheap and remain vulnerable to system or human error. It would not be practical or efficient to have a great number of treatment plants spread around the state basically servicing every town from local sources. Farm dams do not represent protected water sources and these risks also rule out Waroona, Drakesbrook, Logue Brook, Harvey and Wellington dams which collectively, when full, which is pretty rare these days, have a yield of about 200 GL.

    - Wellington dam is the largest reservoir in the South West with a yield of 105 GL but the **salinity** is around 1100 ppm compared to minimum drinking standards of 500 ppm. It is water which is used by irrigators, with considerable difficulty I might add, but it doesn't represent water which can be used for potable purposes.

The examples I have given support our view that the opportunities for trade between agricultural uses and potable uses are few and the easy and obvious ones are already happening or under consideration. For example the 22 GL available from piping the Collie River Irrigation District is one we would love to see happen.

Having said all that, and despite the obvious limitations and flaws of a free market in water trade, Harvey Water still believes it has a role in the administration of water in WA. We have been beneficiaries of trade and can see how it helps. We think it will be useful but just don't think it will be a major panacea for our water problems.

Rather than a proper trade developing from a true free market, because the necessary pre-conditions aren't there, Harvey Water believes that there will be a limited number of individual deals done to move water around. These will each be privately negotiated.