



TO: Standing Committee on Regional Australia,

Please find discussion papers comparing the Proposed Basin Plan with a scheme that eliminates the negative impacts of the MDBA's Plan whilst increasing the productivity of the Basin by \$5billion pa and 120,000 jobs

In short the money allocated to Buy Back(\$12.6 billion--\$3.6 billion already spent) should be redirected to this Supplementary Water Scheme (\$4.5 billion). The supplementary water (7000GL pa) would provide 3000GL pa to the environment and 4000GL pa extra water for irrigation.

I have additional supporting information I will supply on request

Roger Cooke

ADENDUM TO COMPARISON OF MDBA PLAN & SUPPLEMENTARY WATER PLAN

State and Federal Governments have made the mistake of over-allocating irrigation licences so that the advent of a drought has highlighted the lack of Environmental Flows. The proposed MDBA Plan aims to eradicate those mistakes by buying back the over allocated licences assuming that will result in providing those flows. Unfortunately this is done at the expense of the irrigators (ie a win lose situation).

The MDBA failed to identify a win win option. The so called Supplementary Water Scheme (or Ord / Darling Scheme) provides the option that satisfies both needs.(ie extra water for both the irrigators and the environment and at dramatically less cost economically and socially)

The following are explanations as to how the figures in the Comparison Table were derived.

1 Cost of Pipeline and Cost of Buy Back

1.1. Pipeline

The proposal is to pipe water from the Kimberley to the MD Basin. This estimate is for an 1800km pipeline with 15 to 20 pumping stations every 90 to 120 km. There will be multiple pipes required to convey at least 7000GL pa from possibly the Ord River to the upper reaches of the Darling.

Construction time (not including design and land acquisition time) could be less than 18 months as the pumping stations and pipes between them can be constructed concurrently.

1.2. Buy Back

The MDBA Plan is focused on rectifying the mistakes of past government in over-allocating irrigation licences instead of addressing the periodic root cause of the problem (ie drought) The \$12.6billion is the Government allocation to improve water use efficiency in the basin and buy back the over allocated irrigation licences plus offer farmers Exit Incentives to leave the land. The intent is to release the over allocations into the river system. The buy back infrequently results in more water back into the rivers but in any case it results in less food production. The Exit Incentives normally mean additional water in the rivers but at the expense of food production in the basin that provides 40% of the Nation's food.

The country cannot afford this loss of food production at the same time the population is expected to increase by 50% in the next 30 years.

Unfortunately the Government has already wasted \$3.0 billion on buy backs.

2. Increased Productivity

The current production (including cotton and rice) by the Murray Darling Basin utilises 13,200 GL pa of water out of the basin and is well in excess of \$16billion pa. That production can be easily doubled if it can get enough extra water.

The volume of water that can be spared from the Far North is 7000 GL pa. of which 3000GL pa would be environmental flows. The proposed extra 4000 GL for irrigation will increase production by \$5billion pa.

In 10 years the rainfall in the far north will have increased by 10% (ie to align with the past 50 years so there will be an extra 800GLpa available) but the rainfall in the Murray Darling Basin will have conversely decreased by a greater amount because it is a far greater catchment area.

3. Lost Production

Under the MDBA Plan, the provision of 3000GL pa for environmental flow has to be at the expense of the irrigators (ie their allocations reduced by a further 30% or more). This means a loss in production in the basin of a conservative \$800 million pa. Such a loss in income into the associated rural areas results in a migration of people to the cities with not only the adverse socio economic affects on Rural towns but there is also the strain that is put on the cities where the infrastructure (expressways, public transport n hospitals schools etc) has to be upgraded at extraordinary cost to accommodate the extra people in the already over crowded cities.(ie far more expensive to provide for those same people if they had to be accommodated in the regional centres).

4. Pipe Open Channels

There is enormous wastage in transporting water from rivers to farms by open channels and, for that matter, flood irrigating. This wastage is due to evaporation and seepage into the ground. Such loss can be avoided by piping the open channels using pipes made from recycled material. The late Richard Pratt has done a great deal of work in researching this matter particularly developing the pipe. He concentrated his research in the MIA but it applies everywhere including the Ord River Irrigation Scheme where there is such an abundance of water that there is no incentive to conserve the water.

5. Increased Production from Piping Open Channels

At a cost of a mere \$140 million in laying the pipes, food production can be increased by \$1.4billion pa.

6. Sale of Water

Since the water in the Basin has been on the "Commodities Market" the price has gone from 40 cents / KL to \$2.00/KL. Therefore the Supplementary Water Scheme's 4000GL pa is capable of generating an income stream of between \$1.6 billion pa and \$8.0billion pa depending on supply and demand. For the sake of this report it is assumed the getting price for water will be \$1.00/GL.

Unfortunately speculators in the Water Market have "artificially" increased the cost of water to the extent that irrigators who are buying the water for actual production are paying "speculative "prices.

7. Dredging the Murray Mouth and Lower Lakes Credit

7.1. Dredging of Murray Mouth

Prior to the barrages being built in the 1930's, contaminants that came down the river precipitated out in the slow moving flow of the Lower Lakes and the Coorong. Those contaminants were progressively flushed out through the mouth at the changes of tides. The very volume involved in each flushing kept the mouth open (200 m wide and 12 m deep). Once the barrages were constructed 70 years ago, only the Coorong has been flushed at each change of tide so the mouth silted up and has to be dredged now to keep it open (ie \$6million pa).

For 70 years the rubbish that has come down the river has built up in the Lower Lakes to the extent they have become cess pools. The two floods that have happened in that time have added more rubbish rather than flush it.

7.2. Lower Lakes Credit

The reason for building the barrages was to provide fresh water to the communities and properties abutting the Lower Lakes. The designers did not realise that they had exposed an enormous surface area of fresh water to evaporation. Evaporation accounts for 780 to 900GL pa (ie for the sake of this paper the evaporation is 800GL pa)

The State Government has extended water mains to all those properties that had grown to depend on the Lower Lakes being fresh. Therefore there is no impediment to returning the Lower Lakes to their original estuarine state

Once the Barrages are opened the 800GL pa of the environmental flow that was for the Lower Lakes can be sold to the irrigators at say \$1.00/ KL (ie \$0.8billion pa) so they can increase their production even further

8. Job Creation and Job Losses

8.1. Job Creation

Ultimately by 2030, the extra irrigated production in the Basin will mean an extra 120,000 permanent jobs.

8.2. Job Losses

The Basin Plan estimates 800 job losses which is intuitively low. It is more likely to be 3000 but in the absence of further information 800 will be used.

9. Population Increase and Population Decrease in Regional Areas

9.1. Population Increase in the Regional areas .

The extra 120,000 jobs created by the increased production bring with them at least another three (3) family members.

9.2. Population Decrease

The Basin Plan suggests there will be a loss of 3000 people from the Basin. Based on a loss of 800 jobs then this would be about correct but the figure of 800 is questioned.

10. Extra Areas Irrigated in Supplementary Water Scheme and Extra Area in MDB Plan

10.1. Extra Area Irrigated under Supplementary Water Plan

There is more than 1.0million ha under irrigation so that, assuming there is no improved efficiencies in the present practices, there will be ultimately, in 20 years, there will be an increase of 500,000 ha. This area will, obviously, increase with improved efficiencies so there will be conservatively 700,000 ha under irrigation in 2030.

19.1. Extra Area in MDBA Plan

The only area in Australia where there is water security is the Kimberley's and there is only 80,000 ha of additional arable land available. The problem is that the area is suited to exotic tropical crops and not suited to the crops grown in the Murray Darling Basin

11. Extra Irrigation Water

There is 8000GL pa that is caught in Lake Argyle on the Ord River (Similarly Fitzroy and Daly Rivers).. The local Irrigation Scheme uses 800GL pa and 200GLpa is required for the hydro Electricity plant, the Argyle Diamond Mine, Kununurra and environmental flows. Therefore there is 7000GL pa available to be piped to the Murray Darling Basin and all remote communities in between (ie including some 28 mining developments). A 3000GL pa would be available for environmental flow in the MD Basin.

Adelaide currently uses 200 GL pa (120 GL pa is captured in an average year in Hill's dams and 80 GL pa is pumped from the Murray). A Desalination plant has been constructed to supply 100 GL pa which will produce a cocktail of Hills Water and desal water at a cost of more than \$3.00 / KL as compared with \$1.16 / KL at present. It would be folly for Adelaide to source any future extra water supply from anywhere else other than the Murray. Bringing the 7000GL pa in from the Ord means this diversion to Adelaide would be of negligible impact on the Murray Darling Basin and, in fact, Melbourne also could source future water needs from the Basin.

12. Environmental Flows

12.1. Supplementary Water Scheme

This scheme provides what the MDBA Plan advocates (ie 3000GL pa) Refer to 7 above regarding the opening of the Lower Lakes to the Ocean so that 800 GL can be withdrawn from the environmental flow and sold to irrigators). Hence, in the second ten years, the allocation for environmental would reduce from 3000 GL pa to 2200 GL pa.

12.2. MDBA Plan

The plan agrees that 3000 GL pa is required to give adequate fresh water to keep the river in a healthy state. It should be noted that most of the flood plane wet lands were created by the very fact that the Locks were installed and created a series of reservoirs that meant that water entered the flood plane to create the wetlands more frequently than the occasional flood. This is why the River Red Gums along the river have died (ie their roots were "drowned"). It is anticipated there will be objection by environmentalists to the suggestion of opening the Lower Lakes to release 800GL pa to be given to irrigators.

13. Affect on Weather Patterns

The weather pattern that services the MD Basin, particularly the Darling, is the same that provides the weather to Perth and Adelaide. For the last 9 years there has been a tendency for that weather, as it moves west to east, to slip off the southern edge of the continent, hence the current drought (including Adelaide in spite of recent rains).

The floods in southern Queensland in late 2009 did not herald the end of the drought as they were the result of two statistical anomalies. Two cyclones from the tropics made a 1 in 200 year move. They turned inland and kept going to Queensland where they precipitated enormous volumes of rain mainly in the Channel Country so Lake Eyre and the Channel Country are awash with water.

There is a plausible hypothesis that rain follows trees (eg in Israel the Jews have planted orange and olive groves which have altered the local weather pattern so the average rainfall has increased.). Although there has not been enough time for trees to grow in the Queensland floods the very presence of a vast expanse of water has altered the weather pattern coming from the North West of the continent. Whilst the flood waters remain that weather system will be "drawn" to them so there will be abnormally heavy rains diagonally across the centre of Australia to the Darling (and even Adelaide) and beyond to the Alps where there will be exceptional dumps of snow. Unfortunately, this situation will only last whilst the water remains in the Channel Country and Lake Eyre. That is likely to last only two years and then return the original patterns.

Perth has not benefited from this change of patterns as it is too far south to get any benefit

13.1. Supplementary Water Scheme.

The water from the north will be used to irrigate vast areas of Darling River Basin which will have a similar, albeit less dramatic, permanent affect as the floods in Queensland. Rain will continue to fall across the centre of Australia probably all the way to the Alps. The more irrigation the greater will be the affect.

When the Bradfield Scheme is implemented its waters will be diverted to Channel Country so the affect on the weather will be reinforced

13.2. MDBA Plan

The Plan aims to solely reduce the diversion of water from the Basin for irrigation to ensure there are environmental flows in the Rivers even during droughts. It is a fact that the average rainfall in the MD Basin is going to decrease and the droughts will be more severe and more frequent. That means the Government will have to continue to buy back licences forever. What agriculture there is in the Basin will disappear and the once productive land will be returned to its original state.

SUPPLEMENTARY WATER SCHEME PRESENTATION

Which of the following businesses would you invest in?

	BUSINESS A	BUSINESS B
Capital investment	\$4.64 billion	\$12.6 billion
Return on investment	+\$11.20 billion / annum	-\$0.806 billion / annum

Of course it would be A because you not only outlay less to begin with but you also have a handsome income as opposed to B which is running at a loss

Now lets assume the businesses are farms. What are the effects on and by the Companies on the community?

	BUSINESS A	BUSINESS B
Additional Jobs	+120,000	- 800
Increased customers	+480,000	-3,000
Extra area farmed	+500,000 ha	+40,000 ha
Extra irrigation water available	+4000 GL pa	nil
Contribution to Environmental flow	+3000 GL pa	+3000 GL pa

Once again you would pick A

Business A is the Supplementary Water Scheme and B is the MDBA Plan

In short , the MDBA Plan aims at rectifying a mistake (ie the over allocation of irrigation licences). It simply spends money to achieve the environmental flow at the expense of irrigators (ie a Win Loss situation). The Supplementary Water Scheme delivers that same environmental flow but it also gives irrigators additional water to increase food production. (ie a Win Win situation)

The Supplementary Water Scheme involves piping 7000GL pa from the Kimberley to the Darling where the irrigators get an additional 4000 Gl pa and 3000GL pa goes to environmental flow. This scheme costs \$4.5 billion so it is proposed that the Government ceases spending \$12.6 billion on buy backs and spend \$4.5 billion on the Ord / Darling Pipeline.

The MDBA Plan spends money to satisfy only the environmental flow at the expense of the regional areas (ie loss of 500 jobs and lost production of \$800,000 pa). The Ord / Darling Scheme delivers that environmental flow but produces increased production of \$6.4 billion pa and an income stream from the sale of the extra water of at least \$4.8 billion pa

The MDBA's terms of reference were to rectify the mistakes of governments in over allocating irrigation licences and at the same time achieve environmental flows. Its terms of reference should have been more encompassing like the "Drought Proofing of Australia" as that would have logically addressed the environmental flows as a matter of course.

Drought Proofing Australia or Water Security is required to feed the population growth. The population is going to increase by 50% in 30 years and so we will have to increase food production. Forty percent of that food production is the MD Basin and its production can double if given extra water.

The basin lies in an area where the average rainfall is decreasing. Conversely the average rainfall is increasing in the Far North so it is logical to either move farming to where the water is or bring the water south to where the farms are located. There is only an additional 80,000ha of arable land available in the Far North and, besides, the crops that grow in the south do not grow in the tropics. There are millions of hectares available in the Basin

The proposed pipeline alignment will go past remote towns and communities plus existing and future mining towns. Branches from the pipeline can give these communities secure water supplies. Jobs follow water so these remote areas will flourish and reverse the trend of people leaving the regional areas. The extra water will have the same effect on regional communities in the Basin once the water from the north is delivered.

In summary, the MDBA Plan needs to address the immunisation of Australia against drought which will address the environmental flows as a matter of course. Bringing water from the Far North costs less than the bandaid treatment that is currently advocated (ie buy back) and it produces a win-win result at less cost and it increases productivity.

COMPARISON OF MDB PLAN & SUPPLEMENTARY WATER PLAN



INCOME AND COSTS

SUPPLEMENTARY WATER SCHEME				MURRAY DARLING BASIN PLAN		
#	CONSIDERATION	Cap cost \$billion	Income + Cost - \$bill pa	CONSIDERATION	Cap cost \$ billion	Income+ Cost- \$bill pa
1	Cost of scheme	-4.50		Cost of buybacks	-12.60	
2	Increased Productivity		5.00			
3				Lost production		-0.80
4	Pipe open Channels	-0.14				
5	Increased proctn from piping		1.40			
6	Sale of extra Water		4.00			
7	Sale of lower Lakes credit		0.80	Dredging mouth		-0.006
	TOTAL	-4.64	11.20	TOTAL	-12.60	-0.806

MISCELLANEOUS

SUPPLEMENTARY WATER SCHEME				MURRAY DARLING BASIN PLAN		
#	CONSIDERATION	2020	2030	CONSIDERATION	2020	2030
8	Job creation	60,000	120,000	Lost jobs	800	800
9	Pop increase in regional areas	240,000	480,000	Lost Population	3,000	3,000
10	Extra area irrigatedinn MDB (ha)	250,000	500,000	Extra area in Far North (40,000	80,000
11	Extra irrigation water (GL)	40,000	80,000	Extra irrigation water	nil	nil
12	Environmental Flow (GL)	30,000	540,000	Environmental Flow	30,000	60,000
13	Affect on weather patterns	(+ve)	(+ve)	Affect on weather	(-ve)	(-ve)