

Submission Number 006

The MBD is a critical resource for Australian vegetable, fruit, rice and dairy supplies as well as for export industries of almonds, dairy products. Ensuring continuity of these industries is key for a self-sustaining future of Australia. In addition the viability of the MBD is of major importance to the welfare of MDB towns and of first nation peoples for traditional pursuits, as well as tourism and recreation benefits. Wild life and the environment also depend on MDB. There are large and increasing demands on MDB with the projected increase in Australia's population. However with lower rainfall projected in the MDB due to climate change, even current water recovery plans, reallocations, buybacks, and irrigation efficiencies will not be adequate to meet water demand by 2050, when there will be increased losses of water from evaporation, irrigation evapotranspiration, local urban demand, recreation and environmental use. More water will need to be found.

The panel has not sufficiently considered the challenge to MDB water supply and extreme variability from reduced rainfall with climate change. The planned water savings on-farm and off-farm plus underground water supplementation, will not be sufficient to provide future MDB demand for; irrigation, town water, first nation needs, environmental needs. It is very likely that the world will have a further temperature increase of 1.5C and very possibly 2C above 2000 levels. Such increase will be greater over land than over oceans, and will particularly impact the MBD with increase evaporation from the river system, increase evapotranspiration of irrigated crops, and increased urban use. Increased temperatures will also raise climate volatility, with increased frequency of droughts and less frequent but more severe flooding. Water supply consistency will require creative solutions for supplementary water sources. For the northern MDB this could include additional dams on northward flowing rivers into the sea to divert into MDB. For the southern MDB water generating schemes need to be considered such as modern medium size nuclear power plants (e.g. Portland, Wollongong, Pt Jervis), to provide converted sea water 1. In pipelines to MDB towns and to the rapidly increasing high value permanent irrigation of almonds especially, and 2. Into tributaries of MDB for first nation peoples, environment and general amenities.

The Australian population will be much larger by 2050, with a greater volume of horticultural and other food supply required from MBD. The impacts of increased frequencies of droughts on stability of water supply will be more severe, and allocation of water cannot be left to water-trading alone; Community service obligations will need to be a factor in water allocations, but this can only apply if additional water can be made available locally to; towns, first nation peoples, the environment as well as to agriculture.

A major gap in the report is the future impacts of climate change on MBD as above. Modelling needs to factor for the worst case scenario. The pace of climate change appears to be accelerating; diminishing polar ice, melting permafrost, increase rate of temperature increases and the uncapped projected increases in world population (at least 2 billion more by 2050 and rising) leading to a more urbanized world and more greenhouse emissions (global food value chains, manufacturing, land & air & sea travel, energy demands).

There is an urgent need for such worst case modelling in socioeconomic planning for the future of MDB. This is of critical importance to the future of Australia, and further investments are required to make this viable. Short term economic modelling is not appropriate, a long term view is essential to deal with the existential threat of climate change.