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LAWYERS

Drought or Permanent Condition?



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Australians are very familiar with drought. Ours is, after all, the world's driest continent, if taken on a per hectare rather than on a per person basis. Most of the country ranges from outright desert to fairly marginal dry farming and grazing land. But Australian farmers and graziers have developed many skills. It is these that enable them to make a sufficient income in reasonable years that tides them over the inevitable droughts that lie in between. The use of artesian water, improved seed types, greater mechanisation, mulga for stock feed, droving the 'long paddock' and many other innovative and practical 'tools' has always ensured survival in 'normal' droughts.

The dry across southern Australia that has been with us for the last ten years, however, may be something entirely different. Sometimes, in that period, it hasn't seemed too bad. In some grain growing areas, for example, during some of those ten years, grain harvests have been good. Winter rainfall may have been less than average but the rain fell just on the end of winter and extended into early spring. The hot weather held off and increased carbon in the atmosphere ensured rapid growth once sufficient ground moisture was available. But although these crops were a blessing to the farmers involved, their occurrence also served to make the situation look better than it really was so that many of us in the big cities were fooled into believing everything was fine in the bush.

The dry, however, has been having its effect all the time and it has now extended across the whole of that part of the continent that depends for its water supply on winter rainfall from the south west. Maybe the dust storms haven't started as yet, but they will. So the inevitable question must be asked. Are we now experiencing just another drought, albeit a very

protracted one, or have we entered into the era of global climate change a lot earlier than previously anticipated?

Increasingly the evidence points to a conclusion that climate change is already with us and with far greater force and effect than we imagined. As much as anything it is a feeling that this isn't like any droughts we have had in the past. Just as the scientists have been saying for years, global change in southern Australia will mean less rainfall particularly in the autumn and winter months. It will rain during the summer and large storms will result. But this doesn't fill the dams.

But is this really climate change? Well, we know, for example, that the effects of climate change will be more pronounced closer to either of the poles and further from the equator. What we are talking about below is happening right at the pole and consequently is likely to occur there before anywhere else. We know also that since 1945 the average temperature of the Antarctic Peninsula has increased by about 4.5° Fahrenheit and that the sea ice has been breaking up for some years and at an increasingly alarming rate.

Of far greater consequence, however, is that the Antarctic ice sheet (fresh water ice collected on the Antarctic continent from falling snow) has begun to melt. Currently this is occurring at the rate of about 152 cubic kilometres a year, but this is rapidly increasing and the melt is not being replaced by snow fall which is itself rapidly diminishing. We also now know from recent drilling of the Antarctic permafrost that the carbon levels which have for the past 800,000 years remained between 180 and 300 parts per million (ppm) have now risen to 380 ppm. Of this increase a rise of 30 ppm has occurred over the last 17 years. Many scientists believe that a CO₂ level of 440 ppm is the point at which global climate change will start to run out of control due to the "chain reaction" effect described below. It should also be pointed out that in the past it has taken about 1000 years for a rise of 30 ppm to occur compared with the 17 years revealed by this test. Proximity to the 440 ppm level and the time likely to reach it at the present rate are exceptionally alarming.

Until recently, the meltdown of the Antarctic ice sheet was primarily of interest in connection with rising sea levels. The melting of sea ice has little effect on the sea level because the melted ice was always in the sea as ice. The melting ice sheet is quite another matter. Now, however, it is becoming apparent that climate change in the Antarctic may, at least initially, be of far greater concern to Australia because of the changes it appears to cause in our weather patterns and particularly in being the prime cause of the massive reduction in winter rainfall across southern Australia. Unfortunately the connection between what is happening at the South Pole and the ocean currents that move around the Southern, Pacific and Indian Oceans is not well understood. The conclusion, however, seems inescapable. It is climate change in Antarctica that is the prime cause of the dry and because climate change and its effects in Antarctica cannot be reversed for at least the next 100 years and probably much longer, the chances are the dry will be with us for a very long time to come.

It follows, I believe, that we need to start re-thinking many of the previous decisions regarding water use. They, in some cases, were made when our anticipations were that global climate change would have no significant effect for many years, if ever. Others are of more recent date but still made without any anticipation that something in the order of a worst case scenario solution was far more likely than not likely. We had absolutely no understanding of the 'chain reaction' effect that global warming creates. It's ability by increasing global temperature to trigger off new, and previously unanticipated releases of carbon gases from areas like the permafrost where they had been held for over 200,000 years in supposedly permanent frozen storage.

For example, the idea that the application of market forces through the trading of water entitlements, would ensure that the water involved would be put to its highest and best use is now seriously challenged. The system no longer has enough water to meet entitlements and this is unlikely to change for many generations to come. Not only must we insist on piping whatever irrigation water is available but we should also encourage the use of irrigation water much closer to catchment areas so as to reduce the huge losses in transit.

The Victorian Farm Dams legislation, hailed initially as an environmental measure, is now seen as a less than efficient means of increasing the water harvest from Victoria's catchment areas. We need to review the mechanism with a view to maximising the water harvest.

What is becoming increasingly clear is that Australians need to plan for a very very long dry and for what effect that is going to have on the lives of all of us and our descendants. Victorians need to consider the possibility that the land north of the Dividing Range may have to be surrendered up to desertification. Similar areas in other states are likely to end up the same way. We need to look at the prospect that the Murray River will no longer be capable of sustaining irrigation either at all or, at least in some irrigation areas. The need to pipe the flow to Adelaide must be considered.

This paper therefore advocates that we proceed without delay to Plan B. It can no longer be sufficient for government to be content with initial strategies such as the rationing of water. We need, instead, to be considering the introduction of a supply of desalinated water. Can we desalinate sea water by using geo-thermal (hot rock) energy in Western Victoria and thus not increase carbon emissions? We have to be looking at the prospect of bringing water from North Queensland into the Murray Darling system. The recycling of water needs to be undertaken systemically. We must reconsider the use of irrigation water for some crops where the justification for them simply does not exist.

In short, we need to start making the hard decisions because the easy decisions will no longer suffice.

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