Drought and Water in the Murray-Darling basin: From Disaster Policy to Adaptation

LINDA C. BOTTERILL AND STEPHEN DOVERS

In 1989, Australian government policy ceased to consider drought as a natural disaster but rather viewed it as a problem of risk management in a highly variable climate. This fundamental shift was a long time in the making and has not been without implementation difficulties; however, the experience contains lessons for climate change adaptation for communities and policymakers. Adaptation and disasters are about coping with greater frequency and/or intensity of climate-related events – storms, flooding, heat waves, cyclones and so on. If these events become more norm than exception, then a similar policy shift from disaster preparation and relief to risk management can be expected. The shift is consistent with evolution of emergency and disaster theory and practice, from natural disasters and ‘acts of God’ to risk management to deal with the intersection of environmental variation and human vulnerability across hazard types (Handmer and Dovers, 2013). Like other insights from cognate policy and research domains, this shift has yet to be comprehended in much adaptation literature (Dovers and Hezri, 2010).

We summarise the history of drought policy in Australia and the political, cultural and other issues embedded in the process of policy change. We then comment on the intersection of drought policy with the closely related issue of water allocation in the Murray-Darling Basin under conditions of scarcity and climate variability.

7.1 Drought Policy Pre-1989

Until 1989, Australian governments regarded droughts as natural disasters and responded in line with their treatment of cyclones, wildfires, earthquakes and floods. Constitutionally, disaster response is a state (provincial) government responsibility. However, the national government increasingly became involved in delivery of disaster relief after its first intervention to assist the State of Tasmania following major wildfires in 1939. Over the next three decades, a cost-sharing arrangement emerged between the

Commonwealth and states, augmented on a number of occasions by special Commonwealth legislation for a number of disasters, including the drought of 1965/66, and was formalised in 1971 as the natural disaster relief arrangements (NDRA). The NDRA sets out the respective responsibilities of the Commonwealth and states in the event of a disaster and provides a formula for cost sharing. Responsibility for declaring a natural disaster remains with the states, and the Commonwealth accepts these declarations as the basis for triggering the activation of the NDRA.

In 1989, the Commonwealth Government decided that drought was no longer to be covered by the NDRA for three reasons. First, throughout 1989, the media carried reports of apparent misuse of drought assistance for party political purposes by the Queensland State Government. Second and related to this were financial considerations. Drought relief was dominating NDRA expenditure, particularly in Queensland, where it accounted for all Commonwealth expenditure on disaster relief in 1984 to 1984/85, 1986/87, and 1987/88 (Courtice, 1989: 1379). Third, scientific advances in understanding of the Australian climate meant it was increasingly untenable to sustain the position that drought was a disaster or 'act of God'. There was growing acceptance that drought was a normal consequence of Australia's highly variable climate.

7.2 The Policy Transition

The removal of drought from the NDRA was a watershed decision. In May 1990, the Minister for Primary Industries and Energy established a Drought Policy Review Task Force to identify policy options that encouraged primary producers and other segments of rural Australia to adopt self-reliant approaches to the management of drought; consider the integration of drought policy with other policies; and advise on priorities for Commonwealth Government action in minimising the effects of drought in the rural sector (Drought Policy Review Task Force, 1990). The Task Force concluded that drought was a normal part of the Australian climate and a risk to be managed by agricultural producers along with the other risks facing farms. It concluded that 'Managing for drought is about managing for the risks involved in carrying out an agricultural business, given the variability of climate. Drought represents the continuing risk that seasonal conditions will not be adequate to sustain agricultural activity' (Drought Policy Review Task Force, 1990: 3).

The Task Force called for development of a national drought policy as a 'matter of urgency' (Drought Policy Review Task Force, 1990: 21). Over the next two years, Commonwealth and state governments negotiated the contents of such a policy. The new National Drought Policy was announced in July 1992, based on principles of self-reliance, risk management and acceptance that drought is a natural feature of the Australian climate (ACANZ, 1992). The objectives of the policy were to:

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- encourage primary producers and other sections of rural Australia to adopt self-reliant approaches to managing for climatic variability;
- facilitate the maintenance and protection of Australia's agricultural and environmental resource base during periods of increasing climate stress; and
- facilitate the early recovery of agricultural and rural industries, consistent with long-term sustainable levels (ACANZ, 1992).

The policy was built on a number of Commonwealth programs for farmers that had been reviewed concurrently. The package of measures came into effect on 1 January 1993. The key features of the drought policy were as follows. First, the main direct form of support for farm businesses was delivered through the Rural Adjustment Scheme, which provided subsidies on interest paid on commercial finance ('interest subsidies'). These were available to farmers with a long-term productive future in agriculture and were offered to support measures by farmers to improve farm profitability and sustainability. During severe droughts – 'exceptional circumstances' – the level of subsidy was increased. Second, the Commonwealth offered tax-effective income-smoothing mechanisms in the form of income equalisation deposits and farm management bonds, which allowed farmers to put aside money in high-income years to be used during drought. These two schemes were later combined to form the Farm Management Deposits Scheme, which remains in place. The third major component was the Farm Household Support Scheme. This was aimed at farmers who did not have a long-term sustainable future in agriculture and was linked to exit grants. It provided a level of welfare support but was structured in such a way as to ensure that it did not undermine the policy objective of only supporting farms with a sustainable future. The Farm Household Support Scheme was time limited and contained a loan component as incentive for non-profitable farmers to leave the industry.

In 1994, following political pressure during drought, a major change was introduced with the announcement of the drought relief payment. This was a welfare payment available to all farmers in an exceptional circumstances area, irrespective of the health of their businesses. This was a major policy shift, as previous drought relief had been tightly targeted at those that were 'profitable in the long term' (ACANZ, 1992: 14). Over the next two decades, this payment, renamed the Exceptional Circumstances Payment, became increasingly generous (Botterill, 2006) and began to dominate the drought relief budget. The rhetoric of self-reliance and risk management continued to be employed by both sides of politics, but implementation of the policy became increasingly inconsistent with these objectives. A major problem with the policy implementation relates to the distinction between normal and 'exceptional circumstances' drought. There was no definition in the legislation or in accompanying material that gave effect to the policy. As a consequence, the definition has been subject to ongoing debate. This has undermined the intention of the policy to provide an ongoing, predictable policy response to drought, unlike the *ad hoc*

approaches of the pre-1989 policy. For a more detailed account of the development and evolution of Australia's National Drought Policy, see Botterill (2003; 2005). A recent report by Australia's Productivity Commission has recommended that the exceptional circumstances declaration process and the associated government support packages be terminated (Productivity Commission, 2009). An Intergovernmental Agreement on Drought Policy Reform was signed in May 2013, the language of which is strikingly similar to that of the 1992 National Drought Policy. It sets out to 'replace the exceptional circumstances arrangements' with 'a new package of national drought programs' however the focus and structure of these new programs appears little different from their predecessors.

It is worth noting the narrow focus of Australian drought policy on agricultural production. The policy was developed within the agriculture department, then the Department of Primary Industries and Energy, and from 1996 until 2007 the Cabinet Minister responsible for this portfolio was from the farmer-based National Party. This farmer-centric approach meant the impact of drought on town water supplies and indeed on irrigated agricultural production was given scant attention. Some measures to assist farm-dependent small businesses in rural areas were added some years into the program, but predominantly drought policy has been agricultural industry policy. In spite of this narrow focus, the policy can be seen as a pilot study of attitudinal change and adaptation as policy discourse shifted from disaster response to risk management. Although there has been some backsliding from the policy's original objectives, there has been broad acceptance across the political spectrum that drought is not a disaster. In developing its response to a series of inquiries into drought policy in 2008 (Drought Policy Review Expert Social Panel, 2008; Hennessy et al., 2008; Productivity Commission, 2009), the Australian Government in cooperation with the Western Australian State Government ran a drought 'pilot'. A review panel of the progress of the pilot was largely favorable (Drought Pilot Review Panel, 2011).

This short history demonstrates the often long and variable process of policy reform and two key issues of relevance to climate adaptation and extreme events. First, it is likely that, should extremes other than drought – for example, storms, coastal surges, heatwaves – become more frequent, a similar shift from exception to expected may occur, with demands for similar policy shifts. Second, this case evidences the fact that, very often, a considered policy shift can be reconsidered, at least in part. This appears to be the case with, for example, the treatment of the welfare component of the Western Australian drought policy pilot. Policy reform is a long-term task. However, in light of the clear need for adaptation policy to be cross-sectoral and thus for horizontal policy integration or 'mainstreaming' (Ahmad, 2009; Dovers and Hezri, 2010), the question arises of whether Australian policy addressed or was coordinated with connected impacts and policy sectors. In the space constraints here, we focus on one: Water allocation in the Murray-Darling Basin (MDB).

The MDB is Australia depends on irrigated (Smith, 1998) and jurisdictions allow of environmental led to a sequence with a history of a basin-wide intergovernmental as was the imposition of two measures not was the inclusion 1990s under the water Governments (for proper pricing of part of a strong program than previous attempts

Elements of the policy entered 2002 to 2001 monitoring and evaluation have enabled and most comprehensive see www.nwc.gov.au sustainable development is the core aim. It has been on the MDB

Key elements:

- A comprehensive approach to statutory water of water markets
- Two independent Darling Basin Agreements
- An unprecedented advances in the water
- A basin plan, to be
- Significant funding

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7.3 Drought and Water Allocation

The MDB is Australia's largest river basin and agricultural production area and depends on irrigation from regulated rivers. Post-World War II irrigation development (Smith, 1998) and weak and inconsistent policy settings across four state (provincial) jurisdictions allowed a situation of serious over-allocation to emerge, largely at the cost of environmental condition (Connell, 2007). Periodic water shortages from droughts led to a sequence of crises and policy responses in the early 1980s, 1990s and 2000s, with a history of a lessening of reform when climatic conditions ease. The creation of basin-wide intergovernmental arrangements in the 1980s was a pivotal achievement, as was the imposition of a cap on overall water use a decade later, deficiencies of these two measures notwithstanding. More fundamental from a public policy perspective was the inclusion of the water sector in profound micro-economic reforms in the mid-1990s under the umbrella of National Competition Policy via the Council of Australian Governments (CoAG). The 'CoAG water reforms' promoted greater self-reliance, proper pricing of water delivery, environmental water flows and water markets. As part of a strong process of economy-wide reforms, they were of longer-term impact than previous attempts.

Elements of this policy history were brought together in response to the unprecedented 2002 to 2008 drought. A series of intersecting intergovernmental agreements, monitoring and evaluation functions, information systems and institutional reforms have enabled and furthered the 2004 National Water Initiative (NWI), the world's most comprehensive water reform package (Hussey and Dovers, 2007; NWC, 2009; see www.nwc.gov.au). Water allocation under conditions of variability to achieve sustainable development balance across environmental, social and economic values is the core aim. Although national in a genuine sense, the overwhelming focus has been on the MDB as Australia's most troubled water system.

Key elements are:

- A comprehensive intergovernmental agreement and new national water laws, giving effect to statutory water planning, definition of sustainable limits to extraction and establishment of water markets as a key policy instrument
- Two independent statutory authorities, the National Water Commission (NWC) and Murray-Darling Basin Authority (MDBA)
- An unprecedented biennial assessment process (NWC, 2007; 2009) supported by significant advances in the quantity and quality of water and associated data
- A basin plan, to reform water allocations
- Significant funding aimed to encourage and enable reforms

Similar to drought policy, risk-sharing formulae have been established, based on the principle that water users should bear the risk of climate variability and future climate change, whereas governments are responsible for the impacts of policy change.

Redressing over-allocation and environmental degradation through limits to extraction, water planning, technological improvement, water markets and environmental flow provision must involve a reduction in overall use and re-allocation of water from consumptive to environmental uses. However, in 2010, the 'guidelines' for the Draft Basin Plan, incorporating significant allocation reductions in the order of those widely foreshadowed within the policy community, have been met with severe criticism that social and economic values had been overlooked in favour of environmental sustainability. The process of attempting to 'sell' the guidelines to affected agricultural producers in the Basin attracted a harsh response and a 'somewhat remarkable media frenzy' (Crase, 2011: 84). The public conversation failed to define over-allocation as a collective problem, and the matter was forced to be reviewed. Public meetings held throughout the Basin have served to dichotomise communities and the environment rather than link their futures. At the time of writing, this situation will (1) clearly take some time to resolve and may delay the MDB Plan, and (2) may even stall or reverse the policy directions built up over two decades. This situation might have been avoided had the policy process incorporated more recognition of the values of affected producers and communities.

Strangely, water reform does not deal directly with drought, even though climate variability is at the core, and drought policy does not deal with water allocation. The necessity of cross-sectoral (horizontal) policy integration has not been addressed. Similarly, industry policy over the 1980 and 1990s has been often unconnected to drought and water policy, as with structural adjustment measures that saw the dairy industry shift from (high-value) rain-fed coastal land to irrigated inland areas with resulting increased demands on MDB water. The imperative to horizontally coordinate policy is as intense as it is difficult in Australia as elsewhere (Ross and Dovers, 2008).

The MDB has been the major focus of water and therefore drought policy debates over recent decades, but the pattern is repeated elsewhere. The distinctly separate urban water policy domain has exhibited a similar history of reliance on 'predict-and-provide', supply-oriented approaches, punctuated by crisis management in drought and a lack of ongoing reform. In the wake of the 2002 to 2008 drought and the NWI, urban water has received much more attention, but also crisis-driven approaches dominated by the commissioning of large-scale desalination plants to augment supply, as well as some more adaptive management of behaviour and demand (Troy, 2008).

7.4 Lessons for Adaptation

In water and drought policy, as with disaster policy (Handmer and Dovers, 2013), a pattern of crisis-response-forgetting is common, as are the very real social and political pressures that inevitably (and properly) influence policy reform. If climate change results in more frequent and/or intense variability and thus drought, the difficulties for

policymakers will be in a variable climate impacts on individual shortages in a variable policy regimes.

Lessons from the Darling Basin are that to accept climate change is not an acceptable if no settings will increase impacts. The effects of specific climate change on public administration. Ensuring cross-sectoral and water, is a challenge for the federal system to place-dependent on thresholds such as policy issue, and government intervention in the US suggests that the definitions of indicators that are

However, the here notwithstanding emergency management inspired public policy imperatives of public 'normalising' across many sectors. The last challenge. The future

ACANZ – Agriculture Resolutions: Australia.

Ahmad, I. H. (2006) Paper 73. W. Botterill, L. C. (2006) *Australian Journal of Botterill, L. C. (2006) National Drought*

policymakers will intensify. So too will the likelihood of post-event regress. Drought in a variable climate is not a 'disaster' in the traditional sense, however disastrous the impacts on individuals, sectors and communities might be; the same is true for water shortages in a variable climate. Designing, implementing and especially maintaining policy regimes over the longer term is difficult.

Lessons from drought and water policy reform (and lack thereof) in the Murray-Darling Basin are relevant to other sectors. With increased variability, pressures to accept climate extremes and related disturbances to societies and environments, as expectable if not predictable, and to cater for these through robust, transparent policy settings will increase across events types. The alternative is *ad hoc* response to escalating impacts. The importance of understanding the policy history and path dependencies of specific sectors is important, as is the recognition of the complexities of public administrative, policy process, statutory and institutional mechanisms required. Ensuring cross-sectoral (horizontal) policy coordination, such as between drought and water, is a major challenge, as is cross-jurisdictional (vertical) coordination in a federal system such as Australia. The economic and political realities of resource- or place-dependent communities are highlighted, as is the importance of clear definitions of thresholds such as 'exceptional circumstances'. The use of triggers is a contentious policy issue, and there are arguments both for and against declarations as the basis for government intervention. The lessons from the National Drought Mitigation Center in the US suggest that the key to the implementation of workable, politically acceptable definitions is the development of triggers based on comprehensive, composite indicators that are developed in consultation with stakeholder groups.

However, there is a basis for believing this can be done, the difficulties noted here notwithstanding. Such policy development is consistent with policy trends in emergency management toward greater risk sharing and preparedness, with neoliberal-inspired public policy preferences toward self-reliance and risk management and with imperatives of policy integration. Much climate change adaptation can be addressed by 'normalising' adaptation, or increasing existing imperatives and capacities for reform across many sectors by incorporating the prospect of increased climate variability. The last challenge – cross-sectoral policy coordination – will be a particularly hard one. The future will be more of the same, but likely much more.

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NATURAL DISASTERS AND ADAPTATION TO CLIMATE CHANGE

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