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'Not just drought.' Drought, rural change and more: perspectives from rural farming communities

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Abstract
The 'Big Dry', a prolonged dry period in Australia from 1997 to 2009, seared much of the Murray-Darling Basin region and resulted in large agricultural losses, degraded river systems and increased uncertainty in rural communities although climate change in the form of drought is not new to rural Australia (Wei et al., 2012). For many years, generations of Australian farmers and farming communities have battled such climatic extremes. However, the most recent drought event competed with a myriad of changes to their lives and as such, the façade of stoicism has slowly begun to crack. This chapter examines the changes exacerbated by drought occurring in rural Victoria and considers the challenges facing both rural towns and farming families, whose economic future and social well-being are predominantly associated with agriculture. By drawing on locally situated knowledge from case studies of the rural towns of Mildura and Donald, this chapter shows how issues such as reduced water supply, increasing agricultural costs, farm succession and cumulative uncertainty are affecting the ongoing viability of people living off the land in these drought-affected rural areas. Like many other rural towns in Australia where agriculture is a mainstay, Mildura and Donald are experiencing a combination of strains on their communities, townships, farms, and farming families. These pressures arise not only from drought but also from extensive changes to local communities and farming enterprises that include: a rapidly evolving water market, the increasing competition of commodity markets, wide-ranging rural demographic shifts, and changing rural service provision and investment. Drought and the effects of longterm drying of these agricultural regions represent just one challenge amongst a melee of change. In the oft-repeated words of residents from these rural communities, the problems they are confronting are 'not just drought', they are a combination of 'drought and more' which make successful adaptation all the more difficult, particularly when current policy regimes remain inadequate and local experiences little understood (Sherval and Askew, 2012). This chapter seeks to extend our understanding of the issues facing both these drought-sensitive regions and those like them throughout Australia today by exploring the diverse, changing and sometimes strained contexts of rural towns and communities. It suggests that any future provision of support to communities throughout ongoing and future changes will require a holistic approach, rather than one that visualises drought as a once off, crisis-ridden event as government support schemes traditionally have done. Overall, this chapter seeks to develop the discussion surrounding drought impacts, and their embeddedness within a myriad of other rural changes and challenges, by drawing on locally situated knowledge to inform future decision-making nationally in this evolving, yet vital arena.

Keywords
farming, perspectives, more, communities, change, not, rural, drought, just

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Human Costs of Drought Impacts

Synonyms

Social (including psychological), economic, and environmental implications of drought and prolonged drying events.

Definition

Measuring the human cost of drought is difficult, but most commonly it is classified by the types of impacts that can affect our well-being, livelihood and amenity. These types of impacts are further classified as - economic, environmental and social.

Description

The impacts of drought on human society and its well-being can be devastating if not well understood and appropriate coping strategies put in place. Most important is recognising that the experience of drought can differ significantly between geographic regions and within the same country. Thus understanding regional specificity remains key to addressing not only the effects of drought, but also to building communities that are resilient in the face of ongoing climate extremes. To accurately capture the dynamic and locally specific nature of vulnerability to drought, an in-depth and integrated consideration of local environments, individuals, communities, institutions and governance frameworks is required.

Drawing on locally situated knowledge can often give researchers a nuanced picture of how communities are coping under drought conditions. Case studies of specific towns and their populations have been conducted using qualitative methods including surveys and interviews to explore the parameters of drought effects and their impacts on local community dynamics and economic and social well-being. Recent work in Australia for the National Climate Change Adaptation Research Facility (NCCARF - see cross reference) has examined how the effects of drought and associated heat waves have impacted upon the lives of various communities in the States of New South Wales, Victoria, South Australia and Western Australia. Likewise, other facilities such as the National Drought Mitigation Center in the USA, the European Drought Centre (see cross references) and a myriad of other international agencies are all researching the impacts of drought and ways to mitigate its effects in specific localities. These types of studies not only help researchers expand their understanding of drought and its multiple indicators, but also increase their knowledge of how issues such as reduced water supply, increasing agricultural costs, farm succession and cumulative uncertainty are affecting the ongoing viability of people living off the land in drought-affected rural regions. The complex interrelations between these issues can be seen in the recent ‘Millennium Drought' or 'the Big Dry' which affected South-Eastern Australia from the mid 1990's until late 2009.
Drought and more: decline and change in rural Australia

Small rural towns in Australia (generally defined as those with population levels of approximately 50,000 or less) have experienced a diverse set of challenges arising from changing climates, agricultural industries and rural demographics. With the widespread dominance of agricultural-based economies in these regions, the recent prolonged drought had severe impacts on many forms of agricultural production due to associated declines in water availability and supply. As a consequence, the drought impacted on the economic viability of many farms and farming businesses. Estimates by the Australian Bureau of Agricultural and Resource Economics (ABARE, now known as ABARES to include 'Science' under its purview - see cross reference) stated that the drought resulted in a decrease in average farm incomes of $A29 000 from 2005 to 2007, and an increase in negative cash farm income from 24% to 42% over the same period (ABARE, 2008). Further declines in future water availability and supply projected for these already drought-affected areas means that they face considerable and ongoing challenges to their agricultural base and economic well-being (see CSIRO-BoM 2007; Gunaskera et al., 2007).

In addition, rural towns have been confronted with a suite of rapid changes to the agricultural and farming sector characterised by increases in farm size, declines in the traditional family farm, increasing competition and global market pressures. While the contribution of the agricultural sector to the Gross Domestic Product (GDP - see cross reference) has decreased significantly over the last fifty years, agricultural output has almost doubled since its 1974-75 level (ABS, 2009a). To achieve this growth in productivity, the size and technological advancement of farms continues to increase rapidly, with an associated decrease in actual farm numbers and farm employment (ABS, 2009b): a trend Barr (2005) describes as 'get big or get out'. This trend has impacted on the long-running traditions of the family farm in rural Australia, with significant decreases in family succession of farms as they are 'bought out' and amalgamated into large-scale enterprises.

A continuing loss of the traditional family farm across rural Australia has also coincided with significant social and demographic change. Overall, the populations of farming regions are declining rapidly (Barr, 2005; BRS, 2008) and are increasingly characterised by ageing populations, decreasing family incomes, low educational attainment and opportunities, and a drifting workforce and skills-base (Forth, 2001). Such socio-demographic shifts have been directly linked with decreases in economic viability, business opportunities, agricultural production, health and well-being indicators, educational opportunities and key services (BRS, 2008). Within these often close-knit rural settings, such changes to the social and economic foundations of communities can seriously confront their identity. Many of these same communities were once the centres of vibrant local agricultural production, resource distribution, communication and transport, yet now have populations on the cusp of viability (Forth, 2001).
It is in these strained contexts that rural towns have been experiencing drought. The exact relationship between drought and other forms of rural change is often difficult to disentangle; yet it is clear that the difficulties currently experienced by small rural towns can be both strengthened and exacerbated by drought events. Traditional drought policies promoting disaster management are not capable of dealing with the complex contexts in which prolonged and recurring drought events unfold (Drought Policy Review Expert Social Panel, 2008). Thus it is crucial to research small rural towns as the contexts in which the impacts of drought are often the most severe, and where government programs addressing drought impacts will usually be targeted. Rural towns both in Australia and world-wide confront extreme uncertainty which often goes well beyond the immediate effects of drought. Therefore it is in these drought-sensitive locations where insights into what to change, what to cease and how to think and learn about drought are most likely to be developed (Golding and Campbell, 2009).

Case study examples - Mildura and Donald in rural Victoria, Australia.

A recent study of the small rural towns of Mildura and Donald (see Kiem et al, 2010), supports claims that a combined melee of rural change occurring concurrently with an extended period of drought caused overwhelming concern in the agricultural regions of South-Eastern Australia. In the towns of Mildura and Donald specifically, drought was experienced in several different ways. For Mildura (a fruit and wine growing region), drought affected the health of the Murray River (the third longest navigable river in the world - 2520kms in length), the water supply and the security of its irrigated agriculture. For Donald, a grain growing agricultural region that relies almost solely on rainfall and where prolonged drying had been a regular occurrence since the mid-1990s, drought had become 'the new normal'. The many issues that interact with drought impacts and inflict significant human costs in both regions are outlined in greater detail below.

Water Supply

Mildura's irrigation districts experienced some of the most devastating and influential effects of drought as the community had to come to terms with unprecedented declines in water supply and security due to both physical decline and the introduction of a new government-imposed water trading scheme. As a result, farmers were faced with learning how to cope with declining water allocations, while also navigating and managing a water market of tradeable and saleable water unbundled from the land. The rapidity and volatility of the water deregulation resulted in varied experiences from confusion, inconsistency and outright resentment through to experimentation and learning.

Many farmers lost considerable amounts of money in the initially uncertain and highly fluctuating water market and allocation system. Most notable was the immense change in thinking and farm planning required to deal with these rapid changes, as farmers increasingly tried to anticipate potential water losses, the cost of water versus the value of crops, and the declining value of land now unaccompanied by water - a process that saw many people exit
farming entirely. On the other hand, water trading was also the saviour of many businesses, providing opportunities for managing risks that previously did not exist. Traditionally there has always been a deep attachment to the Murray River in Mildura and a recognition of the immense value of water to local livelihoods - economically, socially and psychologically. Mildura residents spoke with great sadness about the decline and drying of the river and surrounding areas, and the impact of this decline on the well-being of the community. While there was considerable resentment from some farmers who remained attached to traditions of perpetual irrigation supply, there were also attachments to the river and a respect for water engrained in this rural community that provided potential for adaptation and change in the region. People's close relationship with the river and water, thus presented opportunities for nurturing new understandings of the variable, and most likely reduced, availability of water. Such a change in thinking around water, its value, and availability will be essential under the projected continued drying of this region into the future.

For the dryland farming areas of Donald, periods of insufficient and insecure water supply are customary, and most farming communities in the area consider themselves to be adept at managing and living with limited rainfall. However, simultaneously, they also have a deep and abiding respect for water and its place in supporting individual and community well-being. In the drylands surrounding Donald, water is recognised as important for the well-being and 'sanity' of people living and working there. Water is also viewed as fundamental to the social life and economic activities that sustain small dryland communities. It is this social element of water needs to be addressed and valued as part of future policies governing water delivery and supply to these dryland communities.

As previously suggested, however, it was not just drought confronting these regions. Exacerbating the issues of water security and supply brought on by drought was the complexity of the agricultural industry and its associated economics, as well as rural demographic changes that were occurring across both regions and many others like them globally.

**Fluctuating commodity prices**

Changes presented by declining and fluctuating commodity prices caused great hardship for both regions. Mildura perhaps suffered the most due to the large amount of bulk wine grape production that occurred in the region - an industry that experienced massive declines in global commodity prices due to a glut in the market. With such a high proportion of wine grape producers present in the region, the severe downturn in the industry had resounding effects on business profit and viability. With the added pressure of drought, this led to people exiting the industry and a reduction in the productive capability of the region as a whole.

Unlike Mildura, in the dryland areas of Donald, the problems of commodity prices were not the result of a commodity glut, but rather, the disbanding of the sector's marketing arm. In the cropping sector, farmers had to adjust to selling grain without the aid of the 'single desk' of the Australian Wheat Board (AWB) which represented a central body through which to
market grain globally. Under recent wheat market reforms, the single desk was replaced by a free market system of marketing and exporting grain. In the face of already declining commodity prices and the intensity of the ‘Big Dry’, this shift placed added pressure on farmers, as they were suddenly responsible for the marketing and selling of grain as well as growing it. This had obvious flow-on effects with farmers spending less time with their families and less time participating in community and social events.

**Shifts in the farming sector**

Both irrigated and dryland regions were also confronted by shifts in the farming sector more broadly; some of these were related to issues of drought, while others were part of the sector's response to changing global markets and rural demographic shifts. The rise of the large amalgamated farm and multinational agribusiness loomed large in local communities’ minds as a factor inducing uncertainty. The flow-on effects of farms growing larger and more technologically advanced to gain economies of scale are immense, impacting on both the composition of farms and farming communities and associated with the decline of the traditional family farm and farm succession. Moreover, as farms increase in size and sophistication, the ability of farmers to work together, employ local workers and use local agricultural services diminishes. The compounding nature of these transformations progressively carves out new and uncharted farming landscapes across regions and new scenarios into which drought impacts now play.

**Demographic change**

Rural demographic shifts have accelerated these changing farming landscapes. Rural communities in general are increasingly characterised by declining and ageing populations, decreases in young people and an influx of retirees, immigrants and people from disadvantaged socio-economic circumstances seeking access to low-cost housing and employment. These shifts have introduced potential problems that—even without the added pressures of drought, pricing and farming industry changes—would threaten the future of some smaller rural communities across these regions. The pressures of demographic change are particularly evident in and around Donald, which does not have the diverse economic base and rural riverside amenity of Mildura. The Donald community continues to decline and age, thereby putting immense pressures not only on the traditions of family farm succession but also on the viability of local businesses and service providers. At present, many smaller rural towns are declining, with little attention being paid to how to manage these transitions in a dignified and supportive manner. As their resilience is worn-down, the human costs of drought—even where it is a habituated event—can be heightened.

**Economic costs**

For people living and working in Mildura and Donald, the impact of drought was never separable from the immense economic and social impacts of the ongoing aggregation of issues confronting farming communities. Economically, many farms experienced dwindling
financial returns and reserves after many years of drought and low commodity prices. This had the combined effect of decreasing cash surplus and everyday spending (which also impacts on local businesses), and increasing the strain of ongoing and accumulating debts. Indeed, many families today are no longer in a position to borrow funds, which impedes their ability to change and adapt via new technologies or crops. Moreover, although traditionally asset-rich, farmers now confront the increasing strain of farm debt, magnified by a changing farming sector that remains associated with increased costs to stay competitive (e.g. technology, fertiliser, water efficiency and the cost of water itself) and shifting land and water regulations. For many, the farm was regarded as their last asset (i.e. their superannuation or pension fund), yet land values were greatly depleted under the drought conditions and as a result, the financial future of many farmers remains uncertain.

As a consequence, many farming families sought to diversify their income base through secondary or off-farm employment. This may offer an effective short-term solution to some of these financial strains. However, it potentially enhances the narrow focus on economic survival and limit more strategic financial and farm planning. Moreover, the adoption of secondary employment puts an increasing strain on family relationships, as farmers, their partners and/or their children are working more hours - often away from home - to cover daily expenses.

For many farmers, their focus has been narrowed to economic survival: to 'holding on'. In Mildura, due to an extreme crash in wine grape prices, this economic survival has widely been fed by an increasing reliance on government financial assistance. Indeed, many of those working in support services described a burgeoning ‘welfare industry’ in the Mildura region, created and sustained by reactive government support programs. For Donald, however, this economic survival was recognised as more of a 'break-even' point. Income assistance was relatively new to this area, with farmers holding on to properties rather than exiting, in the hope of better years ahead. Although possibly demonstrating a better picture of economic health, this type of situation does not support investment, adaptation or long-term planning for the future. At best, there are significant opportunities for proactive action in these dryland regions to avoid the looming 'welfare disaster' presented by Mildura. It is important to note, however, that the financial position of many farmers is such that, even when the pressures of drought eased in 2009, the financial stress on farming families and rural communities continue due to low commodity prices large debt levels.

Social costs

Arising from these economic effects, and compounding them, are the extensive social impacts created by the 'drought-and-more' conditions confronting these regions. Farmers in the industry, and others associated with it, now acknowledge the mounting social issues as pressures of drought, markets and commodity prices continue to distress the community as a whole. Anecdotal and qualitative evidence suggests that farmers increasingly are suffering from depression and emotional exhaustion from the ongoing uncertainty and stress of farming in the shadow of ‘drought-and-more’. They continue to feel overwhelmed and isolated with
their own problems, and many are hard to reach, both due to their 'resilient ethos' and their geographically remote location. As a result, professional service providers have reported increased incidence of depression and anxiety, suicide, separation and relationship dissolution, grief and feelings of loss and shame, and withdrawal from the community and social activities.

The impacts of these social strains continue to be felt in families and throughout the community as a whole. Children are increasingly deprived of essentials and educational opportunities, and experience the pressures placed on their parents. Moreover, the educational and training opportunities for farmers are also impeded, with increasing pressures of time, money and exhaustion limiting farmers' participation in training programs. For communities, the subsequent withdrawal of farmers and farming families into their own problems can often result in decreasing participation in community events and other recreational activities vital to the well-being of all rural communities.

In the context of enduring drought, such as the 'Big Dry', these immense social impacts become chronic, exhausting the resources of farming communities to foster community strength and togetherness in the face of further long-term climatic and farming industry changes. Strategic and multi-agency responses are therefore required from governments to be able to address what appear to be serious declines in psychological and social well-being in these regions, particularly through increasing support for rural outreach services to ensure that incidences of declining health and social well-being do not continue to go untreated.

The future?

The future of rural communities can look grim. Nonetheless people have a view of their future that recognises the immense challenges faced yet offers alternative visions and strategic plans for survival. Many imagine very different futures, where isolation and service demands are managed through technology, and alternative industries and energies offer a sustainable and economically viable way forward for their towns. There are strong attachments between the people, the land and their community in these regions. Rural communities remain confident of their future, even if that future does not necessarily involve farming (this was more the case for Mildura than for Donald). Thus the rural town and its close and abiding connections can still provide opportunities to build and adapt to new futures.

Overall conclusions

In relation to drought more generally, understanding the vulnerability of people and environments is vital for developing and supporting effective drought preparedness. For government, non-government organisations (NGOs) and researchers working in this area as well as that of climatic and rural change, the challenges are no doubt extensive. Critical health and well-being needs are evident and require immediate support though it is often the traditional emphasis on 'short-term' crisis-management responses that have created and
exacerbated many of the problems facing drought-affected farming regions and their communities world-wide. As such, with current debates and major policy reviews globally questioning the effectiveness, equity and long-term outcomes of drought and climate change policies, it is a crucial moment at which to examine these policies as part of, and in relation to, everyday drought-affected contexts.

Social capital may also be a key component in this evolving debate. Made up of: (1) frequency of, breadth of and satisfaction with different forms of community participation; and (2) the social cohesion (norms, trust, reciprocity, sense of belonging) engendered by high levels of participation (Berry & Welsh 2010), social capital is one key mediator of the relationships between drought, climate change, social impacts, and health and well-being (Berry, Bowen et al. 2010). Social capital is also socially patterned, with higher levels of participation, social cohesion and access to resources predominant among the advantaged, while noticeably lacking among the disadvantaged (Berry 2009a, 2009b). It is argued therefore that to capture the dynamic and locally specific nature of vulnerability to drought, an in-depth and integrated consideration of local environments, individuals, communities, institutions and governance frameworks is required. Practical outcomes can only be achieved through influencing these types of contexts and processes to enhance individuals and communities' ability to cope and adapt to drought and ongoing climate change events.

Cross-References


European Drought Centre - http://www.geo.uio.no/edc/

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