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DISCLAIMER: Charles Sturt University’s Community of Rural Social Researchers at the Institute for Land, Water and Society prepared the information in this report about the ‘Social impacts of drought in the Murray Darling Basin.’ It draws on information, opinions and advice provided by a variety of individuals and organizations, including the Commonwealth of Australia. The Commonwealth accepts no responsibility for the accuracy or completeness of any material contained in this report. Additionally, the Commonwealth disclaims all liability to any person in respect of anything, and of the consequences of anything, done or omitted to be done by any such person in reliance, whether wholly or partially, upon any information presented in this publication.

CAUTION: Material in this publication is made available on the understanding that the Commonwealth is not providing professional advice. Before relying on any of the material in this publication, users should obtain appropriate professional advice. Views and recommendations which may also be included in this publication are those of the authors Professor Margaret Alston and Kym Witney-Soanes only, and do not necessarily reflect the views of the Federal Minister for Infrastructure, Transport, Regional Development and Local Government or that Department or indicate a commitment to a particular course of action.
1. EXECUTIVE SUMMARY

Australia is in the grip of one of the worst droughts in its history and one which is having a significant impact on many rural communities across the Murray Darling Basin. Many families are enduring hardship and this is particularly so where reduced water availability has caused significant reductions in financial resources available. Many people involved in agricultural production are faced with profound decisions regarding their future viability. This research investigates the social impacts of the drought across a geographical spread of local government areas (LGAs) across the Murray Darling Basin. The LGAs chosen for investigation include Warwick, Bungil and Murweh in Queensland, Narrabri, Wagga Wagga, Bourke and Deniliquin in New South Wales, Wangaratta, Greater Bendigo, Mildura and Buloke in Victoria, and Southern Mallee, Renmark Paringa and the Coorong in South Australia.

The authors call on the government to formalise a PACT (People and Communities Treaty) with the people of the Murray-Darling Basin to outline the following:

- their vision for rural and remote areas in the light of climate change, ongoing drought and reduced water availability;
- their commitment to the people and communities in this area through a vision for change and the supports that will be provided to people in these communities;
- their plan for the future of rural and remote areas;
- their acknowledgement that the people in these communities cannot address the future while there is such uncertainty over their industries, communities and people;
- the supports - financial, services and infrastructure - that will be provided to assist people to informed choices about their futures;
- their investment into human capital so that people in these areas can achieve their potential and access education / retraining to achieve their ambitions;
- a fund drawing on the Future Fund and modelled along the lines of the European LEADER and LEADER plus model that provides investment funding to rural communities to establish new directions for change; and
- a social taskforce to be established to oversee the vision, the investment in people and communities and the change management process.

Short term recommendations

Health
- provide crisis counselling services across the Basin;
- establish Social Work positions to be co-located with Rural Financial Counsellors across the Basin;
- ensure that Rural Financial Counselling Services and Social Work co-located services are available to small business people in rural communities;
- offer psychological First Aid training to families, community leaders and non-clinical services (taking mental health info to inc recognition of symptoms of stress, anxiety and depression);
- increase numbers of mental health professionals in rural areas especially experienced psychologists and social workers to provide counselling, postvention and outreach care;
- address the problem of attracting skilled health workers rather than just funding positions;
- provide people with the means to take a break from their farms and small businesses; and
- increase bulk billing in rural and remote areas to enable accessible health care.
Seeking help
- reduce barriers that prevent people from asking for help, for example use Business Enterprise Centres rather than Centrelink to provide support and advice;
- increase provision of financial counselling and social workers; and
- reduce the divisive nature of the eligibility criteria for income support and extend assistance to those whose vulnerability is growing daily.

Restructuring
- employ Community Development Workers in small communities to assist with the process of change and to assist with applications for community funding;
- provide skills development and support for people in the decision making process who are trying to adapt their business or transition into completely new industries; and
- provide retraining for farmers and other small business people (and their family members) who have chosen to leave/forced from the land/business by the drought/low water allocations.

Education
- increase access and support for young people to complete secondary school; and
- provide automatic eligibility for Youth Allowance for young people in drought affected areas who must leave their communities to further their studies.

Reverse decline of rural communities
- increase funding for local voluntary organisations including sporting and social clubs;
- to give priority to areas where the social impacts are profound in the investment of new infrastructure projects to provide employment opportunities;
- provide comprehensive broadband and mobile phone coverage; and
- increase investment in telecommunication infrastructure.

Government communication
- increase government / community communication exchange regarding drought river management.

Medium term recommendations

Reverse decline of rural communities
- encourage communities to reconnect, to maintain relationships - build service and community capacity through Community Resilience Groups to help communities stay connected;
- promote community resilience and adaptation abilities;
- address cultural clashes between traditional and new populations; and
- Persuade regional development programs to boost small communities with industries, quality education and medical services.

Restructuring
- provide education regarding managing change;
- positive case studies of communities and families should be developed and promoted. For example explaining what skills have been called on the most.
**Seeking help**

- ensure that eligibility criteria for EC assistance do not force farming women to give up off-farm income; and
- if EC changes, ensure people have adequate access to welfare support to maintain their dignity and assist with the process of change.

**Further investigations**

- provide positive case studies of post-farming / small business experiences;
- conduct ongoing research on the social consequences of drought / climate change;
- research the drought recovery process; and
- undertake predictive research on the social impacts of climate change.

**Long term recommendations**

Long term the Australian community is in the process of rethinking the way our natural resources, particularly water, are being managed. There is a mindset change underway where many people are becoming increasingly accepting that these extended periods of dryness are part of an over all climate change process, rather than intermittent ‘drought.’

In the document *A future-proofed Basin* Professor Mike Young and Jim McColl propose a new water management regime for the M-DB. They summarise 21 key aspects, and 12 of these with social implications are listed:

- in every part of the system, the environment must be given a formal entitlement to a proportion of all allocations of shared water.
- the majority of shared water entitlements assigned to the environment should be placed in regional environmental trusts and a small proportion held centrally in a system wide trust.
- assign responsibility for appointing environmental trustees and defining regional trusts’ objectives to the States and the ACT.
- replace the existing cap and limit on water extractions and associated sharing rules with a bulk entitlement system that is enforceable and underpinned by an accounting system that has integrity.
- the establishment of a Basin water entitlement register that defines bulk entitlements to receive allocations, and assignment of complete responsibility for allocating water to an independent, expertise-based Authority.
- the introduction and enforcement of penalties for taking unallocated water. These must apply equally to states, irrigation companies, entities responsible for managing environmental water and all other parties.
- establish an independent, expertise-based Authority responsible for allocating groundwater and surface water, informed by the best available science.
- give all stakeholders an equal opportunity to access information about likely and actual allocation announcements.


- compensate entitlement holders and water supply companies for the impact of the change on their livelihoods and on the value of capital assets, and assist them to adjust rapidly to the new regime.

- establish trading rules and processes that enable electronic trading across state boundaries so that:
  - all allocation trades can be completed instantaneously, and
  - all unencumbered entitlement trades can be completed within two days.

- commission a formal review of opportunities to downsize and reconfigure the southern River Murray System; and

- reward states for implementing reforms and for the delivery of agreed water reform milestones under an outcome-focused regime similar to that set up under the National Competition Policy.

1.1 Key findings

Many communities across the Murray Darling Basin are enduring the negative impacts of drought. However, due to a variety of factors affecting community resilience, some seem to be coping better than others.

Generally speaking the negative impacts of the drought are being felt less in the eastern Shires of the Basin and more so in the western Shires. The areas most negatively impacted are the south west and riverland Shires of the Basin.

This research identifies that there are three categories of “hurt” caused by the negative impacts of the ongoing drought which we have labelled ‘patchy’, ‘significant’ and ‘profound.’

Our definitions of these categories are as follows:

‘Patchy’ – Certainly there are farming families within these shires who are suffering the negative impacts of the drought. However, these shires generally have a high degree of resilience due to a diversity of local employment opportunities.
These shires include Warwick in Queensland, Narrabri in NSW and Wangaratta in Victoria.

The Southern Mallee Shire in South Australia is also be in this category as they rely on ground water for irrigated horticulture so are not facing the challenges of reduced water availability in the same way as surface water irrigators. Ground water irrigators currently have no allocation limitations. This will change during 2008.

‘Significant’ – In these areas there are significant numbers of people in rural communities who are suffering the negative impacts of the drought. Irrigators and dryland farmers in particular are suffering. People living in the larger urban centres are not so impacted however businesses in the smaller urban centres are definitely suffering downturns. Examples of shires from our sample with ‘significant’ impacts include Bungil and Murweh in Queensland, Greater Bendigo in Victoria and Wagga Wagga in NSW.

‘Profound’ – In the areas we have labelled as having ‘profound’ impacts both urban (town) and rural people are negatively impacted largely because, in these shires there is a significant reliance on dryland and irrigated agriculture. This has had a flow-on impact on many businesses in the towns, schools, and the provision of local government services. Many people feel backed into a corner. Shires in this category include Bourke and Deniliquin in NSW, Mildura and Buloke in Victoria,
Coorong and Renmark Paringa in South Australia. The majority of these Shires have been the ones to prepare Social Impacts of Drought reports.

Irrigation farmers
The impacts of the current drought have received widespread coverage primarily due to the fact that for the first time, many irrigation areas in the Murray riverlands had their allocations reduced to zero. For many farmers the inconceivable actually eventuated and their water was “switched off.” Many irrigators were forced to make difficult decisions about which long term crops (for example trees, vines and so on) to water and which to remove.

Dryland farmers
In many cases the 2006/07 drought year was especially difficult for dryland farmers because five to ten years of previous drought conditions have eroded people’s financial, physical and emotional reserves.

Dryland farmers have suffered negative impacts of the drought over a much longer period across many areas of the Murray Darling Basin. It has been a more gradual and insidious impact seemingly going on and on for many farmers and communities. Some areas would have received small hopeful rains early in the season leading to many borrowing further funds to plant the next crops, only to see a lack of follow up rain and another season with no income. This has put them further into significant debt. The 2007 harvest in the southern part of the Basin was generally below average in terms of yield. However, due to higher than average grain prices, the year did prove to be less financially devastating for many than previous drought affected seasons.

The impacts on children, women, men, families and communities are summarised below.

Impacts on children
• reduced educational opportunities;
• anxiety, sense parental tension;
• altered behaviour at school;
• withdrawn; and
• take on a workload on the farm.

Impacts on women
• isolation;
• increased physical labour on-farm;
• longer work hours off farm; and
• separation from husbands working elsewhere.

Positive
• increased use of technology (emailing and the internet) to improve social connectivity.

Impacts on men
• loneliness and increasingly withdrawn;
• keen to help a mate before themselves;
• ageing and increased health issues;
• increased work hours;
• increased alcohol consumption; and
• depression.

Impacts on families
• less quality family time;
• less holiday breaks;
• spouses working in separate places;
• domestic violence;
• relationship/marriage breakdown; and
• delayed retirement.

Positives
• increased awareness of opportunities leading to depression;
• people communicating with other families ‘in the same boat’; and
• always high level of optimism at the start of each season, always...

Impact on communities
• population loss;
• loss of skills and local knowledge;
• mental health issues- depression;
• increased crime (Bourke);
• family structure change, farm families separating to seek second income;
• community disharmony & increased conflict;
• decline in social & sporting infrastructure;
• kids home from boarding school;
• increased poverty;
• increased marriage separations; and
• young disinterested in agriculture.

Positive
• some individually are rising to the challenge of helping members of their local community.

Summary

A cross the Basin farming families, businesses and communities are affected by drought. Its longevity has severely tested the resources of farming families and communities and has a particular effect on children, women, men, families, businesses and communities across the Basin. Those in ‘profoundly’ affected areas are more likely to be suffering generalised hardship. Those in areas described as ‘patchy’ have some additional community resources and therefore resilience on which to draw. Using this typology, our research provides insights into the communities across the Basin and the levels at which they are affected. Using this information, governments, policy makers and others may determine where best to provide resources and support.
2. INTRODUCTION

2.1 Purpose of the project

The purpose of the research is to document the downstream social impacts of drought in the Murray-Darling Basin. This is achieved by analysing existing secondary data on social trends in the region to assess the changes resulting from drought within the period between 1997-2007. Qualitative data was also gathered to inform our analysis.

2.2 Background

Margaret Alston, formerly Professor of Social Work and Human Services at Charles Sturt University’s Institute for Land, Water and Society, now Professor of Social Work at Monash University, was approached by the Department of Transport and Regional Services in June 2007 to discuss the worrying social impacts of drought. Consequently Professor Alston drafted a submission to the former Minister for Transport and Regional Services, the Hon Mark Vaile MP for funding under the Regional and Rural Research and Development Grants Programme for 2007-08 to investigate the impacts of drought in the Murray Darling Basin. Following notification of the success of this submission in October 2007, data gathering commenced in November of that year.

2.3 Constraints

The project faced a challenge as the funding was delayed due to the federal government election in November 2007 and the success of the new Labour government. Funding of $34,887 was not confirmed until May 2008. The researchers redrew a new timeline of approximately three months, from July to October 2008 to manage this constraint and recontacted many of the interviewed participants.

2.4 Objectives

The objectives of the research are to:

- identify Local Government Areas who are undergoing significant social difficulties;
- provide additional in-depth qualitative data on social impacts being felt at the individual, family, rural community and town levels; and
- summarise statistical evidence of changes within Basin communities where drought is a significantly contributing factor.

2.5 Key areas of inquiry

The following areas were investigated in relation to potential changes in social capital over the last ten years, 1997-2007.

- provision of services - changes in numbers of accountants, health professionals, teachers etc;
- quality of services - for example decline in no of days of service or staff etc;
- extended family and social networks;
- social tension between competing water users;
- local government financial base;
- sources of income and employment opportunities;
- workforce participation;
- health and welfare;
- education levels; and
• Long-term sponge city impacts - in cities across the Basin such as Wagga Wagga, Bendigo and Mildura.

2.6 Milestones and timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Milestone</th>
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<tbody>
<tr>
<td>Nov-Dec 2007</td>
<td>Data gathering:</td>
<td></td>
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<tr>
<td></td>
<td>• Telephone interviews with key informants in Local Government Areas across the Basin including Mayors, Deputy Mayors, Strategic Planners and health professionals</td>
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<tr>
<td>Nov 2007</td>
<td>• Telephone interviews with Rural Counsellors and a diversity of Health Professionals.</td>
<td>Re-establishment of funding approval</td>
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<tr>
<td></td>
<td>• Face to face interviews with heads of key national agencies including MDBC, NWC, ABS, BRS, KPMG and (formerly) DoTARS.</td>
<td></td>
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<tr>
<td>May 2008</td>
<td>Re-confirmation of funding approval</td>
<td></td>
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<tr>
<td></td>
<td>Follow up data gathering:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Design and distribution of a survey for key informants in Local Government Areas across the Basin including Mayors, Deputy Mayors, Strategic Planners and health professionals.</td>
<td></td>
</tr>
<tr>
<td>June 2008</td>
<td>Review existing relevant secondary materials from ABS, MDBC, BRS, NWC etc.</td>
<td>Data collection, entry &amp; preliminary analyses.</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Review relevant social impact reports from communities in the Basin to date.</td>
<td></td>
</tr>
<tr>
<td>July 2008</td>
<td>Analysis of gathered qualitative and quantitative data.</td>
<td></td>
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<tr>
<td></td>
<td>Preparation of maps</td>
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<tr>
<td></td>
<td>Compilation of data</td>
<td></td>
</tr>
<tr>
<td>26th August 2008</td>
<td>Presentation of findings in Canberra to DITRDLG, AFFA and BRS officers on trend data containing spatial data maps (output).</td>
<td>Designated draft final report.</td>
</tr>
<tr>
<td>Sep 2008</td>
<td>Final Report for DITRDLG (output).</td>
<td>Designated final reports.</td>
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2.7 The researchers and the Institute for Land Water and Society

This project has been undertaken by Professor Margaret Alston, formerly of Charles Sturt University’s Institute of Land, Water and Society and now at Monash University and Kym Witney-Soanes, Research Assistant at Charles Sturt University. Kym has a Masters of Environmental Management degree and has worked with rural communities in the Queensland section of the M-DB, South Coast of Western Australia and in Western Victoria.

The Institute for Land, Water and Society contributes significantly to rural Australia and is recognised as the leading national centre for rural and regional social research due to the various research and consultancy projects it has undertaken on behalf of government agencies and community groups. It is the first place of call for many organisations interested in rural social issues. The Institute promotes the development of better provision of human services in rural Australia. As such, it is ideally placed to investigate the social impacts of drought in the Murray Darling Basin.
2.8 Ethical considerations

Ethics approval was obtained from Charles Sturt University’s Ethics in Human Research Committee. Ethics approval was granted in December 2007 to gather data from key informants in approximately 20 Local Government Areas spread across the Murray-Darling Basin. Ethics approval was also given to conduct face to face interviews with a selection of national authorities including the Head of the National Water Commission, Murray-Darling Basin Commission, Australian Bureau of Statistics, Bureau of Rural Sciences and Department of Infrastructure, Transport, Regional Development and Local Government. Finally, ethics approval was also given for distribution of a structured survey to the majority of interviewees and an additional selection of Mayors across the selected Local Government Areas.

2.9 Related research

There have been a modest number of studies focusing on the social impacts of drought in rural and regional areas of Australia until quite recently. Some previous research includes work by Stehlik, Gray and Lawrence 1999, Stehlik, 2003, Alston and Kent, 2004, DOTaRS and CREEDA Projects, 2005, Western Research Institute 2006. A summary of the key findings were published in the 2008 Social Atlas of Rural and Regional Australia and include:

- exacerbated population loss due to migration away from rural and regional areas, especially young people and subsequent loss of skills;
- changed family work-life conditions due to women working off-farm to supplement farm income;
- increased family workloads because of an inability to afford paid labour;
- loss of community networks, with families having less social interaction;
- a need for greater financial support requiring gender roles to change, such as women working both on and off-farm;
- increased health problems such as stress and depression, feelings of loss of control and low self esteem;
- loss of financial capacity and income, which challenges the viability of farms and small businesses;
- loss of skills and jobs, including casual and itinerant work;
- loss of local knowledge and experience, with skilled people accepting work elsewhere;
- minimal support for young people to take over farms; and
- lack of employment opportunities for older people but increased pressure and workload; and
downturn and closure of small businesses, particularly rural support businesses that rely on agriculture.

Other current research on social impacts undertaken around the Murray Darling Basin relating to drought not mentioned in the 2008 Social Atlas includes:

- Rickards, L (2008) ‘Critical Breaking Point?’ The effects of drought and other pressures on farming families, the Birchip Cropping Group;
- Mildura Rural City Council (2007) Drought Social Recovery Plan;
- Sobels, J. (2007) Social impacts of the drought Lower Murray, South Australia; and

In June 2008 the new Australian Government Minister for Agriculture, Fisheries and Forestry announced the appointment of the Drought Policy Review Expert Social Panel. They have released
an issues paper detailing their research into the assessment of the social impacts of drought and related government and non-government social support service.

In July 2008 some very preliminary findings were released by a research team at the Australian Institute of Family Studies in partnership with La Trobe and the Australian National University. This research investigated the impact of drought, economic and social change on rural and regional families through a survey of 8,000 farmers. Key preliminary conclusions include:

- significant impact of drought on family finances, in particular farm incomes;
- over one third of farmers report farm production at the lowest level ever;
- equivalised household income is lower in drought areas for employment but not agriculture;
- significant mental health impacts; and
- the way drought is defined is of great importance.

Michael Liquorish photograph taken late 2007 near Redbank in the Southern section of the M D-B.
3. THE MURRAY DARLING BASIN

Our research is localised to the Murray-Darling Basin (M-DB). The Basin covers 1,058,800 square kilometres or approximately one-seventh (14%) of the total area of Australia (7,682,300 sq. km). The greatest continuous length of river in the Basin extends 3,750 kms from the source of the Condamine (a little over 100kms south-west of Brisbane) to the mouth of the Murray, within 100 kms of Adelaide. The three main groups of rivers include the Darling (2,740kms), the Murrumbidgee River (1,690 kms) and the Murray (2,530 kms).

**Surface water** - The region is drained by a system of 20 major rivers and hundreds of smaller tributaries. Rivers have very low gradients over most of their lengths which cause them to flow slowly as they meander across the vast inland plains. The uplands are not very mountainous by world standards and precipitation in the form if snow is small.

**Ground water** is found beneath almost the whole of the M-DB. The two most important ground water systems are the Murray Basin and the Great Artesian Basin, the latter being the world's largest groundwater system. It has been vital to the settlement of the northern part of the M-DB, often providing the only reliable source of water.

### 3.1 Definition of area

The Basin is defined by the catchment areas of the Murray and Darling Rivers and their many tributaries. To the east and south, the Great Dividing Range forms the limit of the Basin, including Australia's highest country, with Mount Kosciusko rising to 2228 metres. The Basin makes up 14% of Australia's land mass.

In the north, west and south-west, the boundaries are much less distinct, particularly in the Wimmera to the south-west and with the Bulloo Basin to the north-west, both areas of internal drainage.

Elsewhere, areas of low to medium altitude mark the Basin's limits, including the Mount Lofty Ranges in the south-west, the Grey and Barrier Ranges in the west, and the Chesterton and Warrego Ranges in the north.

Most of the Basin is extensive plains and low undulating areas, mostly below 200 metres above sea level. Of greatest extent are the vast plains, the Darling Plain in the north, drained by the Darling and its tributaries, and the Riverine Plain in the south, drained by the Murray and Murrumbidgee and their tributaries.
3.2 Major industries in the Basin

Crabb, P (1997) overviews the major industries in the Murray Darling Basin as follows:

**Agriculture** - the M-DB is Australia’s most important agricultural region producing wool, wheat, sheep, cattle, dairy produce, cotton, rice, oil seed, wine, fruit and vegetables for both domestic and overseas markets.

**Natural heritage** - the M-DB includes areas such as the Coorong, Lake Alexandrina, Grampians, Barmah-Millewa red gum forests, Australian Alps, Warrumbungles, Pilliga, M acquarie M arshes, Bunya M outains, the Paroo River. Lake Mungo in south-western NSW is a significant place in Australia’s history. It has revealed evidence of Aboriginal culture going back 40,000 years. Other evidence includes cave paintings, stone fish traps, middens, and natural sacred sites are found throughout this region.

**Forestry** - the M-DB is significant for carbon sequestration, softwood plantations, native cypress pine forests, ironbark, red gum forests.

**Mining** - Copper is mined at Cobar, Broken Hill produces lead-silver-zinc, tin is extracted at Tingha and Ardlethan, coal is mined near Gunnedah and natural gas is piped from Roma. Lightening Ridge and White Cliffs produce opal fields. Sapphires are extracted from the Inverell district.
Manufacturing - the M-DB area produces paper product, clothing, defence industries, engineering, food processing, hi-tech industries, electrical engineering, metal products, non-metallic mineral products, non-food agricultural products commodity processing, printing, timber products and other manufacturing industries.

3.3 The current drought

Drought has been defined by Botterill and Fischer (2003: 3.) as a ‘mismatch between the water available and the demands of human activities.’ Defining drought is complex and highly dependent on the views of stakeholders. For example the Australian Bureau of Meteorology (2007) states that

A drought is a prolonged, abnormally dry period when there is not enough water for users’ normal needs. Drought is not simply low rainfall; if it was, much of inland Australia would be in almost perpetual drought. Meteorologists monitor the extent and severity of drought in terms of rainfall deficiencies. Agriculturalists rate the impact on primary industries, hydrologists compare ground water levels, and sociologists define it on social expectations and perceptions.

May 2008 was Australia’s driest May on record and across the Murray-Darling Basin it was the fourth driest autumn on record (Australian Bureau of Meteorology 2008). Severe drought conditions occurred from 1994 to 1997 and from 2002 to 2008, and this current drought is considered by many to be one of the most severe droughts at least in the last 100 years (BRS 2008: 3) although records have only been kept for the past 117 years. Irrigation allocations are the lowest on record. In the M-DB a 10 percent change in rainfall has already resulted in a 35 percent reduction in streamflows (Commonwealth of Australia – 2008, p5).

Figure 2: Trend in annual total rainfall 1970-2007
Further, physical evidence of Australia’s climate becoming drier provides worrying evidence of ongoing climate change. Temperatures in Australia rose slightly more than the global average in the second half of the 20th century and stream flow has reduced significantly in the water catchment areas of the southern regions of Australia (Garnaut – 2008). However the effects of future warming on rainfall patterns are difficult to predict because of interactions with complex regional climate systems. Average expectations are for significant drying in southern Australia, with risk of much greater drying. Predictions are that there may be a 10 per cent chance of a small increase in average rainfall, accompanied by much higher temperatures and greater variability in weather patterns (Garnaut – 2008).

Dr Wendy Craik, Murray Darling Basin Commission Chair said in March 2008,

... it will take multiple years to recover water storage levels as many are at record low levels. The impacts on communities, irrigators and the environment will continue to be significant.

For the Murray River in particular, 2007-08 has been another exceptionally dry year with no let up and months and months of low inflows into the up stream catchment. In June 2008, South Australian irrigators were informed they will start the new season with just 2% of their allocation. Although there is a little more water in storages this year authorities remain cautious of the chances of dry months ahead (ABC Press Release -17 June 08). This follows the unprecedented situation where the Goulbourn Murray Water decided there would be zero allocation of water for the beginning of the 07/08 season, the first time the Murray system has started without an allocation (GM Water -2007).

One of the most influential members of the Wentworth Group of concerned scientists, Mike Young, stated that the Murray Darling Basin has simply run out of water and is on the verge of total collapse and, importantly for this research, that the communities that rely on the river system are also on the verge of collapse (ABC Lateline – 2 June 08).

According to a Murray Darling Basin Commission report the Basin experienced its fourth driest autumn on record. Dry weather has continued in the southern part of the Basin and the monthly
inflows for June 2008 set a new record low of only 95GL, compared with 220 GL in June 2007 and a long term average of 680 GL (MDBC2008a).

The condition of the Coorong and Lower Lakes in South Australia is very serious and continues to deteriorate and lake levels are falling below sea level. Large areas of mudflats have been exposed in Lake Albert exposing sulphidic sediments. Pumping of water from Lake Alexandrina commenced in May 2008 to attempt to maintain Lake Albert at current water levels (MDBC–2008a). Communities relying on that water may now have to decide which lakes and wetlands go dry and which ones will be kept wet (ABC Landline – 4 May 08).

While the physical reality of drought is evident from these statistics, they say little about the suffering and hardship the drought is causing in rural areas and townships across the Murray Darling Basin.

3.3.1 Economic impact on production

In terms of economic impacts we know that the financial performance of Australian farms fell sharply in 2006-07 as severe drought across most of southern Australia led to a significant reduction in farm production and incomes (ABARE-2008). Some of the lowest water storage levels on record resulted in summer crop production falling by more than 50% (ABARE-2008).

The lack of water for rice growing in 2007-08 means that the area planted to rice is estimated to be 88% below the area planted in 2006-07 and the smallest area planted since the rice industry began in the early 1920s. The area sown to cotton is forecast to decline by 61% in 2007-08, the smallest area sown in 30 years (ABARE-2007). This has major impacts in the focus shires of Deniliquin and Narrabri.

According to Dr Wendy Craik, Head of the Murray Darling Basin Commission in May 2008:

There could be zero or very low water allocations for irrigators this year. Irrigators who planned to carry over their allocations from this financial year would receive water, but 2008-09 allocations would depend on rainfall.

During July 2008 at the time of writing this report many high security Murray River water users have an allocation of zero.

As a consequence of these economic realities, the reliance on off-farm income for broad acre farms has increased over the last 14 years. In 1990 around 35% of farm owners/operators/spouses generated income compared to 45% by 2004 (ABARE, 2006). In these times when on-farm earnings are at their lowest, off-farm incomes and support payments sometimes become the only source of income (Garnett 2007: 87)

The situation is not all negative as the forecasts for farm financial performance for the 2007-08 season may improve across some agriculture industries according to the ABARE 2008. They predict:

- financial performance of broadacre and dairy farms is expected to strengthen following the lowest incomes since 1992-93 in the previous year;
- increased grain and livestock production, combined with higher commodity prices, are projected to boost farm cash incomes;
- incomes in the wool industry are projected to increase threefold to more than $93,000, the highest income recorded in real terms since 1987-88; and
- strong cash flows leading into 2007-08, combined with a recovery in grains receipts, are expected to enable most producers to rebuild livestock numbers and reduce debt.
While financial performance is critical to farmers’ ability to manage the impact of the current drought, social factors are also important contributors to the resilience to the people and families who run agricultural businesses.

3.4 People

The Murray-Darling Basin supports approximately 11% of Australia’s total population, over two million people. Like almost all of inland Australia, the Basin is sparsely populated, with the exception of a few areas. The population is essentially rural and has experienced significant change over the last fifty years. Change will continue to occur with most of the Basin’s smaller centres declining and cities continuing to grow (MDBC 2008).

Many people live on farms at varying distances from even the smallest communities. In the western parts of the Basin, semi-arid pastoral properties can cover vast areas resulting in distances to the nearest towns being sometimes considerable (MDBC 2007). The decline in populations of small towns and rural communities within rural Australia has been very well documented (see for example Hugo 2005). This continuing trend of decline can be explained by decreasing numbers of farms and farm workers resulting in reduced markets for service industries in the smaller towns. Many small businesses have closed and services rationalised. Fewer farming families mean fewer children to enrol in local schools and many of these have closed. This results in those children remaining, particularly in remote areas, having to travel greater distances to access their education. It also results in reduced services and employment opportunities for people, especially the young, only adding to the exodus of people. The withdrawal of services from rural, remote and regional communities over the last decade has been almost without parallel (Pincott 2004).

3.5 Population changes

From a national perspective, the population growth rate in capital cities has remained fairly constant between 1991 – 2005 (Garnett, 2007: 42). However, rural regions have experienced very low population growth rates since 1991. In fact inland rates have fallen at a time when the national average has increased (Garnett 2007). Between 2000 and 2005, growth in these regions continued to remain below the national average. These low growth rates clearly reveal significant structural changes in rural areas (Garnett 2007: 43).

In the area under investigation, Bourke LGA is the area in NSW which experienced the fastest decline between 2001-06 losing 19% of its population. The next most significant population loss in the area under investigation is Buloke LGA declining by 10.7%. Of the top 10 LGAs with the biggest population decline between 2001-06, seven are located in the MDBC. (Refer to ABS table in the Appendices.)

The largest increase in the M-DB is in Greater Bendigo (14.5%) and Mildura (13.1%) while Wagga Wagga’s population shift was considerably less than other regional sponge cities with a growth rate of 6.8%.
The Australian Bureau of Statistics (ABS) releases a series of measures, called Socio-Economic Indexes for Areas (SEIFA), which compare the relative social and economic conditions of cities, towns and suburbs across Australia. SEIFA is calculated on a range of variables from the 2006 Census. Each index summarises a different aspect of the socio-economic conditions of people living in an area. The indexes broadly compare areas and therefore areas ranked at the top and bottom is likely to show similar levels of advantage or disadvantage.

The Index of Relative Socio-economic Advantage and Disadvantage is a continuum of advantage (high values) to disadvantage (low values), and is derived from Census variables related to both advantage and disadvantage.

According to the ABS, the most disadvantaged areas of Australia are located in remote areas of Northern Territory and Queensland, while the most advantaged areas are located in capital cities such as Canberra, Sydney, Brisbane, Perth and Melbourne (ranked using the Index of Relative Socio-economic Advantage and Disadvantage).
Areas mapped are LGA’s listed in the top ten of each state. Areas of advantage highlighted are minimal in the M-DB. Most notably two LGAs in Queensland (Cambooya and Crows Nest) are listed as advantaged, as well as the ACT. None in the Victorian, NSW or South Australian sections of the M-DB.

Typically areas of disadvantage have a higher proportion of low income families, high unemployed, people without educational qualifications, high numbers of public housing rentals and many people in unskilled/semi-skilled jobs. Many of the focus ‘profound’ LGA’s in this research are in close proximity to SEIFA areas of disadvantage. Buloke overlaps a SEIFA area of disadvantage as well as being surrounded by LGAs listed in the top ten areas of disadvantage for Victoria. Greater Bendigo is also alongside this pocket of disadvantage. Bourke is also between areas of disadvantage as is the Coorong.

The below map was released in August 2008 also indicating areas of SEIFA disadvantage and advantage. As a contrast to Map 1 the below map indicates Statistical LGA boundaries which are generally larger than LGA’s. There are general similarities using 2006 Census data as well. However most notably Deniliquin and northern surrounding LGA’s (eg Conargo) are listed as not being so disadvantaged. This emphasises the profound changes undergone in these communities during the last two years due to reduced water allocations and the secondary implications on the urban townships.
Figure 5: SEIFA Statistical local government areas 2006

Clusters around central, South western and Northern parts of Basin (ABS-2008)
The lighter areas indicate areas of disadvantage.

Source: ABS Socio-Economic Indexes for Areas (SEIFA) 2006; data available on request; Geoscience Australia 2004.
3.6 Health

Rural and remote Australians experience significant inequalities in health for many indicators including suicide, circulatory disease, respiratory disease, diabetes, some cancers, injuries and access to adequate health care (AIHW, 2003). It is generally understood that people from rural and remote communities are at heightened risk of mental illness because many of the psychosocial determinants of health are magnified by factors related to remoteness, such as isolation, economic restructuring and unpredictable ecological conditions (Commonwealth Department of Health and Aged Care 2000).

Recently, there has been an increased understanding of the health status of the 34% of Australians living in rural and remote areas (Australian Institute of Health and Welfare 2006, pp 239). Compared to people in major cities, those living elsewhere are more likely to be smokers; to drink alcohol in hazardous quantities; to be overweight or obese; to be physically inactive; have less access to specialist medical services and a range of other health services; (AIHW 2005h) and have lower levels of education; and to have poorer access to work, particularly skilled work (Garnaut et al. 2001). Indigenous health is generally poor (AIHW 2005). Profiles suggesting more social and economic disadvantage in regional and remote areas especially reflect the greater representation of Indigenous people (AIHW 2006).

Health impacts reported by Sobels, 2007 (pp 18-20) in the Coorong Shire in the Lower Murray area of the M-DB include:

- an increased number of referrals to psychological and other specialists up 50% in a twelve month period (p 18);
- increased presentation of mental health issues;
- increased presentation of Aboriginal children with diseases resulting from there being no other source of water except the Lakes (p 30); and
- an increased incidence of algae due to stagnant water which has increased potential water borne diseases reported in the community at Port McLeay (Ross River fever) (p 31).

3.6.1 Stress and age

Stress is a normal part of everyone’s life. However prolonged periods of stress can lead to many negative health issues. Because rural communities are facing year after year of drought, financial pressure and uncertainty, there are significant increases in people’s levels of anxiety and stress. This stress can commonly lead to depression. Our respondents refer to this factor time after time when discussing the health impacts of drought across the communities of the Murray Darling Basin. At the same time, farmers are aging and they are less adaptable and increasingly vulnerable to health issues. The Basin’s population is ageing, largely due to the combination of lower fertility rates and increasing life expectancy (ABS-2008, p 29).

According to the Australian General Practice Network a survey of rural financial counsellors in 2006 found that one in four of their clients required assistance for emotional and mental health issues because of financial pressures due to drought. General Practitioners in drought affected rural areas were also reporting an increased number of patients presenting with depression and anxiety. A survey in 2008 by the Australian Institute of Family Studies found that Australia’s farmers and farm workers are both poorer and more depressed as a result of the drought. Measuring financial hardship, the survey found that of those farmers currently in drought, seventeen percent had mental health issues, compared with eight percent of those who had not been in drought in the past three years.
Age can also increase peoples vulnerability to health problems. The below graph indicates ‘profound’ LGA’s in red, ‘significant’ in green and ‘patchy’ in purple. Whilst not LGA’s in focus as part of this research, some characteristics of the white LGA’s (Loxton Waikerie and Cooma-Monaro) were investigated.

The ‘profound’ LGA’s including Buloke, The Coorong and Deniliquin experienced the most significant change in median age over the last decade. The populations are ageing in Buloke with a 5.6 percent change between 1996 to 2006. The Coorong’s population changed by 5.1 percent and Deniliquin changed by 4.9 percent.

The LGA’s who’s population is ageing the least include, not surprisingly the sponge cities of Mildura (2.3 percent) and Wagga Wagga (2.9 percent). However Bourke LGA is not an ageing area with a minimal population change over the last decade of 2.9 percent, indicating the high number young people.

Figure 6:

![Change in median age 1996-2006](source: ABS 2007)

3.6.2 Changed work loads of health professionals and rural workers

A 2002 report on the medical labour force stated that practitioners based in remote and very remote areas were more likely to be younger (2-3 years) and to work more hours per week (3-5 hours) than their colleagues in other regions (Australian Institute of Health and Welfare 2004: 12). Within each remote and very remote region their work load had actually **decreased** with more hours per week in 1997 than in 2002. This may be due to service and population decline rather than a decline in demand.

However there has been an overall increase in the work loads of Rural financial Counsellors particularly because they are doing considerable non-financial counselling.

Analysis of Lifeline calls between January to June, 2006, suggests that rural calls are represented at a proportionally higher number than urban calls for both men and women. Rural men comprise 42% of the male calls relating to mental health issues. This suggests a greater need for mental health assistance for rural callers (Cartwright and Hughson 2007).
During the course of this investigation the researchers sought to interview several General Practitioners. This proved to be rather challenging as so many approaches for interviews were unsuccessful. The researchers only managed to interview one GP in the South Australian section of the M-DB. GP’s in the north of the basin did not feel that this was an issue that was enough of a priority to be investing their time.

3.6.3 Suicide rate

There is considerable concern about the incidence of suicide amongst farmers. However while Lyn Farger is reported as suggesting in 2007 that ‘one farmer suicides every four days’, there is no real evidence for this (Dr Helen Klieve, the Manager of the Queensland Suicide Register). Scepticism about this claim is also reflected by a Rural Councillor.

Apparently farmers suicide 1 every 4 days. We have not seen a lot of that here. There has been 1 that I know of in the last 16 years.
Rural Councillor, Bendigo

Suicide statistics from rural and remote areas usually include those from indigenous communities where the issues are completely different. However we do know that the suicide rate in rural and remote areas is higher than that in the cities.

We only count as a suicide if they are 100% sure. The ABS is very cautious in its figures, they do not even count a “probably suicide” as a suicide. We have detailed data suggesting firearms suicides are dropping (Dr Klieve, pers.comm. 2007)

Suicide deaths using firearms have more than halved over the last ten years, from 389 deaths in 1995 to 147 deaths in 2005 (ABS 2005). Nonetheless there seems to be general agreement that the rates are higher in rural areas. The other agreed trend is that suicide deaths are higher for males than females. Over the whole of Australia between 1995-2005 the male age-standardised suicide death rate was approximately four times higher than the corresponding female rate (ABS 2005: 4). This is also supported by work done at the Australian Institute for Suicide Research and Prevention. This report reviewed suicide death figures between 2002 to 2004 in Queensland regional areas and found that males represent over 80% of cases (De Leo et al. 2006: 55).

The situation is similar in regional Victoria. Suicide rates are relatively high among men in farming communities highlighting the high levels of psychological stress arising from the economic and social consequences of drought (Molloy and Fox 2002).

However Eckert et al. (2006) report that remoteness per se is not associated with mental illness, either directly or indirectly as an important cofounder in stressful life event/mental illness associations. Psychosocial factors are more important determinants of mental illness.

Personal and social stress accompanies drought. Isolation, limited access to support services and general loss of morale can have a negative impact no the wellbeing of individuals, their families and their communities.

The following sections of this report present our own original data gathered during 2007-8 to assess further the social impacts of drought and declining access to water across the M-DB.
4. METHODOLOGY

4.1 Primary data collection

4.1.1 One to one interviews

Face to face interviews were conducted by Professor Alston in Canberra in November 2007 with a selection of national authorities. Interviewees included Ken Mathews, Director of Head of the National Water Commission, Dr. Wendy Craik, Director of the Murray-Darling Basin Commission, Mette Creaser, Director, Centre for Environment and Energy Statistics ABS, Dr Gail Kelly, former Director Bureau of Rural Sciences, Elizabeth Bennett and Janine Gibson at DoITRDLG and Social Demographer with KPMG, Bernard Salt. Professor Alston also met with Patrick Stakelum, Program Leader, Social Sciences Program at the Bureau of Rural Sciences Department of Agriculture, Fisheries and Forestry in May 2008.

4.1.2 Telephone interviews

One to one informal open ended telephone interviews were conducted between November 2007 and January 2008. Approximately 15 Local Government Areas were selected at random across the Basin. In these areas data was gathered from Mayors, Chief Executive Officers, Strategic Planners, Rural Counsellors and health professionals including Mental Health Workers and General Practitioners.

4.1.3 Written survey

A survey was designed to gather additional data on the impacts the drought is having on social capital across these 15 local government areas and was distributed in 2008.

4.2 Secondary data collection

Secondary data has also been collected from the following sources:
Australian Bureau of Statistics
Sporting organisations
Murray Darling Basin Commission drought updates
Australian Bureau of Agriculture Resource Economics

Michael Liquorish photograph taken late 2007 near the Natte Yallock to Redbank road close to Redbank.
5. SOCIAL IMPACTS OF DROUGHT

Our results reveal that LGAs experience impacts ranging from what we have termed ‘patchy’ to ‘significant’ through to ‘profound’.

Our definitions of these categories are as follows:

‘Patchy’ – Certainly there are farming families within these shires who are suffering the negative impacts of the drought. However generally these shires have a high degree of resilience due to a diversity of local employment opportunities. These shires include Warwick, Narrabri and Wangaratta.

The Southern Mallee Shire in South Australia is also in this category as they rely on ground water for irrigated horticulture so are not facing the challenges of reduced water availability in the same way as surface water irrigators. Ground water irrigators currently have no allocation limitations. (This will change sometime during 2008.)

‘Significant’ – In these areas there are significant numbers of people in rural communities who are suffering the negative impacts of the drought. Irrigators and dryland farmers in particular are suffering. People living in the larger urban centres are not so impacted however businesses in the smaller urban centres are definitely impacted. Examples of shires from our sample with ‘significant’ impacts include Bungil, Murweh, Greater Bendigo and Wagga Wagga Shires.

‘Profound’ – In the areas we have labelled as having ‘profound’ impacts both urban (town) and rural people are negatively impacted largely because, in these shires there is a significant reliance on dryland and irrigated agriculture. This has had a flow-on impact on many businesses in the towns, schools, and the provision of local government services. Many people feel backed into a corner. Shires in this category include Bourke NSW, Deniliquin NSW, Mildura VIC, Buloke VIC, Coorong SA and Renmark Paringa. SA. The majority of these Shires have been the ones to prepare Social Impacts of Drought reports.

The following table outlines the shires that formed part of our study and their place in the typology.

5.1 Impacts on selected LGAs - Patchy, Significant, Profound

Local Government Areas in focus for the purposes of this research.

<table>
<thead>
<tr>
<th>‘Patchy’</th>
<th>‘Significant’</th>
<th>‘Profound’</th>
</tr>
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<tbody>
<tr>
<td>Warwick, QLD</td>
<td>Bungil Shire, QLD</td>
<td>Bourke, NSW</td>
</tr>
<tr>
<td>Narrabri, NSW</td>
<td>Murweh Shire, QLD</td>
<td>Deniliquin, NSW</td>
</tr>
<tr>
<td>Wangaratta, VIC</td>
<td>Wagga Wagga, NSW</td>
<td>Mildura, VIC</td>
</tr>
<tr>
<td>Southern Mallee, SA</td>
<td>Greater Bendigo, VIC</td>
<td>Buloke, VIC</td>
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<tr>
<td>Balonne</td>
<td></td>
<td>Renmark Paringa, SA</td>
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<td></td>
<td></td>
<td>The Coorong, SA</td>
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</tbody>
</table>
We firstly consider these areas one by one before looking across the areas for common issues affecting particular groups of people.
Section 1 – Local government areas

5.1.1 ‘Patchy’

Southern Mallee District is located approximately 2 hours drive east of the South Australian capital city of Adelaide. It is predominantly a farming/rural community located in an area covering 6,000 square kilometres. The population of this shire has declined by 6.6 percent between 1996 to 2006 with an approximate population of 2,200 people (ABS- 2007). Shire offices are based in the town of Pinaroo with a population of approximately 1,300. Education levels are the highest in the M-DB for male highest 57% in this shire (ABS-2006).

The major employment in the area is farming or in service industries supporting the farming industry. Farming generally consists of cereal grain crops, potatoes and sheep. The district produces 22% of the state's potatoes, 7% of onions and 4% of cereal grain. It has South Australia's largest Pistachio plantation and over 100,000 olive trees under farming. (Sourced from www.southernmallee.sa.gov.au/site/page.cfm)

According to informants things seem go be going pretty well in this shire with the biggest potential impact in the near future being the South Australian Government moves towards allocating groundwater for irrigation uses. There are no surface water irrigators in this district, and all ground water irrigators have limitless water allocations. However businesses in the community are on notice and are being cautious. Irrigators are using their ground water very cautiously.

We are in the process of a 5 year cyclical review of ground water supplies. More than likely will result in caution by the SA government with a move to allocations for ground water. No allocation system at all presently (Dec 2007).

New allocations to be announced in 2008 may result in allocations on ground water extractions in SA being reduced for the first time. Informants note that farmers are wanting to make business decisions about 2008 crops but there is a lot of uncertainty. However farmers are still feeling quite optimistic.

There has been a changing of the guard with regard to who holds the water. No new people are coming to the area. Rather, it is bigger operators who are buying out smaller neighbours. They are growing potatoes, onions, carrots and olives but as yet not with great financial success. Nonetheless:

There are more positives than negatives in this district.
Irrigators have helped the district businesses evidenced by there being three machinery dealerships in town and all still in business.

**Wangaratta**

Wangaratta is a manufacturing and commercial centre in north-east Victoria with approximately 18,000 residents. The rural city's traditional strengths of clothing and textile production have been supplemented in recent years by the manufacturing of wine and wood products ([http://www.wangaratta.vic.gov.au](http://www.wangaratta.vic.gov.au)).

Agricultural industries include beef cattle, horticulture, sheep and wool. Irrigation allocation stopped in 2006 for 2 months. The Ovens and King Rivers are regulated but the many unregulated streams are now dry.

Financial pressure for farmers and the sourcing of off-farm income makes many families ineligible for EC support. It is reported that there is a great deal of hidden stress impacting businesses.

EC is very hard for people to meet and many are not applying as they have to go in (to Centerlink) every two weeks, so they just battle on....

As a result businesses are affected because

People are fixing their old things, not buying new things.

There have been 5 newly created drought worker positions in the last 15 months. Informants also report a reluctance to accept counselling from the welfare agencies suggesting that a) drought support workers and Rural Financial Counsellors are more culturally appropriate services for farm families and b) that existing welfare services may need to adapt to become more amenable to these families.

The farming community is being negatively affected by the drought. However the community of Wangaratta shire are not just reliant on agriculture to generate income. Other employment options in the shire include engineering works, government department headquarters, aged care, textile factory, wine industry is growing, tourism and hospitality

**Narrabri**

Narrabri Shire covers an area of some 13,065 square kilometres and is the heart of the Namoi Valley in North West NSW. The area is renowned for its wealth in the production of some of the world's highest quality cotton, beef, wheat, fat lambs and wool. The population has declined by 4.5% (ABS, 2007), but there is still anecdotally a sense of optimism in the shire.

This shire has been described as ‘Patchy’ as although people involved in dryland agriculture are struggling, the diversity of alternative employment options within the shire provide choices for people to remain local. Employers include government agencies, health, education the Cotton Research Institute, Cotton Cooperative Research Centre and Australian Wheat Institute, as well as the coal mines and a natural gas company.

We are slightly luckier as we have other options for people locally in the mines. There are three open cut coal mines at Boggabri with another being built in 2008 that employ a few hundred people.

Economic Development Officer, Narrabri
Historically agriculture has been very big and when farmers were making a lot of money the smart ones diversified (commercial real estate, vineyards etc) which has helped them survive and allowed the town to adapt. This has minimised suffering from the drought in our area.

Economic Development Officer, Narrabri

There has been considerable dryland cotton grown in this shire but this has been reduced. According to a council worker in a normal year approximately 60,000 hectares are planted which was halved to 30,000 hectares in 2007. 2008 is predicted to be 6,000 to 9,000 ha crop, a nine to 15% decline.

Not as many people involved in agriculture as there used to be...auxiliary businesses (mechanical, hydraulics, tyres etc) are also affected. Businesses are laying off staff, not buying food and gear in town...many people are hurting and many are getting drought relief.

Economic Development Officer

Rural areas supporting smaller townships such as Wee Waa are feeling the negative impacts of the drought. According to a study of the Wee Waa area in the Narrabri LGA, 40 kms north west of Narrabri town, continuing drought has had an impact on the community. The impact has been felt by many sectors including local businesses, schools and health organisations.

In Wee Waa there has been a 100% increase in the number of people accessing counselling and mental health services. Stress is being placed on families who are dealing with family members who have depression and difficulty in affording medical care. The report documents a 21% decline in student numbers across the Primary and Secondary schools (between 2001-07) with a loss of nine teachers. Schools have reduced extra curricular activities and excursions offered as a result of decreased numbers and not wanting to place extra financial burden on families.

So although the regional centre of Narrabri seems resilient to many negative impacts of the drought through its diversity, many rural areas in the shire are feeling impacts.

5.1.2 ‘Significant’

Wagga Wagga is a large inland regional centre located on the Murrumbidgee River situated half-way between Sydney and Melbourne with a shire population of 59,908 thousand and a steady population growth rate between 2001 to 2006 (ABS 2006 Census.) The Shire is very diverse with a major
reliance on the agricultural, health, defence, retail and academic sectors providing employment opportunities. Whilst the costs of housing is considerably less than in major capital cities, many other costs are higher including food and petrol. In very remote areas these essentials are 15-20% more expensive than major cities (AIHW 2005h).

Figure 7: AAA Pricing Summary unleaded petrol in Wagga Wagga 1998-2007.

![AAA Pricing Summary unleaded petrol in Wagga Wagga 1998-2007](chart)

Commenting on the impacts, an informant suggests that

We cannot generalise, in some cases the drought has brought out shining stars. At the other end of the spectrum, those that are middle aged to older people have restricted their movements and are just trying to get through it all. Their world is closing in around them. Many have isolated themselves.

We run farm family gatherings. We have heard very sad stories with enormous impacts. People go through normal life expectancies anyway like deaths, births, marriages etc. As the long term effects of the drought drag on these life experiences have a bigger impact on people. There are differing responses, some get angry and their heroics end in frustration... Some get calls from the bank every 3 or 4 weeks and they just grind on....then finally the bank calls them in and they ask themselves what are we doing?

The mid to older farm managers who decided to work off farm have been better off in the last seven years. the drought has brought relentless financial indignities.

Conditions in the Eastern Riverina over the last 7 years have got worse and worse with incomes halved, then halved again.

**Bungil**

Bungil Shire is located in the Maranoa area of South West Queensland. The administration office of the Shire is located in Roma. Injune is the main town in the Shire with Muckadilla also located on the western boundary. Bungil is referred to as a ‘donut’ council, with Roma being the area in the middle.

The three main agricultural industries are beef, grain and wool. Sheep numbers have dramatically decreased since 1970, and cattle numbers have increased. The main crops grown are wheat and sorghum.
According to the Bureau of Rural Sciences (2008b: 12) population details sourced from 2001 and 2006 census, Bungil has experienced:

- above average population growth 11.1%;
- high proportion of children but low proportion of young people in the population;
- average number of Indigenous people (2.3%), this number is rising;
- more males (45.3%) than females and average age of 39.4;
- high workforce participation, more than 20% higher than the average;
- many mothers in full-time employment (10% higher than the average);
- low unemployment and high employment (nearly half) in agriculture;
- low levels of post-secondary school education (36.4%);
- average levels of internet access;
- above average levels of volunteering in the community; and
- low levels of female education levels (ABS-2006).

Bungil Shire is certainly experiencing negative impacts of the drought but has been placed in the ‘significant’ category due to alternative non-agricultural employment options being available.

The big salvation here has been the diversity of work options. Farmers have instant employment options to work in the gas fields east of Injune. There is lots of money is invested up there. Blokes go to the gas fields and work 10 days on, 10 days off, leaving the wife at home.

Bungil Mayor

Many people have adapted their businesses.

People were more depressed here during the last drought in the 1990’s, they have more options now. We have had seven years of straight drought and people have made adjustments to their herd according to conditions. There has been a massive shift from breeding to backgrounding cattle to sell to feedlots. Several huge Hereford Studs have closed their doors.

Like most parts of the Basin, people in Bungil shire are juggling finances to pay bank debts. Many are paying additional costs for feeding cattle, however social events are still well attended.

People continue to spend money, on alcohol. The publicans are the only business unscathed by the drought. Big social events still continue to go well for example the Roma Races. Perhaps people are consoling each other or using it as welcome relief to forget about the drought.

Bungil Mayor

A positive aspect is that the drought seems to be contributing to breaking down traditional barriers, bringing communities together. This is relevant to many rural religious congregations due to the decline in population and volunteerism. For example, the number of Catholic priests in Australia peaked at 3895 in 1971, and was above 3800 from 1968 till the early 1980s. There has been a decline in numbers of around 20% between 1971 and 2005 to 3126 (Official Directory of the Catholic Church in Australia 2005/2006, pp.586.)

It has really surprised me that traditional lines of help with depression have been avoided. People are not going to their church with their problems, they are going to their Doctor. At Injune they are merging the churches. The Catholic church building was falling apart so they sold it and decided everyone would participate in an ecumenical church based in the Anglican building. It has been a really good thing. I don’t care if the Buddhists join us....

Bungil Mayor
In Balonne LGA the population is down by 12% due to drought affected decline. According to a former Mayor, the impacts include the loss of trained/skilled employees from eg Cubby Station.

For the first time ever 2007, Council had to buy 200 Megalitres of river water for the town urban supply, from Cubby Station...

Businesses in the area are suffering and these include machinery and car dealers, transport and fertilizer companies, fuel and tyre providers leading to a deskillling of the area.

People are leaving and many families will not return after settling elsewhere when it finally does rain here...

Many workers are moving to mining jobs, in Claremont for example.

... even when it is not a very family friendly live style when they work 12 hour shifts....

Some businesses are also reducing the hours of workers and sharing these reductions amongst the workers so that, no one actually loses their jobs.

Informants also report that because there has been no wheat harvest for 3 or 4 years, contractors including truckies and header drivers are not coming to spend money in cafes or accommodation.

There are three cotton gins in the shire... only one operated last year 2006 and only at night and they didn’t employ any casual staff...

There are some positives reported including the success of two local companies, one a macropod abattoir producing kangaroo meat for human and pet consumption and the other growing rock melons, table grapes, flowers etc. The latter employs a lot of overseas born Muslim male university students working during their study breaks.

... Apparently they provide some of the best, most decent workers as they work very hard and are sober...

The Murweh Shire lies in a semi-arid zone on the Great Artesian Basin. It includes the townships of Charleville, Augathella, Cooladdi and Morven. Education levels for females are relatively low (ABS-2006) and the population decline by 2.3% (ABS 2007). Much of this shire is remote however the impacts echo many other parts of the Basin.

The drought is causing anxiety to graziers and agricultural businesses but also to businesses in the small towns who rely on them. Many small communities have just gone.

There have been job losses in the wool and sheep industries. More entrepreneurial people move into goat and kangaroo abettors.... The drought has thrown family succession plans into doubt as their future is put into question.

Murweh Mayor

The Mayor of this shire described the pain graziers are going through regarding their future commenting that

People don’t know when to make the decision to get out.
Support for the community has not increased with the demands of the drought. Rural Financial Advisors and Social Workers in Charleville have remained the same for the past eight years with no increases.

**Greater Bendigo**

Bendigo is situated in Central Victoria and is a thriving regional centre with a population of approximately 140,000. Its' population has increased by 14.5% between 1996 to 2006 (ABS, 2007) providing an attractive retirement place and good medical services. Bendigo has many employment opportunities in retail and financial services, public administration, tertiary education and higher order health and medical services.

Like other larger regional inland cities, Bendigo is a ‘sponge’ city ‘soaking up’ both young and older residents. Younger people are attracted to Bendigo due to employment, education and social life opportunities, whilst older people are attracted to Bendigo as an attractive retirement option close to medical services.

People are moving from Melbourne to Bendigo and smaller rural townships for cheaper housing and lifestyle reasons.

...smaller towns like Korong Vale and Sea Lake where cheap houses can be bought for $10,000 increases the population of welfare dependant people who are unused to the country and who are not part of the community. Locals are suspicious and they rarely help to build the community. Increased rates of delinquency....

Rural Councillor, Bendigo

The drought has been going in this area of the Basin since 2002 with four out of the five last years have been awful. Anecdotal evidence suggests that young people see no future in agriculture which may have significant social implications in the future. Other impacts include increased relationship breakdowns due to financial stress and increased incidences of depression;

It is very heart breaking. We have not had a period this bad before and it feels a bit overwhelming and out of control for many people. Last summer we had a very sad community.

Rural Councillor, Bendigo
5.1.3 ‘Profound’

Prolonged periods of drought and industry restructure in rural areas not only affects the operation of rural families and their farms but also many other businesses, people and the communities in which they live (BRS 2008b). This certainly is evident in the shires defined as ‘profoundly’ affected and these tend to be predominantly in the southern and western areas of the Murray Darling Basin.

Several people in these areas, particularly in western Victoria and the South Australian riverland, note a sense of disappointment that public funds are being invested in “yet another report” on the drought and not on managing the impacts.

Deniliquin Shire

The Deniliquin district was transformed by access to water in the 1960s and moved quickly from grazing country to more intensive cropping. According to the Deniliquin, Conargo and Wakool Social Plan, in the ten year period between 1991 – 2001, all three local government areas experienced significant population loss across almost all population groups. Conargo Shire lost 8.49%, Wakool -6.70% and Deniliquin -1.4%. This population trend has continued. In 1996 the Deniliquin shire population was 8,264 and by 2006 it was 7,715, a decline of 6.6% (ABS 2007).

Informants report that people have been under enormous pressure over the last five to ten years. In the last two years there has been no water allocated so many farmers have had to revert back to dryland operations. Many irrigators along the Murray have had to face some extremely difficult choices which has led to a significant amount of stress.

The rice industry supports approximately 60 regional towns in southern NSW. The lack of harvest in 2008 has had significant impacts on businesses such as hotels and others selling products such as fertilizers and groceries. The rice mill has closed in Coleambally forcing many families to move away resulting in a significant impact on this small rural town.

The rice mill closure will be a huge impact on people. Some have gone to mining (Mt Isa, SA) wherever they can find work.

People are just moving which will affect schools with less students small rural schools will be able to access reduced funding. Wives will also go who work in town as school teachers, nurses and shop keepers.

Shire Councillor and Rural financial Counsellor
Most rice mills across the Riverina have closed resulting in significant job losses, 180 of them in Finley alone.

The flow on social impacts is huge. It has been coming for years but now really flowing onto the rest of the town people. The closure of the rice mill came a real shock to some town people....

Shire Councillor and Rural financial Counsellor

The Abattoir closed in November 2007 and other businesses have also closed.

The Nestles factory at Echuca has laid off 50 jobs and the Kraft factory at Tongala has laid off approximately 80 workers. This is all due to lack of water. Workers from Deniliquin laid off by the abattoir and the mill will be competing for jobs with these people too.

Farmers have been hanging on with all they have. The interest subsidies and fortnightly Centrelink payments have kept food on the table. The interest subsidies have kept dairy producers going for the last 5 years. Now they are doing a little better due to the price of milk.

Government has put funds into funding more social (psychological) Counsellors but no one is skilled to fill these positions....

Shire Councillor and Rural financial Counsellor

Bourke Shire

Bourke produces irrigated cotton, wheat and feed beef. It is quite an isolated community. The economic impact of the drought on this shire has been severe with an average annual loss in turnover of $55 million throughout the Bourke economy (Western Research Institute 2006, p 39). The unemployment rate in Bourke is 7.6% above the national average of 5.2%. The population declined by 19% between 1996 to 2006 - the largest decline of all the focus shires in this research.

Bourke Shire has the lowest education levels of all the shires investigated. Only 36% of males and 23% of females have post-school qualifications. The shire does not seem to be aging as much as the other focus shires in this investigation.

The impact of the drought has resulted in some profound social changes in the Bourke community (Western Research Institute 2006: 47). These include:

- population loss is occurring at a rate approaching an estimated 2.58% per year, an increase from 0.72% prior to the drought;
- the loss of skills and local knowledge is occurring as skilled workers and locals leave town to seek work elsewhere;
- mental health issues are emerging as the stress and hardship of drought continues to affect the mental resilience of locals. In particular financial strain is compounded by family separation and the distress of seeing land and animals endure drought conditions;
- increased crime rates have been reported in nine out of ten offences related to lack of work and increased idle time. (Links between unemployment, drug and alcohol dependence and criminal activity); and
- family structure is changing with up to 38% of farm families separating to seek a second income for the household; and
- optimism and resilience within the township are being eroded by the harsh conditions brought on by the drought.
Water shortages and the resultant loss of income in the Bourke region also has significant social impacts including:

- loss of skilled labour;
- reduced population;
- increased unemployment;

Impacts more severe on the indigenous community as they are more reliant on the irrigated agriculture industry as a supplementary source of income than other residents. Increases can be expected in demand for government support including health services, schools, law enforcement and welfare. (Western Research Institute 2006, p 29).

**Buloke Shire**

Buloke shire has the second largest change in median age between 1996 to 2006 of all the focus shires suggesting an aging population. Of the shires in this study, Buloke has the highest level of post school education for females (52%) and the second highest levels for males.

The Birship Cropping Group (2008) highlight the way drought is exacerbating the already complex issues facing farming families in this area. By adding another layer of unpredictability and eroding their physical, financial and social/personal reserves, drought is heightening the uncertainty and risk with which many farming families are dealing. It highlights the commonalities and the diversity between farming families as they cope with this situation and different life stages, and documents both the anxiety and resilience experienced by different individuals, families and communities. It brings to the fore the importance of the wider rural community for families. It details the sometimes positive feedback cycles that can emerge as well as the rapid rises in optimism that can result from small improvements in conditions. It is a unique, extended snapshot of a Murray Darling Basin rural community under stress providing insights for others experiencing drought.

There has been a series of bad seasons in this Shire 2002, 2004, 2006 now 2007 compounding issues for farmers. Resources have been whittled away. Debt levels have peaked like never before in the region.

Many, about 50% of farmers are considering to liquidating off farm assets and are at the cross roads of deciding weather to leave farming. With talk of climate change continuing poor seasons about 10% are choosing not to farm next year. This has had a huge impact on younger farmers in 30’s and 40’s who have not yet had the opportunity to create any wealth. There is low enthusiasm.

I know of about five families who have left the area the reinvested in small businesses. They still want to stay in their own enterprises. Most have gone to larger regional centres.

Others have had mixed success in being able to sell their properties. Some sold straight away, others it is taking much longer to sell and others are leasing farms out. Leasing gives some security and gives people the option to come back to farming after the drought.

Birchip Coordinator

There has been an increased awareness of mental health issues in the ‘profoundly’ affected LGA. People are reportedly more aware at what my trigger depression.

Farming group activities has increased our focus on the social and community aspects of farming. ‘Keeping people connected’ and concerns about wellbeing was never part of our program. Now have groups that support farmers which is a big shift in the BCG since 2002, which was the first year of no production. People are cracking under the pressure.

Birchip Coordinator
Similarly to Bungil Shire, Buloke has had to manage the issue of shortage of Ministers. The community runs the church and some congregations have Ministers once a month. However, unlike Bungil Shire, there have been no reported amalgamations.

**Mildura**

Mildura Rural City is situated in Victoria’s north-west. Covering around 10 percent of the state’s area, its landscape ranges from precious Mallee vegetation to dryland grain farms, intensive irrigated horticulture on the Murray River. The municipality’s population of around 60,000 is culturally diverse, giving the region a cosmopolitan flavour. Mildura is positioned near the borders of Victoria, NSW and South Australia. ([http://www.mildura.vic.gov.au/](http://www.mildura.vic.gov.au/))

The district produces hundreds of millions of dollars in export revenue through horticulture. Significant commodities include dried fruits, olives, grains, vegetables, citrus, table grapes and wine. The municipality includes education and health services including university and TAFE institutions, a number of hospitals and medical specialties. The people are culturally diverse.

The impacts of the drought and water shortages have been profound in this Shire.

> Obvious consequences when incomes are threatened, leading to episodes of depression and mental illness, substance abuse and partner abuse.

**Deputy Mayor, Mildura**

It has been a burden for the farm community who is emotional connection to their work. Deciding weather to continue as farmers or not are profound life changes. There are increased concerns about selling the farm if it was inherited.

> On dryland farms they feel if their grandfather endured wars and the depression... now I am the grandson and I've failed, I cannot make it...

There are profound ramifications for the town’s dependency on rural farming communities. People are not buying goods or services in town, so small businesses suffer.

People’s sense of worth and well being is deteriorating. It shatters the fabric of a community. People are going through the cycle of grief, shock, disbelief, anger, blame and depression. They feel things are beyond their control.

> Many farmers are wallowing in disbelief, they cannot believe their days on the farm may be actually coming to an end. They have not planned for it. In Victoria the nil water allocation was announced in July 2007. Even the 16% allocation announcement did not resonate clearly with everyone. We are picking up through some Rural Councillors that some ethnic groups of farmers have misunderstood these water allocation announcements and thought they would be getting more water than the reality through language difficulties.

**Deputy Mayor, Mildura.**

A positive of the drought is that in the longer term, people will become better irrigators placing a higher value on the finite resource of water.

> Irrigators must increase their level of technology and water use efficiency. For example measure subsoil moisture detectors rather than what they have done in the past thinking ‘this paddock looks a bit dry’ like they do now.

**Deputy Mayor, Mildura.**
The “Drought Social Recovery Plan” 2007 notes key social and economic impacts in this area. Below are extracts from that report.

Impact
The lack of rainfall, and therefore water inflow into the river system, has meant that the water authority responsible for the allocation of water for irrigation, Goulburn Murray Water, decided there would be zero allocation of water for the beginning of the 07/08 irrigation season which commenced on July 2nd 2007 – “The first time the Murray system has started without an allocation” (Goulburn Murray Water -2007). The impact of zero water allocation from the MDB system will be felt both in the Mildura area and nationally and will be significant.

Agriculture industry diversity
The effects of loss of access to irrigation will become evident in a progressive manner due to the diverse food growing industries. Citrus growers require irrigation generally from May to August, while other crop growers (vines, almonds, and olives) generally require irrigation access in October. This means that there will be a sustained impact on the community encompassing the whole of the food growing industry.

Direct Employment
Crop failure from a lack of water may lead to a decrease in the number of people retaining direct employment in the agriculture industry. The number of people affected could be quite significant considering the industry employs over 3,000 people, the largest number of all businesses in the area.

Indirect Employment
The effects of zero water allocation and associated potential crops failures won’t only be experienced by those directly employed in the industry, but by other industries also who are reliant on residents’ discretionary spending, such as the retail industry. The Victorian Drought Social Recovery Strategy states: -
“Similarly, although farmers may be directly affected by drought, there are also downstream effects on other groups and industries. There are direct effects from reduced spending by farm families and indirect effects from reduced business confidence, which flows from the depressed mood within the farm sector.”

Social Distress
A sudden, significant increase in levels of unemployment or rapid reductions in income could have major ramifications for the social wellbeing of the local community. Aiston 2004, identified a number of indicators of social distress such as an increased rate of mental health problems, increased marriage separations and increased poverty.

Replacement costs
The Horticulture Australia Council believes that unless a minimal water allocation was provided in July, orchards and vineyards would suffer loss of permanent plantings with a “replacement cost of a minimum of $20,000 / hectare, as well as the cost of loss of income for a minimum of 3 to 10 years while the new plantings mature”.

Employment
Horticulture is deemed to produce one job for every $100,000 of turnover; four jobs for every 100ml of water.

Coorong Shire
The Coorong District Council comprises 8,836 square kilometres of mainly rural land serviced by the towns of Tailem Bend, Meningie, Tintinara and Coonalpyn and other smaller settlements. There
is a strong diversified primary industry base with farm gate value of production at $113m per annum (1996/1997). Rainfall varies across the district between 350mm and 500mm per annum. (http://www.coorong.sa.gov.au/site/page.cfm?u=106)

The report on the impacts of drought in the Lower Murray (Sobels 2007) notes key impacts in this area including:

- the relative poverty endured by drought affected businesses and families, loss of income;
- psychological impacts on older farmers and small/medium business owners;
- increased work loads and increased staff lay-offs, the decline in maintenance work, and the loss of time for anything except survival of the farm/business (less/no holidays, loss of social contact increasing isolation of families);
- community divisions; and
- perceptions of inequity regarding the burden of drought between neighbours, rural/urban communities, upstream/downstream water users and states.

Farmers and small business operators...simply refuse point-blank to consider being seen walking into the Centerlink Office, to stand beside the unemployed and unskilled. There is a fundamental clash of status and class, between professionals and lower skilled people......perhaps Business Enterprise Centres are a more appropriate service centre for processing the EC for farmers and small businesses affected by drought... (Sobels - 2007, p 35)

Nigel Treloar an irrigator from the Coorong appeared on both 60 Minutes (Nine Network) and ABC’s Landline in May 2008. He notes

From Blanchetown to Goolwa the irrigators are getting desperate... a few years ago there were about 50 dairies around the Coorong, now there are only seven......On our farm we milked 800 cows in 2004 and by 2008 our heard is down to 250.

Renmark Paringa

The Renmark Paringa LGA is located adjacent to the Victorian border, in the Riverland of South Australia. The three councils which make up the Riverlands include Renmark Paringa, Loxton Waikerie and Berri Barmera with an approximate population of 35,000 people.

Similar to Mildura, Renmark Paringa LGA is known for its various fruit production, and is heavily dependent on the River Murray as a water source. The towns in the district are heavily reliant on irrigated permanent plantings of orchards, vineyards, nut, citrus and stone fruit. Sheep grazing and dryland farming of various cereal crops are the main land uses east of the river, with horticulture to the west of the river. Tourism is an important component of the local economy, particularly houseboating on the River Murray. The population of Renmark Paringa has increased in the last decade from by 1.9 percent to 9,861 in 2006 (ABS-2006).

This LGA is also being affected in a ‘profound’ manner. Similar to Mildura, rural and urban businesses are under considerable financial strain. This drought is viewed as particularly different from previous droughts as irrigators have always drawn water from the Murray River. This is the first time they are unable to do so which has come as a huge shock.

Dryland farmers are usually affected by drought, but this is the first time it has turned around to really affect town people and irrigators due to lack of water.

Mayor, Renmark Paringa and Loxton Waikerie

Many irrigators are in denial and completely unable to consider their plan if water continues to not be available ie should they come into town and work or get out of farming.
Regarding strain on marriages, it is still early days. The number of fruit growers coming into us to seek counselling is very small. They are a very reluctant group to seek counselling. Usually people’s relationship is the last thing they think needs priority. They put their kids first, then their farm.... we see people about a year after they’ve hit rock bottom, their relationship usually comes last.

Counsellor, Berri.

Many irrigators in this shire are facing profound decisions in an effort to adapt and survive. Many are doing this for the first time due to unprecedented cuts in water allocations. In Mildura and the Riverland many people growing permanent plantings are forced to choose which crops to keep and which will have to allow to die. It is this decision making process that causes extreme stress for people.

Citrus and vines have declined. Some people have taken the opportunity to restructure pushing out citrus trees as they require a lot of labour with minimal returns. People are putting what little water they have into vines.

Mayor, Renmark Paringa and Loxton Waikerie

An indicator of the impact on the community is the increase in support organisations are seeking. Considerable drought funding is going into appointing Rural Financial Councillors and the Division of General Practice is appointing Mental Health Officers. There are still a lot of people needing to vent.

It is hard to draw a direct correlation between increased demand for counselling with the effects of the drought, we can only infer if they tell us part of the problem is due to financial strain caused by drought...

Irrigators seem to be stuck in the mindset where they are waiting for the water to be turned back on, rather than thinking about what options do they have if it remains off...

On the front page of our local paper today the ‘Murray Pioneer’ there is a Riverland survival group of growers who are organising a protest march in Adelaide on the weekend. Their key message is ‘turn the water back on!’ they see it as their right, not a privilege or a resource that needs to be shared... it is a mindset block.

(In November 2007) South Australian irrigators have a 16% allocation which is pretty much unviable. When it went down to 40% people barely managed.

Counsellor, Berri.

Since these comments were made in November 2007, researchers recontacted this interviewee in August 2008 who was very keen to express a change in the mindset of the community in the last nine months. She felt that people have gradually become more accepting of water shortages for irrigation and now seem very keen to become increasingly educated about potential adaptation options. Several local community meetings were very well attended recently where guest speakers included, among others, Professor Mike Young. The community discussed the implications of climate change and long term water management options for the Murray Darling Basin.

People seemed more accepting that reduced water allocations will continue and that it is not just a matter of ‘turning the taps back on.’

Counsellor, Berri.
Map 3 overlays the three categories of ‘hurt’ around the Basin with the SEIFA LGA’s of disadvantage. Many of the ‘profound’ areas are either overlaid or neighboured by areas of disadvantage. These include Buloke, Mildura, Renmark Paringa, The Coorong and Bourke. This builds up a trend pattern showing significant negative impacts being endured in the Riverland area of South Australia and the mouth of the Murray, north western Victoria and north western NSW. This allows us to develop Map 4 which builds a picture of suggestive trends for the MDB if significant rains do not occur.
This suggestive trend map generalises a pattern across the M-DB. ‘Patchy’ areas are along the easterly rim of the Basin from Crows Nest to Mitchell in Victoria. Areas of ‘significant’ impacts are across most of the central and western Queensland section of the M-DB and central and southern NSW. ‘Profound’ areas are highlighted throughout central and western Victoria and the majority of the South Australian section of the M-DB. We note Southern Mallee in SA is still considered ‘patchy’ however it is likely this may change for the worse as producers who have endured the uncertainty of looming restrictions on ground water extractions in 2007, becomes a reality during 2008-09.

Section 2 - Groups affected

5.2 Impact on individuals

Stress and anxiety leading to depression sums up many of the negative impacts on individuals. Depression seems to be continually mentioned by people interviewed in this research. Many of the drought funds invested into rural communities have been specifically designed to reduce depression. These include getting people off their properties to give them a break as well as reducing individuals’ isolation and reconnecting people.

people are more withdrawn and go on less outings...
Rural Financial Counsellor, Mildura, Victoria.

We cannot generalise, in some cases the drought has brought out shining stars. At the other end of the spectrum, those that are middle aged to older people have restricted their movements and are just trying to get through it all. Their world is closing in around them. Many have isolated themselves...
Drought Support Worker, Wagga Wagga, NSW.
5.2.1 Impact on children

There are significant impacts on children reported by informants and these include reduced educational opportunities, increased anxiety, altered behaviour at school, more evidence of children withdrawing, and a greater reliance on children to work on the farm. Numbers of children in schools are falling rapidly in some areas as families move to look for work. This has flow on effects for those left behind including a decline in the peer group, fewer teachers and reduced subject choices. In some cases schools are closing altogether and school bus routes are being abandoned further adding to the burden of remaining children. As an example the combined Wee Waa primary and secondary school numbers declined by a total of 128 students (21%) between 2001 and 2007 (Spanswick, et al. 2007).

Some efforts are being made to assist children but these are patchy and uncoordinated.

> We had bushfires in summer 2006 in Wangaratta. Anglicare ran an arts program for children. The major themes to emerge by the kids include 1. hopefully it will rain soon 2. sell the farm 3. how dry things are

Social planner and drought response strategist, Wangaratta Shire

However younger and older children are having their educational opportunities reduced.

> Kids are having their opportunities constrained due to financial pressures. For example at xxxx a local girl got dux of the school but was told by her parents she would not be going any further in her education.

Deputy Mayor, Mildura

The number of kids going to school and preschool is declining. There are less teachers and support officers due to less students at school. These jobs are often held by farmers’ wives. It is a downward cycle.

GP, Coorong Shire

In one of the worst affected Shires at the mouth of the Murray River, the Coorong, increased anxiety is being reported in the children. Depression and stress from the farm impacts on the kids’ behaviour at school.

> People come in with depression in the following order, husbands first, then wives and now it is starting to present in the kids. They do not know what the next 3 or so years will bring...

GP, Coorong Shire

Sobels (2007: 32) reports that children from drought affected families in the Lower Murray can be identified by more withdrawn behaviour at school. At the same time boarding school attendance may be the only option for secondary schooling in some of the more remote areas of the Basin such as the Bourke Shire. Anecdotal evidence suggests that some of the boarding schools (in Sydney) have been very understanding about the ongoing drought conditions. Some have reduced fees and allowed families to accumulate debts which take many years to pay off.

Fewer children are being sent away to boarding school now and there has been a decline in university attendance in areas such as Buloke and Mildura Shires. Young people are turning towards local traineeships and apprentices to save their parents the costs of living in the major cities to attend university.

> Many school leavers are being very strategic. They are taking a year off to work for money to get ‘independent status’ so that when they go to university the year afterward they are entitled to...
Centerlink’s full payment. They have to earn approx $14,000 to become ‘independent.’ This decreases their financial dependence on farming parents. They are not going straight to university like we used to…

Birchip Coordinator

Younger people raised on properties are not seeing agriculture as a desirable career option.

People out west of the Shire on bigger properties (10,000 ha) don’t see a future. Kids don’t want to come back on farm. Many are selling and moving into Moree and Gunnedah where they can maintain their social networks and have access to services.

Economic Development Officer, Narrabri.

There have been some changes in the numbers of students enrolled in secondary schools across the M-DB. Most significant change was in Charleville School of Distance Education 304 -123 in the last ten years, a decline of 147%. General declines in smaller towns in Profound LGA’s including Birchip, Horsham and Deniliquin. However both Bourke (8%) and Mildura High School’s (10%) enrolments increased. Again the smaller towns of Wangaratta and Karoonda (located 65kms east of Murray Bridge) in Patchy LGA’s experienced declines in enrolments over the last 10 years or so.

Loxton High School up by 33 %, 406 to 607. Not surprisingly the larger sponge cities of Warwick, Narrabri, Wagga Wagga, Bendigo and Mildura all increased enrolments in secondary schools over the last 10 years. Notably Bourke also increased numbers slightly by 8% from 151 to 165. (Table of results in the Appendices.)

Figure 8:
5.2.2 Impact on women

The impacts on women reported by informants include increased isolation, declining wellbeing, longer work hours on and off farm, and separation from husbands working elsewhere or when they themselves leave for work. Women are taking on increased responsibilities on-farm to ensure family and business survival. Extra off farm work helps to create or maintain cash flow to the farm or business enterprise, dairy and fishing. There are also reports of increased use of technology to improve social connectivity.

Many young women have been leaving small towns and rural areas for educational opportunities and many remain in regional and urban centres for employment and lifestyle opportunities (BRS - 2008b). Between 1996 to 2006, women with dependent children have continued to increase their participation in the workforce. Education levels of farmers’ spouses have risen significantly over time which helps to gain off-farm employment. (Garnett, 2007) By 2006, mothers in rural areas had the highest level of participation in the workforce (71%), much higher than in any of the urban centres (BRS - 2008b). From 2001 to 2006 the largest increase in the level of participation by mothers in the workforce occurred in small towns and regional centres. This is likely to be a consequence of the recent drought where many mothers were working on-farm or earning off-farm income (BRS 2008b).

Families are experiencing direct consequences of the withdrawal of services from rural communities. Women are commonly relinquishing second family vehicles which has increased their isolation on the farms (Pincott 2004). Isolation is a significant issue impacting on women’s wellbeing increasing their physical and social isolation (CRMH, 2005). Usually their husband spends many hours working on the farm, limiting time for socialising. This situation is compounded if they have small children and even more so if they have limited access to a vehicle (CRMH, 2005).

Particularly women on farms are profoundly affected. Many have an increasingly active role on the farm including more involvement in decision making as well as physical labour replacing hired farm hands. This can take a toll on older women in particular.

There is an increased active role of women on farms. Women found they were needed more and don’t have the skills. They need to play an increasing role in decision making, agronomic and financial decisions. They lacked skills, especially if they are professionals in other industries. The BCG has run lots of field days for women over the last two years. There is a women’s agronomy group of 30 women who meet bimonthly. Now times are tough the financial pressure is on there is increased reliance on women.

Birchip Coordinator

At the same time many women are continuing to undertake off-farm income generation, sourcing money that has been keeping the family going whilst the farm enterprise continues to struggle.

Women tend to be the ones who give up things first. Things like good shampoo, magazines, face creams etc. We started sending parcels out to women on properties 10 years ago containing these items. The number we have sent out has declined simply because the farmers are not out there any more...

President of St Vincent de Paul, St George

Farmers on the margins are letting workers go. The wife takes on more work on the farm and off-farm. Skilled wives are already working off-farm full time or part time. Some are job sharing. Some more unskilled wives are now seeking jobs like cleaning or administration. It is not necessarily older women, about half and half.

Economic Development Officer, Narrabri
As well it seems that women are emotionally supporting their men more than the reverse.

Women are having a really difficult time. We have run pamper days for women and blokes nights out for men. There is the expectation that women work very hard to support their men emotionally, not the other way back!

At the blokes night out there is no suggestion that men should consider their women’s feelings.

Social planner and drought response strategist,
Wangaratta Shire

As a group women don’t ask for help. They are often running a business that is failing. They do their best at propping the business up. It is our role to be there to help them make the tough decisions.

Murweh Mayor

Declining conditions on farm has led to increased time spent carting water and feeding stock and this extra work being done largely (although not solely) by men on farms creates further anxiety for women.

Many women are very distressed about their husbands, they have access to firearms and he disappears for hours alone on the property, it is always on their minds that it could happen.....

Support from non-government organisations and charities has been invaluable in allowing women and children increased social interactions and professional development opportunities.

During school holidays we ran activities for kids for free this and 2006 summer. The women were saying it was so good to be able to take them somewhere eg pool, local play centre. This was through donations by Red Cross, Anglicare and CWA donations.... Also pool parties for teenagers.

As money is short one farmer’s wife had to postpone her studies in nursing/welfare due to farm demands. Some welfare agencies paid her fees so she could continue.

Social planner and drought response strategist,
Wangaratta Shire

Aecdotal evidence from interviews with Rural Counsellors suggests there has been increased relationship breakdowns and increased isolation due to financial stress. This is hard to demonstrate statistically.

It was rare for us to deal with women, now after the farm is split we are always dealing with women...

Rural Counsellor, Bendigo

Regarding strain on marriages, it is still early days. The number of fruit growers coming into us to seek counselling is very small. They are a very reluctant group to seek counselling. Usually people’s relationship is the last thing they think needs priority. They put their kids first, then their farm.... we see people about a year after they’ve hit rock bottom, their relationship usually comes last...

Counsellor, Renmark Paringa

(The drought has) shown how strong women can be at a personal level. Men tend to cave in emotionally. God some of the women out there are tough. They breed tough kids who are very resilient. Aboriginal women have enormous resilience as do women on the land!
There has been a decline in some women being seen about in the community are just not seen anymore. Could be related to the cost of fuel, it is getting harder and harder for them.

CWA President, Lesley Young,

There are some reports of positive outcomes including an increased use of new technologies, particularly amongst women. In 2006 internet connection in rural areas across Australia was high (63.5% of households), second only to people in major urban centres (66.1%) (BRS 2008b). This interaction may be a key to reducing social isolation.

Women sacrifice social engagements with their friends. They have benefited enormously from the internet and are very efficient at using new technology...

President of St V incent de Paul, St George

Meanwhile the decline in social interactions amongst women is represented in lower membership numbers in organisations such as CWA over the last ten years. Victoria has had the largest decline (85.1%). This figure does include both urban and rural areas. Queensland membership has declined by 46.7% and New South Wales membership has declined the least by 18.8%. Results were unavailable for South Australia.

Figure 9:

We do not have the reasons why members leave the Association, whether it is because of the drought, old age or other reasons.

Victorian State President

The NSW Membership and Administration Manager said that there is no evidence of drought having affected membership numbers particularly.

We believe there are a number of changes in society which are having an effect on membership organisations like ours, such as:

- women working on the farm as partners or working off farm to support income;
- a choice of organisations to belong to; and
- less need for local support groups now that women are less isolated (thanks to internet, better roads, etc).
The CWA has had a decline in membership but this is not solely due to the drought. This is the same for other organisations. Membership to some CWA branches has even increased following recent (December 2007) media coverage...  
CWA President, Lesley Young,

5.2.3 Impact on men

The impact on men reported by informants includes increased loneliness, more evidence of men withdrawing, men being keen to help a mate before themselves, an ageing profile, increased health issues, increased work hours, increased alcohol consumption, depression.

Lifeline is a 24-hour, 7-day a week telephone counselling service available to all Australians. Men living in rural communities across Australia access the Lifeline 24-hour telephone counselling service half as frequently as women from rural communities (Cartwright and Hughson 2007). This observation was derived from data gathered from 121,668 calls to Lifeline across Australia between January to June, 2006. This analysis went on to describe the most prevalent reasons provided by rural men for seeking telephone counselling through Lifeline were in relation to their mental health (18.1%), loneliness (11.9%) and family/partner challenges (8.6%). Symptoms most frequently reported for rural men were depression (45%), anxiety (24%), mood swings (12%), and ‘voices and hallucinations’ (11%) (Cartwright and Hughson 2007). The significant number of rural men calling in relation to loneliness suggests the need for social support and the maintenance of social networks to reduce isolation.

Men are working physically harder as farm labour is increasingly unaffordable. Like women, this takes a toll on the aging farming population. Men tend not to talk about their problems as much as women and are reported to be drinking more. Pride and the stigma of mental health prevent many people from seeking information or treatment for stress and related problems (Social impacts of drought, Lower Murray, SA 2007). Men seem more likely to “help a mate” rather than acknowledging they may need help themselves and are reported to be more than willing to leave their farm to “cheer up” a mate.

Resilience to the negative impacts of drought may be related to farmers’ ages. Older farmers may suffer increased impacts of the drought compared to younger farmers who may be more resilient. This is more likely to be related to increased exposure to technology and education levels. Older farmers tend to be less adaptable and have more existing health issues.

Reports along the Murray river is that we are not seeing people that have always been part of organising things. So much emphasis has been on the impacts on the men and the farm. There has been much less focus on women and the children and the family. We need more emphasis on the rest of the family. Men just put the blinkers up.
CWA President, Lesley Young

5.3 Impact on families

The Australian Institute of Family Studies survey of 8,000 people living in rural and regional areas within and beyond the Murray Darling Basin investigated the health, wellbeing and financial stress of families (Edwards, et al. 2008). Interim results from this research suggest that one in five farmers interviewed were forced to sell items they owned to supplement their income, 47% of those surveyed...
were in severe financial hardship in drought affected areas and 67% felt their financial position got much worse in the last three years (Edwards, et al. 2008).

Families are reported to have less quality time to spend as a family together, less available funds for holiday breaks, spouses working in separate places, increased evidence of domestic violence, relationship/marriage breakdown and, for older couples, delayed retirement. Reported positives include increasing awareness of opportunities leading to depression and people communicating with families ‘in the same boat.’

Families on farms are often characterised by blurred roles between work, home and family as commonly numerous generations of the one family work to create income in often difficult financial circumstances (Melberg, 2003). Families often have increased contact with parents and parents-in-law which can be beneficial in terms of support but also increase the potential for conflict over roles, responsibilities and succession (Weigel et al, 1987)

A survey of 32 farmers was undertaken in 2005 by the Centre for Rural Mental Health (CRMH) in northern Victoria. Participants were from the focus shires of Mildura, Buloke and Greater Bendigo. Only three (irrigation farmers) saw the drought in completely negative terms while some reported clear positives to emerge out of the drought (CRMH, 2005). These positives were that the drought brought communities together, people were more open with friends and neighbours (‘we are all in the same boat’), people are more able to spend time with their families and had learnt new water saving strategies.

Some of the negative impacts of drought reported in this research include physical, psychological and behavioural changes including increased use of alcohol, skin rashes (attributed to stress), fatigue and social withdrawal. Some families are affected due to being forced to work past their planned retirement age and the drought had rendered some properties which farmers described as their superannuation as close to worthless. Some had health problems making continual farming physical damaging and difficult. Many people felt that young farming families with high debt loads were most vulnerable to the impacts of drought. Many stated it had led to suicides, substance misuse and depression.

Obvious consequences when incomes are threatened, leading to episodes of depression and mental illness, substance abuse and partner abuse...

Deputy Mayor, Mildura Rural City

We just don’t see teenagers around here any more. Many still go away to boarding school and they don’t come back. How they can afford it I just don’t know... I don’t think graziers ever get to the point where their business goes below the line. People think that have no choice, farmers are very handy and have many skills but they have no qualifications.

Murweh Mayor

Respondents report that many families are splitting where spouses are moving into towns, some long distances away from home, to earn an income. In many places across the Basin farmers are forced to take jobs far away in mining or gas fields causing families to involuntarily separate. From Deniliquin many have gone to South Australian mines and from St George the move is north to mines in Central Queensland.

Many families currently have to make significant life changing decisions. This process of decision making causes enormous stress within the family. In many cases the changes people have to face are profound.
There are some positive aspects reported including increased awareness of mental illness and factors triggering depression. There is also more help available for those experiencing the impacts of drought.

The Birchip Cropping Report (2007) notes trends affecting families in the Buloke Shire include:

- virtually all farming families are eating into their physical, financial and personal/emotional reserves to cope with the drought and will continue to need to do so if drought continues;
- for most farming families, the effects of drought will remain with them for years after the drought ends;
- the majority of farming families are persevering and have not been pushed to leave farming, although most have had to alter their personal and professional plans and most have assessed whether to leave and will continue to re-engage with this decision over coming years;
- there are strong differences between the circumstances and outlooks of farming families and these differences appear to be widening in some ways;
- regardless of how severely a farming family’s financial situation has been affected by the drought, they have been, and will continue to be, affected by drought indirectly as it exacerbates other issues, affects those around them, and throws a veil of uncertainty over the future; and
- farming families’ awareness of and sensitivity to the risks involved in farming has escalated and many are adopting what could be a permanently more conservative approach to production, marketing and income protection;

Our survey reveals significant impacts on families in the Murray Darling Basin.

Our shire is the worst affected by the drought in Vic. Be careful with the release of this research! People are fragile; taper the results with some “good news.”

Mayor ‘profound’ area

Depression – many farmers and others are taking anti depressants.

Domestic violence is up.

Behavioural issues at school.

General health - difficult getting into see a Doctor.

Mayor ‘profound’ area

- severely reduced farm incomes
- many either working off-farm or looking for off-farm income.
- several families separated with husband moving to find work in mining.
- relationship stress/breakdown more likely with financial pressures.

Rural Financial Counsellor – ‘profound’ area

Older farmers who have wanted to retire in the last seven years have put plans on hold and some have seen their retirement savings erode. Professional families who may have returned to agriculture have stayed away. Farm Managers with families are often working full time off farm to replace farm income or are in caretaker mode while their spouses work, often living in town with the kids.

Drought Support Worker – significant area

Increased stress placed on families dealing with family members with depression. Community Development Officer– ‘patchy’ area
5.4 Impact on communities

There are many examples of significant change occurring within the communities around the Murray Darling Basin. Many of these impacts have been reported in telephone interviews as well as documented in locally based drought related strategic plans. Briefly these include:

- population loss;
- loss of skills and local knowledge;
- mental health issues;
- increased crime (reported in Bourke Shire);
- family structure change - farm families separating to seek second income;
- children home from boarding school;
- increased marriage separations;
- increased poverty; and
- community disharmony and increased conflict.

The Birchip Cropping Group report of May 2008 includes the following comments:

- the default position for a minority of farmers is optimism and the proportion of people who share this outlook swells at the start of each year when the potential of the new season is still unknown;
- some people’s outlook on farming, climate and the world in general has been fundamentally darkened by their experience over the last few years and they now suffer from high levels of anxiety irrespective of weather conditions;
- people remain committed to their sector and communities, but struggle with multiple demands upon them and are being forced to focus on their own needs to cope with the effects of the drought;
- the vast majority of small rural communities are facing serious issues of declining active populations and services and this is negatively affecting the wellbeing and resolve of the farming families that help make up those communities; and
- financial assistance is now welcomed and accepted by most but will continue to aggravate negative responses among some for the way that it conflicts with their belief in self-help.

Within communities there is significant disharmony resulting from water and drought policies. These include:

- problems between neighbours (eg on different sides of the rivers in different states so subject to differing water allocations);
- issues between Local Councillors;
- tensions between small and larger irrigation operators;
- problems between private and corporate irrigators; and
- differences between town and country people.

5.4.1 Sport in rural areas

Much of the evidence collected emphasised the social importance of sport as a vital component of robust rural communities. Over the years of the drought, the levels of volunteerism and funding has declined parallel to population decreases. In order for many sporting organisations to survived they are forced to merge.

Rural communities are loosing connectedness. Sport is needed to keep connected – sporting groups are important. Populations are declining so there is less money for sporting organisations and poorer grounds and facilities. For example footy clubs have to amalgamate to survive or fold. Some get uni students to come back home to play.
Rural Councillor, Bendigo

The Roma Echidnas rugby union club player numbers have increased. We are not affected by water shortages because we water the grounds with bore water. St George rugby is really struggling because everyone there is absolutely dependent on irrigation water and all the young people are going.

People don’t put their had up to do community volunteer work now, they busy coping with the stress of running their properties. People don’t make any effort any more, administration roles for clubs often come back to Council to run the finances. Many have to merge with other clubs.

Bungil Mayor

Like many parts of the Basin, rural communities in Murweh Shire are struggling to survive. Sport emerges as a key social indicator of a healthy and vibrant rural community.

Small districts like X and X were community centres which attracted 50-100 people on the weekend to play sport 20 years ago. Now X has only two people left!

Murweh Mayor

There has been a decline in sporting teams. Many fixtures across rural Victoria have been cancelled on a daily basis as they just cannot get water for the wicket.

Deputy Mayor, Mildura.

Similar trends are evident in rural western Victorian Aussie Rules clubs in recent years.

Teams are dropping off. Towns that keep footy club going are doing well, it keeps younger people around. There have been many many merges just to survive.

(For example Tooleybuc and M anangatang)... People don’t really like it but they are resigned to the fact. Footy clubs financially rely on farming (for example Lalbert). When the critical mass is not enough they try to buy in good people to play....without a doubt there is a link between good farming seasons and good footy year. There are no ‘football paddocks’ around at the moment, where a crop is put in and generates funds for the local footy club.

Birchip Coordinator

In an ABC radio interview in the Riverina in August 2008 with development officers from the football codes of rugby league, rugby union and Australian Rules, there was consensus in acknowledging the declines in numbers of people participating in sports.

There have been many amalgamations of clubs in the last five years as there are less people to both volunteer and play. Rural communities are not as vibrant as they once were.

Garry Buchanan, South West NSW and ACT Development Manager for Aussie Rules football.

Anecdotally speaking, the sporting teams are usually the last things in the community to fold and most people fight to keep them until the end. Many of the AFL clubs are together with netball clubs. Generally speaking the junior teams are not going too badly but numbers seriously drop off when players reach 16 to 18 years of age. The senior teams need more care, more volunteers, more resources to function and remain viable.

It is important to remember that a number of these clubs have existed for more than 100 years and their demise has had a significant impact on their small communities.

Garry Buchanan

Many clubs have had to forgo home games (transferred to alternate venues if available) due to the lack of water to maintain playing surfaces. This not only includes the football codes but also cricket.
Section 3 – Informants survey responses

5.4.1 Community participation

Asked about community participation our survey respondents report a general decline in participation and therefore in social capital across the Basin. Nonetheless one drought support worker reports that the drought has brought out the best in certain individuals who are rising to the challenge of helping members of their local community.

We uncover shining stars...... These people respond to circumstances and do things to help people break down barriers to seeking help.

Our respondents are more likely to report declining levels of participation in community groups, sporting teams etc over the last ten years.

General trending down in numbers of people available for two main reasons: a. population decline and b. seeking paid employment.
I am ‘amazed’ at people of Buloke Shires commitment to volunteerism. There is definitely less time committed to working bees.
“Community capacity to play” is emerging. There is not the free/spare money in the community to fund raise. They do not like to ask, consequently small service clubs are struggling.
Mayor ‘profound’ area

In the Eastern Riverina, community participation in organised events remains high, although people are tiring of the drought and mental health messages. Sporting clubs and hall committees are run the sheer majority of cases by retirees.

Drought Support Worker ‘significant’ area

Drought has had its impacts on the community, but due to their strong principles about ‘talking of its impacts’ there is very little anecdotal evidence demonstrating this is having an impact on community engagement.

No change noticed. Actual members of industry organisations may have noticed difficulty in attracting new members. Aust. Cotton Centre who relies on Industry support has had difficulty attracting sponsorship.

5.4.2 Provision and quality of services

Survey respondents were asked to comment on the provision and quality of services. Some report that increased demand for services has gradually resulted in increased funding and provision of extra positions. Some areas of the basin have had more support in this regard than others. For example the Victorian State Government has provided many positions across the state yet the bigger more sparsely populated states like Queensland and NSW do not seem so well serviced.

Impacts – depression, fatigue, stress. Increased number of people accessing service. Farmers were not accessing services in the earlier years of drought (around 2000). In the last 5 years there have become more services available to people and now used by more. These include rural counselling service, free help line numbers, Mental Health services (psychologist) and financial counselling services...

Health professional, NSW ‘profound’ area.

Nine Drought Support Workers across NSW, most started in 2002 on 6 monthly contracts..... Workers are exhausted but keep renewing their 6 month contracts each time...
The pressure eased off over 2003,04 and 05 due to other organisations coming on board helping out.
During 2006 we were on the road continually, extraordinary circumstances. It was seriously exhausting this time last year (Spring 06). It was quieter through winter 2007 but then spring failed and have been back extremely busy again on the phone and on the road.

Drought Support Worker ‘significant’ area.

In September 2007 the (former) Prime Minister announced that the number of people on Centerlink Drought Relief payments in 2006 was approximately 7-8,000 increased to 24,000 by late 2007. The guidelines had been expanded, but that is a still a big increase...

Rural Councillor, Bendigo

There are some positive comments reported by health professionals. For example, due to the increased demand for Federal government services, Centerlink has improved the way it conducts it’s business. This organisation has undergone a significant cultural shift in service delivery.

Five or six years ago we would bring officers out to farmer gatherings and they would sit in the corner of the hall and people would just walk around them. Now they are great, cannot speak highly enough of them. They have their offices in their cars, photocopiers, faxes, computers. They have really increased people’s access to support.

Drought Support Worker ‘significant’ area

Informants report a loss of services in many M-DB LGAs and difficulties associated with attracting various professionals.

X has no major centre.
- struggling to attract General Practitioners;
- no obstetrics;
- bank services have changed, although this is true everywhere;
- shortage of kindergarten workers;
- accounting is often done at a major centre; and
- getting a paper or the milk is becoming increasingly difficult in small towns due to: population decline;
  monopoly, the big supermarkets have; and
  no viability.

Mayor, ‘profound’ area

Accounting firms are closing and selling their clients to larger firms. It is impossible to fill some welfare position over an extended period, and mental health practitioners are still rare. I do know that as many as half of farm households have off farm income, and it is common to find teaching and health professionals back in the workforce from farming.

High participation rates and very low unemployment figures across the Riverina/Murray from the Dept. of State and Regional Development.

Drought Support Worker ‘significant’ area

Some areas described as ‘patchy’ have compensating factors.

There has been a decrease in health professionals. Difficulty in attracting HP but this is more due to overall shortage in NSW.
Towns in Narrabri Shire have had approx 3 banks close.
Long day care services closed.
Occasional care services are closing.
Has been difficult for community health to attract OT’s psychologists etc.

Community Development Officer ‘patchy’ area

Very little change has occurred to services because the uptake of irrigated farming from a ground water resource has meant additional options and retention of services that might have otherwise been lost.

Rural Financial Counsellor ‘patchy’ area
Informants were asked to report on any decline in services and also in the quality of service delivery over the last decade.

- services have been rationalised;
- machinery parts require a wait - dealers can no longer stock levels to where they were before;
- farmers are doing more with lean less staff. Due to increased machinery capacity and longer hours; and
- legislation has caused some reduction to services eg lifeguards at pools.

Mayor ‘profound’ area

Many say bank managers just manage the figures, with no delegation to negotiate or decide. Some complaints about local government services, road grading, mowing, ground maintenance in decline.

Drought Support Worker, ‘significant’ area

In Mildura the Council has helped to relieve the pressure on the community by determining in July 2007 that no interest penalties will be imposed if people cannot pay their rates until June 30, 2008. If the whole Shire holds back (eg until they get their crop off) Council may see a $33 million shortfall. There may be a decline in services offered by the council at a time when the community needs them most. The community may need to choose which services to keep. Council has a large responsibility to keep morale up. This can be through the library, sporting grounds and the arts centres. Sport is one of the things that holds a community together.

5.4.3 Social networks

Informants were asked to describe the impacts of drought on social networks. The impacts on participation in sport is evident in many communities across the Basin.

We cannot water grounds so delayed the footy season in 2007. They managed a few grounds that could be watered. Council closed one of the outdoor pools. People with financial issues decreased spending on travelling to sport.

Mayor, ‘patchy’ area

Some positive comments are reported including that barriers have been broken down where communities have been brought together through the amalgamation of Church congregations. In Injune, north of Roma in Queensland, the churches are consolidating.

The Catholic church building was falling apart so they sold it and decided everyone would participate in an ecumenical church based in the Anglican building. It has been a really good thing. I don’t care if the Buddhists join us....”

Mayor, ‘significant’ area in western Queensland

Many empty homes have been taken up by metropolitan retirees with different expectations. People have become more accepting over the last ten years.

Mayor, ‘profound’ area

Some young families have moved on, this always happens, although the ongoing dry has sped up population decline. This caused a spiralling effect; a community is less attractive to young people if services and peers are reduced.

Mayor ‘profound’ area

For the most part, newcomers find it difficult to integrate, unless they volunteer skills or time in which case they are at times, overused to the point of exploitation.
The young are actively encouraged to leave the area for better pay and conditions. In places, the male is left to maintain the farm alone while wives live in town to work and get the kids off to school. In the past, middle aged professionals and their families often came back to the farm. Those who have done this in the past 5 years regret it, and many others who might have come back have chosen otherwise.

Drought Support Worker, ‘significant’ area

In X the drought has seen a 100% increase in the no of people accessing counselling and mental health services... Population from last Census has declined, probably as a result of less work being available.... Still remains a number of young graduates moving to the area.

Community Development Officer ‘patchy’ area

Figure 10:

Data source: NSW DPI Drought Situation Reports 2002-2007

This graph indicates a very high level of attendance at drought workshops and farm family gatherings in NSW in the 2002-03 years of the drought. This declined gradually through 2004 to 2005 and has gradually increased through 2006 and 2007. Possible reasons why attendance was so high earlier in the drought compared with 2007 may be that there could be less people in agriculture now than in 2002. Perhaps people had gradually become ‘workshopped’ and ‘BBQ-ed’ out over this period. Alternatively people may have gathered all the information they required or simply became increasingly drought fatigued.

5.4.4 Social tensions between competing water users

Key informants note that there are significant tensions between and across groups around water allocations. This has resulted in some community disharmony although these tensions may be gradually abating in some areas.

The shire has a series of Storm Water Collection Systems. Piped water is regulated and policed by an autonomous statutory authority (GWMW). The storm water systems came much concern. Who is the most important sporting group?

And

X is developing Water Plans for each community. This is causing some pain!

Mayor ‘profound’ area

Tensions over water have subsided considerably, as those competing have seen no water to argue over and have generally agreed with the allocations.
Most recognise the need for environmental flows and many are accepting the exchange offer for high security of less water over general security of more water. However, once the rivers are full, I expect arguments between irrigation areas and between States to intensify.

Low water availability in previously “safe” areas have caused friction and users on the Tumut River faced with low flows after 40 years of high flows have not had the capacity to cope with stock and domestic demands or stored water.

Drought Support Worker, ‘significant’ area

Whilst initially the advent of irrigated horticulture development was seen as a threat by dryland farmers, the long term drought has seen many now view irrigated hort as a saviour to community services, business services and those facilities which may have closed if no alternative hort. Opportunities existed.

Mayor, ‘patchy’ area

- separation of land and water licenses in valuations has caused problems between Council and Growers.
- not aware of tensions between water users. Contact John Clements of Namoi Water.
- some businesses have seen the reduced irrigator access to surface and groundwater as a bigger hindrance to their business than the drought.

Community Development Officer, ‘patchy’ area

This comment emphasises the city/country divide in attitudes to water. It has impacted negatively on tourism due to negative press in Adelaide... Adelaide people whinge about letting their gardens die, here it is people’s livelihoods. City people don’t appreciate what is happening out here, they just ignore it.

Mayor, Renmark Paringa and Loxton Waikerie, ‘profound’ area

5.4.5 Local government financial base

Informants were asked to report on the impact on their area’s financial base and the way this has been managed. A gain comments emphasise increased community resilience with the provision of diverse employment opportunities. This is a key point the researchers have separated many of the ‘significant’ local government areas with the ‘profoundly’ affected areas.

- X has lost approx. 400 residents and is now at approx 7,000 people.
- it is difficult to deliver services over 8,000 sq kms.
- over 70% of our Rate Base is rural.
- residents are paying well over what a Toorak property owner would pay and receiving less service.
- X is reliant on grants and its rate base.
- council believe the community’s capacity to pay is exceeded. However, continued to rise rates due to increasing costs of compliance issues.
- we are currently auditing our services and delivery model.
- very few bad debts.
- states 50% rebate welcomed.

Mayor ‘profound’ area

Farm incomes lower though quite a lot of money has come to the district through EC measures such as:
• EC interest rate subsidies
• EC relief payments
• MD-B Irrigation Management Grants
  
  Rural Financial Counsellor, ‘profound’ area

Around X the effects of the drought have been marked by a booming local economy. East of [X the road] works are providing plentiful work opportunities.

The failure of irrigation seasons and the subsequent reduction in production activity has severely impacted on rice dependent areas such as Coleambally and Deniliquin.

  Drought Support Worker, ‘significant’ area

Drought has not been a significant factor due to continued expansion of irrigated hort. That compliments to revenue base of Council’s financial viability.

  Mayor, ‘patchy’ area

• No of financial hardship applications has increased at Council.
• Small business struggling as residents ‘tighten purse strings.’
• Cotton and wheat production values are down.

  Community Development Officer, ‘patchy’ area

5.4.6 Workforce participation and community resilience

Respondents were also asked to comment on workforce participation and community resilience. In recent years, serious shortages of labour, particularly skilled labour, has emerged as a major issue facing rural regions (Garnett, 2007)

Significance of employment
Social distress is being caused by a significant increase in rapid reductions in income having major ramifications for the social wellbeing of local communities. Areas seem to be increasingly vulnerable to drought if alternative employment options are limited. People cannot adapt and become backed into a corner particularly in areas such as Deniliquin, Mildura and Bourke Shires and the Riverland communities which are heavily reliant on irrigation industries. Additionally Bourke Shire is highly vulnerable as isolation renders it less adaptable to drought conditions.

The Abattoir is gone but may reopen after Christmas for a short term. People who have already found other work won’t go back there. They are taking any jobs going,... Nestles factory at Echuca has laid off 50 jobs and the Kraft factory at Tongala has laid off approximately 80 workers. This is all due to lack of water. Workers from Deniliquin laid off by the abattoir and the mill will be competing for jobs with these people too...

  Shire Counsellor and Rural financial Counsellor, ‘profound’ area

Many of these Riverland towns rely on both dryland and irrigated agricultural income. Usually when the dryland farmers have bad years, the irrigators are still spending in town and businesses are maintained. In 2007 many areas along the Riverland had both dryland and irrigator farmers suffering significant drops in income so the many urban businesses also became threatened. Eg Swan Hill, Robinvale and Mildura.

I’m aware of staff that have been laid off in small businesses in town eg. Council colleague runs a shop and has laid off her Assistant and now is under stress herself trying to do council business and run her own shop. The emotional fallout is not confined to farmers...
Deputy Mayor, ‘profound’ area

Areas seem increasingly robust if there is a diversity of employment options, thus decreasing the need for people to leave the area. This appears to be the case in LGAs such as Narrabri, Wangaratta and Bungil Shires. Narrabri Shire has employment opportunities in the coal mines locally. Bungil Shire farmers have instant access to non-agricultural employment options in the gas fields north west of Roma. Wangaratta is also not just reliant on agriculture. Other employment opportunities include engineering works, textile factory, government department headquarters, aged care, tourism and hospitality. A diversity of employment opportunity increases a community’s resilience to the negative impacts of drought.

Like the adaptability of towns, the ability of individual farming enterprises to diversify their operations may increase their resilience to drought. Many graziers in the northern section of the Basin have adapted their businesses gradually to cope with variability of rain fall.

We have had 7 years of straight drought and people have made adjustments to their herd according to conditions. There has been a massive shift from breeding to backgrounding cattle to sell to feedlots. Several huge Hereford Studs have closed their doors.

Mayor, ‘significant’ area

Respondents reported on changes in employment opportunities as a result of drought and water shortages and the way this has changed over the past decade.

- more intelligence required to operate machinery;
- difficult to find skilled workers;
- difficult to attract health professionals; and
- difficult to attract engineers.

There are many opportunities in Buloke this challenge for Council is to provide a place people want to live.

Mayor ‘profound’ area

Employment opportunities in past two years have decreased due to the drought. Several wineries and dried fruit packaging plant have laid off staff.

Rural Financial Counsellor, ‘profound’ area

Participation rates are high. Unemployment is around the lowest in NSW. Rice dependent communities are doing it tough.

Drought support worker, ‘significant’ area

Employment is now probably stronger and more jobs exists due to advances in growth of irrigated hort. That compliments dryland farming impacted by the drought.

Mayor, ‘patchy’ area

- less employment opportunities on farms;
- seasonal workforce has been kept to a minimum for the last few years;
- some professionals have moved to larger centres; and
- businesses have been seen to downsize by around 50%.

Water licensing irregularities have caused problems. Some receiving their full quota have not had too many problems whereas their neighbour might have the quota severely cut.

Community Development Officer, ‘patchy’ area
5.4.7 Welfare implications

Social fabric is essential for building the capacity of the community to adapt and manage change (BRS 2008b: 2). We asked respondents to comment on the welfare implications in their communities. There was general agreement that organisations were experiencing increased demand for their services.

Red Cross do an annual run started in Spring 2002/03 with drives for donations. Pastoral Care organisations have been bloody brilliant! They have the people and resources to provide face to face support to help manage stress and fatigue. Eg Presentation Sisters (Catholic Nuns).

Drought Support Worker, ‘significant’ area.

There are an increased number of organisations now involved in welfare support including CWA, Red Cross, and, to a lesser extent, Apex and Lions.

Community support has grown in Canberra through a connection with Ardleatham over the last 18 months. Sent Pamper packs and Xmas cakes. These links are usually formed through someone going to school with someone, it is all who you know. Personalised networks. Often this person in the city may raise the drought as an issue 3 or 4 years ago within their organisation and were often shouted down. Now with increased awareness people think it is a good idea and want to support. Peoples social networks are robust because of shared experiences, (eg boarding school) metropolitan communities are connected to the drought.

Drought Support Worker, ‘significant’ area

Business based organisations like Rotary have funded mental health gatherings. Christmas has huge emotional impacts, can either be very good or very bad. Key informants uniformly report that Red Cross is highly valued particularly with their efforts in two areas. They:

- go into the community and run free BBQ and bands feed everyone and allow people to circulate to ensure they know they are not in this situation alone; and
- send gift packages wither Pamper Packs (containing expensive items like shampoos, creams etc.) and food packages.

In 2007 the Red Cross put in packets of Christmas cards in the Pamper Packs for people to send. One woman reported how depressing this was when she sat down to write her cards to her friends trying not to whinge about another dreadful year.

5.4.8 Regional centres

Key informants were also asked to report on the drought’s impact on regional centres, for example Toowoomba, Wagga Wagga, Bendigo, Mildura and Murray Bridge.

The bigger centres continue to grow, known as “sponge cities.”

Mayor, ‘profound’ areas

Negative - Significant amount of acreage of permanent plantings (Vines/citrus) let die due to lack of water.

Rural financial counsellor, ‘profound’ area

Wagga Wagga is fine, as is Albury. Griffith may have suffered a bit and Deniliquin is doing it tough.

Key informant, ‘significant’ area
Not relevant in light of alternative irrigated horticulture options and reasonable returns for dryland farmers compared to the lower returns of other dryland farmers in other parts of SA.

Mayor, ‘patchy’ area

There has been a centralising of services. Many major agriculture offices moving away from regional towns to be in larger centres for example

- Graincorp office used to be in Narrabri now in Sydney;
- Namoi Cotton used to be based in Wee Waa and they now have their head office in Toowoomba; and
- medical services now based around Tamworth as the service centre.

Community Development Officer, ‘patchy’ area.
6 POTENTIAL SOLUTIONS

6.1 Interviewees

During many of the interviews with people around the basin, many potential solutions were offered. The below sections highlights some of the responses.

There is significant adjustment occurring in agriculture. In any ten year period about 25% of farms change hands. Now we can expect 50% turnover in this current decade! We aim to help farmers and small rural businesses manage this change.

Rural Councillor, Bendigo

Exceptional circumstances restrictions should be eased. People are ineligible if they own too much land or if they hold down an off-farm job. People who try to help themselves are disadvantaged.

Rural people have a big problem about how they are perceived by the rest of the community. They don’t want to be perceived as bludgers or getting handouts. They often reject government handouts.

Bungil Mayor

We need to do things to help people break down barriers to seeking help.

Pride holds people back from getting assistance... normalising it making it OK to ask for help.

Drought Support Worker, Wagga Wagga.

According to a Health Care Professional in, Bourke Shire, drought monies have allowed communities to reconnect. Many people are ‘BBQ-ed out.’ People have started to think more creatively. They have had activities to keep communities well, to maintain relationships and to have some fun together.

- **recognition of symptoms** - farmers are very independent people, cope well with isolation. Increased stresses of the drought make them unable to recognise what is going on inside themselves;
- **seek help**, contact other people, see that they are not alone and many others share the same issues. There are financial support services and health education days. People need breaks from their properties, they have to have time away so they have time to think. If they make the decision to sell their property that can heighten their depression (as plans to sell may not always go as desired...)
- **education regarding managing change**. Some times people have to decide to sell property and completely change their lives and leave. Some diversified into crops instead of grazing. These were cotton and citrus which got worse and now are unviable as the drought wares on.

Former Mental Health Worker, Bourke

Farmers don’t see themselves as restructuring. They need climate change information and knowledge how to change farming ways.

Rural Councillor, Bendigo

- rural Councillors can distribute vouchers to get three free visits to see a psychologist, with no referral required;
- a longer term approach is needed to address the issues, not just short term drought workers.
- outreach resources on the ground seem to work quite well providing community development and counselling.
• encourage people with farm skills to get formally accredited, for example welding, environmental, aged care skills etc. People need to get their bits of paper demonstrating their skills. We have several manufacturing companies in our Shire who need skilled people.
• continue community activities to keep people connected

Some community connecting activities well received were discussed by a Drought Support Worker in Wagga Wagga.

• events for farming families where to the locals are removed from working at these events and outside helping hands are brought in to run them;
• a night of mud wrestling and bands;
• outdoor movie night on the footy ground;
• women’s fancy luncheon with speakers, fine linen, candle sticks etc;
• local band big day out;
• identify who have skills in the community and pull together a yoga teacher, masseuse, nail technician and hair dresser and put on a pamper/grooming day for women;
• for men ‘Mates helping mates’ program to get men off their farms for a break. For example they go on a bus footy trip without the footy!
• weekly bowls or golf hour for men; and
• “Men’s sheds” is an ongoing organisation for males who are notoriously poor communicators. Sets up groups of blokes to do woodwork etc. some activity based to do projects together, maintaining social connectivity. Gives men somewhere to go and have a beer and a chat in a non-confronting way. This is going on in Queensland and NSW.

In Mildura Shire interviewees raised the issue of children’s lack of completing their education beyond secondary school and less students going to TAFE and university. Educational opportunities for young people are constrained due to financial pressures.

The ‘Chances for children’ fund (http://www.chancesforchildren.com.au/) was established eight years ago. This fund aims to improve opportunities for rural young people to complete their schooling and go on to further educational opportunities. Supporting 450 kids raised $2 million. The scheme operates through referrals from principals and career advisors.

When there is a crisis it is up to the State and Federal authorities to step in, just like a cyclone in Queensland. A rush of aid is expected. It is not so forthcoming with drought as it creeps slowly up on people, it is insidious…Council is not calling for money, we are calling for infrastructure projects to be started earlier eg pipelines

Deputy Mayor, Mildura.

6.2 Reports

Many of the drought reports emanating from across the Basin including the Coorong, Mildura, Buloke and Bourke contain suggestions for solutions and recommendations.

The Mildura Social Recovery Plan, 2007, lists key priority areas to meet the health and welfare needs of the community in relation to drought:

• health - Mental health, family and personal counselling, personal support, physical health and health promotion; and
• wellbeing – Financial/business counselling, social welfare, provision of drought assistance information, utilities and housing.
It is anticipated that demand for welfare services such as financial counselling and drought assistance information will peak in the early stages, while demand for services such as mental health and personal counselling will peak later.

Psychological “first aid” is required at the initial time of a significant event, with the demand for counselling and mental health services increasing from eight weeks and peaking at around four to eight months. In this scenario, this report suggests peak demand occurred over the 2007 Christmas period. The authors of this report suggest that this demand is likely to have continued during 2008 due to continued restricted water allocations.

When a community experiences a significant negative event, support provided must focus on empowering individuals and the community to pursue management of their own recovery. It is also vital to promote community resilience and adaptation abilities. Key priorities for Mildura community development include:

- community involvement and empowerment
- social inclusion; and
- community vulnerability and resilience.

The Mildura Social Recovery Plan treats the management of the drought very much as a natural disaster. The Plan details the guiding principles listed in the Australian Emergency Manual dealing with disaster recovery management. (Please refer to extract from the plan contained in the Appendices.)


**Immediate action**

1. The single most important matter for government is to enhance and extend its communication processes regarding the drought and river management, aiming to improve communication and information exchange with the regional community, between the regional community and the people of Adelaide and among State government departments;

2. Urban South Australia’s reliance on River Murray water must be eased and commitments to a range of initiatives such as building desalination and recycling plants is required in the 2007 Budget;

3. There is an immediate need for government to upgrade and better coordinate Mental Health services, including increased availability of professional staff and accompanying administrative and nursing support. Training could also be offered in the provision of Mental Health First Aid to increase the level of skills in the local community on a more informal level;

4. Farming and small business families need to be made more aware of assistance programs that currently exist and they need help in applying for assistance under those programs;

5. Representations by senior State government Ministers to the Australian Government are needed to ensure that eligibility criteria for Exceptional Circumstances assistance do not force farming women to give up part time off-farm income;

6. Government should commit to establishing a scientific panel, including knowledgeable locals, to develop a contingency plan identifying target areas for environmental flows which will allow them to act as refuges and nurseries for fish species;
7. Those targeted environmental flows should be allocated during 2007-08 in direct proportion to allocations to irrigators;

8. Arrangements for the staged response described below should be established and targeted.

In addition to the points already made, a need exists for immediate action based not on what we expect to happen under the various scenarios for 2007-08 but because the low inflows for 2006-07 are already reducing lake levels to the point where people are struggling to maintain access to the water.

9. Government to facilitate access to Lake water over the coming months until winter rains raise levels (a level of 0.35m AHD is required).

Staged over 2007-08 if the drought worsens:

10. Regional employment programmes linked to the effects of the drought and to the on-going needs of the region, including addressing the backlog of government and local government infrastructure projects and remedial environmental works;

11. Retraining for farmers and other businesses and their families who have been forced from the land by the drought;

12. Further investigation and amelioration of the social consequences of the economic impacts which have been identified (such as the impact of loss of off-farm employment);

13. Excising from restrictions during 2007-08, allocations to water licensees for watering stock;

14. Establishing Drought Response Teams of regionally-based, mobile and experienced personnel. They would operate from existing service centres and include personal, confidential visits on-farm. These people would be associated LAP, BEC or NRM Board offices and not with mental health facilities. They would provide services directly and coordinate access to other professional services and resources;

15. Increasing funding and support for local voluntary organisations, including grants for the conduct of normal social and sporting events which Drought Response Teams might organise in collaboration with clubs/groups and be present at to provide opportunities for community members to establish contact with government services;

16. Commencing the contingency planning to identify target environmental refuges; and

17. Funding and facilitating infrastructure and other works necessary to hold emergency environmental flows within the targeted refuges.

Responding to long-term issues

Members of the reference group argued since the inception of the study by Sobels, that while the situation is the direct result of unprecedentedly low inflows during 2006-07, behind that lays concerns that climate change and human development within the Basin are placing demands on the Murray-Darling system which cannot be met in the longer term. Even if we return to median or better inflows in 2007-08 and again the following year, we still have major problems which require a concerted policy response.
To that end the Reference Group requests that the South Australian Government articulates its long term plans and commitments for the River Murray and lakes. We understand that current negotiations with the Commonwealth might greatly alter the policy landscape and we ask for clarification of matters other than those that might be affected by the possible referral of State powers (i.e. of matters other than, for example, improving irrigators’ water efficiency and buying back water allocations). The key issues are those to do with making urban users less dependent on the River Murray and we recommend that the State government detail its funding commitments and timing for the drought-proofing of Adelaide in particular. We envisage that will include articulating the position regarding:

- desalination and recycling of water for human consumption;
- improved infrastructure to better use existing storages such as the Myponga Reservoir;
- the speed of purchasing extra water for the Living Murray initiative; and
- the implementation of plans for managing wetlands along the Murray, including by replicating the previous cycles of drying and flooding.

The “Critical Breaking Point” report by the Birchip Cropping Group lists key recommendations in 2008 from the two Parts of the report. Part one recommendations include:

- more support is provided immediately to abate the accumulating effects of drought. Overall, there is an urgent need for a broad suite of efforts that addresses the immediate, long term, social and financial effects of drought and which takes into account differences between people (including stage of life and gender), appropriateness for rural culture, and people’s desire for leadership and political certainty;

- work is needed to eliminate or reduce the divisive character of the eligibility criteria used in the current financial assistance system and to extend such assistance to those whose vulnerability to future pressures is growing daily;

- the rural financial counselling system should be expanded and training in business management skills should be made more available;

- that information and skills training to aid farming families’ decision making is extended effectively to them. Information about the state of the sectors, regions and communities that people live and work in should be provided in recognition of the fact that the social identity and context of such families means that their decision making is influenced by how they are positioned relative to others and the decisions that others are making. Inter-disciplinary information to help farming families anticipate and plan for the environmental, economic, political, social and cultural conditions they are likely to face in the future is also needed. How to use such information is an important area for extension, and training in business management should be made more widely available;

- discussion groups, one-on-one support, and dialogue about positive case studies and non-financial benchmarks of value should be developed and promoted. This could be combined with a mentoring scheme and with the provision of assessments of farmers’ skill sets, career advice, and an employment service; and

- address the process of rural decline in small towns. Rural communities could be helped to conduct a risk assessment of the threats they face and how these could be controlled. Based on the Birchip model, the existing or potential “keystone” organization(s) or service(s) of each town, such as a medical, educational, agri-business or sporting facility, could also be identified and supported in order to provide a core for community employment and
interaction. Coordination and collaboration between neighbouring small towns and the
development of regional rather than town-based identities and loyalties could be encouraged.
Work is also needed in many centres to address the cultural clash between the traditional and
new populations and make the most of the in-migration at the community level.

That further research is conducted into:

- the ongoing effects of drought, people’s coping strategies, and the timescales of their
decision making;
- the aftermath of drought, the recovery process, and the vulnerabilities and improvements that
emerge from the drought experience;
- the differences in resilience that seem to exist between some rural communities and a
prioritisation of threats they face;
- the critical success factors of rural businesses and communities that are thriving despite the
difficult environment they are in and clues into how to reverse the negative feedback spiral of
agricultural and rural decline;
- the experiences and needs of women and the younger generation on farms, including those
who do and do not actively farm;
- the perceptions of those who have left farming for various alternatives and what skills they
have called on most;
- ‘new car syndrome’ and the existence and effects of social surveillance in rural communities;
and
- the experiences and perceptions of new entrants to small towns, including ex-farm retirees
and those on government support.

Recommendations from Part two include:

- that the report be made available to farming families in general and used to stimulate
reflections about their own situations;
  - farming families around the M-DB and Australia are facing the same sort of complex
decisions documented in this report. Perspectives are likely to resound with many
others in drought affected areas which could prove informative;
- that farming families are assisted in managing risk and multiple priorities;
  - technical information about options available to farmers to minimise risks (eg crop
types, input levels and so on);
  - training in financial management;
- that government and others commit to halting rural decline in small communities;
  - regional development programs are needed to boost small communities with
additional industries, quality education and medical services; and
  - initiatives that help social and health issues including local health checks, holiday
programs and support of local sporting organisations.

Limited suggested solutions were proposed in 2006 by the Western Research Institute’s report, The
Impact of the current drought on Bourke Economy and Community. However it noted the
success of the 2003 Maintenance in the Mulga program which “gathered families together, to
provide information about current issues and assistance, to contribute to health and wellbeing and
to promote community resilience.”

Agricultural and non-agricultural businesses are affected thus disadvantaging the entire community,
especially in a remote area. Suggestions in the 2006 report to mitigate these impacts on businesses
include payroll tax relief, management education, interest rate subsidies, staff retention programs, Smallbiz program, grants and farm management deposits.

Other activities which may mitigate the impacts of the drought in Bourke Shire include:

- increased tourism expenditure;
- construction works providing employment;
- increased government services (especially police);
- retraining of employees;
- general increased employment opportunities;
- increased mental health workers and relationship councillors;
- increased financial assistance programs to assist children stay at boarding school; and
- increased financial support for sport.

From the Basin-wide big picture perspective, Young and McColl (2008) report that the cause of the Murray Darling Basin’s problems stem from a flawed allocation regime. Governments simply could not agree. They propose a reintroduction of an incentive payment system that rewards the Basin’s Governments for the delivery of agreed milestones. In the case of water reform, past experience has shown that reform is easier if agreement on what needs to be done is accompanied by an arrangement that makes delivery financially rewarding (Young and McColl, 2008). The system has to be able to cope with change, extreme variability in rainfall (Young and McColl, 2008).

...the real problem is in the River Murray and I’d immediately sit down and try and negotiate a new sharing arrangement that would give the environment a percentage share of all the future water that comes in and give all the users another share. ......spend most of the time out in the regions talking openly and honestly with all the irrigators and all the local communities about the gravity of the situation we now face and about the change which we’ve having to deal with.

Professor Mike Young, 2008
7  RECOMMENDATIONS

The authors call on the government to formalise a PACT (People and Communities Treaty) with the people of the Murray-Darling Basin to outline the following:

- their vision for rural and remote areas in the light of climate change, ongoing drought and reduced water availability;
- their commitment to the people and communities in this area through a vision for change and the supports that will be provided to people in these communities;
- their plan for the future of rural and remote areas;
- their acknowledgement that the people in these communities cannot address the future while there is such uncertainty over their industries, communities and people;
- the supports - financial, services and infrastructure - that will be provided to assist people to informed choices about their futures;
- their investment into human capital so that people in these areas can achieve their potential and access education / retraining to achieve their ambitions;
- a fund drawing on the Future Fund and modelled along the lines of the European LEADER and LEADER plus model that provides investment funding to rural communities to establish new directions for change (please refer to Appendices for more information on these models); and
- a social taskforce to be established to oversee the vision, the investment in people and communities and the change management process.

7.1  Short term

Health
- provide crisis counselling services across the Basin;
- establish Social Work positions to be co-located with Rural Financial Counsellors across the Basin;
- ensure that Rural Financial Counselling Services and Social Work co-located services are available to small business people in rural communities;
- offer psychological First Aid training to families, community leaders and non-clinical services (taking mental health info to inc recognition of symptoms of stress, anxiety and depression);
- increase numbers of mental health professionals in rural areas especially experienced psychologists and social workers to provide counselling, postvention and outreach care;
- address the problem of attracting skilled health workers rather than just funding positions;
- provide people with the means to take a break from their farms and small businesses; and
- increase bulk billing in rural and remote areas to enable accessible health care.

Seeking help
- reduce barriers that prevent people from asking for help, for example use Business Enterprise Centres rather than Centrelink to provide support and advice;
- increase provision of financial counselling and social workers; and
- reduce the divisive nature of the eligibility criteria for income support and extend assistance to those whose vulnerability is growing daily.

Restructuring
- employ Community Development Workers in small communities to assist with the process of change and to assist with applications for community funding;
- provide skills development and support for people in the decision making process who are trying to adapt their business or transition into completely new industries; and
- Provide retraining for farmers and other small business people (and their family members) who have chosen to leave/forced from the land/business by the drought/low water allocations.

**Education**
- increase access and support for young people to complete secondary school; and
- provide automatic eligibility for Youth Allowance for young people in drought affected areas who must leave their communities to further their studies.

**Reverse decline of rural communities**
- increase funding for local voluntary organisations including sporting and social clubs;
- to give priority to areas where the social impacts are profound in the investment of new infrastructure projects to provide employment opportunities;
- provide comprehensive broadband and mobile phone coverage; and
- increase investment in telecommunication infrastructure.

**Government communication**
- increase government / community communication exchange regarding drought river management.

7.2 Medium term

**Reverse decline of rural communities**
- encourage communities to reconnect, to maintain relationships - build service and community capacity through Community Resilience Groups to help communities stay connected;
- promote community resilience and adaptation abilities;
- address cultural clashes between traditional and new populations; and
- Persuade regional development programs to boost small communities with industries, quality education and medical services.

**Restructuring**
- provide education regarding managing change;
- positive case studies of communities and families should be developed and promoted. For example explaining what skills have been called on the most.

**Seeking help**
- ensure that eligibility criteria for EC assistance do not force farming women to give up off-farm income; and
- if EC changes, ensure people have adequate access to welfare support to maintain their dignity and assist with the process of change.

**Further investigations**
- provide positive case studies of post-farming / small business experiences;
- conduct ongoing research on the social consequences of drought / climate change;
- research the drought recovery process; and
- undertake predictive research on the social impacts of climate change.
7.3 Long term

Long term the Australian community is in the process of rethinking the way our natural resources, particularly water, are being managed. There is a mindset change underway where many people are becoming increasingly accepting that these extended periods of dryness are part of an over all climate change process, rather than intermittent ‘drought.’

In the document A future-proofed Basin Professor Mike Young and Jim McColl propose a new water management regime for the M-DB. They summarise 21 key aspects, and 12 of these with social implications are listed.

- in every part of the system, the environment must be given a formal entitlement to a proportion of all allocations of shared water.
- the majority of shared water entitlements assigned to the environment should be placed in regional environmental trusts and a small proportion held centrally in a system wide trust.
- assign responsibility for appointing environmental trustees and defining regional trusts' objectives to the States and the ACT.
- replace the existing cap and limit on water extractions and associated sharing rules with a bulk entitlement system that is enforceable and underpinned by an accounting system that has integrity.
- the establishment of a Basin water entitlement register that defines bulk entitlements to receive allocations, and assignment of complete responsibility for allocating water to an independent, expertise-based Authority.
- the introduction and enforcement of penalties for taking unallocated water. These must apply equally to states, irrigation companies, entities responsible for managing environmental water and all other parties.
- establish an independent, expertise-based Authority responsible for allocating groundwater and surface water, informed by the best available science.
- give all stakeholders an equal opportunity to access information about likely and actual allocation announcements.
- compensate entitlement holders and water supply companies for the impact of the change on their livelihoods and on the value of capital assets, and assist them to adjust rapidly to the new regime.
- establish trading rules and processes that enable electronic trading across state boundaries so that:
  - all allocation trades can be completed instantaneously, and
  - all unencumbered entitlement trades can be completed within two days.
- commission a formal review of opportunities to downsize and reconfigure the southern River Murray System.
• reward states for implementing reforms and for the delivery of agreed water reform milestones under an outcome-focused regime similar to that set up under the National Competition Policy.

“the river is screaming, communities are screaming, it’s been death to communities and death to the river through thousands and thousands of reports and statements of concern...”

Mike Young 2008
A cross the Murray-Darling Basin, businesses, families and communities reliant on agriculture either directly or indirectly are being impacted by the drought and water shortages. From Warwick to Bungil Shire, from Narrabri to Deniliquin shire, Wangaratta to Mildura Shire and from Renmark Paringa to the Coorong Shire we found all communities experiencing some level of hardship.

As a result, people and communities are faced with making significant decisions regarding their futures. This, coupled with ongoing constant financial pressure plus managing with declining incomes and mounting debt levels, is resulting in increased incidences of anxiety leading to depression in many rural areas of the Murray-Darling Basin. Dryland areas are battling years of financial hardship and irrigators are facing the uncertainty of losing even ‘high security’ allocations due to a lack of water.

The lack of services in many areas of the Basin is crippling recovery / change efforts. As a result, levels of anxiety and stress are much higher than they should be. We are urging governments to address the ongoing levels of uncertainty that are clouding the futures of people and communities across the Basin. While there are people and communities who have managed to cope successfully with drought and change, this has been done in spite of a lack of attention by government to the social aspects of change. We acknowledge the very real significance of the economic and environmental aspects of climate change, drought and ongoing water shortages. However we call on governments and the people of Australia to recognise the plight of the people and communities of the Basin. In this report we have faithfully produced the feelings of those we have come into contact with through this research. Their courage and resilience is to be applauded. However there is much to be done to provide ongoing support. We are urging that a PACT (People and Communities Treaty) be developed between governments and the people of the Basin to provide a vision for the future.
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### Table 2. Estimated Resident Population, Local Government Areas

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<td><strong>PROFOUND</strong></td>
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*Queensland, Victoria, New South Wales and South Australian LGA’s*
<table>
<thead>
<tr>
<th>Secondary schools across the Murray Darling Basin</th>
<th>1996/97 students enrolled</th>
<th>2007/08 students enrolled</th>
<th>Percentage change</th>
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<tr>
<td><strong>Patchy LGAs</strong></td>
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<tr>
<td>Warwick High School</td>
<td>766</td>
<td>958</td>
<td>20%</td>
</tr>
<tr>
<td>Narrabri HS</td>
<td>671</td>
<td>724</td>
<td>7%</td>
</tr>
<tr>
<td>Wangaratta HS</td>
<td>1164</td>
<td>1457</td>
<td>-20%</td>
</tr>
<tr>
<td>Karoonda Area School</td>
<td>190</td>
<td>140</td>
<td>-36%</td>
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<tr>
<td><strong>Significant LGAs</strong></td>
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<tr>
<td>Charleville School of Distance Education</td>
<td>304</td>
<td>123</td>
<td>-147%</td>
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<tr>
<td>Wagga Wagga High School</td>
<td>950</td>
<td>1030</td>
<td>8%</td>
</tr>
<tr>
<td>Bendigo Senior Secondary College</td>
<td>1544</td>
<td>1775</td>
<td>13%</td>
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<tr>
<td><strong>Profound LGAs</strong></td>
<td></td>
<td></td>
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<tr>
<td>Bourke HS</td>
<td>151</td>
<td>165</td>
<td>8%</td>
</tr>
<tr>
<td>Mildura Senior College</td>
<td>719 -2001</td>
<td>803</td>
<td>10%</td>
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<tr>
<td>Birchip School p-12 (7-12)</td>
<td>119</td>
<td>112</td>
<td>-6%</td>
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<td>Horsham High School</td>
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<td>1076</td>
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<td>Deniliquin</td>
<td>730 (1998)</td>
<td>630</td>
<td>-16%</td>
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<td>Loxton HS</td>
<td>406</td>
<td>607</td>
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<td>Renmark HS</td>
<td>600</td>
<td>570</td>
<td>5%</td>
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</table>
Drought Social Recovery Plan
Mildura Rural City Council

Promoting the expedient recovery of individuals and the community from the social effects of drought and significantly reduced water allocation.

Mildura Rural City Council, in conjunction with Northern Mallee Primary Care Partnership, has developed this Drought Social Recovery Plan for the Mildura area.

Although the Department of Human Services State Emergency Recovery Unit acknowledges that drought does not fall under the Emergency Management Act (1986), it does advocate the use of emergency management structures and resources already in place when dealing with drought issues.

Recovery Management


1. Recovery from disaster is an enabling and supportive process, which allows individuals, families and communities to attain a proper level of functioning through the provision of information, specialist services and resources;

2. Effective recovery from disaster requires the establishment of planning and management arrangements, which are accepted and understood by recovery agencies, combat agencies and the community;

3. Recovery management arrangements are most effective when they recognise the complex, dynamic and protracted nature of recovery processes and the changing needs of affected individuals, families and groups within the community over time;

4. The management of disaster recovery is best approached from a community development perspective and is most effective when conducted at the local level with the active participation of the affected community and a maximum reliance on local capacities and expertise;

5. Recovery management is most effective when human services agencies play a major role in all levels of key decision-making which may influence the well being and recovery of the affected community.

6. Recovery from disaster is best achieved where the recovery process begins from the moment of disaster impact;

7. Recovery planning and management arrangements are most effective where training supports them programs and exercises which ensure that recovery agencies and personnel are properly prepared for their role; and

8. Recovery from disaster is most effective where recovery management arrangements provide a comprehensive and integrated framework for managing all potential emergencies and disasters and where assistance measures are provided in a timely, fair and equitable manner and are sufficiently flexible to respond to a diversity of community needs.

Community Development

The Australian Emergency Manual series, produced by Emergency Management Australia, contains the guidelines for Community Development in Recovery from Disaster, which details 9 principles of community development in relation to recovery management.
1. **Informed Community** - A community that is informed and aware through provision of timely and accurate information.

2. **Access to Services and Facilities** - Community members and groups have access to appropriate services, facilities and resources.

3. **Sense of Community Safety** - Communities in which people feel safe in the pursuit of their daily lives.

4. **Healthy Community** - A community which lives and promotes healthy lifestyles, through its primary health care system, preventative health measures and environmental practices.

5. **Participation in Community Life** - A community where the development of cooperative partnerships is encouraged and actively promoted.

6. **Sense of Belonging** - Pride, care and involvement in the unique, distinct physical, social and cultural characteristics of a community.

7. **Community Cohesion** - The capacity of a community to work together with respect for differences among people.

8. **Community Identity** - Expression of the life and character of a community through elements of tradition and history.


**Emergency Management Australia, Volume 3 Guidelines, Guide 13 Community development in recovery from disaster - Attorney-General’s Department, 2003**

Leader+ is one of four initiatives financed by EU structural funds and is designed to help rural actors consider the long-term potential of their local region.

Encouraging the implementation of integrated, high-quality and original strategies for sustainable development, it has a strong focus on partnership and networks of exchange of experience.

A total of EUR 5 046.5 million for the period 2000-2006 was spent, of which EUR 2 105.1 million was funded by the EAGGF Guidance section and the remainder by public and private contributions.

While Leader I marked the beginning of a new approach to rural development policy, which was territorially based, integrated and participative, and Leader II saw the Leader I approach put to more widespread use, with an emphasis on the innovative aspects of projects, Leader+ continues its role as a laboratory which aims to encourage the emergence and testing of new approaches to integrated and sustainable development that will influence, complete and/or reinforce rural development policy in the Community.

Leader+ is structured around three actions, in addition to technical assistance:

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Amount (EUR)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action 1</td>
<td>Support for integrated territorial development strategies of a pilot nature based on a bottom-up approach</td>
<td>4,377,6</td>
<td>86,75</td>
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<tr>
<td>Action 2</td>
<td>Support for cooperation between rural territories</td>
<td>504,8</td>
<td>10,00</td>
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<tr>
<td>Action 3</td>
<td>Networking</td>
<td>68,7</td>
<td>1,36</td>
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<tr>
<td>Technical assistance</td>
<td></td>
<td>95,4</td>
<td>1,89</td>
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</table>

Implementation of Action One is through Local Action Groups (LAGs) selected in an open procedure based on the criteria laid down in the programmes. These include the rural nature of the territories, their homogeneity in physical, economic and social terms, and integrated and innovative development plans. Economic and social partners and associations must make up at least 50% of the local partnership, and the relevance and effectiveness of this partnership is also taken into account.

Action Two: Support for cooperation between rural territories
Action 2 applies to rural territories selected under action 1 (integrated rural development strategies) and is implemented under the responsibility of a coordinating LAG. It expressly provides for the encouragement and support for cooperation between rural territories, and foresees cooperation taking place between regions in the same Member State (interterritorial cooperation) and between at least two Member States (transnational cooperation). Cooperation is also possible with non-EU countries.

Action Three: Networking
In each Member State a National Network Unit exists to: collect, analyse and disseminate
information at the national level on good practice; organise the exchange of experience and know-how; and provide technical assistance for cooperation (as above). Active participation in the network is mandatory for Leader+ local action groups.

The priority themes laid down by the Commission are:

- making the best use of natural and cultural resources, including enhancing the value of sites;
- improving the quality of life in rural areas;
- adding value to local products, in particular by facilitating access to markets for small production units via collective actions;
- the use of new know-how and new technologies to make products and services in rural areas more competitive.

Commission Notice to the Member States of 14 April 2000 laying down guidelines for the Community Initiative for rural development (Leader+) 2000/C 139/05