Australian Government

Department of Agriculture Fisheries and Forestry

Department of Climate Change

Submission to the Senate Standing Committee on Rural and Regional Affairs and Transport Inquiry into Climate Change and the Australian Agricultural Sector

27 March 2008

Preamble

This submission covers the Terms of Reference for the Inquiry, as follows:

I. the scientific evidence available on the likely future climate of our key agricultural production zones, and its implications for current farm enterprises and possible future industries
II. the need for a national strategy to assist Australian agricultural industries to adapt to climate change
III. the adequacy of existing drought assistance and exceptional circumstances programs to cope with long-term climatic changes.

Responses to Terms of Reference I and II have been jointly prepared by the Department of Agriculture, Fisheries and Forestry and the Department of Climate Change.

The Response to Term of Reference III has been prepared by the Department of Agriculture, Fisheries and Forestry.

The Department of Agriculture Fisheries & Forestry (DAFF) is responsible for providing policy advice and administering programs aimed at the development of internationally competitive and sustainable primary industries.

The Department of Climate Change (DCC), within the Prime Minister's portfolio, leads the development of Australia's climate change policy. DCC advises on emissions reduction policies (including carriage of Australia's international climate change negotiations and design and implementation of a domestic emissions trading system) and policies on adaptation to the impacts of climate change.

Introduction

Agriculture is vulnerable to the impacts of climate change.

The current drought has highlighted the vulnerability of agriculture to climate variability - vulnerabilities that will be compounded by long-term climatic change.

In the face of these vulnerabilities and risks from climate, many farmers are testing and using different farming practices to build the resilience of their farms, so their properties are better able to withstand drought and other extreme events.

The Australian Government places high priority on national action to address the impacts of climate change. It is moving ahead with actions on adaptation[1] for climate change, including in the agricultural sector.

[1] The Intergovernmental Panel on Climate Change (IPCC) glossary defines adaptation as 'adjustment in natural or *human systems* in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities'.

Scientific evidence of climate change and implications for current and future agriculture

Latest scientific findings from the Intergovernmental Panel on Climate Change (IPCC)

In its Fourth Assessment Report 2007, the IPCC found that 'warming of the climate system is unequivocal' and that levels of greenhouse gas emissions such as carbon dioxide, methane and nitrous oxide in the atmosphere have increased markedly as a result of human activities since 1750. These changes have altered the energy balance in the atmosphere, resulting in a warming effect.

The IPCC report found, for example, that more intense and longer droughts have been observed over wider areas since the 1970s, particularly in the tropics and subtropics. Increased drying linked with higher temperatures and decreased precipitation has contributed to changes in drought. Changes in sea surface temperatures, wind patterns and decreased snowpack and snow cover have also been linked to droughts.

For the next two decades, a global warming of about 0.2 degrees per decade is projected for a range of emissions scenarios. Even if the concentrations of all greenhouse gases and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1°C per decade would be expected.

Australian impacts

Rainfall patterns are expected to change with northern Australia receiving more rainfall while south and south-eastern Australia will likely receive less. As a result of reduced precipitation and increased evaporation, water security problems will intensify by 2030 in southern and eastern Australia. Annual streamflow in the Murray Darling Basin is likely to fall 10 to 25 per cent by 2050 and 16 to 48 per cent by 2100. Water supply and quality are likely to be affected by higher temperatures, increased evaporation rates and changes in amount and patterns of rainfall.

Some general impacts in relation to Australian agriculture include:

- south western Australian regions are likely to have significant crop yield reductions by 2070, while regions in north-eastern Australia are likely to have moderate increases in yield
- grain quality is likely to be affected
- temperate fruits and nuts are all likely to be negatively affected by warmer conditions
- earlier ripening and reductions in grape quality and value are likely by 2030
- an initial rise in carbon dioxide in the atmosphere will increase pasture growth, however this will be offset if there is a 10 per cent reduction in rainfall. A 20 per cent reduction in rainfall is likely to reduce pasture productivity by an average of 15 per cent and live weight in cattle by 12 per cent
- distribution and abundance of exotic weeds is likely to increase

- increased thermal stress on stock is very likely
- impacts of cattle tick are likely to increase and move southwards
- higher temperatures are likely to exacerbate existing problems in rangelands by decreasing non-structural carbohydrate concentrations and digestibility of grasses
- both positive and negative impacts for forestry.

Further information on the IPCC Fourth Assessment Working Group II report on climate change impacts, adaptation and vulnerability can be found at http://www.ipcc.ch/ipccreports/ar4-wg2.htm.

CSIRO and Bureau of Meteorology (BOM) analysis 2007

Recent Australian projections of climate change provide further details to those provided in the IPCC Fourth Assessment Working Group II report. In its *Climate change in Australia: technical report 2007,* CSIRO and BOM concluded that by 2030, temperatures will rise by about 1 ºC over Australia – a little less in coastal areas and a little more inland. Later in the century, warming depends on the extent of greenhouse gas emissions. If emissions are low, warming of between 1 ºC and 2.5 ºC is likely by around 2070, with a best estimate of 1.8 ºC. Under a high emission scenario, the best estimate of warming is 3.4 ºC, with a range of 2.2 ºC to 5 ºC.

Annual average rainfall is likely to decrease in southern Australia during winter and spring. Rainfall projections for later in the century are more dependent on greenhouse gas emissions. Under a low emission scenario in 2070, the best estimate of rainfall decrease is 7.5 per cent. Under a high emission scenario the best estimate is a decrease of 10 per cent. While there will be more dry days and other seasonal changes, when it does rain, rainfall is likely to be more intense.

Other findings include:

- droughts are likely to become more frequent, particularly in the south-west
- high-fire-danger weather is likely to increase in the south-east
- tropical cyclones are likely to become more intense
- sea levels will continue to rise.

Further information on the CSIRO report can be found at http://www.climatechangeinaustralia.gov.au.

CSIRO is currently undertaking a study of current and future water availability in 18 catchments in the Murray-Darling Basin. The Sustainable Yields Project is the most comprehensive Basin-wide assessment of water availability conducted to date.

The project takes into account risks to water availability such as climate change and future development of farm dams and plantations. To date, eight of the catchment reports have been released (See Box 1 for information about the report on the Wimmera catchment). In general, the findings show that most catchments face reduced average surface water availability, with some facing significant impacts on

groundwater. This in turn has implications for the amount of water able to be diverted for future use.

In all reports released to date, the CSIRO results indicate that water availability in 2030 (relative to 1990) is likely to be substantially lower, which will in turn have significant impacts on the availability of water to be diverted for agricultural use.

The final ten reports and a whole of Basin report are due for completion in April 2008.

Box 1: CSIRO Sustainable Yields Project: Wimmera (Vic) 1 Nov 2007

The Wimmera's agriculture is mainly broad acre cropping, dryland grazing, and around 6 000 ha of irrigated cropping. There are a number of wetlands of national significance/importance in the region. The best estimate for 2030 shows a 17 per cent reduction in runoff, leading to a 21 per cent reduction in surface water availability. Predicted future developments of plantations and farm dams are unlikely to be significant. Licensed extraction of groundwater is expected to increase by 20 per cent, but this is considered to be a sustainable level of use.

Australian Bureau of Agricultural Resource Economics (ABARE) analysis of potential medium to long term economic and agricultural trade impacts of climate change

Agriculture plays an important role in the global and Australian economies. Potential changes in climate may reduce productivity and output in agricultural industries in major producing countries.

In its *Australian Commodities December Quarter 07.4* report, ABARE presented an analysis of the potential medium to long term economic and agricultural trade impacts of potential changes in climate on Australian and global agriculture sectors.

ABARE undertook scenario analysis drawing on the recent climate change impact estimates by William Cline of the Centre for Global Development and Sir Nicholas Stern, the author of the Stern Review, assuming that no mitigation and adaptation actions are undertaken in response to climate change. The results highlight the need for coordinated action to help the agriculture sector prepare for the impacts of climate change.

The ABARE analysis indicates that future climate changes and associated declines in agricultural productivity and global economic activity may affect global production of key commodities: for example global wheat, beef, dairy and sugar could decline by 2 to 6 per cent by 2030 and by 5 to 11 per cent by 2050, relative to what otherwise would have been without the climate change impacts (that is, the reference case).

ABARE estimates that Australian production of these commodities could decline by an estimated 9 to 10 per cent by 2030 and by 13 to 19 per cent by 2050, relative to the reference case. Australian exports of key commodities (e.g. wheat, beef and sheep)

are projected to decline by 11 to 29 per cent by 2030 and by 15 to 33 per cent by 2050. Box 2 provides further detail about possible changes to agricultural production assuming that no mitigation and adaptation actions are undertaken.

These projections illustrate that without mitigation and adaptation, Australia is expected to be one of the most adversely affected economies from future changes in climate in terms of reductions in agricultural production and exports. However, with early action to mitigate and adapt to climate change, it is possible that declines in production could be less than those projected in the ABARE study.

The ABARE report can be found at http://www.abareconomics.com/publications_html/ac/ac_07/a1_dec.pdf.

Box 2 – Findings about possible changes to Australian agricultural production and exports assuming that no mitigation and adaptation actions are undertaken (*Australian Commodities December Quarter 07*).

Decline in production of key Australian agricultural products as a result of climate change (no adaptation or mitigation assumed), relative to the reference case:
- Wheat by 9.2 per cent at 2030 and 13 per cent by 2050;
- Beef by 9.6 per cent at 2030 and 19 per cent by 2050;
- Sheep meat by 8.5 per cent at 2030 and 14 per cent by 2050;
- Dairy by 9.5 per cent at 2030 and 18 per cent by 2050;
- Sugar by 10 per cent at 2030 and 14 per cent by 2050.

Decline in key Australian agricultural exports as a result of climate change (no adaptation or mitigation assumed), relative to the reference case:
- Wheat by 11 per cent in 2030 and 15 per cent at 2050.
- Beef by 29 per cent in 2030 and 33 per cent at 2050.
- Sheep meat by 15 per cent in 2030 and 21 per cent at 2050.
- Dairy by 19 per cent in 2030 and 27 per cent at 2050.
- Sugar by 63 per cent in 2030 and 79 per cent at 2050.

Bureau of Rural Sciences (BRS) analysis of climate variability

Research from BRS has focussed on the interface between management and climate change and has identified both challenges and opportunities for Australian agriculture. Australian farmers have developed highly adaptive land management systems in response to past climate regimes. However, the cumulative impact of past changes and future climate trends will expose farming systems to conditions not experienced before and this will change the scale and significance of climate risk and thus the appropriate response strategies.

Most agricultural industries consider they can handle a gradual change in underlying climatic averages through good management of within season variability even if this involves shifts in the incidence of extreme events. However, a major abrupt change in climate would cause problems. A critical question is whether climate change will unfold as gradual change in underlying averages to which agricultural industries can adapt in many cases, or whether it will unfold as a series of abrupt or stepped changes that will severely stretch industries' capacity to cope.

The type of climate information required to support decision making in the agricultural industries will depend on whether tactical (within growing season) or strategic (multiyear or decadal) decisions are being considered.

Australian agriculture exhibits a complex response to climate variability because the seasonal timing of rainfall has a strong bearing on the viability of production. The level of production during a growing season with low but optimally timed rainfall can be better than for a season with higher absolute rainfall but with contributions in only one or two months of that season.

For most Australian agricultural industries, within-season variability remains the most important feature of climate that affects profitability. Consequently, the ways in which underlying, long-term trends in climate affect the within-season variability is the most important feature of climate change for rural industries. A significant emerging research challenge is to improve knowledge on short-term climate change, that occurs over five to twenty years, and integrate this with prediction of immediate seasonal climate conditions.

BRS research has also identified that increasing the resilience or the coping range of farmers and their production systems is an additional important strategy to increase their capacity to adapt to climate change, and hence reduce their vulnerability to the potential impacts of climate change. In this regard, options to manage carbon in the landscape that may emerge from the establishment of an emissions trading scheme could provide farmers increased ability to diversify their businesses and make them more resilient to the negative impacts of climate change. Similarly, addressing barriers to the development and adoption of innovation is a key strategic response.

The management of soil carbon is one opportunity that requires further research. The Prime Minister has tasked the Hon. Tony Burke, the Minister for Agriculture, Fisheries and Forestry, with investigating how better soil management can be part of the climate change response and how such practices can provide agriculture with a role in new markets related to reducing carbon emissions.

BRS, in collaborative partnership with BOM, CSIRO, state-based research agencies and the Rural Research and Development Corporation, has developed a number of web-based knowledge systems and tools that can assist farmers across Australia quantify their seasonal climate risks and adjust their management strategies. These include the: *Rainfall Reliability Wizard, Rainfall to Pasture Growth Outlook Tool, National Agricultural Monitoring System,* and the *Australian Water Availability Project.*

Further information on BRS climate tools and water availability can be found at:
http://www.daff.gov.au/brs/climate-impact/analysis
http://www.daff.gov.au/brs/climate-impact/awap.

BRS reports on climate change can be found at:
http://www.affashop.gov.au/product.asp?prodid=13352 (Adaptation in Agriculture)
http://www.affashop.gov.au/product.asp?prodid=13369 (Farming Profitably in a Changing Climate: a risk management approach).

COAG and the National Climate Change Adaptation Framework

In December 2007, the Council of Australian Governments (COAG) agreed to establish a Working Group on Climate Change and Water. COAG agreed that part of the indicative forward work program from March 2008 for the Climate Change and Water Working group would be to look at long-term adaptation to climate change, including accelerating the implementation of actions under the National Climate Change Adaptation Framework (the Framework) endorsed in April 2007.

The Framework includes actions to assist vulnerable sectors including agriculture, biodiversity, forestry, coastal and water resources, across all jurisdictions.

Much of the discussion about the Framework was prompted by the Allen Consulting Group's 2005 report, 'Climate change risk and vulnerability - promoting an efficient adaptation response in Australia' commissioned by the Australian Government and available from http://www.climatechange.gov.au/impacts/publications/risk-vulnerability.html.

A major contribution of the Australian Government is a $170 million commitment towards the implementation of the Framework, including the establishment of a Climate Change Adaptation Research Facility (Griffith University), which will lead Australia's researchers in generating robust biophysical, social and economic information that decision makers need to manage the risk of climate change.

This effort is supported by up to $50 million in funding for national climate change adaptation research to build understanding and adaptive capacity to reduce sectoral and regional vulnerability to the impacts of climate change. Further information is available from http://www.climatechange.gov.au/impacts/about.html.

The Australian Government's $170 million commitment also includes $44 million to establish a new CSIRO Flagship on climate change adaptation which will also help equip Australia with practical and effective adaptation options to respond to climate change and variability. The Flagship will have four themes, including one on 'Adaptive Primary Industries, Enterprises and Communities'.
Further information is available from http://www.csiro.au/org/ClimateAdaptationFlagship.html .

The Framework includes the National Agriculture and Climate Change Action Plan (NACCAP) 2006-2009, endorsed by the Natural Resource Management Ministerial Council (NRMMC) in April 2006 and by COAG in March 2007. The Australian Government recently committed to fast tracking the implementation of NACCAP to help Australian agriculture better manage climate change.

DAFF, in consultation with DCC, other Commonwealth agencies and State and Territory governments, is currently undertaking a review of NACCAP, as required by NRMMC. Preliminary results to date identified 142 actions underway or completed across jurisdictions, with the main emphasis on adaptation.

While there has been a large number of actions undertaken consistent with NACCAP, there is evidence of a need for better coordination of actions across jurisdictions, and a need for a more strategic effort for targeting research efforts and improved communication.

Box 3 summarises the priority actions for agriculture identified in the Framework.

Box 3: Agriculture in the National Climate Change Adaptation Framework – an extract

Agriculture is highly dependent on climate, it is practiced on large areas of land and it is the key industry of many regional economies. Seasonal weather variability in conjunction with climate change will have long-term effects on agricultural production, agribusiness investments and regional prosperity.

The costs of the impact of climate change on agriculture could be considerable, for example, should there be an increased frequency of severe drought. The cost of the 2002-03 drought to the Australian economy was around one per cent of GDP and there were considerable social impacts on regional communities.

Adaptation can reduce these costs by building on the experience of dealing with climate variability. Effective adaptation actions would provide farmers with added resilience and coping ability in circumstances of a changed climate system. Information on how seasonality will alter due to climate change will also assist the agriculture industry to adapt.

Potential areas of action

a) Implement the relevant components of the NACCAP, as released by NRMMC in August 2006. In particular:

1) Support research to improve understanding of the implications of climate change for agriculture at the national, sectoral and regional levels, including vulnerability assessments of regions and agricultural industries; effects of climate change on seasonal variability and reliability, and on climate extremes (eg droughts, cyclones) affecting agricultural production; and understanding barriers to adaptation and opportunities to adapt

2) Increase resilience of farming systems and regions to climate change, and help agribusinesses identify where changes may be needed to longer-term investment strategies

3) Enhance current programs and structures to incorporate climate change adaptation considerations into natural resource management, rural support and adjustment, research and development and plant and animal health, pest and weed policies and programs, and environmental management systems

4) Develop decision support tools, pilot adaptation options, inform and encourage adaptation, and engage industry in participatory research, communication and review.

Towards a national climate change strategy for agriculture

In light of what we know about the science of climate change and the potential impacts for Australia and for the sector, there would appear to be a strong case for developing a comprehensive long-term climate change strategy for agriculture.

Such a strategy would build on existing activities and acknowledge that the responses required for dealing with climate change are additional to the normal processes of change and innovation that have characterised Australian agriculture for well over a century. Both physical and human resource dimensions need to be considered in the short-term and long-term.

Climate change poses a dual challenge to agriculture: how to adapt to its many impacts and how to reduce emissions whilst maintaining productivity. Australian agriculture has demonstrated an adaptive capacity over the last 100 years through innovation in biological technologies, economic restructuring of industries and social adjustment in rural communities.

Some of the key factors that have contributed to the sector's capacity to adapt to changes in climate include: education, technology, infrastructure, information availability and management skills.

Preparing agriculture for climate change will require targeted and integrated investment across this spectrum of human and physical factors, ensuring that programs do not conflict with each other or adversely influence the economic competitiveness of industries.

Primary Industry Ministerial Forum, 28-29 February 2008

At a special Primary Industry Ministerial Forum held in Cairns on 28-29 February 2008, Australian Government and state and territory agriculture ministers agreed on priorities and work needed to respond to climate change and improve drought policy (see following section on Current Drought Policy).

With respect to climate change, the Ministers made a commitment to progress work on emissions management and adaptation and to coordinate research and development activity across jurisdictions. The need to understand and take into account the likely social impacts of climate change on rural and regional Australia was also acknowledged.

An agenda for cross-jurisdictional action agreed at the Forum is being progressed for the Primary Industry Ministerial Council (PIMC) through its associated standing committees and sub-committees.

Development of a climate change strategy for agriculture would also need to be consistent with broader climate change policy objectives in Australia and provide a framework for linking the current activities under way or proposed by jurisdictions. DAFF, in consultation with the agriculture sector, will be working closely with DCC

and other Commonwealth agencies and the states and territories with the objective of aligning policy and program objectives and bringing about a coordinated and comprehensive approach to helping the sector prepare for the challenges of climate change.

DAFF, in conjunction with DCC, will develop a national climate change strategy for agriculture.

Emissions management issues

The Australian Government has committed to the introduction of an emissions trading scheme by 2010 and a reduction in Australia's total emissions by 60 per cent of 2000 levels by 2050. The Government has indicated that the emissions trading scheme will have maximal coverage of greenhouse gases and sectors to the extent that this is practical. The Government will consult with the agriculture sector on the question of its inclusion in the system and the timeframe for that inclusion. The size of the abatement challenge confronting Australia and globally suggests that all sectors of the community will need to contribute by constraining emissions. No decision has yet been made on whether agriculture will be covered by the emissions trading scheme.

Measuring and managing agriculture emissions is more complex compared with other sectors of the economy. This reflects the difficulty in measuring the main agricultural greenhouse gases – methane from livestock and nitrous oxide from fertilisers – along with the large number of farms and disperse nature of emissions sources.

Given the inherent difficulties in addressing agricultural emissions it is imperative that work begin early on identifying possible emission reduction options. There may also be opportunities for agriculture to sequester carbon through forest and soil sinks.

It is important that all opportunities be fully explored to ensure that the agriculture sector is accurately informed to undertake necessary investment decisions which they deem as appropriate.

The Australian Government has established the National Carbon Accounting System (NCAS) in 1998 to provide a complete accounting and forecasting system for human-induced sources and sinks of greenhouse gas emissions from Australian land-based activities.

A derivative of the NCAS, the National Carbon Accounting Toolbox (NCAT), released in 2005, allows carbon accounting from land-based activities at the project level. It allows users to track carbon dioxide emissions and removals using the same data and modelling that is used to create Australia's national greenhouse accounts.

NCAS at its current level of development accounts for carbon emissions (including soil carbon) from land-based activities to meet national and international reporting requirements. Ongoing development of NCAS and NCAT is focused on improving the capabilities of the system to account for non-carbon dioxide emissions such as methane and nitrous oxide from land-based activities. NCAT is also being further developed to improve its usability and provide low-cost project level greenhouse gas accounts.

Over the last ten years, the Australian Government has invested about $4 million annually in development of NCAS, which has been undertaken in collaboration with CSIRO and state governments. Additional information about NCAS and NCAT can be found at http://www.climatechange.gov.au/ncas/index.html.

Guiding principles for a national strategy

Developing a successful climate change strategy for the agricultural sector could be guided by four key principles:

1. *Improved quality of information*. This includes activities such as enhancing the quality of scientific, economic and social research, for example, enhancing existing modelling capacity to reduce the uncertainty surrounding regional and sectoral based projections, and undertaking new research on impact assessments that are specific to the various agricultural industries. It also includes presenting information in accessible formats so that farmers are able to easily utilise the information being provided.

2. *Management of greenhouse gas emissions.* Research and development into possible mitigation measures is required as is the transferral of that knowledge into practical on-farm application. Developing further potential opportunities in managing emissions is also a priority.

3. *Adapting to the impacts of climate change.* We need to build upon the adaptive capacity of the sector. There is a long-term need for research and development into suitable adaptation strategies for the sector and for demonstrations and practical application of successful approaches.

4. *Coordination of activity and dissemination of information.* To avoid duplication across jurisdictions and to ensure that the widest possible range of activities and research is undertaken there is an obvious need for coordination among governments as well as research institutions and industry.

There is a range of existing and new initiatives and processes underway which will assist with addressing the strategy principles outlined above. These initiatives and processes are discussed in the following sections.

Australian government initiatives and contributions– climate change and agriculture

There have been a number of significant broad climate change initiatives established across numerous departments and agencies (DCC, CSIRO, BOM) that will provide assistance to the agricultural sector in preparing for climate change.

These programs will provide a solid foundation in addressing the first key principle of the climate change strategy for agriculture through their work on improving Australia's climate modelling capacity, specifically in relation to seasonal forecasting and regional/sectoral projections.

This work will also provide valuable inputs to addressing the third key principle – adapting to the impacts of climate change by enabling adaptation planning to be built upon credible information.

The *Australian Climate Change Science Program*, administered by DCC, aims to improve our understanding of the causes, nature, timing and consequences of climate change so that industry, community and government decisions can be better informed. The program is conducted in partnership with leading science agencies, notably CSIRO and BOM.

The program addresses six key themes:

- understanding the key drivers of climate change in Australia
- improved climate modelling system
- climate change, climate variability and extreme events
- regional climate change projections
- international research collaboration
- communications.

Through the *Greenhouse Action in Regional Australia* (GARA) program, established in 2004, DCC has provided leadership and coordination for greenhouse action in agriculture and land management. About $25 million has been spent over five years to support development of methods and technologies for measuring greenhouse emissions from agriculture and, in partnership with industry, to identify and support implementation of cost-effective abatement strategies.

The GARA program has facilitated strategic climate change research to build the capacity of the agriculture and land management sectors to manage greenhouse gas emissions and respond to climate change. Research areas include livestock and emissions from soils, emissions from savannas and forests, and climate change responses in farming systems and natural resource management. Further information can be found at www.climatechange.gov.au/nrm/gara.html.

The *Managing Climate Variability Program* (MCVP), administered by Land and Water Australia, aims to enhance adaptation responses to a variable climate. The program's top priority is to provide more accurate and reliable climate information, forecasts and tools to enable farmers and natural resource managers to reduce their exposure to risk from climate change (see Box 4).

The MCVP has contributed to the development of seasonal climate forecasting tools that assist managers to make decisions which maximise climate opportunities and reduce costs in poor seasons. Examples of such tools are the: *Yield Prophet*, *WhopperCropper, Australian Rainman*, and *AussieGRASS*.

Further information on the MCVP and forecasting tools can be found at http://www.managingclimate.com.au/.

Box 4: Case Study – Managing Climate Variability Program

Mark O'Brien, National Grain Manager Weston Cereal Industries, Tamworth, New South Wales purchases grain for his company to process into stock feed and flour.

'If the forecasts are telling us we're going to have a drought, then we may buy more grain well ahead of the harvest to avoid the drought premium that comes from reduced crops. If the predictions are for plentiful rainfall, that means a large crop, but it might have lower protein levels and, for making various flours, there are specific protein requirements for baking. Then we have an idea if high protein wheats will be hard to get.'

'The tools work very well, but we didn't use them as well in the 2002 drought', says Mark. Monitoring the Southern Oscillation Index (SOI), he held off buying grain in the hope of rain, and ended up paying a premium when eastern Australia came to experience a severe drought.

'The main thing I learned was to accept the lack of certainty. You've got to work with probability better, and accept that there's no such thing as a guaranteed outcome.'

Other important initiatives in relation to climate change impacts on agriculture have been the outcome from cooperative efforts between government jurisdictions.

In particular, in November 2006, the NRMMC agreed to a number of climate change priority actions across a number of themes, including agriculture. These actions include an assessment of the vulnerability to climate change of Australian agriculture and regions dependent on agricultural productivity. This vulnerability assessment, due for completion in 2008, is currently being undertaken by ABARE using a number of case studies across different production and climatic zones.

A cross-jurisdictional Emission Intensity Benchmarking Working Group has been established under the NRMMC to explore the next steps in implementation of emissions intensity benchmarking. Emissions intensity benchmarking is a systematic approach to enable land holders to understand the effects of different management practices on greenhouse gas emissions, and to provide guidance on implementing improved practice leading to reduced emissions intensity.

In 2007, the PIMC requested that a *National Climate Change Research Strategy for Primary Industries* (CCRSPI) be developed to encourage collaborative research into climate change across primary industry sectors.

The strategy is being coordinated by Land and Water Australia as a collaborative project between rural research and development organisations, governments and the research community.

The strategy is expected to be presented to the PIMC in April 2008 and will provide guidance on setting climate change research priorities for agriculture under *Australia's Farming Future* (see below) and the COAG National Climate Change Adaptation Framework.

Other initiatives include:

- the National Climate Change Adaptation Framework
- Australian Government investment of $170 million to implement key actions within the Framework ($126 million), including the establishment of Climate Change Adaptation Research Facility at Griffith University, and the CSIRO Climate Adaptation Flagship ($44 million)
- the Centre for Australian Weather and Climate Research, a partnership between CSIRO and BOM. A new science team is leading Australia's climate change and weather research. The Centre will provide seasonal weather/climate forecasts, support impact and adaptation research, enhance prediction of extreme weather/climate events and provide superior research capability for determining accurate water budgets for different systems (taking into account temperature, precipitation, soil moisture, runoff, evaporation and streamflows).

During 2007-2008, the Australian government awarded $5 million to implement 19 projects funded under NACCAP. All projects funded involve a close partnership with landholders, industry organisations, and research providers and focus on areas where climate change management is a priority issue for farmers. These projects are aimed at improving climate change awareness, and industry adaptation and mitigation responses. One of these projects is the *Methane to Markets* research shown in Box 5.

Also funded under NACCAP are projects to commence development of Climate Change Action Plans for the forestry and fisheries sectors.

Box 5: *Methane to Markets Program* in Australian Agriculture - a new research program to help cut agriculture's carbon emissions

The Australian Government is contributing $1 million to a collaborative research program, which seeks to lower agricultural greenhouse gas emissions by capturing and using methane for energy generation.

The program will adapt for Australian conditions technology already in use in intensive animal production in a number of other countries, including the United States, the United Kingdom and Canada. The captured methane generated from the waste can be used for industrial heating and drying or, alternatively, for electricity generation to supply power grids.

The Australian Government's $1 million NACCAP contribution to the project will be complemented by $1.25 million from a range of industry partners, including the Rural Industries Research and Development Corporation, Meat and Livestock Australia, Dairy Australia and Australian Pork Ltd.

Addressing the gaps in the strategy – future initiatives

There are a number of key initiatives that will, to varying degrees, assist with progressing key principles identified for a climate change strategy for agriculture. These include the *Australia's Farming Future* initiative, the COAG Working Group

on Climate Change and Water process and the potential future reform of drought policy. It is significant to note that a stronger focus than has been provided to date on emissions management will be achieved through *Australia's Farming Future*.

Australia's Farming Future
The Australian Government has announced $130 million over four years for *Australia's Farming Future* to address the impacts of climate change on the primary industries sector. This initiative, consisting of three distinct but connected programs will build on the Government's commitment to fast-track the National Agriculture Climate Change Action Plan, and help the sector to adequately respond to climate change and assist farmers with drought preparedness.

The three *Australia's Farming Future* programs which are currently being developed by DAFF for implementation from 1 July 2008 include:

1. *The Climate Change and Productivity Research Program* ($15 million**)**
This program will fund rural research and development (R&D) with the aim of increasing productivity and providing access for producers and industries to high quality research-based outputs. It is envisaged that the grants would be targeted and consistent with the Government's priorities for the primary industry sector in relation to adaptation and managing emissions.

2. *The Climate Change Adaptation Partnership Program ($60 million***)**
The program will support and provide primary industry sectors with the tools and measures necessary for them to effectively adapt to climate change and better manage their emissions. This program will develop mitigation and adaptation measures through collaboration with research and farming organisations and government agencies, explore opportunities and increase awareness of options for responding to climate change by developing on-farm tools and strategies.

3. *The Climate Change Adjustment Program ($55 million)*
The program will provide financial assistance to build skills, provide training and professional advice to help improve management and to provide for better planning and decision-making. It will also provide re-establishment grants for farmers.

COAG Working Group on Climate Change and Water

The Working Group on Climate Change and Water established by COAG in December 2007 will provide a mechanism to progress cross-jurisdictional coordination on climate change action. The two COAG work areas of specific interest to the agriculture sector are those on adaptation and complementary measures. The outcomes from these two work streams will have a bearing on current and future climate change actions and programs for the agricultural sector.

Climate change and drought reform

Improving drought risk management involves setting policies that reward effective risk management and increase the management skills of farmers. Surveys during the current drought indicate that there is a considerable spectrum in the risk management skills of farmers, ranging from a smaller group of industry leaders through to those

that are trailing. Investing in the data collection, research, communication, education, agronomic and business planning infrastructures that underpin agricultural risk management is consistent with this goal.

Given uncertainties in climate change projections, short-term adaptation strategies are best targeted towards improving the management of drought and climate variability. This is because such measures have a dual affect, improving the capacity to manage current known climate variability in the short term, and positioning agriculture to manage the more uncertain aspects of future climate change over the longer term.

The following section on current drought policy expands further on the relationship between climate change and drought, including the possible forward work program.

Current drought policy

Introduction

This section of the submission outlines information relating to the third term of reference in the Inquiry - the adequacy of existing drought assistance and Exceptional Circumstances (EC) programs to cope with long-term climatic changes.

The section is structured into three parts. The first part outlines the rationale and objectives of the national drought policy and the associated EC arrangements. The second describes current Drought and EC programs and measures. Case studies and uptake and expenditure data are incorporated wherever possible. The third part details the latest resolutions of the Primary Industries Ministerial Forum (28-29 February 2008) in terms of drought policy and climate change.

Drought

A drought is a prolonged, abnormally dry period when there is not enough water for users' normal needs. However, because people use water in many different ways, there is no universal definition of drought[2].

Drought disrupts cropping programs, reduces breeding stock and threatens permanent erosion of the capital and resource base of farming enterprises. This declining productivity affects rural Australia and the national economy[3].

Government assistance for drought events is guided by the National Drought Policy (NDP). The NDP was developed in 1992 and reaffirmed in 2005 by the Primary Industries Ministerial Council. Under the NDP, drought assistance is intended to be a short term measure to help farmers prepare for, manage and recover from drought.

The NDP emphasises self reliance and provides a framework for producers to cope with and prepare for short term climatic changes which may result in drought. More specifically, the objectives of the NDP are to:

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[2] Australian Bureau of Meteorology, 2007 'Living with Drought' http://www.bom.gov.au/climate/drought/livedrought.shtml

[3] Australian Bureau of Meteorology, 2007 'Living with Drought' http://www.bom.gov.au/climate/drought/livedrought.shtml

- encourage primary producers and other sections of rural Australia to adopt self-reliant approaches for managing climate variability
- maintain and protect Australia's agricultural and environmental resource base during periods of extreme climate stress
- ensure early recovery of agricultural and rural industries, consistent with long-term sustainable levels.

Although self reliance is a key objective, the NDP also recognises that there are rare and severe events that are beyond the ability of even the most prudent farmer to manage. These events are covered under the EC arrangements.

To be classified as an EC event, the event:

- must be rare, that is, it must not have occurred more than once on average in every 20 to 25 years
- must result in a rare and severe downturn in farm income over a prolonged period of time (e.g. greater than 12 months)
- cannot be planned for or managed as part of farmers' normal risk management strategies
- must be a discrete event that is not part of long-term structural adjustment processes or normal fluctuations in commodity prices.

Currently, the classification of drought rarity and severity under the EC arrangements is based on long-term historical rainfall records. These records demonstrate a significant decline in rainfall totals in a number of areas, in particular in New South Wales and in Victoria. A map showing trends in rainfall is at **Attachment A**.

EC assistance

EC assistance is intended to be short term, with assistance normally available for up to 24 months. The first year is intended to directly assist with managing through the drought event and the second year provides assistance while income is still low during the 'environmental' recovery period. Australia is currently experiencing a drought that has been unprecedented in its geographic extent, length and severity.

As a result, assistance may be extended into a period where agricultural conditions have improved. Consequently, some areas have been EC declared for many years, leading to some recipients receiving EC assistance since at least 2003[4]. A map showing EC declarations and durations is at **Attachment B**.

When an EC application is received by DAFF, a desktop assessment is undertaken on whether the application demonstrates a prima facie case for EC assistance. If an application is found to demonstrate a prima facie case, the Federal Minister for Agriculture, Fisheries and Forestry refers it to the National Rural Advisory Council (NRAC)—an independent committee of farmers and agribusiness professionals—for advice. NRAC provides advice and recommendations to the Minister on whether a case for an EC declaration has been made.

[4] Information based on ECRP uptake data (DAFF 2007).

The information used by NRAC in assessing applications is gathered from a number of sources and can include climatic and production information for the proposed application area over the defined EC event period as well as information gathered through an on-ground inspection of the application area.

If declared, an area will generally receive assistance for a period of 24 months with a review of the area undertaken by NRAC towards the end of the declaration period. A summary of the EC declaration process and criteria are at **Attachments C** and **D**.

Since September 2002, the Australian Government has received 116 EC applications. There are 84 areas across Australia that are currently EC declared, and 14 areas are receiving interim assistance. This equates to approximately 69 per cent of Australia's agricultural land under some form of EC declaration.

EC programs

Australian Government assistance and, wherever possible, state and territory government assistance, is designed to be complementary. Australian Government assistance provides a mix of measures based on community support, information, research and development, counselling support and financial assistance (a list of Federal, state and territory government measures is at **Attachment E**). The aim is to encourage and provide assistance before, during and after drought within the recovery period.

Communication and awareness

There are currently three main programs to assist DAFF deliver information about EC and drought support and preparedness.

Research and development

Research and development (R&D) relates to measures that equip farmers or natural resource managers to develop opportunities, tools or knowledge to enhance decision making and adapt to changing climate and water availability.

As part of R&D investment, Research and Development Corporations (RDCs) actively promote the adoption of research outcomes by their industries (see Box 6). Adoption activities include participation in field days, workshops and seminars, publication of reports and commercialisation through joint ventures. Managing natural resources and climate variability continue to be a major R&D focus. It is estimated that for 2007–08, the RDCs will spend almost $90 million in R&D on these issues, with a further $110 million being spent on R&D relating to innovation skills and technology across all their priority research areas.

Box 6: Grains Research and Development

Grains-funded R&D has meant that Western Australian growers have still been able to grow wheat in drought years, where in past droughts they would have produced minimal or no crops. Water use efficiency has dramatically improved, mostly from better crop management - crops can now access much more of the moisture in the soil. For example, no-till, stubble retention and methods such as direct drilling have improved conservation of water and plant access to soil moisture.

Irrigation Industries Workshop Program

Industry-specific information sessions are being delivered in key irrigation communities across the Murray-Darling Basin to provide irrigators with practical advice to assist them in managing their farm enterprises with reduced water allocations.

The information sessions are tailored to specific industries and regions, and assist irrigators to manage challenges and risks from the current water resource issues and broaden their planning and risk management options.

Irrigators receive practical and expert advice on a range of topics including improving water use efficiency, minimising production losses and improving production planning. The workshops also include information on government funding and services available to irrigators seeking to take account of these aspects in their farm business planning scenarios. Officers from Centrelink, the Department of Education, Employment and Workplace Relations (DEEWR) and the Rural Financial Counselling Service (RFCS) attend these workshops.

Drought Bus

The Drought Bus was designed as a mobile Centrelink office to deliver services to rural and remote Australia. The bus provides a mobile office which travels to regional communities so that people who have never used Centrelink services before can access information on drought assistance measures. The bus also offers referrals to state and territory government drought assistance programs and to other services such as Rural Financial Counsellors. The service is also being specifically targeted to the Murray-Darling Basin to assist farmers with reduced water allocations.

Drought preparedness measures

DAFF also provides measures that encourage farmers to undertake a range of risk management approaches in preparing for drought.

Irrigation management grant

Taxable grants of up to $20 000 (GST exclusive) are available to assist irrigators to implement water management strategies to address the impacts of reduced water allocations in the Murray Darling Basin and improve on-farm practices to maximise the productive use of available water. As at 28 February 2008 there had been 6 540 claims lodged for the irrigation management grant. Sixty nine per cent were approved amounting to a total cost of over $84 million and an average grant of $18 754.

Professional advice and planning grants

The *Professional Advice and Planning Grant Program* is designed to encourage and assist farming enterprises to develop a business plan incorporating drought and risk management strategies (incorporating climate variability/change). Grants of up to $5 500 (GST inclusive) are available to viable farm enterprises and assist farmers:

- to prepare for and manage the risks associated with drought and climatic variability
- to maintain Australia's agricultural and environmental resource base during periods of extreme climate stress
- in early recovery of their farm businesses from drought or climatic variability

- in decreasing future reliance on government funding during periods of drought or extreme climate variability.

The program commenced in October 2006 and received $12.2 million funding in 2007-08 with a further $14.8 million budgeted for 2008-09. As at 31 January 2008, 5 015 grants have been approved amounting to a commitment of over $26 million.

The grant has allowed recipients to gain advice on changing their farming practices and to realise profits from their farming enterprises for the first time in many years, despite drought (see Box 7).

Box 7: Case Study – a typical professional advice and planning grant

The farm enterprise in this instance is a beef cattle property with a land holding of 3 500 hectares. This property has been in constant drought for the past eight years. The pastures are deteriorating and non productive perennial weeds are becoming dominant and significantly reducing the stocking capacity of the property. Access to water for cattle is also a major problem and the owners cart water to the water troughs from the only remaining bores still pumping water. The owners have worked every day for the past five years carting water to keep their cattle herd alive. This property has been in the family since before the turn of the previous century (over 120 years) and the family would like this to continue.

For this enterprise, a lack of water in times of severe drought is a major strain that had not been evident before. The enterprise does have timber that can be legally harvested, although there are restrictions regarding not taking timber from steep country or waterways. Where a tree is taken there must be a replacement tree coming through to replace the prime tree. The owners used the Professional Advice and Planning Grant to develop a business plan which recommended harvesting timber and using the income for two primary activities. The first was to enhance the timber carrying capacity of the property by undertaking a planting program (in addition to the legal requirements outlined above). The second was to direct the funds from the sale of the timber to specifically upgrade the bores by connecting these bores with poly pipe to pump water to tanks for gravity feeding into the troughs.

The advantages of undertaking this plan include:

- Highly efficient use of water for the enterprise.
- Freeing up capacity for the owners to manage their property and focus on other areas such as weed control, fencing and animal husbandry of the herd.
- Reduced consumption of fuel for water cartage.
- Ongoing sale of timber to provide additional income for purchasing perennial legumes to be over sown on the weed-infested areas. These legumes can be sown directly on top of the surface; there is no need for cultivation or working of the land to have the legumes established.
- Once established the legumes lift nitrogen content within the soil. As the weeds do not survive high nitrogen levels they will dissipate over a period of time and allow the pastures to re-establish without the intense competition from weeds.
- The drought management plan recommended specific legumes taking into consideration the climatic conditions of the property.

These drought management strategies are now in progress and the enterprise is expected to achieve a profit for the first time in six years.

Farm Management Deposits

Farm Management Deposits (FMD) assists primary producers to deal more effectively with fluctuations in their cash flow as a result of climate variations and/or changes in market prices. FMDs are designed to encourage farmers to adopt a more self-reliant approach to risk management as they allow eligible primary producers to set aside pre-tax primary production income in profitable years for the purpose of establishing cash reserves to help meet costs in low income years.

Deposits are tax deductible in the year they are made, and are included as taxable income in the year they are withdrawn. To qualify for the tax deduction, deposits must remain in the account for at least 12 months, unless the withdrawal is made during an EC declaration, and the deposit was made prior to the declaration.

At 30 September 2007, there were 36 865 holders with total holdings of $2 398 billion (see Box 8).

Box 8: Use of Farm Management Deposits

FMDs are used as a risk management tool by primary producers across all states, territories, industries and income levels. The 2006 Australian Bureau of Agricultural and Resource Economics National Farmer Survey showed that 26 per cent of all farms use FMDs. Farm businesses holding FMDs in 2005-06 recorded superior financial performance, including higher cash incomes, higher rates of return, higher farm equity ratios and higher liquid assets, relative to farms of similar size and enterprise mix that do not hold FMDs.

The majority of farm business operators indicated that deposits were used to manage taxation liability, with income smoothing as the second consideration. The majority of FMD withdrawals have been to provide working capital, although debt reduction and taxation management were also significant.

Business assistance

Eligible farmers and small business operators can apply for business assistance in the form of Exceptional Circumstances Interest Rate Subsidies (ECIRS). This assistance targets farming enterprises or small businesses that have debt. Assistance is provided for all farmers or small business operators who meet the EC eligibility criteria regardless of differences in the extent to which they may have prepared for drought.

The aim of business support is to maintain the long-term viability of the farm enterprise or small business by helping them survive a short term exceptional event. The cost of ECIRS is shared between the Australian, state or territory governments on a 90:10 ratio respectively.

ECIRS payments of up to $100 000 are available on up to 50 per cent of the interest payable on new and existing loans for the first year of an EC declaration, and up to 80 per cent in the second and subsequent years.

From 25 September 2007 until 30 June 2008, the off-farm assets/non-business limit for ECIRS was increased to $750 000 making it much easier for farmers and small businesses to access business support. This form of assistance was also extended to a new category of small business, that is, small businesses located in towns that are substantially reliant on farm incomes, have populations of 10 000 or less and are in an

EC area (including prima facie and interim areas). The small business must be reliant on income from farmers, farm workers and their families and must demonstrate a significant downturn in income due to the drought.

As at 1 February 2008, there were 48 198 approved ECIRS applications for farmers and 1 115 for small businesses at a cost of over $1 billion (see Tables 1 and 2).

Table 1: Approved Customers*: Exceptional Circumstances financial assistance (ECIRS) July 2001 - 1 February 2008

Type	NSW	QLD	WA	VIC	SA	NT	TAS	All States
Farmers	25 366	11 653	1 122	8 415	1 552	3	87	48 198
Small Business	694	169	0	194	58	0	1	1 116
Total	26 060	11 822	1 122	8 609	1 610	3	88	49 314

* may include one or more recipients

Table 2: Expenditure ($ million): Exceptional Circumstances financial assistance (ECIRS) July 2001 - 1 February 2008

Type	NSW	QLD	WA	VIC	SA	NT	TAS	All States
Farmers	687.93	277.17	29.33	234.03	34.92	0.3	2.31	1 265.99
Small Business	24.56	4.74	0	6.12	1.58	0	0.03	37.01
Total	712.49	281.91	29.33	240.15	36.5	0.3	2.34	1 303.02

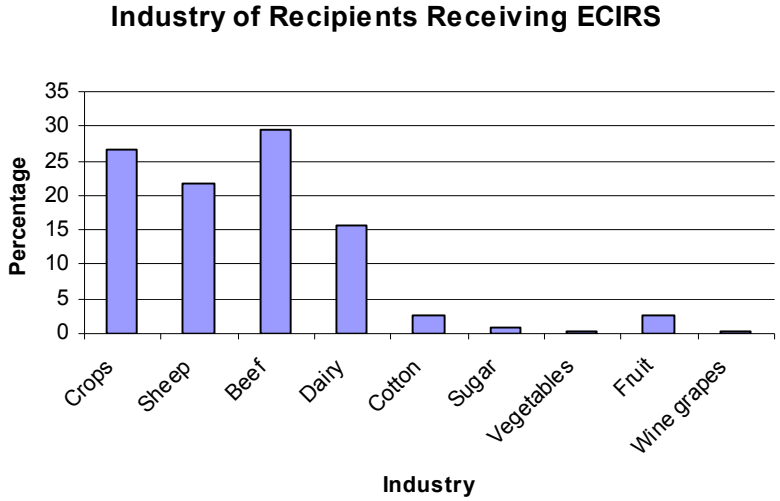
Mean farm ECIRS payments per applicant per year is approximately $26 500 (this ranges from $1 to $100 000) (See Box 9). For small business operators the mean subsidy amount approved is $26 840 per year.

Box 9: The typical ECIRS recipient (2006)

(BASED ON ABARE 2006 NATIONAL FARMER SURVEY RESULTS - POPULATION 11 872. SAMPLE SIZE 194)

The mean age of farmers receiving ECIRS was 53. Mean farm size was 4 581 hectares with a market value of $2.8 million. The mean farm cash income was up to $30 000 while off-farm income was up to $50 000. Approximately half (51 per cent) of the recipients were also in receipt of the Exceptional Circumstances Relief Payment.

Ninety-two per cent of recipients stated they had strategies in place to deal with serious drought, but less than half of all recipients surveyed had a business plan (38 per cent). Of those that did, 18 per cent had some form of risk management strategy incorporated in the plan. Eleven percent of recipients did not believe they would recover from a serious drought and 35 per cent stated they were still in the last drought.



Community and social assistance

Community support provided by the Australian Government includes measures such as mental health counselling and grants to support drought-affected communities. The objective is to fund and assist activities designed to build community spirit and resilience. Employment initiatives also fall into this category and have been important in maintaining employment in rural areas.

The main provision of support has been through grants distributed by the Country Women's Association (CWA).

The CWA has distributed government funds to assist families and communities suffering hardship as a result of the drought and continuing dry conditions. Support is generally in the form of a voucher or a cheque made payable to the supplier of the goods or service. The grants are available to help families meet essential household expenses and other basic necessities. Community grants are available to community groups, schools and not-for-profit organisations to help meet the costs of holding events and providing support to drought affected communities.

To date the government has provided the CWA with $3 million in 2005–06, $4 million in 2006-07 and a further $8 million in 2006-07 for distribution in 2007-2008.

CWA individual grants have been provided to a range of applicants in differing circumstances. Predominantly, the funding has been used to assist with basic living costs for individuals and families who have no other form of financial assistance.

They may be waiting to access EC assistance or fall outside an EC area yet still be suffering the effects of drought. The majority of funding for individual grants has met the cost of utilities, followed by meeting general household expenses (including putting food on the table), motor vehicle, school and medical expenses. The average amount spent on individual grants from July 2007 is around $1 070.

In September 2007, $4.5 million was provided to the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) to provide emergency relief and assistance to people in financial crisis in EC declared areas. As at 28 February 2008, all of the funding for 2007-08 had been allocated to 159 existing charities and service providers to deliver assistance through 266 outlets in drought affected areas.

Welfare support

Exceptional Circumstances Relief Payment (ECRP)

The ECRP provides assistance for the duration of an EC declaration. It is available to eligible farm and small business families who are experiencing difficulty meeting basic living expenses and targets those that have low income and low liquid assets[5]. Like ECIRS, provided the eligibility criteria is met, assistance is provided regardless of differences in the extent to which individual farmers or small business operators may have prepared for drought.

ECRP is paid at a rate equivalent to the Newstart Allowance and is subject to an assets and income test similar to that for Newstart. Assets that are essential to the running of the farm or small business, are not included in the assets test. $20 000 in off-farm/non-business income (in the form of salary and wages) is exempted from the ECRP income test.

The payments are delivered by Centrelink on behalf of DAFF. Eligible farmers and small business operators may also receive a Health Care Card and concessions under the Youth Allowance and Austudy means tests. The full cost of this measure is met by the Australian Government.

As at 1 February 2008, there were 24 180 farming families and 1 047 small businesses receiving ECRP. Total expenditure since 2001 equates to over $1 billion (See Tables 3 and 4). The mean payment for ECRP (farmers) is $5 410 per year (see Box 10).

Table 3: Approved Customers*: Exceptional Circumstances financial assistance (ECRP, IIS and Prima Facie) July 2001 - 1 February 2008

Type	NSW	QLD	WA	VIC	SA	NT	TAS	All States
Farmers	24 908	12 161	1 323	21 673	4 570	4	412	65 051
Small Business	609	131	10	504	117	0	19	1 390
Total	25 517	12 292	1 333	22 177	4 687	4	431	66 441

*May include one or applications per recipient

[5] ABARE 2005, Australian Farm Survey Results

Table 4: Expenditure ($ million): Exceptional Circumstances financial assistance (ECRP, Prima facie and Interim Income Support) July 2001 - 1 February 2008

Type	NSW	QLD	WA	VIC	SA	NT	TAS	All States
Farmers	478.39	223.85	23.26	312.83	40.95	0.03	2.34	1 081.65
Small Business	6.52	1.35	0.06	4.67	0.74	0	0.08	13.42
Total	484.91	225.20	23.32	317.50	41.69	0.03	2.42	1 095.07

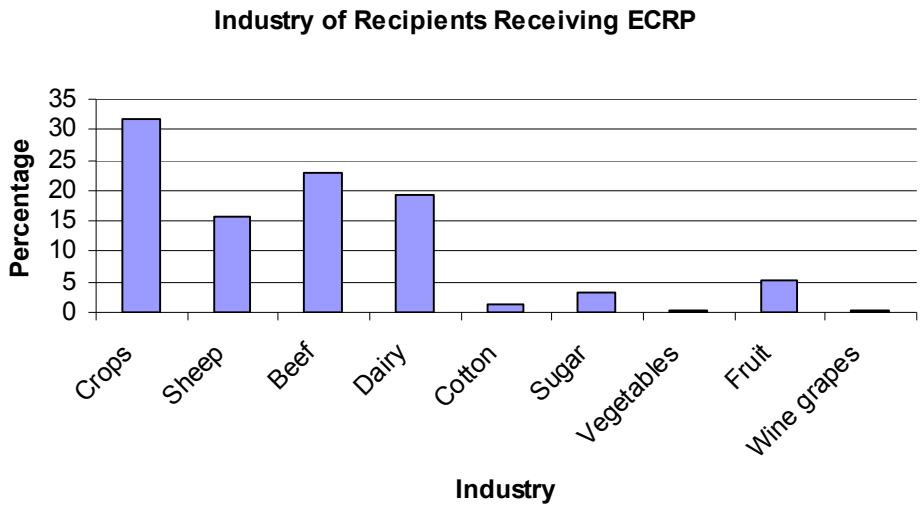
While an application is being assessed for full EC, Interim Income Support provides assistance to eligible farm and small business families. The support assists with meeting the cost of day-to-day living expenses. If an area that has demonstrated a prima facie case is declared full EC, Interim Income Support ceases and the ECRP takes its place. If EC is not declared, Interim Income Support ceases after six months.

Box 10: The Typical ECRP Recipient

(BASED ON ABARE 2006 NATIONAL FARMER SURVEY RESULTS - POPULATION 11 872 SAMPLE SIZE 194)

The mean age of farmers receiving ECRP was 54. Mean farm size was 2 433 hectares with a market value of $2.3 million. The mean farm cash income was up to $30 000. The majority did not receive off farm income and of the recipients that did, the mean was up to $50 000. Approximately 34 per cent of the recipients also received ECIRS.

Eighty-eight per cent stated they had strategies in place to deal with serious drought, but less than 30 per cent of the ECRP recipients surveyed had a business plan (27 per cent). Of those that did, 11 per cent had some form of risk management strategy and 13 per cent had natural resource management activities incorporated in the plan. Twelve per cent of recipients did not believe they would recover from a serious drought and 32 per cent stated they were still in the last drought.



Rural Financial Counselling Service

The RFCS assists clients to identify ways to become more self reliant and better equipped to manage the changes occurring within rural industries. It does this by

providing free, impartial and confidential financial counselling to help farmers, fishermen and small businesses who are suffering financial hardship, and who have no alternative sources of impartial support, to manage the challenges of industry change and adjustment.

The RFCS has been allocated funding of $60 million from 1 July 2007 to 30 June 2011. Further funding of $5.23 million over three years (to June 2010) was announced in September 2007 in recognition of increased service demands, particularly for those services operating within the Murray-Darling Basin assisting clients to manage the negative financial impact resulting from severe water shortages.

Table 5 shows a break down by state of clients assisted by the Counselling Service.

Table 5: Clients assisted: Rural Financial Counselling Service Program February 2007 – January 2008

Type	NSW	QLD	WA	VIC	SA	TAS	All States
Clients Assisted	6 720	1 056	311	4 322	2 284	210	14 916

Exceptional Circumstances (EC) Exit Package 2007

The EC Exit Package is designed to assist eligible farmers intending to leave farming. The EC Exit Package, in place since September 2007, is composed of three elements: Exit Grants, Advice and Retraining Grants; and Relocation Grants. The combined assistance aims to provide farmers in EC declared areas with the financial, professional and re-skilling help they need to successfully re-establish out of farming.

An EC Exit Grant is available to farmers who sell the farm with the intent to leave farming. The taxable grant offers a one-off, time-limited payment of up to $150 000 for farmers in an EC declared area (including prima facie and interim declared areas).

The total net asset limit for the Exit Grant after the sale of the farm is $350 000 to receive the full $150 000 grant. As at 26 February 2008 there had been 231 claims registered with five grants paid.

The EC Advice and Retraining Grant of up to $10 000 (GST inclusive) assists farmers to access professional advice to plan and prepare for the future and to undertake re-training to find alternative employment and careers, including for those outside of agriculture.

The EC Relocation Grant of up to $10 000 (GST inclusive) is available to those farmers who meet the eligibility requirements for the EC Exit grant and are relocating to pursue real employment prospects by moving to another location within Australia.

Climate change and drought

Climate change is expected to deliver higher average temperatures, more frequent days of extremely high temperatures (leading to increased evaporation), reduced rainfall in some areas, changes to seasonal patterns and increased frequency and severity of extreme climatic events, such as drought[6].

[6] CSIRO 2007, Climate Change In Australia: observed changes and projections.

Industries that are affected by climate, such as Australia's agricultural industry, are at greater risk if they rely solely on historical patterns of climate variability and extreme events when making business decisions.

A primary objective of recent programs, such as the Professional Advice and Planning Grant and the Irrigation Management Grant has been to increase the capacity of farmers to understand the risks posed by climate change and their ability to manage and plan for it.

Drought reviews

Drought policy has been discussed at a number of Ministerial Council meetings at which council noted the serious difficulties facing farmers and the need to improve drought policy. Most recently, Australian Government and state and territory primary industry ministers met in Cairns on 28-29 February 2008 to develop an action plan to manage critical challenges facing the sector. These challenges included responding to climate change and improving drought policy.

Improving drought policy

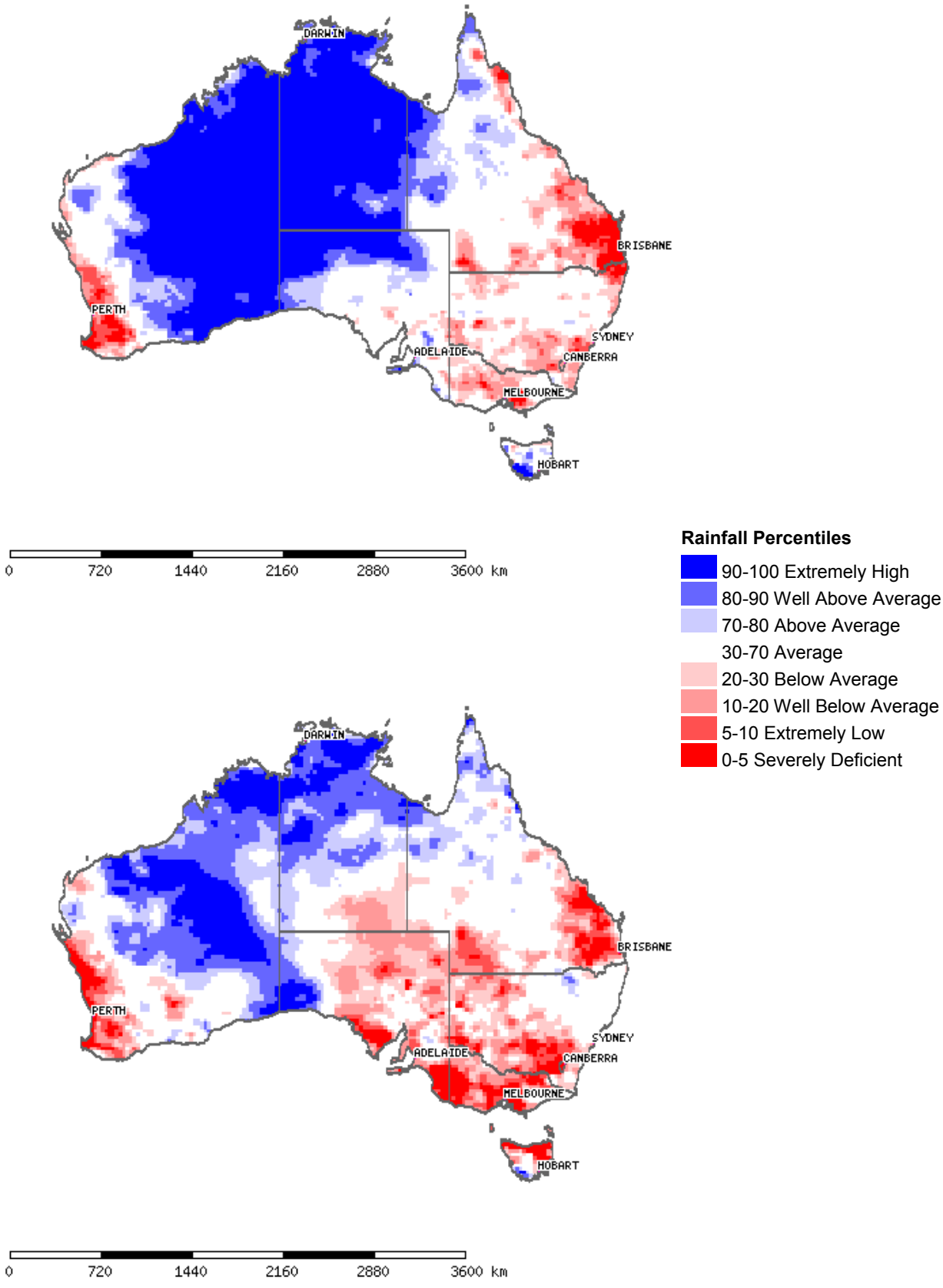
At the Cairns meeting, ministers agreed that current approaches to drought and exceptional circumstances are no longer the most appropriate in the context of a changing climate. They also agreed that drought policy must be improved to create an environment of self reliance and preparedness and encourage the adoption of appropriate climate change management practices.

Further discussion in relation to drought policy improvement including a strategy for managing any transition to new arrangements is to be held at the next PIMC meeting in April 2008. The April meeting will also include consideration of a schedule of reviews in the following areas:

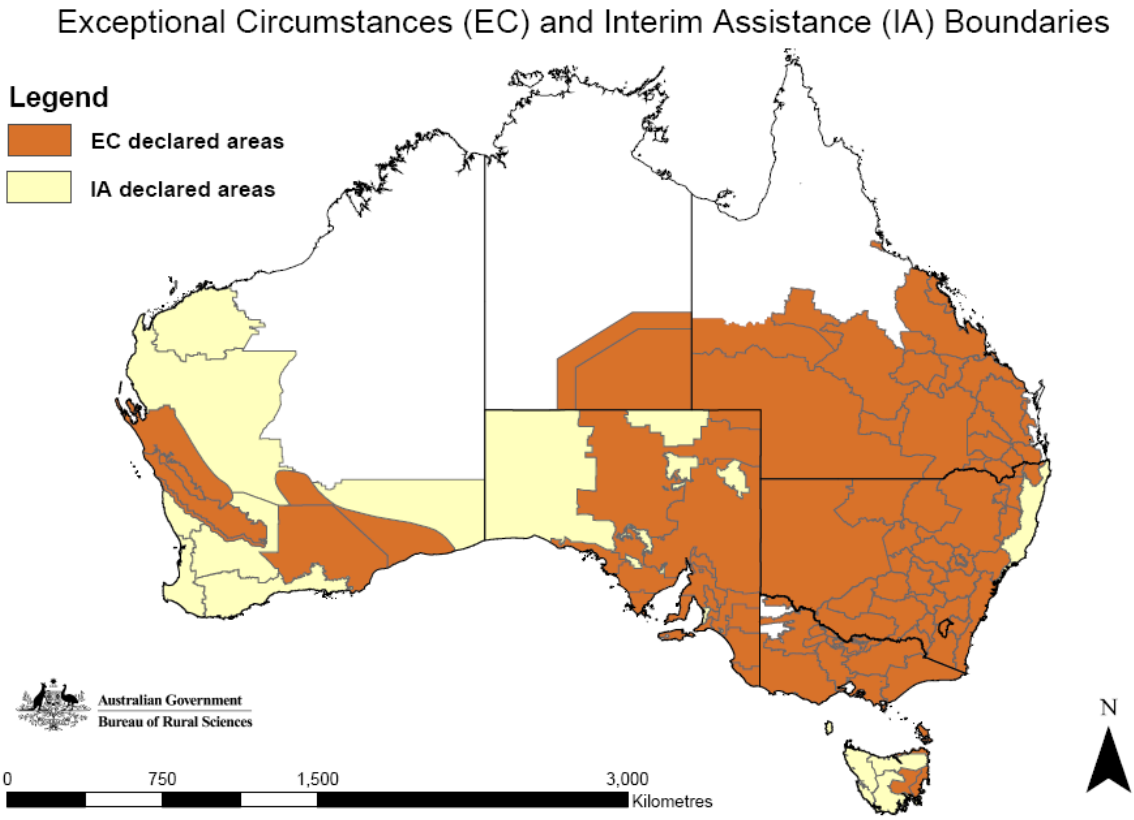
- relevant social dimensions and policy responses to drought and exceptional circumstances
- the provision of accessible, social welfare support, including eligibility criteria
- the effectiveness of business support payments
- the effectiveness of financial risk management strategies, including Farm Management Deposits
- the effectiveness of preparedness policies
- a cost-benefit analysis of state and federal drought assistance.

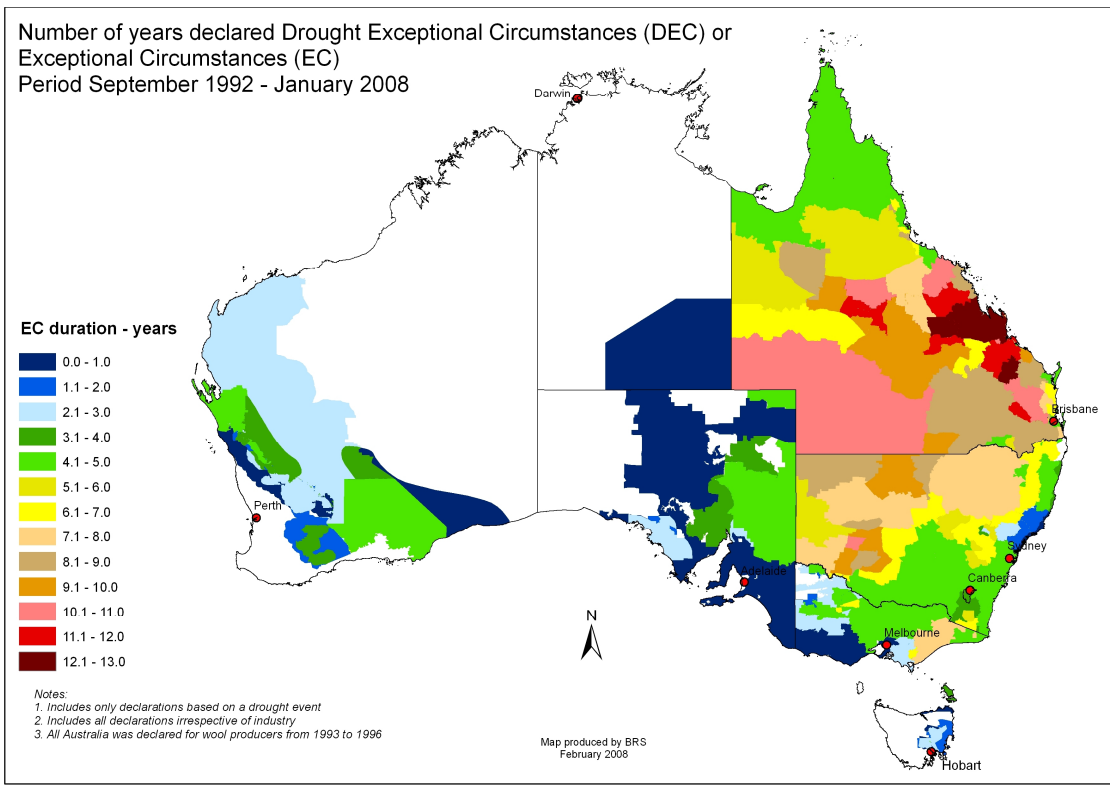
ATTACHMENT A

Maps showing rainfall trends for (a) 2000-2004 and (b) 2004 – January 2008.



ATTACHMENT B





ATTACHMENT C

EC Application, Assessment and Declaration Processes

The EC application, assessment, declaration and assistance processes operate under bilateral agreements with the state and territory governments. If the state or territory government can demonstrate that there is an EC event occurring in an area, it formally forwards an application to the Australian Government Minister for Agriculture, Fisheries and Forestry for consideration.

Communities, industries and the state or territory government are responsible for:

- developing the application for EC against the agreed criteria - based on objective evidence, and
- determining appropriate boundaries for the application area.

Assessment criteria for EC Applications:

i. the event must be ***rare*** (an event that only occurs on average once in every 20 to 25 years) and ***severe*** (an event that is of significant scale and affects a significant enough proportion of farm businesses to warrant government intervention)
ii. the event must have resulted (or will result) in a rare and severe downturn in farm income over a prolonged period (that is, over a period greater than 12 months)
iii. the event must not be predictable or part of a process of structural adjustment.

DAFF completes a prima facie assessment of the application against the EC criteria using advice from the Bureau of Rural Sciences and the Australian Bureau of Agricultural and Resource Economics. DAFF then provides the Minister with a recommendation on whether the application demonstrates a prima facie case.

Should the Minister agree that the application demonstrates a prima facie case, Interim Income Support[7] (delivered by Centrelink) will be available to eligible farmers and small businesses for up to six months.

The Minister writes to the Prime Minister advising him/her of the prima facie assistance to ensure the Prime Minister is aware in advance of the potential for Cabinet approval should the Minister recommend a full EC declaration consequent to the assessment. The Minister also provides copies of the letter to the Treasurer (for potential budget impact), the Minister for Finance and Deregulation (for cost arrangements) and the Minister for Human Services (for impact on Centrelink resourcing), for their information.

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[7] This support targets farmers and small businesses operators who are experiencing difficulties meeting basic living expenses. The payment amount is equivalent to the Newstart Allowance. The rate of payment is dependent on the applicant's off-farm or off-business income. An eligible farmer or small business operator can receive up to $387.80 (partnered) a fortnight. All assets essential to the operation of the applicant's farm or small business enterprise are exempt from the Exceptional Circumstances assets tests. Other assets such as the applicant's principal home and assets in *bona fide* superannuation funds are also exempt. If assets that are not exempt exceed the Newstart threshold, ECRP is not payable.

The Minister also advises the state or territory agriculture minister and formally requests that NRAC complete a full assessment of the area[8]. NRAC conducts a comprehensive assessment against the EC criteria, considering seasonal conditions and impacts on production and income. This may include site inspections within the area.

Following the assessment, NRAC provides its recommendation to the Minister with a (non-public) assessment report against the EC criteria. If the Minister accepts NRAC's recommendation, the decision to provide funding for an EC declaration requires Cabinet approval.

DAFF prepares Interest Rate Subsidy Guidelines for the delivery of ECIRS on behalf of the Minister for Agriculture, Fisheries and Forestry in consultation with the state or territory Rural Adjustment Authorities. Following the Minister's agreement and signature to the guidelines, the Rural Adjustment Authorities implement them and administer the program.

DAFF prepares protocols for the delivery of ECRP in consultation with Centrelink. Centrelink implements and administers the program.

In September 2007, the then Prime Minister departed from the normal EC declaration process by declaring certain areas in Western Australia, Tasmania, New South Wales and South Australia as Interim Assistance Areas, without an application from the relevant state governments. In effect, Interim Assistance Areas receive the same assistance as prima facie areas until 30 September 2008. Since the Interim Assistance Area declarations, DAFF has received one application for an EC declaration out of the fourteen Interim Assistance Area declarations.

To help streamline approval processes, the previous government also agreed that the Secretary of DAFF and the Secretary of the Department of Finance and Deregulation could agree indicative costs for both interim assistance and full EC assistance subsequent to the declarations.

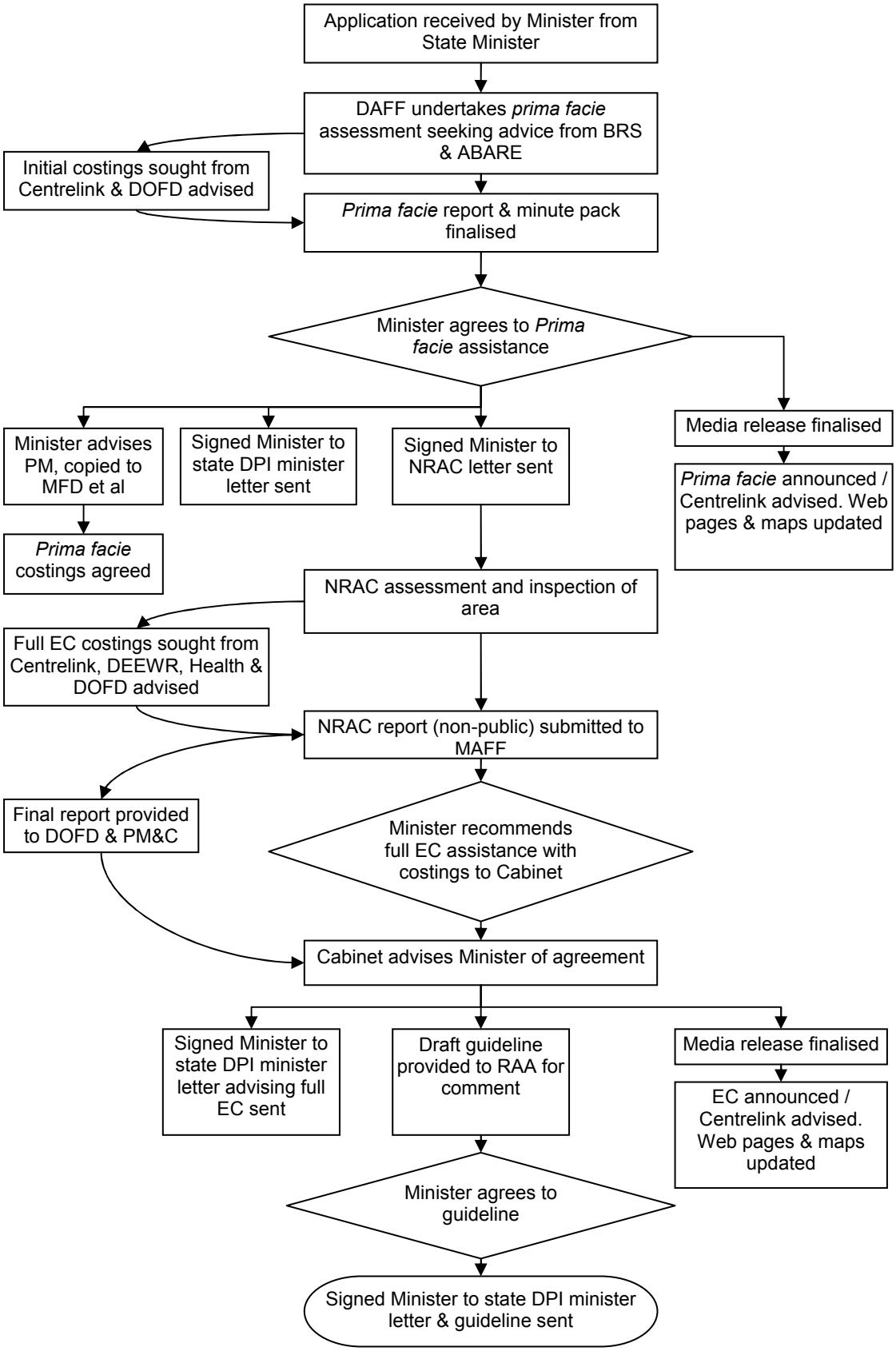
In recent years, NRAC and DAFF have sought to align declaration periods with production cycles - the end of March for the southern farming production systems and the end of June for the northern farming production systems. The reasons for doing so are:

1. if recovery has commenced, it allows for the lag between production returning to normal and incomes returning to normal
2. it ensures that appropriate production information is available for review processes to allow an accurate assessment of any recovery processes that may have been occurring.

[8] The *Rural Adjustment Act 1992* contains the legislative authority for the appointment of NRAC to provide the Minister with advice on matters relating to EC declarations, rural adjustment and regional issues and training.

ATTACHMENT D

Flow chart outlining EC approvals process
(assuming each stage of the process is approved)



ATTACHMENT E

Summary of Australian Government Drought Assistance Measures

(as at 29 November 2007)

Measure	Purpose	
Exceptional Circumstances Relief Payment (ECRP)	To assist farm families in Exceptional Circumstances (EC) declared areas that are experiencing difficulties meeting basic living expenses.	Delivery Agency – Centrelink
Small Business ECRP	Small business operators experiencing a significant downturn as a result of the drought may also be eligible for ECRP assistance.	Delivery Agency – Centrelink
Interim Income Support (IIS)	To assist eligible farm families and small business operators in areas declared by the Australian Government to have established a prima facie case for EC assistance. When the Government makes a full EC declaration for a prima facie area IIS will be replaced by the ECRP.	Delivery Agency – Centrelink
Exceptional Circumstances Interest Rate Subsidy (ECIRS)	To provide business support (interest rate subsidy) to farm enterprises that are viable in the long term, but are in financial difficulties due to an EC event.	Delivery Agency – State Rural Adjustment Authorities
Small Business ECIRS	Small business operators experiencing a significant downturn as a result of the drought may also be eligible for ECIRS assistance.	Delivery Agency – State Rural Adjustment Authorities
Professional Advice and Planning Grants	Grants of up to $5,500 (GST inclusive) are available to eligible farmers in EC declared areas to access professional business and financial advice. The grants will assist recipients to develop written business plans incorporating drought and risk management strategies.	Delivery Agency – Centrelink
Murray-Darling Basin Irrigation Management Grant	Grants of up to $20,000 are available to eligible Murray-Darling Basin irrigators to implement water management strategies.	Delivery Agency – Centrelink
Irrigators Information Workshops	Information workshops to assist irrigators manage their farm businesses with reduced water allocations.	Delivery Agency – Industry Bodies
Exceptional Circumstances Exit Assistance	A taxable one-off exit grant of up to $150 000, with a net assets limit of $350,000 (to receive the full amount) after selling all farm assets is available to eligible farmers who choose to leave farming. Advice and re-training assistance of up to $10 000 for farmers who are seeking other employment is also available. Relocation assistance of up to $10,000 will be available to recipients of the exit grant who are relocating to pursue employment prospects.	Delivery Agency – Centrelink
Rural Financial Counselling Service (RFCS) Program	The RFCS Program provides grants to support the provision of a free and impartial rural financial counselling service to primary producers, fishers and small rural businesses in financial difficulty.	Administered by DAFF. Delivered through State, regional or community organisations
Health Care Cards	Families receiving the ECRP are entitled to a Health Care Card. The card can help with health concessions such as cheaper prescriptions and other health, household, educational, recreational and transport services.	Delivery Agency – Centrelink

Measure	Purpose	
Youth Allowance	Students whose parents are receiving the ECRP are exempt from the Youth Allowance Parental Means Test and may be entitled to the maximum payment rate.	Delivery Agency – Centrelink
Farm Management Deposits (FMDs)	To allow primary producers in EC declared areas earlier access to their FMDs, without losing the taxation benefits.	Administered by the ATO
Country Women's Association Emergency Drought Aid Fund	Grants of up to $2 000 are available to meet the immediate household needs of rural families and will be provided as vouchers or direct payment bills. Grants of up to $3 000 are available to community groups to help fund community based activities. *N.B. At present, funds are only available in Queensland, Tasmania and the Northern Territory.*	Delivery Agency – CWA
Local Answers	Targeted towards EC or areas that could demonstrate significant hardship as a result of the drought, 'Local Answers' funds projects that build effective parenting and relationship skills, strengthen families and communities through building partnerships and encourage participation through local volunteering, mentoring or community leadership.	FaHCSIA
Drought Force	Drought Force operates in Exceptional Circumstances (EC) declared and prima facie EC areas and is an initiative that operates as part of the Work for the Dole Program. Participation is voluntary and allows those that lose their job as a result of the drought to participate in drought mitigation activities.	DEEWR
Drought Counselling	Targets individuals and families in drought affected rural and regional areas from within the specified catchment areas. Drought counselling can incorporate Information and referral, education and skills training, counselling (included family therapy) and community development.	FahCSIA
Australian Government Drought Assistance Mobile Service (Drought Bus)	The service involves a small number of Centrelink and Medicare Australia staff including specialist Rural Services Officers and Social Workers travelling to rural communities, with a primary focus on increasing awareness of drought assistance measures and providing better access to services. One bus has been permanently redeployed and re-badged from July 2007 to focus on the Murray-Darling Basin region to provide additional support, in particular to irrigators who are facing the prospect of zero or minimal water allocations.	Centrelink; Department of Health and Ageing; DAFF
Australian Apprenticeships Incentives Program	Recognises that prolonged drought in a region has a direct effect on the training and employment opportunities of that region. This incentive is aimed at offsetting this potential crisis, to encourage primary producers who hold an EC Certificate to continue to offer skill development and employment opportunities in a declared drought area.	DEEWR